



ECSI No. 84
July 11, 2024
Gasco OU



2023 Hydraulic Control and Containment System Annual Report

Prepared for NW Natural

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ABBREVIATIONS

2023 Annual Report	<i>2023 Hydraulic Control and Containment System Annual Report</i>
B(a)P	benzo(a)pyrene
CDR	<i>Revised Groundwater Source Control Construction Design Report</i>
COP	City of Portland datum
DEQ	Oregon Department of Environmental Quality
DNAPL	dense nonaqueous phase liquid
EPA	U.S. Environmental Protection Agency
GSA	geographic subarea
GTS	groundwater treatment system
GTS O&M Manual	<i>NW Natural Groundwater Treatment System Operations and Maintenance Manual</i>
HC&C	hydraulic control and containment
HC&C PMP	<i>Hydraulic Control and Containment System Performance and Monitoring Plan</i>
HMI	human-machine interface
MG	million gallons
NWTPH-Dx	diesel-range total petroleum hydrocarbons
NWTPH-Gx	gasoline-range total petroleum hydrocarbons
O&M	operations and maintenance
O&M Manual	<i>Hydraulic Control and Containment System Operations and Maintenance Manual</i>
Operational Figures	Hydraulic Control and Containment System Operational Figures
OU	Operational Unit
PAH	polycyclic aromatic hydrocarbon
PLC	programmable logic controller
RAO	removal action objective
SCADA	supervisory control and data acquisition
SES	Sevenson Environmental Services, Inc.
Siltronic	Siltronic Corporation
SVOC	semivolatile organic compound
TarGOST	Tar-Specific Green Optical Screening Tool
TPH	total petroleum hydrocarbons
VOC	volatile organic compound
WA EPH	extractable petroleum hydrocarbons
WA VPH	volatile petroleum hydrocarbons
WBZ	water-bearing zone

1 Introduction

This Gasco Operational Unit (OU) *2023 Hydraulic Control and Containment System Annual Report* (2023 Annual Report) summarizes the hydraulic control and containment (HC&C) system operation, maintenance, and performance for the Gasco OU in 2023. Data collected during system operation demonstrate that the system is working as designed to control contaminated groundwater migration from the Upper and Lower Alluvium Water-Bearing Zones (WBZs) to the Willamette River by interrupting the contaminant transport pathway in the alluvium and reversing the hydraulic gradients such that groundwater flows from the river toward the uplands.

The Gasco OU covers the NW Natural Gasco property and the northern part of the Siltronic Corporation (Siltronic) property (Figure 1-1). Ongoing site-wide groundwater quality monitoring is also summarized in this report.

This groundwater source control work is being completed consistent with the requirements of the following:

- The Joint Order (DEQ Order No. ECVN NWR 00-27 to NW Natural and Siltronic, dated October 4, 2000; DEQ 2000)
- The Voluntary Agreement (DEQ No. WMCVM-NWR-94-13, dated August 8, 1994, as amended July 19, 2006; DEQ 1994, 2006)

Groundwater at the Gasco OU occurs in several hydrogeologic units, which are described in detail in the *Revised Groundwater Source Control Construction Design Report* (CDR; Anchor QEA 2012). The hydrogeologic units from shallowest to deepest are as follows: Fill WBZ, Upper Alluvium WBZ, Lower Alluvium WBZ, Deep Lower Alluvium WBZ, and Columbia River Basalt. The HC&C system, which is the subject of this 2023 Annual Report, is a source control measure that was designed and implemented to control contaminated groundwater migration pathways from the Alluvium WBZs to the Willamette River by reversing the hydraulic gradients such that groundwater flows from the river toward the uplands (DEQ 2011). DEQ has determined that full capture of groundwater and demonstration of hydraulic gradient reversal within the Deep Lower Alluvium WBZ are not necessary to achieve source control removal action objectives (RAOs; DEQ 2022). A hydraulic gradient reversal (hereafter referred to as "reversal") is a condition where the hydraulic head measured at an upland hydraulic head monitoring location is lower than the river stage.

In 2021, a removal action consisting of groundwater extraction from two upland area Fill WBZ interceptor trenches on the Gasco property was performed to control groundwater migration pathways within the Fill WBZ downgradient of the Liquified Natural Gas Basin. This Fill WBZ removal action was initiated in 2020 as described in the DEQ-approved *Fill Water-Bearing Zone Trench Design* (Anchor QEA 2020). The Liquified Natural Gas Basin area Fill WBZ interceptor trench system is not

related to the operation or performance of the HC&C system. Performance of the Fill WBZ trenches is evaluated and reported separately to DEQ semiannually and is not discussed further in this report.

1.1 HC&C System Description

The HC&C system is a groundwater extraction and treatment system that reverses the hydraulic gradient in the Upper and Lower Alluvium WBZs, controlling contaminant migration pathways between the uplands and the Willamette River within the Alluvium WBZs. The portions of the shoreline identified by DEQ as priorities for source control are shown as Segments 1 and 2 in Figure 1-2; of these, Segment 1 is considered the highest priority for source control (DEQ 2008). The CDR outlined the HC&C system design (Anchor QEA 2012). Operations and maintenance (O&M) of the HC&C system are described in the *Hydraulic Control and Containment System Operations and Maintenance Manual* (O&M Manual; Anchor QEA 2019a).

The HC&C system comprises the following components:

- A series of groundwater well and piezometer installations consisting of extraction wells, control wells, monitoring wells, observation wells,¹ and piezometers
- Well pumps and a force main conveyance system
- A dense nonaqueous phase liquid (DNAPL) recovery and collection system²
- An HC&C system field office and satellite programmable logic controller (PLC) control structures
- Monitoring instrumentation, communication utilities, PLC, and a supervisory control and data acquisition (SCADA) system for on-site and remote system access
- A human-machine interface (HMI) that allows users to visually interact with and control the HC&C system

Construction details for the HC&C system groundwater wells and piezometers are provided in Table 1-1. Each extraction well and corresponding control well are identified in Table 1-2.

Groundwater extracted by the HC&C system is conveyed to the groundwater treatment system (GTS) consisting of two pretreatment plants (to account for differences in groundwater contamination at the Gasco and Siltronic properties) and a main treatment plant that discharges to the Willamette River. A separate *NW Natural Groundwater Treatment System Operations and Maintenance Manual* (GTS O&M Manual) has been prepared for the GTS (SES 2016). Performance and discharge monitoring and reporting for the GTS is performed in accordance with National Pollutant Discharge Elimination System Permit No. 103061. The GTS includes the Siltronic and NW Natural pretreatment plants, which receive groundwater extracted by associated extraction wells

¹ Observation wells refer to fill monitoring wells installed next to extraction wells installed for the purpose of observing water levels in the Fill WBZ to evaluate if there are changes due to pumping at an Upper Alluvium WBZ extraction well.

² DNAPL extracted from wells is managed in accordance with the *Contaminated Materials Management Plan* (Anchor QEA 2021a).

from the HC&C system and the main treatment plant, to which pretreated water is conveyed. Therefore, the HC&C system components covered by this 2023 Annual Report end where the system components covered by the GTS O&M Manual begin: at the Siltronic and NW Natural pretreatment plants. Figure 1-2 shows the location of the HC&C system and GTS components.

The HC&C system and GTS were in interim operation and testing from September 23, 2013, to May 14, 2015, when full-time, full-scale operation of the HC&C system and GTS began and continues to date.

1.2 Removal Action Objectives

The RAOs for groundwater source control are to prevent migration of contaminated groundwater from the uplands to the Willamette River along shoreline Segments 1 and 2 and minimize DNAPL mobilization resulting from groundwater source control measures wherever DNAPL occurs. These RAOs apply to groundwater in the Fill and Alluvium WBZs. The information reported in this 2023 Annual Report is intended to demonstrate that the HC&C system is meeting the design objectives and RAOs for Alluvium WBZ source control by interrupting contaminated groundwater migration pathways from the Alluvium WBZs to the Willamette River. The source control RAOs for the Alluvium WBZs are achieved by reversing the hydraulic gradients in the Alluvium WBZs such that groundwater flows from the river toward the uplands (DEQ 2011). Following design, construction, and full-scale operation of the HC&C system since 2015, DEQ determined in 2022 that full capture of groundwater and demonstration of reversal within the Deep Lower Alluvium WBZ are not necessary to achieve source control RAOs (DEQ 2022).

Potential DNAPL mobilization along the shoreline associated with HC&C system operation is being assessed by monitoring DNAPL accumulation and removal in extraction and monitoring wells over time and using a Tar-Specific Green Optical Screening Tool (TarGOST). A recently completed TarGOST monitoring event was conducted concurrently with an upland feasibility study DNAPL data gaps investigation (Anchor QEA 2021b). Ongoing DNAPL monitoring is reported to DEQ semiannually (Section 4).

Data collected in 2023 and summarized in this report confirm that the design objectives for the HC&C system are being met and source control RAOs are being achieved for the Alluvium WBZs. NW Natural has committed to implementing comprehensive source control measures that will achieve groundwater source control RAOs for the Fill WBZ in advance of or concurrent with the in-water remedial action.

1.3 Related Documents

Detailed information regarding the design, construction, testing, O&M, and performance monitoring for the HC&C system is provided in previous documents. The following documents and associated

DEQ comments serve as the foundation for this 2023 Annual Report; detailed information and analyses described in these documents are referenced but not repeated in this report:

- CDR, January 2012 (Anchor QEA 2012)
- *Final Groundwater Source Control Extraction System Test Plan*, November 2013 (Anchor QEA 2013a)
- *Data Report: Groundwater Source Control Extraction System Test*, December 23, 2013 (Anchor QEA 2013b)
- *Data Report: Groundwater Source Control Extraction System Test – Phase 1 Step 4*, April 10, 2014 (Anchor QEA 2014a)
- *Data Report: Groundwater Source Control Extraction System Test – Phase 1 Step 5*, September 8, 2014 (Anchor QEA 2014b)
- *Groundwater Source Control Phase 1 Testing Data Summary and Analysis Report*, January 30, 2015 (Anchor QEA 2015)
- O&M Manual, May 2015, revised December 2019 (Anchor QEA 2019a)
- *Gasco Groundwater Modeling Report*, February 17, 2017 (Anchor QEA 2017)
- *Hydraulic Control and Containment System Performance and Monitoring Plan* (HC&C PMP), May 2015, revised June 2019 (Anchor QEA 2019b)
- *2022 Hydraulic Control and Containment System Annual Report*, July 28, 2023, revised January 23, 2024 (Anchor QEA 2024a)

1.4 Report Organization

This 2023 Annual Report summarizes HC&C system operations in 2023. HC&C system operations, including maintenance activities conducted to ensure that the system continues to operate as designed, are discussed in Section 2.1 and Appendix A. The volume of groundwater and the mass of benzene, benzo(a)pyrene (B(a)P), naphthalene, and cyanide removed from the subsurface by the system are presented in Section 2.2. Hydraulic containment achieved by the HC&C system in 2023 was evaluated using continuous hydraulic head monitoring data, as discussed in Section 3.1 and Appendix B. DNAPL collection and monitoring are addressed in Section 4. Groundwater quality monitoring data are summarized in Section 5 and Appendix C. A summary of system operations is presented in Section 6.

The following routine deliverables are included in this report for convenience and without modification:

Deliverable	Schedule	Integration with 2023 Annual Report
HC&C System Operational Figures	January through June figures are due to DEQ on August 31; July through December figures are due to DEQ on February 28	Included as Appendix B of this report; specific figure series are discussed in Section 3
Groundwater Chemistry Flat-File Data Export	Due to DEQ 120 days following completion of the monitoring event	Included as Appendix C of this report; discussed in Section 5

2 HC&C System Operations

A brief description of ongoing maintenance activities, including type and frequency, and any significant repairs, replacements, or modifications to the HC&C system during the reporting period is provided in Section 2.1. The volume of groundwater extracted from the Upper and Lower Alluvium WBZs by the HC&C system and the mass of benzene, B(a)P, naphthalene, and cyanide removed by the HC&C system are discussed in Sections 2.2 and 2.3, respectively. DNAPL removed from the subsurface by the HC&C system is discussed in Section 4.

2.1 Maintenance Activities

HC&C system components are inspected on a weekly, monthly, quarterly, and annual basis to confirm that the system is operating as designed and to identify any necessary maintenance. Inspections are conducted according to the schedule in Section 7 of the O&M Manual (Anchor QEA 2019a). In 2023, maintenance work (e.g., well treatment and replacing components) was performed for the Upper and Lower Alluvium WBZ extraction wells. These activities are summarized in Table 2-1. A summary of historical maintenance work performed at each extraction well is provided in Appendix A.

Continuous pumping rates for individual extraction wells are provided in Appendices B1 and B2, Figures 7.1 through 7.27, with the total pumping rate for the Upper Alluvium WBZ shown in Figure 7.28, the total pumping rate for the Lower Alluvium WBZ shown in Figure 7.29, and the total for all extraction wells shown in Figure 7.30.³ These data confirm proper operation and performance of the extraction wells between January and December 2023, with exceptions noted in the following paragraph.

In July 2022, extraction well PW-10Lb filled with sand and became inoperable. The sand was cleaned out, and a video inspection of the well casing revealed similar corrosion issues as experienced in PW-10L in August 2018, which was determined to be galvanic corrosion where mild steel transitions to stainless steel. An approximately 3-inch by 5-inch opening was observed in the mild steel just above the junction of the stainless-steel screen and the mild-steel casing. A stainless-steel packer was installed over the opening on August 17, 2022, to isolate the damaged section of well casing. PW-10Lb was put back into service on August 25, 2022, and was maintained fully operational until it was replaced with PW-10Lc, which was installed in April 2023 and brought online in June 2023. Extraction well PW-10U filled with sand and became inoperable in November 2022. The cause of this is believed to be corrosion similar to that observed in two other wells at this location (PW-10L and PW-10Lb), and was replaced with PW-10Ub, which was also installed in April 2023 and brought online in June 2023. Following the discovery of corrosion in the area of the PW-10 extraction wells,

³ Due to the continuous nature of these data, artifacts are shown during extraction well chemical treatments, manual redevelopments, transducer O&M and replacements, extraction well O&M, and HMI system upgrades.

mild steel was no longer used in the design of extraction wells. Beginning in November 2020, all stainless-steel construction was used instead, which is expected to be more resistant to corrosion. PW-10U and PW-10Lb were decommissioned in October 2023.

2.2 Groundwater Volume Extracted

The annual volume of groundwater removed by each HC&C system extraction well was calculated from the continuous (15-minute interval) pumping rates. Since full-time, full-scale operation of the HC&C system started on May 14, 2015, total extracted volumes were calculated for the Upper and Lower Alluvium WBZs on an annual basis from 2015 to 2023. Cumulative volumes were subsequently calculated from annual volumes, starting January 1, 2015, and ending December 31, 2023. In 2023, the total volume of groundwater extracted by the system was 101 million gallons (MG), which is an average of approximately 192 gallons per minute. Twenty-three MG were extracted from the Upper Alluvium WBZ, and 78 MG were extracted from the Lower Alluvium WBZ. Although the volume of groundwater extracted in the Upper Alluvium WBZ decreased from 34 MG in 2015 to 23 MG in 2023, the volume of groundwater extracted in the Lower Alluvium WBZ increased from 68 to 78 MG, resulting in a total annual extracted volume of at least 100 MG from the system each year since 2015 with a range of 101 to 124 MG. From 2015 to 2023, the HC&C system extracted 959 MG of groundwater (230 MG from the Upper Alluvium WBZ and 729 MG from the Lower Alluvium WBZ). The annual and cumulative volumes of groundwater extracted by the HC&C system are shown by WBZ in Table 2-2 and Figure 2-1 and by extraction well in Table 2-2 and Figures 2-2 (Upper Alluvium WBZ) and 2-3 (Lower Alluvium WBZ).

2.3 Contaminant Mass Removed

Contaminant mass removal is not a source control RAO for the HC&C system (see discussion of RAOs in Section 1.2). However, it does provide a useful metric for assessing the effectiveness of the system. Each month, untreated groundwater samples are collected by Severson Environmental Services, Inc. (SES), from the influent to the NW Natural Pretreatment Plant and the Siltronic Pretreatment Plant.⁴ Samples are analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), total cyanide, total suspended solids, oil and grease, copper, and iron. Influent concentrations of selected contaminants collected monthly by SES were compiled and are shown in Tables 2-3 and 2-4 for the NW Natural Pretreatment Plant and the Siltronic Pretreatment Plant, respectively. An annual mass removal rate was calculated for benzene, B(a)P, naphthalene, and cyanide as well as total VOCs, total SVOCs, copper, and iron by multiplying the average influent concentration for each contaminant by the groundwater volume pumped to each pretreatment plant each year (Equation 1; Tables 2-3 and 2-4).

⁴ These data are provided to DEQ by SES on a semiannual basis. January through June 2023 data were submitted on August 31, 2023, and July through December 2023 data were submitted on February 29, 2024.

Equation 1

$$M \left(\frac{\text{lb}}{\text{yr}} \right) = C \left(\frac{\mu\text{g}}{\text{L}} \right) * V \left(\frac{\text{MG}}{\text{yr}} \right) * 8.3454 \left(\frac{\text{lb} - \text{L}}{\text{MG} - \text{mg}} \right) * 10^{-3} \left(\frac{\text{mg}}{\mu\text{g}} \right)$$

where:

M	=	mass removal rate for a given contaminant in a given year
lb	=	pound
yr	=	year
C	=	average annual untreated influent concentration of a given contaminant in groundwater pumped to each pretreatment plant
μg	=	microgram
L	=	liter
V	=	total annual volume of groundwater pumped to a given pretreatment plant
mg	=	milligram

The annual contaminant masses removed by the groundwater extraction system based on the groundwater pumped to each pretreatment plant are summarized in Table 2-5. From the beginning of full-time, full-scale operation of the HC&C system on May 14, 2015, to the end of 2023, the HC&C system has removed approximately 3,019 pounds of benzene, 364 pounds of B(a)P, 14,573 pounds of naphthalene, 1,449 pounds of cyanide, 4,617 pounds of total VOCs, 30,076 pounds of total SVOCs, 7.8 pounds of copper, and 495,850 pounds of iron (Table 2-5, Figures 2-4 through 2-11).

3 Hydraulic Containment Monitoring

Hydraulic containment of alluvium groundwater by the HC&C system in 2023 was evaluated using two types of data assessment: reversal between the river and upland Alluvium WBZ groundwater (with groundwater flow toward the upland) and upward vertical hydraulic gradient along Segment 1. For each of these evaluations, the continuous groundwater elevation data measured at the monitoring wells, piezometers, and extraction wells were applied in multiple analyses to assess containment at varying temporal and spatial scales. Data collected at individual wells and piezometers were used to evaluate local hydraulic gradients. Evaluations that temporally or spatially interpolate between data points, such as Serfes averaging and potentiometric contour mapping, demonstrate hydraulic gradients and groundwater flow along the shoreline throughout the year. Continuous data collection and real time monitoring are discussed in Section 3.1.

3.1 Continuous Data Collection

Groundwater elevations in monitoring wells and piezometers, river elevations,⁵ and pumping rates are recorded every 15 minutes. These data are used to inform the operation of the HC&C system (see discussion of system controls in Section 3 of the HC&C PMP [Anchor QEA 2019b]). These data are plotted and submitted to DEQ semiannually as a series of figures that are referred to as HC&C System Operational Figures (Operational Figures). Operational Figures were first prepared during the initial HC&C system start-up and testing phases (Anchor QEA 2015). Table 3-1 describes the 2023 Operational Figures. Operational Figures for the period of January through June 2023 (submitted to DEQ on August 31, 2023) are included in Appendix B1. Figures for the period of July through December 2023 (submitted to DEQ on February 29, 2024) are included in Appendix B2. Wells beyond the alignment of the HC&C system (such as shoreline and offshore piezometers) are included to provide a complete dataset.

The 2023 Operational Figures confirm that the HC&C system maintained upland groundwater elevations in the alluvium in the nearshore area consistently below the river level and therefore controlled and contained alluvium groundwater throughout the year. Continuous data are presented in an unabridged form in the Operational Figures. As a result, certain brief periods shown in the figures do not reflect typical conditions—for example, during routine groundwater monitoring events and well maintenance activities. Operational Figures have been annotated to point out these types of data artifacts.

Evaluations based on the 2023 Operational Figures were conducted consistent with their intended uses (established in the CDR [Anchor QEA 2012] and detailed in Table 3-1) and are summarized in the following subsections.

⁵ Surface water elevations in the river are measured using transducers installed in two stilling wells.

3.1.1 *Hydraulic Head Difference Between Upland Alluvium WBZs and River*

Continuous groundwater elevation data were measured in 2023 at monitoring wells and piezometers instrumented with pressure transducers, and those data were compared to the continuous river elevation (Appendices B1 and B2, Figures 4.1 through 4.66). With continued maintenance and optimization of the HC&C system, including periodic replacement of degraded extraction wells (Section 2.1), the groundwater elevations at the wells screened in the Upper and Lower Alluvium WBZs were maintained at levels that were lower than the river elevation, indicating that the hydraulic gradients between these upland Alluvium WBZs and the river were reversed due to HC&C system operation. Monitoring well MW-36U shows 3-day average head differences with the river periodically greater than the transducer margin of error. MW-36U is the control well for PW-2U, which adjusts pumping rates in response to water levels in MW-36U. Potentiometric surface maps in Appendices B1 and B2 indicate that there is no loss of hydraulic control based on the water levels in the surrounding wells, so the 3-day average head differences do not represent a condition of concern. NW Natural continues to make adjustments to pumping at PW-2U and PW-2L to optimize horizontal and vertical gradients in this area.

Upper Alluvium WBZ monitoring well WS-8-59 is installed beyond the upriver extent of the HC&C system and shows that groundwater gradient reversals are not continuously maintained at this well. As stated in Section 3.1, the shoreline and offshore piezometers are beyond the alignment (riverward) of the HC&C system and are included to provide a complete dataset. Due to their location relative to the shoreline, lack of reversals at those piezometers do not indicate a loss of capture.

The continuous groundwater and surface water elevation data were also used to create contour maps showing the elevation differences between groundwater and the river (Appendices B1 and B2, Figures 3.1a through 3.12c). These maps were created using the 3-day rolling Serfes averages⁶ for the Upper Alluvium, Lower Alluvium, and Deep Lower Alluvium WBZs for two 3-day periods (the 11th through the 13th and the 24th through the 26th) of each month. These maps provide snapshots of average conditions for the nearshore area during both 3-day periods. These figures confirm that the hydraulic gradient was generally reversed between the Upper and Lower Alluvium WBZs and the river; therefore, groundwater flow in the Upper and Lower Alluvium WBZs was from the river toward the extraction wells in 2023. One exception was in the area of PW-10U. Due to the PW-10U shutdown (described in Section 2.1), reversals of gradient were not continuously maintained in the Upper Alluvium WBZ in January, February, and March. Reversals in gradient were restored in this area in April through December, after the PW-10U replacement (PW-10Ub) was brought online. The

⁶ Serfes averages are a 3-day rolling average method described in "Determining the Mean Hydraulic Gradient of Ground Water Affected by Tidal Fluctuations" (Serfes 1991). The Serfes average is a well-established and appropriate method to use when evaluating groundwater elevations influenced by tides (i.e., hydraulically connected to surface water bodies that experience tidal fluctuations [Serfes 1991]).

monitoring program has proven to be a very effective method for ensuring that wells are performing as required through maintenance and replacement to ensure hydraulic containment is continuously achieved.

3.1.2 Vertical Hydraulic Gradients

In Segment 1, vertical hydraulic gradients within the Alluvium WBZs are evaluated in addition to the comparison between upland groundwater and river elevations to verify that upward vertical gradients are maintained along this portion of Segment 1. Upward vertical gradients in Segment 1 are required to avoid exacerbating potential downward movement of DNAPL (Anchor QEA 2012). To confirm that an upward vertical hydraulic gradient was maintained in the Alluvium WBZs in this portion of Segment 1 (Figure 1-2, Table 3-1), water elevation differences between paired wells screened in adjacent hydrogeological units (i.e., Lower Alluvium and Upper Alluvium WBZs, or Deep Lower Alluvium and Lower Alluvium WBZs) are evaluated (Appendices B1 and B2, Figures 5.1 through 5.21). These figures indicate that in 2023, the HC&C system generally maintained an upward vertical hydraulic gradient (and therefore upward groundwater flow) within the Alluvium WBZs in the area between the Former Tar Pond Area and the river with a few exceptions. At monitoring well pair MW-16-65/MW-18-125, an apparent loss of upward vertical gradients occurred in mid-September and the last 2 weeks of October. The mid-September period corresponds with an incident of transducer drift at MW-18-125, which was corrected by 0.73 foot in early October. The October period corresponds to transducer drift at MW-16-65, which was corrected by 0.84 foot in early November. During the periods impacted by transducer drift, it is not possible to confirm that upward vertical gradients were maintained. At monitoring well pair MW-27U/MW-27L, upward vertical gradients were not maintained for brief periods in early March, May, June, October, and November. PW-6U is being replaced in 2024 with PW-6Ub, which should improve upward vertical gradients in this area. At monitoring well pair MW-34U/MW-34L, upward vertical gradients were not maintained for three brief periods in March and November and one brief period in each month from August through December.

On the Siltronic Geographic Subarea (GSA) in the remaining portion of Segment 1, upward vertical gradients are not maintained upriver (southeast) of the PW-2 extraction wells (at monitoring well pairs WS-21-112/MW-36U [Figure 5.10] and WS-12-125/WS-8-59 [Figure 5.11]). Maintaining upward vertical gradients in the Siltronic GSA to avoid exacerbating potential downward movement of DNAPL remains an objective for DEQ. NW Natural considers that objective less important for this section of shoreline because DNAPL is present only in the Lower Alluvium WBZ (within the screened interval of PW-2L). DNAPL is not significantly present anywhere in the Upper Alluvium WBZ along the Siltronic shoreline, nor is it present in either the Upper or Lower Alluvium WBZs in the area of the PW-1 extraction wells located upriver of the PW-2 extraction wells. To further support the conclusion that maintaining upward vertical gradients is not as important within the Siltronic GSA shoreline area, groundwater concentrations were reviewed along the Siltronic GSA shoreline using data from

monitoring wells screened in the Upper Alluvium WBZ and Lower Alluvium WBZ. Average groundwater concentrations of benzene and naphthalene for the last two sampling events (through 2021) at each well in this area were plotted on the Siltronic GSA portion of geologic cross section FSA-FSA' from the Gasco OU *Interim Feasibility Study* (Anchor QEA 2018), included in Appendix D. Along the Siltronic GSA shoreline, concentrations of benzene and naphthalene are relatively low in the Upper Alluvium WBZ groundwater and generally increase with depth from the Upper Alluvium WBZ to the Lower Alluvium WBZ. These data further confirm that little or no DNAPL is present in the Upper Alluvium WBZ, reducing the importance of maintaining upward vertical gradients along the Siltronic GSA shoreline. However, system adjustments were made in 2023 in an effort to improve upward vertical gradients in the area to the southeast of the PW-2 extraction wells. On January 4, 2023, the base flow rate of PW-2L was changed from 10 gallons per minute to 5 gallons per minute, and the shutoff/restart operation range was raised by approximately 18 feet so that pumping at PW-2L would shut off at an elevation of -60 feet relative to City of Portland datum (COP) and restart at -50 feet COP to effectively reduce the volume of water pumped and associated drawdown of PW-2L relative to PW-2U. On March 30, 2023, additional modifications were made to the operational parameters to keep the average water level in PW-2L above the average water level in PW-2U. The shutoff elevation at PW-2L was further raised from -60 to -20 feet COP, and the restart elevation was raised from -50 to -12 feet COP. These changes have had minimal benefit in terms of improving upward vertical gradients between MW-36U and WS-21-112.

Vertical gradients calculated at individual well pairs reflect localized conditions. To illustrate the areal distribution of upward hydraulic gradients, contour maps of groundwater elevation differences between the Upper Alluvium and Lower Alluvium WBZs were created using Serfes averages for two 3-day periods (the 11th through the 13th and the 24th through the 26th) of each month (Appendices B1 and B2, Figures 6.1 through 6.12). These figures also confirm that along the portion of Segment 1 downgradient of the Former Tar Pond Area, upward vertical gradients were maintained between the Upper and Lower Alluvium WBZs in 2023. In the area southeast (upriver) of the PW-2U/PW-2L extraction well cluster, upward vertical gradients are intermittently maintained.

4 DNAPL Collection and Monitoring

A DNAPL monitoring program was implemented at the Gasco OU to monitor DNAPL during the interim operation and testing phases and current full-time HC&C system operation. As outlined in the CDR (Anchor QEA 2012), the DNAPL monitoring program was implemented at DEQ's request to evaluate whether operating the HC&C system at the Gasco site could potentially mobilize DNAPL at the former effluent management areas on the NW Natural and Siltronic properties. To address DEQ's request, Anchor QEA implemented a DNAPL monitoring program consisting of well monitoring, oil-water separator monitoring, and TarGOST borings. Results of the DNAPL monitoring program are presented in detail in DNAPL Monitoring Semiannual Summary Reports, which are typically submitted in March and September of each year. The 2023 DNAPL monitoring summary reports were submitted on October 2, 2023, and April 1, 2024, respectively (Anchor QEA 2023, 2024b). A total of 4,567 gallons of DNAPL have been collected by the system since it was placed into operation in 2013, including 413 gallons in 2023.

5 Groundwater Quality Monitoring

In addition to the hydraulic containment achieved by the HC&C system, groundwater quality trends are monitored at an extensive network of selected wells. Monitoring groundwater chemistry is not part of the source control RAOs, and groundwater quality data will not be used to assess whether the source control actions are successful at achieving the RAOs. Therefore, the data presented in this section are not intended to be used to evaluate the success of the source control actions but rather to measure groundwater quality changes that occur during HC&C system operation for general site monitoring purposes. The groundwater quality monitoring program, described in the following subsections, will also be evaluated as part of the site-wide upland feasibility study and overall upland site remedy.

5.1 Well Network and Schedule

At the request of DEQ, groundwater monitoring programs conducted by NW Natural and Siltronic have been combined as summarized in a single spreadsheet referred to as the Comprehensive Groundwater Framework. This spreadsheet, showing the monitoring program in effect as of the end of 2023, is included as Appendix C1 and includes details of the groundwater monitoring programs conducted within the Gasco OU by Anchor QEA on behalf of NW Natural and Siltronic. The Comprehensive Groundwater Framework includes a semiannual sampling event in March, an annual sampling event in September, and quarterly sampling events in June and December of each year. The annual and semiannual sampling events include collection and analysis of groundwater samples from monitoring wells and DNAPL monitoring and removal at observation wells, groundwater extraction wells, and piezometers installed as part of the monitoring network. Monitoring well locations are shown in Figure 5-1 (Fill WBZ), Figure 5-2 (Upper Alluvium WBZ), Figure 5-3 (Lower Alluvium WBZ), and Figure 5-4 (Deep Lower Alluvium WBZ).

5.2 Target Analyses

The Comprehensive Groundwater Framework includes the following analyses:

- VOCs (U.S. Environmental Protection Agency [EPA] Method 8260)
- Polycyclic aromatic hydrocarbons (PAHs) and 1-methylnaphthalene, 2-methylnaphthalene, dibenzofuran, and carbazole (EPA Method 8270 SIM)
- Total cyanide (EPA Method 335.4)
- Available cyanide (EPA Method OIA-1677)
- Free cyanide (EPA Method D-4282)
- Total metals (aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc) (EPA Method 6000)

Groundwater samples collected from the extraction wells were analyzed by the following methods for major ions:

- Total metals (calcium, potassium, sodium, and magnesium) (EPA Method 6000)
- Dissolved metals (iron and magnesium) (EPA Method 6000)
- Anions (sulfate, chloride, and nitrate) (EPA Method 300.0)
- Alkalinity (carbonate and bicarbonate) (Standard Method 2320B)

The following analytes were also tested for at extraction well PW-1Lb⁷:

- Pesticides (EPA Method 8081B)
- Herbicides (EPA Method 8151A)

A subset of well samples indicated in the comprehensive framework were analyzed for the following total petroleum hydrocarbons (TPH) analyses:

- Gasoline-range total petroleum hydrocarbons (NWTPH-Gx)
- Diesel-range total petroleum hydrocarbons (NWTPH-Dx)
- Volatile petroleum hydrocarbons (WA VPH)
- Extractable petroleum hydrocarbons (WA EPH)

In addition, field parameters were measured at each sampled well, including dissolved oxygen, pH, specific conductance, turbidity, temperature, and oxidation reduction potential.

Also, as requested by DEQ, a subset of 12 piezometers (PZ2-5, PZ2-20, PZ2-43, PZ2-77, PZ7-5, PZ7-50, PZ7-100, PZ8-5, PZ8-50, PZ9-5, PZ9-50, and PZ9-75) installed along the shoreline and in the Willamette River are equipped with sensors and dataloggers that record specific conductance and temperature. These data were collected at the same frequency as water level data (15-minute intervals).

The field sampling procedures, sample handling protocols, analyte testing, and quality assurance and quality control procedures are described in detail in the *Sampling and Analysis Plan*, which is available in Appendix A of the HC&C PMP (Anchor QEA 2019b).

5.3 Data Reporting

Water quality data are presented in an Excel database file that includes historical groundwater monitoring data and has been updated with data from the 2023 sampling events. Flat-file exports with validated monitoring data for the semiannual monitoring event (March monitoring event) and annual monitoring event (September monitoring event) were submitted on August 15, 2023, and February 27, 2024, respectively. Summary tables of validated 2023 data are provided in Appendix C2

⁷ On May 26, 2016, DEQ requested that NW Natural further evaluate groundwater entering the HC&C system by collecting and analyzing samples from PW-1L (replaced by PW-1Lb) for Rhône-Poulenc constituents.

of this report. Laboratory reports for 2023 sampling are included in Appendix E. Data validation reports are available upon request.

Concentration trend plots were created for total cyanide, available cyanide, free cyanide, B(a)P, naphthalene, and benzene for the last 5 years and are included in Appendices C3 and C4. Sample results for a single contaminant are displayed in one figure to facilitate comparison of general trends between the various wells and piezometers in each layer. Data for each chemical (i.e., benzene, B(a)P, naphthalene, and cyanide) are organized in eight plots as follows:

- C.3.x.1: Fill WBZ Monitoring Wells and Piezometers (1 of 2)
- C.3.x.2: Fill WBZ Monitoring Wells and Piezometers (2 of 2)
- C.3.x.3: Upper Alluvium WBZ Monitoring Wells and Piezometers (1 of 2)
- C.3.x.4: Upper Alluvium WBZ Monitoring Wells and Piezometers (2 of 2)
- C.3.x.5: Upper Alluvium WBZ Extraction Wells
- C.3.x.6: Lower Alluvium WBZ Monitoring Wells and Piezometers
- C.3.x.7: Lower Alluvium WBZ Extraction Wells
- C.3.x.8: Deep Lower Alluvium WBZ Monitoring Wells and Piezometers

Figures from Appendix C4 show water quality trends of cyanide (total, available, and free), B(a)P, naphthalene, and benzene at a given monitoring well, piezometer, or extraction well during the past 8 years. Sample results are displayed in quadrants for easy comparison between contaminants. Chemistry data from monitoring wells and piezometers are displayed in Figures C.4.a.1 through C.4.a.71 and from extraction wells in Figures C.4.b.72 through C.4.b.97.

Plots from Appendix C3 and C4 are reviewed to evaluate changes in concentrations, if any, detected at any well. As shown in these figures, groundwater chemistry conditions have continued to be relatively stable across the site during the past 8 years. The majority of groundwater constituents tend to remain within an order of magnitude, as reported in micrograms per liter, during the 8-year period.

6 Summary

The information reported in this 2023 Annual Report demonstrates that the HC&C system is meeting design objectives, which are to control the contaminated groundwater migration pathway from the Alluvium WBZs to the Willamette River by reversing the hydraulic gradients such that the hydraulic gradient is from the river to the uplands (DEQ 2011). RAOs for groundwater source control are to prevent migration of contaminated groundwater from the uplands to the Willamette River along shoreline Segments 1 and 2 in a manner that minimizes DNAPL mobilization resulting from groundwater source control measures wherever DNAPL occurs. This report confirms that the design objectives for the HC&C system were met and that source control RAOs for the Alluvium WBZs were achieved during the reporting period.

In 2023, the HC&C system operated successfully as designed, and empirical data continue to demonstrate that the system is meeting RAOs for source control within the Alluvium WBZs by reversing hydraulic gradients and associated Upper and Lower Alluvium WBZ contaminant migration pathways to the Willamette River. DEQ has determined that full capture of groundwater and demonstration of reversal within the Deep Lower Alluvium WBZ are not necessary to achieve source control RAOs (DEQ 2022). Routine inspections were performed on a weekly, monthly, and quarterly basis. The inspection procedures were effective, and preventative and corrective maintenance of HC&C system components were completed to ensure continuous and proper system function (Table 2-1). More than 101 MG of contaminated groundwater containing approximately 202 pounds of benzene, 0.06 pounds of B(a)P, 547 pounds of naphthalene, 113 pounds of cyanide, 368 pounds of total VOCs, 718 pounds of total SVOCs, 2.63 pounds of copper, and 51,100 pounds of iron were extracted by the HC&C system in 2023. From the beginning of full-time, full-scale operation of the HC&C system on May 14, 2015, through the end of 2023, approximately 3,019 pounds of benzene, 364 pounds of B(a)P, 14,573 pounds of naphthalene, 1,449 pounds of cyanide, 4,617 pounds of total VOCs, 30,076 pounds of total SVOCs, 7.81 pounds of copper, and 495,850 pounds of iron have been removed from the subsurface at the Gasco and Siltronic properties by the HC&C system.

Continuous pumping rate data confirm proper operation and performance. Sporadic small scale data artifacts due to operation issues have been noted and resolved. These include readings during extraction well chemical treatments, manual redevelopment, transducer O&M and replacements, extraction well O&M, and HMI system upgrades.

Continuous (15-minute interval) groundwater elevation data (Table 3-1, Appendix B) confirm that in 2023, groundwater flow in the Upper and Lower Alluvium WBZs along the HC&C alignment was from the river toward the extraction wells and that an upward vertical gradient was maintained between the Upper and Lower Alluvium WBZs and the Lower and Deep Lower Alluvium WBZs in the portion of Segment 1 downgradient of the Former Tar Pond Area (northwest and downriver of the PW-2 extraction well pair). In the area southeast of extraction well PW-2L, upward vertical gradients were

intermittently maintained. In that area DNAPL is absent, and dissolved concentrations in the Lower Alluvium WBZ are greater than those in the Upper Alluvium WBZ. In an attempt to more consistently maintain upward gradients in this area, NW Natural adjusted system operations in this area in 2023; however, upward vertical gradients continued to be intermittent.

Semiannual DNAPL collection and monitoring events were conducted in 2023. The outcomes of these events and recommendations are detailed in the DNAPL monitoring reports (Anchor QEA 2023, 2024b). A total of 4,567 gallons of DNAPL have been collected by the system since it was placed into operation, and 413 gallons of DNAPL were removed in 2023.

Quarterly, semiannual, and annual water quality monitoring events were conducted in 2023 and show that groundwater chemistry conditions have continued to be relatively stable across the site during the past 8 years. These data are provided in Appendix C. The groundwater quality data are not used for evaluating success in achieving the RAOs for the HC&C system; however, they will be useful for documenting current conditions and temporal trends in groundwater quality over time in the upland feasibility study.

7 References

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Tables

Table 1-1
Groundwater Well and Piezometer Construction Details

Well ID	Well Type	Water-Bearing Zone	Date Well Installed (mm/dd/yy)	Well Installation Method	Monument Type	Screen Type	Screen Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Elevations, feet COP or Below Ground Surface										
										Ground Surface (feet COP)	Top of Casing		Pump Inlet		Top Screen		Base Screen		Well Depth ¹	
											(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)
PW-01U	Extraction Well	Upper Alluvium	01/09/13	Sonic	Above-grade	CWSS	0.020	16-30	6	35.0	(2.50)	37.50	54.00	(19.00)	55.10	(20.10)	70.10	(35.10)	75.10	(40.10)
PW-01Uc	Extraction Well	Upper Alluvium	12/22/21	Cable Tool	Above-grade	CWSS	0.010	20-40	8	NS	NS	NS	64.00	NS	65.00	NS	80.00	NS	85.00	NS
PW-01Lb	Extraction Well	Lower Alluvium	05/07/19	Cable Tool	Above-grade	CWSS	0.035	10-20	8	34.5	(2.60)	37.07	99.00	(64.50)	101.90	(67.40)	131.90	(97.40)	136.90	(102.40)
PW-02U	Extraction Well	Upper Alluvium	04/25/12	Sonic	Above-grade	CWSS	0.020	16-30	6	34.5	(2.23)	36.70	57.80	(23.33)	57.80	(23.33)	72.80	(38.33)	77.80	(43.33)
PW-02L	Extraction Well	Lower Alluvium	02/06/13	Sonic	Above-grade	CWSS	0.035	10-20	6	34.5	(2.64)	37.14	116.40	(81.90)	120.10	(85.60)	140.10	(105.60)	145.10	(110.60)
PW-03U	Extraction Well	Upper Alluvium	04/11/12	Sonic	Above-grade	CWSS	0.020	16-30	6	25.6	(1.95)	27.52	43.80	(18.23)	42.80	(17.23)	57.80	(32.23)	62.80	(37.23)
PW-03-118	Extraction Well	Lower Alluvium	06/13/07	Cable Tool	Above-grade	CWSS	0.035	10-20	8	25.5	(1.51)	27.01	106.50	(81.00)	108.00	(82.50)	118.00	(92.50)	128.00	(102.50)
PW-04U	Extraction Well	Upper Alluvium	01/16/13	Sonic	Above-grade	CWSS	0.020	16-30	6	28.3	(2.69)	31.01	45.80	(17.48)	47.20	(18.88)	62.20	(33.88)	67.20	(38.88)
PW-04L	Extraction Well	Lower Alluvium	01/10/13	Sonic	Above-grade	CWSS	0.035	10-20	6	28.2	(2.05)	30.27	99.40	(71.18)	105.40	(77.18)	125.40	(97.18)	130.40	(102.18)
PW-05U	Extraction Well	Upper Alluvium	04/20/12	Sonic	Above-grade	CWSS	0.020	16-30	6	32.5	(2.33)	34.82	49.70	(17.21)	49.90	(17.41)	64.90	(32.41)	69.90	(37.41)
PW-05L	Extraction Well	Lower Alluvium	01/23/13	Sonic	Above-grade	CWSS	0.035	10-20	6	32.3	(1.92)	34.19	102.60	(70.33)	105.70	(73.43)	125.70	(93.43)	130.70	(98.43)
PW-06U	Extraction Well	Upper Alluvium	04/17/12	Sonic	Above-grade	CWSS	0.020	16-30	6	31.5	(2.39)	33.93	50.60	(19.06)	49.40	(17.86)	64.40	(32.86)	69.40	(37.86)
PW-06L	Extraction Well	Lower Alluvium	11/06/12	Sonic	Above-grade	CWSS	0.035	10-20	6	31.0	(2.35)	33.32	99.70	(68.73)	103.70	(72.73)	123.70	(92.73)	128.70	(97.73)
PW-07-93	Extraction Well	Lower Alluvium	02/22/10	Sonic	Above-grade	CWSS	0.035	10-20	8	24.2	(2.62)	26.81	69.40	(45.21)	73.50	(49.31)	93.50	(69.31)	95.50	(71.31)
PW-08Ub	Extraction Well	Upper Alluvium	11/04/20	Cable Tool	Above-grade	CWSS	0.010	20-40	8	20.1	(3.40)	23.45	23.60	(3.50)	20.00	0.10	35.00	(15.00)	40.90	(20.90)
PW-08-68	Extraction Well	Lower Alluvium	02/11/10	Sonic	Above-grade	CWSS	0.035	10-20	8	24.6	(2.54)	27.18	45.00	(20.36)	48.00	(23.36)	68.00	(43.36)	70.00	(45.36)
PW-09-92	Extraction Well	Lower Alluvium	03/01/10	Sonic	Above-grade	CWSS	0.035	10-20	8	33.0	(2.82)	35.84	69.70	(36.68)	72.60	(39.58)	92.60	(59.58)	94.60	(61.58)
PW-10Ub	Extraction Well	Upper Alluvium	04/27/23	Cable Tool	Above-grade	CWSS	0.010	20-40	8	32.7	(2.01)	34.71	36.89	(4.19)	38.90	(6.20)	53.90	(21.20)	59.80	(27.10)
PW-10Lc	Extraction Well	Lower Alluvium	04/18/23	Cable Tool	Above-grade	CWSS	0.030	12-20	8	31.9	(2.16)	34.06	73.34	(41.44)	75.30	(43.40)	95.30	(63.40)	100.30	(68.40)
PW-11U	Extraction Well	Upper Alluvium	01/26/13	Sonic	Above-grade	CWSS	0.020	16-30	6	24.0	(2.73)	26.78	48.30	(24.25)	49.80	(25.75)	64.80	(40.75)	69.80	(45.75)
PW-11Ub	Extraction Well	Upper Alluvium	02/01/22	Cable Tool	Above-grade	CWSS	0.010	20-40	8	25.0	(2.50)	27.47	49.20	(24.23)	50.20	(25.23)	65.20	(40.23)	70.20	(45.23)
PW-12U	Extraction Well	Upper Alluvium	12/21/12	Sonic	Above-grade	CWSS	0.020	16-30	6	26.2	(2.35)	28.58	46.60	(20.37)	47.80	(21.57)	62.80	(36.57)	67.80	(41.57)
PW-13U	Extraction Well	Upper Alluvium	12/28/12	Sonic	Above-grade	CWSS	0.020	16-30	6	32.2	(2.40)	34.60	58.90	(26.70)	57.60	(25.40)	72.60	(40.40)	77.60	(45.40)
PW-14U	Extraction Well	Upper Alluvium	01/14/13	Sonic	Above-grade	CWSS	0.020	16-30	6	31.9	(2.74)	34.68	55.80	(23.87)	57.80	(25.87)	67.80	(35.87)	72.80	(40.87)
PW-15U	Extraction Well	Upper Alluvium	09/03/14	Sonic	Above-grade	CWSS	0.020	16-30	6	24.5	(2.53)	27.01	49.50	(25.02)	35.10	(10.62)	55.10	(30.62)	60.10	(35.62)
PW-16U	Extraction Well	Upper Alluvium	08/28/14	Sonic	Above-grade	CWSS	0.020	16-30	6	26.1	(2.02)	28.13	42.50	(16.39)	30.40	(4.29)	50.40	(24.29)	55.40	(29.29)
MW-1-22	Monitoring Well	Fill	10/24/95	HSA	Above-grade	Slotted PVC	0.020	10-20	2	32.0	(2.75)	34.75	NA	NA	11.00	21.00	21.00	11.00	22.00	10.00
MW-1-55	Monitoring Well	Upper Alluvium	07/10/07	Sonic	Above-grade	CWSS	0.020	10-20	2	33.1	(2.54)	35.64	NA	NA	45.00	(11.90)	55.00	(21.90)	57.00	(23.90)
MW-1-82	Monitoring Well	Lower Alluvium	07/09/07	Sonic	Above-grade	CWSS	0.020	10-20	2	33.5	(2.45)	35.95	NA	NA	72.00	(38.50)	82.00	(48.50)	84.00	(50.50)
MW-2-32	Monitoring Well	Fill	11/06/95	HSA	Flush	Slotted PVC	0.020	10-20	2	34.8	0.42	34.41	NA	NA	21.50	13.33	31.50	3.33	32.50	2.33
MW-2-61	Monitoring Well	Upper Alluvium	10/08/98	HSA	Flush	Slotted PVC	0.020	10-20	2	34.7	0.37	34.33	NA	NA	50.00	(15.30)	60.00	(25.30)	61.50	(26.80)
MW-2-104	Monitoring Well	Lower Alluvium	06/25/07	Sonic	Flush	CWSS	0.020	10-20	2	34.9	0.06	34.80	NA	NA	94.00	(59.14)	104.00	(69.14)	106.00	(71.14)
MW-3-26	Monitoring Well	Fill	11/02/95	HSA	Above-grade	CWSS	0.020	10-20	2	31.2	(2.84)	34.04	NA	NA	15.00	16.20	25.00	6.20	26.00	5.20
MW-3-56	Monitoring Well	Upper Alluvium	11/01/95	HSA	Above-grade	CWSS	0.020	10-20	2	31.2	(2.82)	34.02	NA	NA	45.00	(13.80)	55.00	(23.80)	56.00	(24.80)
MW-4-35	Monitoring Well	Fill/Upper Alluvium	10/31/95	HSA	Above-grade	CWSS	0.020	10-20	2	31.7	(2.74)	34.44	NA	NA	24.00	7.70	34.00	(2.30)	35.00	(3.30)
MW-4-57	Monitoring Well	Upper Alluvium	10/30/95	HSA	Above-grade	CWSS	0.020	10-20		31.7	(2.78)	34.48	NA	NA	46.00	(14.30)	56.00	(24.30)	57.00	(25.30)
MW-4-101	Monitoring Well	Lower Alluvium	10/16/98	DWRA	Above-grade	Slotted PVC (PP)	0.010	20-40	2	31.8	(2.46)	34.26	NA	NA	89.50	(57.70)	99.50	(67.70)	101.00	(69.20)
MW-5-32	Monitoring Well	Fill/Upper Alluvium	10/27/95	HSA	Above-grade	Slotted PVC	0.020	10-20	2	25.1	(2.62)	27.72	NA	NA	21.00	4.10	31.00	(5.90)	32.00	(6.90)
MW-5-100	Monitoring Well	Upper Alluvium	10/23/98	DWRA	Above-grade	CWSS	0.020	10-20	2	25.4	(1.87)	27.27	NA	NA	88.00	(62.60)	98.00	(72.60)	100.00	(74.60)
MW-5-175	Monitoring Well	Deep Lower Alluvium	10/22/98	DWRA	Above-grade	Slotted PVC (PP)	0.010	20-40	2	25.2	(1.92)	27.12	NA	NA	163.00	(137.80)	173.00	(147.80)	175.00	(149.80)
MW-16-45	Monitoring Well	Upper Alluvium	07/20/04	Sonic	Above-grade	Slotted SS	0.010	10-20	2	30.8	(2.29)	33.10	NA	NA	30.00	0.81	45.00	(14.19)	47.50	(16.69)
MW-16-65	Monitoring Well	Upper Alluvium	07/19/04	Sonic	Above-grade	Slotted SS	0.010	10-20	2	30.6	(2.53)	33.13	NA	NA	55.00	(24.40)	65.00	(34.40)	67.50	(36.90)

Table 1-1
Groundwater Well and Piezometer Construction Details

Well ID	Well Type	Water-Bearing Zone	Date Well Installed (mm/dd/yy)	Well Installation Method	Monument Type	Screen Type	Screen Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Elevations, feet COP or Below Ground Surface										
										Ground Surface (feet COP)	Top of Casing		Pump Inlet		Top Screen		Base Screen		Well Depth ¹	
											(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)
MW-18-30	Monitoring Well	Fill	02/27/07	Sonic	Above-grade	CWSS	0.020	10-20	2	31.7	(2.52)	34.18	NA	NA	19.00	12.66	29.00	2.66	30.00	1.66
MW-18-125	Monitoring Well	Lower Alluvium	04/22/10	Sonic	Above-grade	CWSS	0.020	10-20	2	31.9	(2.64)	34.57	NA	NA	115.00	(83.07)	125.00	(93.07)	126.00	(94.07)
MW-18-180	Monitoring Well	Deep Lower Alluvium	02/26/07	Sonic	Above-grade	CWSS	0.020	10-20	2	31.7	(2.11)	33.81	NA	NA	170.00	(138.30)	180.00	(148.30)	181.00	(149.30)
MW-19-22	Monitoring Well	Fill	03/06/07	Sonic	Above-grade	CWSS	0.020	10-20	2	27.4	(2.32)	29.72	NA	NA	12.00	15.40	22.00	5.40	23.00	4.40
MW-19-125	Monitoring Well	Lower Alluvium	03/12/07	Sonic	Above-grade	CWSS	0.020	10-20	2	27.2	(2.13)	29.33	NA	NA	115.00	(87.80)	125.00	(97.80)	126.00	(98.80)
MW-19-180	Monitoring Well	Deep Lower Alluvium	03/02/07	Sonic	Above-grade	CWSS	0.020	10-20	2	27.3	(2.45)	29.73	NA	NA	170.00	(142.72)	180.00	(152.72)	181.00	(153.72)
MW-20-120	Monitoring Well	Lower Alluvium	03/08/07	Sonic	Above-grade	CWSS	0.020	10-20	2	25.6	(2.06)	27.69	NA	NA	110.00	(84.37)	120.00	(94.37)	121.00	(95.37)
MW-21-12	Monitoring Well	Fill	07/06/07	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	20.3	(2.82)	23.16	NA	NA	7.00	13.34	12.00	8.34	14.00	6.34
MW-21U	Monitoring Well	Upper Alluvium	09/24/12	Sonic	Above-grade	CWSS	0.020	10-20	2	20.5	(1.88)	22.38	NA	NA	25.00	(4.50)	35.00	(14.50)	38.00	(17.50)
MW-21-75	Monitoring Well	Lower Alluvium	07/05/07	Sonic	Above-grade	CWSS	0.020	10-20	2	20.4	(2.63)	23.03	NA	NA	65.00	(44.60)	75.00	(54.60)	77.00	(56.60)
MW-21-115	Monitoring Well	Lower Alluvium	07/02/07	Sonic	Above-grade	CWSS	0.020	10-20	2	20.5	(2.85)	23.35	NA	NA	105.00	(84.50)	115.00	(94.50)	117.00	(96.50)
MW-21-165	Monitoring Well	Deep Lower Alluvium	06/28/07	Sonic	Above-grade	CWSS	0.020	10-20	2	20.5	(2.56)	23.06	NA	NA	156.00	(135.50)	166.00	(145.50)	168.00	(147.50)
MW-22U	Monitoring Well	Upper Alluvium	09/20/12	Sonic	Above-grade	CWSS	0.020	10-20	2	33.5	(2.87)	36.37	NA	NA	45.00	(11.50)	55.00	(21.50)	58.00	(24.50)
MW-22-80	Monitoring Well	Lower Alluvium	01/28/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	33.6	(2.30)	35.89	NA	NA	69.90	(36.31)	79.90	(46.31)	80.90	(47.31)
MW-23-27	Monitoring Well	Fill	02/16/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	32.8	(1.86)	34.63	NA	NA	17.70	15.07	27.70	5.07	28.00	4.77
MW-23U	Monitoring Well	Upper Alluvium	09/24/12	Sonic	Above-grade	CWSS	0.020	10-20	2	32.9	(2.61)	35.51	NA	NA	40.00	(7.10)	50.00	(17.10)	53.00	(20.10)
MW-23-75	Monitoring Well	Lower Alluvium	02/16/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	32.9	(1.87)	34.78	NA	NA	64.70	(31.79)	74.70	(41.79)	75.70	(42.79)
MW-23-123	Monitoring Well	Lower Alluvium	02/05/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	32.9	(2.08)	34.96	NA	NA	113.30	(80.42)	123.30	(90.42)	124.30	(91.42)
MW-24-70	Monitoring Well	Upper Alluvium	02/03/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	31.4	(2.32)	33.74	NA	NA	60.10	(28.68)	70.10	(38.68)	71.10	(39.68)
MW-24-130	Monitoring Well	Lower Alluvium	02/02/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	31.3	(2.32)	33.66	NA	NA	120.10	(88.76)	130.10	(98.76)	131.10	(99.76)
MW-25L	Monitoring Well	Lower Alluvium	09/19/12	Sonic	Above-grade	CWSS	0.020	10-20	2	31.3	(2.82)	34.12	NA	NA	54.00	(22.70)	64.00	(32.70)	67.00	(35.70)
MW-26U	Monitoring Well	Upper Alluvium	09/25/12	Sonic	Above-grade	CWSS	0.020	10-20	2	31.4	(2.53)	33.93	NA	NA	38.50	(7.10)	48.50	(17.10)	51.70	(20.30)
MW-27U	Monitoring Well	Upper Alluvium	11/20/12	Sonic	Above-grade	CWSS	0.020	10-20	2	31.9	(2.28)	34.18	NA	NA	66.10	(34.20)	76.10	(44.20)	79.10	(47.20)
MW-27L	Monitoring Well	Lower Alluvium	11/16/12	Sonic	Above-grade	CWSS	0.020	10-20	2	31.9	(2.26)	34.16	NA	NA	106.00	(74.10)	116.00	(84.10)	119.00	(87.10)
MW-28U	Monitoring Well	Upper Alluvium	10/05/12	Sonic	Above-grade	CWSS	0.020	10-20	2	32.0	(2.73)	34.73	NA	NA	75.00	(43.00)	85.00	(53.00)	88.00	(56.00)
MW-28L	Monitoring Well	Lower Alluvium	10/04/12	Sonic	Above-grade	CWSS	0.020	10-20	2	32.4	(2.47)	34.87	NA	NA	109.80	(77.40)	119.80	(87.40)	122.80	(90.40)
MW-29U	Monitoring Well	Upper Alluvium	11/27/12	Sonic	Above-grade	CWSS	0.020	10-20	2	32.0	(2.84)	34.84	NA	NA	46.00	(14.00)	56.00	(24.00)	59.00	(27.00)
MW-30U	Monitoring Well	Upper Alluvium	11/14/12	Sonic	Above-grade	CWSS	0.020	10-20	2	27.4	(3.06)	30.46	NA	NA	40.10	(12.70)	50.10	(22.70)	53.10	(25.70)
MW-31U	Monitoring Well	Upper Alluvium	09/28/12	Sonic	Above-grade	CWSS	0.020	10-20	2	25.8	(2.57)	28.37	NA	NA	84.90	(59.10)	94.90	(69.10)	97.90	(72.10)
MW-31L	Monitoring Well	Lower Alluvium	09/27/12	Sonic	Above-grade	CWSS	0.020	10-20	2	26.0	(2.53)	28.53	NA	NA	105.00	(79.00)	115.00	(89.00)	118.00	(92.00)
MW-32U	Monitoring Well	Upper Alluvium	11/06/12	Sonic	Above-grade	CWSS	0.020	10-20	2	25.8	(2.68)	28.48	NA	NA	39.90	(14.10)	49.90	(24.10)	52.90	(27.10)
MW-33U	Monitoring Well	Upper Alluvium	11/05/12	Sonic	Above-grade	CWSS	0.020	10-20	2	24.8	(2.86)	27.66	NA	NA	38.00	(13.20)	48.00	(23.20)	51.00	(26.20)
MW-34U	Monitoring Well	Upper Alluvium	11/12/12	Sonic	Above-grade	CWSS	0.020	10-20	2	24.2	(2.61)	26.81	NA	NA	63.30	(39.10)	73.30	(49.10)	76.30	(52.10)
MW-34L	Monitoring Well	Lower Alluvium	11/08/12	Sonic	Above-grade	CWSS	0.020	10-20	2	24.1	(2.81)	26.91	NA	NA	99.00	(74.90)	109.00	(84.90)	112.00	(87.90)
MW-35U	Monitoring Well	Upper Alluvium	09/28/12	Sonic	Above-grade	CWSS	0.020	10-20	2	33.9	(2.55)	36.45	NA	NA	54.00	(20.10)	64.00	(30.10)	67.00	(33.10)
MW-36U	Monitoring Well	Upper Alluvium	09/27/12	Sonic	Above-grade	CWSS	0.020	10-20	2	35.1	(2.83)	37.93	NA	NA	44.00	(8.90)	54.00	(18.90)	57.00	(21.90)
MW-37U	Monitoring Well	Upper Alluvium	11/21/12	Sonic	Above-grade	CWSS	0.020	10-20	2	32.3	(2.60)	34.90	NA	NA	40.10	(7.80)	50.10	(17.80)	53.10	(20.80)
MW-38U	Monitoring Well	Upper Alluvium	11/28/12	Sonic	Above-grade	CWSS	0.020	10-20	2	31.8	(2.94)	34.74	NA	NA	50.10	(18.30)	60.10	(28.30)	63.10	(31.30)
MW-39F	Monitoring Well	Fill	11/17/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	31.1	(3.16)	34.25	NA	NA	11.80	19.29	16.80	14.29	17.10	13.99
MW-40F	Monitoring Well	Fill	11/18/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	36.0	(3.27)	39.25	NA	NA	21.60	14.38	26.60	9.38	27.10	8.88
MW-41U	Monitoring Well	Upper Alluvium	01/16/15	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	37.6	(3.14)	40.69	NA	NA	17.60	19.95	27.60	9.95	28.00	9.55
MW-42F	Monitoring Well	Fill	11/21/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	33.5	(3.36)	36.84	NA	NA	26.00	7.48	31.00	2.48	31.40	2.08

Table 1-1
Groundwater Well and Piezometer Construction Details

Well ID	Well Type	Water-Bearing Zone	Date Well Installed (mm/dd/yy)	Well Installation Method	Monument Type	Screen Type	Screen Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Elevations, feet COP or Below Ground Surface										
										Ground Surface (feet COP)	Top of Casing		Pump Inlet		Top Screen		Base Screen		Well Depth ¹	
											(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)
MW-43F	Monitoring Well	Fill	08/08/17	Sonic	Flush	CWSS	0.010	10-20	2	37.5	0.45	37.05	NA	NA	7.00	30.50	17.00	20.50	18.00	19.50
MW-44F	Monitoring Well	Fill	08/09/17	Sonic	Above-grade	CWSS	0.010	10-20	2	35.8	(3.06)	38.86	NA	NA	6.00	29.80	16.00	19.80	17.00	18.80
MW-45F	Monitoring Well	Fill	08/08/17	Sonic	Flush	CWSS	0.010	10-20	2	34.9	0.06	34.84	NA	NA	7.00	27.90	17.00	17.90	18.00	16.90
MW-46F	Monitoring Well	Fill	05/01/18	Sonic	Above-grade	CWSS	0.020	10-20	2	35.5	(2.42)	37.94	NA	NA	6.10	29.42	16.10	19.42	17.10	18.42
MW-47F	Monitoring Well	Fill	04/30/18	Sonic	Above-grade	CWSS	0.020	10-20	2	34.6	(2.92)	37.54	NA	NA	22.00	12.62	32.00	2.62	33.00	1.62
MW-48F	Monitoring Well	Fill	05/01/18	Sonic	Above-grade	CWSS	0.020	10-20	2	35.2	(2.83)	38.05	NA	NA	15.60	19.62	25.60	9.62	26.60	8.62
MW-49F	Monitoring Well	Fill	05/01/18	Sonic	Above-grade	CWSS	0.020	10-20	2	35.8	(2.77)	38.57	NA	NA	15.60	19.62	25.60	9.62	26.60	8.62
MW-50F	Monitoring Well	Fill	12/31/20	Sonic	Above-grade	CWSS	0.020	12-20	2	35.5	(2.64)	38.14	NA	NA	14.10	21.40	23.80	11.70	24.90	10.60
MW-51F	Monitoring Well	Fill	12/02/20	Sonic	Above-grade	CWSS	0.020	12-20	2	35.0	(2.87)	37.87	NA	NA	15.50	19.50	25.20	9.80	26.30	8.70
MW-52F	Monitoring Well	Fill	11/30/20	Sonic	Above-grade	CWSS	0.020	12-20	2	20.2	(2.59)	22.74	NA	NA	5.80	14.35	10.50	9.65	11.60	8.55
MW-53F	Monitoring Well	Fill	11/30/20	Sonic	Above-grade	CWSS	0.020	12-20	2	19.3	(2.96)	22.28	NA	NA	3.80	15.52	8.60	10.72	9.80	9.52
MW-PW2L ²	Monitoring Well	Lower Alluvium	01/17/14	Sonic	Above-grade	CWSS	0.010	10-20	2	34.0	(1.92)	35.92	NA	NA	119.80	(85.80)	139.80	(105.80)	145.40	(111.40)
MW-PW10L ²	Monitoring Well	Lower Alluvium	09/30/13	Sonic	Above-grade	CWSS	0.010	10-20	2	31.6	(2.44)	34.04	NA	NA	60.20	(28.60)	80.20	(48.60)	85.20	(53.60)
PW-1-80	Monitoring Well	Upper Alluvium	08/09/05	Sonic	Above-grade	CWSS	0.020	10-20	6	32.0	(2.07)	34.07	NA	NA	39.50	(7.50)	79.50	(47.50)	82.00	(50.00)
PW-3-85	Monitoring Well	Upper Alluvium	06/20/07	Cable Tool	Above-grade	CWSS	0.035	10-20	8	25.2	(1.52)	26.72	NA	NA	75.00	(49.80)	85.00	(59.80)	95.00	(69.80)
WS-12-125	Monitoring Well	Lower Alluvium	09/21/03	Sonic	Flush	CWSS	0.010	10-20	2	34.5	0.46	34.04	NA	NA	109.00	(74.50)	124.00	(89.50)	125.00	(90.50)
WS-12-161	Monitoring Well	Deep Lower Alluvium	09/21/03	Sonic	Flush	CWSS	0.010	10-20	2	34.5	0.37	34.13	NA	NA	145.00	(110.50)	160.00	(125.50)	161.00	(126.50)
WS-21-112	Monitoring Well	Lower Alluvium	06/13/06	Sonic	Flush	Slotted PVC	0.010	10-20	2	35.4	0.71	34.69	NA	NA	101.00	(65.60)	111.00	(75.60)	112.00	(76.60)
WS-26-86	Monitoring Well	Upper Alluvium	10/29/08	Sonic	Flush	NA	0.010	10-20	2	34.9	0.47	34.43	NA	NA	75.00	(40.10)	85.00	(50.10)	86.00	(51.10)
WS-47-183	Monitoring Well	Deep Lower Alluvium	04/16/15	Sonic	Flush	CWSS	0.010	10-20	2	34.0	0.25	33.75	NA	NA	172.00	(138.00)	182.00	(148.00)	183.00	(149.00)
OW-1F	Observation Well	Fill	03/23/12	Sonic	Above-grade	Slotted PVC	0.010	10-20	2	35.3	(2.28)	37.60	NA	NA	30.00	5.32	35.00	0.32	35.30	0.02
OW-2F	Observation Well	Fill	03/22/12	Sonic	Above-grade	Slotted PVC	0.010	10-20	2	34.5	(2.40)	36.86	NA	NA	25.60	8.86	30.60	3.86	30.90	3.56
OW-5F	Observation Well	Fill	11/29/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	32.2	(2.50)	34.70	NA	NA	28.50	3.70	33.50	(1.30)	33.80	(1.60)
OW-7-17	Observation Well	Fill	02/23/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	24.2	(2.22)	26.42	NA	NA	12.50	11.70	17.50	6.70	17.70	6.50
OW-8-15	Observation Well	Fill	02/12/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	24.6	(1.75)	26.31	NA	NA	10.10	14.46	15.10	9.46	15.30	9.26
OW-8-28	Observation Well	Upper Alluvium	08/13/10	HSA	Above-grade	Slotted PVC	0.020	10-20	2	23.8	(2.48)	26.27	NA	NA	23.10	0.69	28.10	(4.31)	28.70	(4.91)
OW-9-25	Observation Well	Fill	03/08/10	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	33.1	(2.18)	35.29	NA	NA	20.00	13.11	25.00	8.11	25.30	7.81
OW-10F	Observation Well	Fill	09/20/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	30.8	(2.95)	33.75	NA	NA	20.70	10.10	25.70	5.10	26.00	4.80
DW-6U	DNAPL Well	Upper Alluvium	12/27/13	Sonic	Above-grade	CWSS	0.020	16-30	6	31.4	(2.82)	34.22	NA	NA	36.30	(4.90)	48.30	(16.90)	53.30	(21.90)
DW-11U	DNAPL Well	Upper Alluvium	12/18/13	Sonic	Above-grade	CWSS	0.020	16-30	6	24.6	(3.09)	27.69	NA	NA	21.70	2.90	33.70	(9.10)	38.70	(14.10)
DW-14U	DNAPL Well	Upper Alluvium	12/20/13	Sonic	Above-grade	CWSS	0.020	16-30	6	31.8	(2.95)	34.75	NA	NA	34.80	(3.00)	46.80	(15.00)	51.80	(20.00)
PZ-KB1	Piezometer	Fill	05/17/18	Manual	Above-grade	SPP	NA	NA	1	36.2	(0.96)	37.16	NA	NA	20.31	15.89	21.09	15.11	21.39	14.81
PZ1-5	Piezometer	Fill	03/18/09	Manual	Above-grade	SPP	NA	NA	1	10.0	(25.86)	35.82	NA	NA	4.48	5.48	5.38	4.58	5.63	4.33
PZ1-20	Piezometer	Upper Alluvium	03/18/09	Manual	Above-grade	SPP	NA	NA	1	10.2	(26.19)	36.34	NA	NA	19.31	(9.16)	20.21	(10.06)	20.46	(10.31)
PZ1-50	Piezometer	Lower Alluvium	11/23/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.2	(27.41)	37.58	NA	NA	45.10	(34.93)	50.10	(39.93)	50.40	(40.23)
PZ2-5	Piezometer	Fill	03/19/05	Manual	Above-grade	SPP	NA	NA	1	2.9	(34.94)	37.83	NA	NA	5.52	(2.63)	6.42	(3.53)	6.67	(3.78)
PZ2-20	Piezometer	Upper Alluvium	03/18/09	Manual	Above-grade	SPP	NA	NA	1	3.4	(34.43)	37.81	NA	NA	20.59	(17.21)	21.49	(18.11)	21.74	(18.36)
PZ2-43	Piezometer	Lower Alluvium	12/03/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	3.8	(34.11)	37.87	NA	NA	38.30	(34.54)	43.30	(39.54)	43.60	(39.84)
PZ2-77	Piezometer	Lower Alluvium	12/02/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	3.1	(35.50)	38.55	NA	NA	71.90	(68.85)	76.90	(73.85)	77.20	(74.15)
PZ4-12	Piezometer	Upper Alluvium	12/04/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	(8.6)	(43.22)	34.59	NA	NA	6.70	(15.33)	11.70	(20.33)	12.00	(20.63)
PZ4-41	Piezometer	Lower Alluvium	11/24/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	(8.3)	(42.81)	34.48	NA	NA	36.10	(44.43)	41.10	(49.43)	41.40	(49.73)
PZ5-5	Piezometer	Fill	11/20/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.7	(5.72)	16.46	NA	NA	3.80	6.94	4.80	5.94	5.00	5.74
PZ5-20	Piezometer	Upper Alluvium	11/20/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.8	(5.39)	16.20	NA	NA	15.00	(4.19)	20.00	(9.19)	20.30	(9.49)

Table 1-1
Groundwater Well and Piezometer Construction Details

Well ID	Well Type	Water-Bearing Zone	Date Well Installed (mm/dd/yy)	Well Installation Method	Monument Type	Screen Type	Screen Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Elevations, feet COP or Below Ground Surface										
										Ground Surface (feet COP)	Top of Casing		Pump Inlet		Top Screen		Base Screen		Well Depth ¹	
											(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)	(feet bgs)	(feet COP)
PZ5-55	Piezometer	Lower Alluvium	11/20/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.9	(5.38)	16.25	NA	NA	50.00	(39.13)	55.00	(44.13)	55.30	(44.43)
PZ5-85	Piezometer	Lower Alluvium	11/19/09	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.9	(5.51)	16.38	NA	NA	79.90	(69.03)	84.90	(74.03)	85.20	(74.33)
PZ6-5	Piezometer	Fill	10/17/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	7.8	(6.94)	14.72	NA	NA	3.90	3.87	4.90	2.87	5.00	2.77
PZ6-50	Piezometer	Upper Alluvium	10/17/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	8.1	(6.78)	14.88	NA	NA	45.20	(37.10)	50.20	(42.10)	50.50	(42.40)
PZ6-115	Piezometer	Lower Alluvium	10/18/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	7.4	(6.35)	13.79	NA	NA	110.10	(102.66)	115.10	(107.66)	115.40	(107.96)
PZ6-150	Piezometer	Deep Lower Alluvium	10/26/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	7.7	(6.45)	14.15	NA	NA	145.40	(137.70)	150.40	(142.70)	150.70	(143.00)
PZ7-5	Piezometer	Fill	10/22/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.6	(5.80)	16.36	NA	NA	4.10	6.46	5.20	5.36	5.30	5.26
PZ7-50	Piezometer	Upper Alluvium	10/19/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.7	(5.71)	16.40	NA	NA	43.20	(32.51)	48.20	(37.51)	48.50	(37.81)
PZ7-100	Piezometer	Lower Alluvium	10/23/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	9.9	(6.18)	16.13	NA	NA	94.30	(84.35)	99.30	(89.35)	99.60	(89.65)
PZ7-150	Piezometer	Deep Lower Alluvium	10/31/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	10.0	(5.48)	15.50	NA	NA	145.30	(135.28)	150.30	(140.28)	150.60	(140.58)
PZ8-5	Piezometer	Fill	10/09/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	6.8	(5.42)	12.21	NA	NA	4.50	2.28	5.40	1.38	5.50	1.28
PZ8-50	Piezometer	Upper Alluvium	10/09/12	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	6.9	(5.50)	12.45	NA	NA	44.70	(37.75)	49.70	(42.75)	50.00	(43.05)
PZ9-5	Piezometer	Fill	04/04/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	6.1	(5.99)	12.09	NA	NA	4.50	1.60	5.50	0.60	5.70	0.40
PZ9-50	Piezometer	Upper Alluvium	04/07/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	4.7	(6.92)	11.62	NA	NA	45.40	(40.70)	50.40	(45.70)	50.70	(46.00)
PZ9-75	Piezometer	Upper Alluvium	04/10/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	5.0	(6.57)	11.57	NA	NA	67.50	(62.50)	72.50	(67.50)	72.80	(67.80)
PZ9-110	Piezometer	Lower Alluvium	04/09/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	5.1	(7.09)	12.19	NA	NA	105.60	(100.50)	110.60	(105.50)	110.80	(105.70)
PZ9-150	Piezometer	Deep Lower Alluvium	04/03/14	Sonic	Above-grade	Slotted PVC	0.020	10-20	2	6.0	(5.73)	11.73	NA	NA	146.10	(140.10)	151.10	(145.10)	151.40	(145.40)
River 1 (US)	Piezometer	Willamette River	05/23/13	Manual	NA	NA	NA	NA	2	(8.6)	(43.01)	34.41	NA	NA	NA	NA	NA	NA	NA	NA
River 2 (DS)	Piezometer	Willamette River	05/23/13	Manual	NA	NA	NA	NA	2	(8.6)	(42.99)	34.39	NA	NA	NA	NA	NA	NA	NA	NA
LNG Trench T-50	Trench	Fill		Manual	Below-grade	NA	NA	NA	-	35.1	31.72	3.34	26.77	4.95	NA	NA	NA	NA	32.67	2.39
LNG Trench T-100	Trench	Fill		Manual	Below-grade	NA	NA	NA	-	22.5	20.23	2.29	14.00	6.23	NA	NA	NA	NA	17.25	5.27

Notes:

1. Actual completion depths may differ depending on actual lithology encountered during drilling.

2. 2-inch PVC monitoring well installed inside a pre-existing 6-inch well

bgs: below ground surface

COP: City of Portland datum

CWSS: continuous wrap stainless steel

DNAPL: dense nonaqueous phase liquid

DS: downstream

DWRA: dual wall reverse air

HC&C: hydraulic control and containment

HSA: hollow-stem auger

NA: not applicable

NS: not surveyed

PP: pre-pack

PVC: polyvinyl chloride

SPP: Solinst push point

SS: stainless steel

US: upstream

Table 1-2
Extraction Well/Control Well Summary

Siltronic/MGP-TCE	
Extraction Well Identification	Control Well
PW-1Lb	WS-12-125
PW-1U	WS-26-86
PW-1Uc	WS-26-86
PW-2L	WS-21-112
PW-2U	MW-36U
PW-3L	MW-34L
PW-3U	MW-33U
PW-11U	MW-35U
PW-11Ub	MW-35U

NW Natural/MGP-Only	
Extraction Well Identification	Control Well
PW-4L	MW-31L
PW-4U	MW-30U
PW-5L	MW-28L
PW-5U	MW-38U
PW-6L	MW-27L
PW-6U	MW-26U
PW-7-93	MW-24-130
PW-8Ub	MW-21U
PW-8-68	MW-21-75
PW-9-92	MW-23U and MW-23-75
PW-10Lc	MW-22U and MW-22-80
PW-10Ub	MW-22U
PW-12U	MW-32U
PW-13U	MW-29U
PW-14U	MW-37U
PW-15U	MW-21U
PW-16U	MW-21U

Notes:

MGP: manufactured gas plant

Siltronic: Siltronic Corporation

TCE: trichloroethene

Table 2-1
Summary of 2023 Maintenance Activities

Well ID	Date	Component	Activity
PW-4L	1/16/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-6L	1/26/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
	2/14/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-5L	2/16/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-10Lc	5/4/2023	Installed	Initial development complete, installed pump and piping.
PW-10Ub	5/4/2023	Installed	Initial development complete, installed pump and piping.
PW-5U	5/9/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-3U	5/11/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-7L	5/15/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-12U	5/17/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-16U	5/22/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-6U	6/19/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-11Ub	6/21/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.

Table 2-1
Summary of 2023 Maintenance Activities

Well ID	Date	Component	Activity
PW-13U	6/27/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-2U	6/29/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-14U	8/15/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-3L	8/29/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
	9/21/2023	Pump and motor	New pump, motor and motor lead.
PW-8L	11/1/2023	Pump and motor	New pump, motor and motor lead.
PW-9L	11/16/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-1Uc	11/27/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-1Lb	11/29/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-4U	12/7/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-8Ub	12/11/2023	Screen	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, air pressure surge, and soak well overnight.
PW-15U	12/13/2023	Screen	Well screen maintenance: Boresaver, recirculate, and soak well overnight. No air pressure surge, excess silt.
		Downhole piping	Well screen maintenance: Boresaver, recirculate, and soak well overnight.

Table 2-2

Annual Groundwater Volume Extracted

WBZ	Station ID	Volume/Year (MG)									Cumulative Volume (MG)
		2015	2016	2017	2018	2019	2020	2021	2022	2023	
Upper Alluvium	PW-10U			1.10	2.21	1.74	1.32	1.14	1.08	0.18	8.79
	PW-10Ub									0.20	0.20
	PW-16U	4.79	2.06	1.05	0.66	0.59	0.68	0.52	0.50	0.46	11.33
	PW-8-39	0.26	0.35	0.39	0.39	0.25	0.25				1.89
	PW-8Ub							1.11	1.11	0.94	3.16
	PW-15U	6.39	7.76	3.98	2.84	1.53	1.42	0.97	1.12	0.98	27.00
	PW-6U	2.21	2.54	2.39	2.40	1.67	1.10	1.25	0.90	0.77	15.24
	PW-14U	2.23	2.52	2.50	2.53	2.67	2.70	2.50	2.47	1.89	22.01
	PW-5U	2.23	2.53	2.04	1.30	1.52	0.95	0.84	0.98	0.81	13.19
	PW-13U	2.21	2.54	2.50	2.52	2.10	1.90	1.86	1.26	0.94	17.83
	PW-4U	1.87	1.06	0.48	0.32	0.56	0.67	0.81	1.00	0.77	7.53
	PW-12U	2.22	1.64	0.76	0.29	0.47	0.42	0.40	0.41	0.39	6.99
	PW-3U	2.00	2.43	1.43	0.76	0.60	0.93	0.90	1.10	0.95	11.11
	PW-11U	2.22	2.52	2.01	1.12	0.46	0.33	0.37	0.06	0.00	9.08
	PW-11Ub								2.75	3.56	6.32
	PW-2U	2.65	3.32	2.97	2.63	2.66	2.77	2.80	3.22	3.19	26.23
	PW-1U	3.08	0.32	1.33	1.63	0.71	0.72	0.46	0.10	0.00	8.34
	PW-1Ub		10.40	7.75	1.38	0.71	0.96	0.20	0.78		22.18
	PW-1Uc								4.56	6.83	11.39
Lower Alluvium	PW-10L	22.56	33.54	17.40	5.13						78.63
	PW-10Lb				1.60	29.42	29.63	27.80	19.88	10.85	119.17
	PW-10Lc									11.30	11.30
	PW-9-92	9.07	9.57	20.09	24.28	13.25	8.10	10.21	12.67	10.43	117.68
	PW-8-68	5.53	6.01	6.27	3.69	2.58	2.53	2.55	2.94	3.86	35.96
	PW-7-93	6.11	7.31	4.01	4.28	4.83	5.26	3.81	3.34	3.09	42.03
	PW-6L	0.72	0.09	2.78	5.06	5.15	5.27	5.50	4.07	4.51	33.15
	PW-5L	0.07	0.05	2.88	5.25	3.84	5.03	4.98	4.60	5.04	31.74
	PW-4L	1.16	1.14	3.61	5.58	5.45	5.15	5.24	5.62	5.48	38.43
	PW-3-118	0.70	0.49	2.21	5.15	5.11	5.11	5.22	5.51	8.92	38.43
	PW-2L	0.13	0.18	8.67	13.33	11.20	10.67	7.75	7.22	3.20	62.37
	PW-1L	21.90	23.75	11.55	4.85	0.84					62.89
	PW-1Lb					6.22	13.02	15.32	11.63	11.24	57.43
Total Upper Alluvium		34.3	42.0	32.7	23.0	18.3	17.1	16.1	23.4	22.9	230
Total Lower Alluvium		67.9	82.1	79.5	78.2	87.9	89.8	88.4	77.5	77.9	729
Total		102	124	112	101	106	107	105	101	101	959

Table 2-2
Annual Groundwater Volume Extracted

Notes:

Blank cells indicate that data are not available.

HC&C: hydraulic control and containment

MG: million gallons

NA: not applicable

WBZ: water-bearing zone

Table 2-3
Concentration and Mass of Contaminants in NW Natural Pretreatment Plant Influent

Contaminant	Year	Contaminant Concentration (µg/L)													Annual Extracted Volume (MG/yr) ^{2,3}	Mass Removed (lb/yr) ³
		January	February	March	April	May	June	July	August	September	October	November	December	Annual Average ³		
Benzene	2015	--	--	--	--	--	621	586	581	614	346	460	517	532	69.6	309
	2016	655	433	474	752	464	564	447	789	387	536	468	555	544	80.7	366
	2017	961	424	297	339	592	571	430	429	376	711	374	821	527	74.2	327
	2018	325	701	150	488	510	447	423	354	256	424	462	481	418	70.3	246
	2019	612	387	454	575	472	813	456	566	330	405	274	245	466	77.6	302
	2020	268	266	380	329	352	449	352	336	322	291	259	361	330	72.4	200
	2021	375	538	591	457	606	299	262	191	706	153	338	324	403	71.5	241
	2022	303	205	202	168	223	119	377	376	213	192	200	236	235	63.9	125
	2023	253	144	903	341	260	134	145	147	200	194	319	193	269	62.9	141
Benzo(a)pyrene	2015	--	--	--	--	--	0	0	0	39.6	0	0	0	5.66	69.6	3.29
	2016	0	0	0	0	0	0	0	0	0	0	6.59	0	0.55	80.7	0.37
	2017	0	0	0	0	0	4.01	0.499	0	0	0	0	0	0.38	74.2	0.23
	2018	0	0	0	0	0	10.7	0	0	0	1.53	199	0	17.6	70.3	10.3
	2019	1700	0	0	0	9.47	1920	1770	48.8	0	0	0	0	454	77.6	294
	2020	19.5	0	27.2	9.35	0	0	1.2	10.8	0	0	0	0	5.67	72.4	3.43
	2021	0	0	0	0	0	0	0	0	0	0	8.29	0	0.69	71.5	0.41
	2022	0	0	0	0	1.64	3.43	0	0	0	0	0	0	0.42	63.9	0.23
	2023	0.674	0	0	0	0	0	0	0	0.66	0	0	0	0.11	62.9	0.06
Naphthalene	2015	--	--	--	--	--	472	430	423	331	307	420	496	411	69.6	239
	2016	745	307	443	600	360	547	365	863	295	844	319	304	499	80.7	336
	2017	827	365	330	301	705	561	938	663	283	329	197	227	477	74.2	296
	2018	317	494	275	566	720	607	643	260	244	349	5960	474	909	70.3	534
	2019	13100	162	388	514	354	10300	6930	686	180	479	301	227	2800	77.6	1810
	2020	676	453	232	390	211	101	380	358	187	346	248	278	322	72.4	194
	2021	212	369	366	225	324	274	224	157	303	149	179	185	247	71.5	148
	2022	205	133	67.4	72.3	194	0	157	238	29.0	83.8	10.2	57.5	104	63.9	55
	2023	2.67	3.18	48.3	0	122	86.4	33.9	59	77.1	113	0	75.9	52	62.9	27
Cyanide	2015	--	--	--	--	--	110	259	300	273	239	275	255	244	69.6	142
	2016	248	311	281	184	269	216	265	165	252	192	266	244	241	80.7	162
	2017	148	242	220	266	226	194	239	220	1.25	199	159	175	191	74.2	118
	2018	206	60.5	174	226	159	211	166	199	143	141	198	182	172	70.3	101
	2019	175	216	189	197	180	38.6	204	167	146	166	156	178	168	77.6	109
	2020	151	157	203	231	182	157	177	141	162	213	156	169	175	72.4	106
	2021	171	143	181	141	146	152	124	141	130	135	128	120	143	71.5	85
	2022	133	127	140	148	148	74.2	126	130	125	126	120	96.5	124	63.9	66
	2023	107	111	57	39.4	108	119	115	122	121	125	122	118	105	62.9	55

Table 2-3
Concentration and Mass of Contaminants in NW Natural Pretreatment Plant Influent

Contaminant	Year	Contaminant Concentration (µg/L)													Annual Extracted Volume (MG/yr) ^{2,3}	Mass Removed (lb/yr) ³
		January	February	March	April	May	June	July	August	September	October	November	December	Annual Average ³		
Total VOCs ¹	2015	--	--	--	--	--	726.4	651.86	656.15	719.6	401.95	532.9	596.85	612	69.6	356
	2016	799.906	502.3	563.8	877.4	533.6	651.9	524.7	940.6	459.1	636.9	533.38	632.23	638	80.7	430
	2017	1,192.08	501.28	355.95	373.75	729.46	667.3	497.35	494.8	423.01	864.35	455.3	932.5	624	74.2	387
	2018	379.9	825.03	176.06	560.48	616.78	585.82	513.66	428.5	306.85	488.81	533.54	576.55	499	70.3	293
	2019	706.11	484.5	538.52	668.1	560.58	881.94	519.4	661.79	373.89	463.93	310.26	309.68	540	77.6	350
	2020	300.34	316.5	467.5	369.54	409.8	507.8	391.94	386.56	365.65	326.63	290.05	406.64	378	72.4	228
	2021	414.79	613.25	681.71	512.65	673.94	336.40	293.75	223.18	765.03	181.00	372.75	355.36	452	71.5	270
	2022	343.83	232.20	226.36	192.50	254.52	161.13	428.84	422.62	226.30	213.82	215.12	367.52	274	63.9	146
	2023	437.40	153.90	2265.22	642.40	294.16	149.24	157.38	159.15	221.90	218.57	476.36	208.76	449	62.9	236
Total SVOCs ¹	2015	--	--	--	--	--	613.11	527.21	489.01	1,185.24	363.01	488.79	559.14	604	69.6	351
	2016	863.14	363.6	510.1	677.1	423.01	638.42	421.7	1051.04	335.96	961.44	499.15	346.95	591	80.7	398
	2017	946.52	420.96	406.18	360.98	835.61	798.31	1,072.09	789.22	329.7	384.79	232.65	267.87	570	74.2	353
	2018	373.74	623.08	335.66	712.98	1013.93	1100.02	739.29	299.62	292.39	457.72	15872.4	649.00	1870	70.3	1100
	2019	83,536	222.8	450.59	613.79	664.8	73433	62690	2021.4	243.3	600.88	352.38	273.76	18,800	77.6	12,200
	2020	1,740.03	553.47	1,170.58	751.31	264.84	118.84	480.96	823.62	244.47	487.08	292.87	428.3	613	72.4	370
	2021	273.22	463.89	428.65	277.98	427.01	350.58	266.26	204.84	352.70	194.00	672.55	221.11	344	71.5	206
	2022	254.24	158.15	106.86	111.02	323.15	127.97	271.53	333.74	59.79	124.26	64.03	99.59	170	63.9	90
	2023	190.54	88.58	447.65	29.21	175.59	136.15	63.93	94.15	215.66	173.85	48.04	127.76	149	62.9	78
Copper	2015	--	--	--	--	--	0.811	1.73	0	1.09	1.74	0.711	0.722	0.97	69.6	0.56
	2016	0.711	0	0.7	0	1.12	0.5	0	1.31	0.578	0.744	1.34	1.15	0.68	80.7	0.46
	2017	0	0.8	0	0	0.522	0.822	0.767	1.01	2.08	1.21	1.01	0	0.69	74.2	0.42
	2018	0.622	1.09	1.58	0.944	1.21	0.547	0	0	0	0	0	1.07	0.59	70.3	0.35
	2019	0	0	0	0.946	0	0	0	0	0	0	0	0	0.08	77.6	0.05
	2020	0	0	0	0	0	0	0	0	0	0	0	0	0.00	72.4	0.00
	2021	0	0	0	0	0	0	0	0	0	0	0	0	0.00	71.5	0.00
	2022	0	5.29	0	0	0	0	0	0	1.59	0	0	50.2	4.76	63.9	2.54
	2023	16	37.6	1.47	0	0	0	0	0	0	0	1.27	0	4.70	62.9	2.46

Table 2-3
Concentration and Mass of Contaminants in NW Natural Pretreatment Plant Influent

Contaminant	Year	Contaminant Concentration (µg/L)													Annual Extracted Volume (MG/yr) ^{2,3}	Mass Removed (lb/yr) ³
		January	February	March	April	May	June	July	August	September	October	November	December	Annual Average ³		
Iron	2015	--	--	--	--	--	48,100	74,400	76,200	76,200	67,700	81,000	80,600	72,000	69.6	41800
	2016	62,800	85,400	65,100	60,300	85,400	86,100	87,600	81,100	94,100	68,900	92,200	101,000	80,800	80.7	54400
	2017	69,000	100,000	96,900	90,900	77,700	73,900	53,600	77,200	90,300	68,600	64,800	74,600	78,100	74.2	48400
	2018	65,200	68,000	60,700	75,900	75,000	72,000	67,200	64,800	63,100	61,400	61,300	77,200	67,700	70.3	39700
	2019	68,000	69,300	85,000	73,000	64,000	89,900	82,500	72,500	90,600	80,400	85,700	79,900	78,400	77.6	50800
	2020	76,700	76,900	87,300	69,000	81,600	71,900	74,800	68,500	85,600	68,400	79,700	88,100	77,400	72.4	46800
	2021	74,100	81,500	81,300	86,100	74,600	71,700	75,500	76,000	72,700	73,500	71,400	70,700	75,800	71.5	45200
	2022	98,900	83,600	78,600	74,800	76,400	40,200	56,600	52,600	87,500	68,900	66,200	84,300	72,400	63.9	38600
	2023	103,000	161,000	24,200	20,100	57,300	82,800	88,700	81,500	76,200	101,000	47,600	71,500	76,200	62.9	40000

Notes:

Values below detection limit are shown as zero in this table (ND=0).

Monthly chemistry data for selected contaminants in Siltronic influent are provided by SES.

--: Data are not available.

1. Total VOCs and Total SVOCs were calculated by adding all contaminants within each category and setting non-detect and estimated values due to matrix interference equal to zero. Estimated results detected above the specified MDL or MRL were included in the total.

2. Extracted volume from the following wells is directed to the Gasco Pretreatment Plant and is included in the annual sum: PW-10U, PW-10Ub, PW-16U, PW-8-39, PW-15U, PW-6U, PW-14U, PW-5U, PW-13U, PW-4U, PW-12U, PW-10L, PW-10Lb, PW-10 Lc, PW-9-92, PW-8-68, PW-7-93, PW-6L- PW-5L, and PW-4L.

3. Calculated values were rounded to 3 significant figures.

µg/L: microgram per liter

lb/yr: pound per year

MDL: method detection limit

MG/yr: million gallons per year

MRL: method reporting limit

ND: non-detect

SES: Severson Environmental Services, Inc.

SVOC: semivolatile organic compound

VOC: volatile organic compound

Table 2-4
Concentration and Mass of Contaminants in Siltronic Pretreatment Plant Influent

Contaminant	Year	Contaminant Concentration (µg/L)													Annual Extracted Volume (MG/yr) ^{2,3}	Mass Removed (lb/yr) ³
		January	February	March	April	May	June	July	August	September	October	November	December	Annual Average ³		
Benzene	2015	--	--	--	--	--	890	410	375	864	158	413	349	494	32.7	135
	2016	475	397	350	1190	326	219	188	338	168	444	418	484	416	43.4	151
	2017	157	265	366	328	406	218	296	309	855	397	507	433	378	37.9	120
	2018	286	348	324	372	125	586	497	449	350	393	260	240	353	30.9	90.8
	2019	369	399	396	236	395	238	238	127	203	130	412	27.9	264	28.5	62.9
	2020	154	84.8	291	117	212	163	120	92.2	205	113	112	176	153	34.5	44.2
	2021	177	148	132	206	68.2	120	89.6	97.5	149	221	102	125	136	33.0	37.6
	2022	70.5	113	174	277	206	261	216	235	251	142	192	242	198	36.9	61.1
	2023	130	196	246	124	183	337	176	166	150	196	255	151	193	37.9	60.9
Benzo(a)pyrene	2015	--	--	--	--	--	0	0	0	0	0	0	0	0.00	32.7	0.00
	2016	0	0	0	0	0	0	0	10.4	0	0	0	0	0.87	43.4	0.31
	2017	0	0	0	0	0	0	0	4.69	85.6	49.2	73.3	0	17.7	37.9	5.61
	2018	0	0	0	72.6	0	145	0	243	111	102	106	0	65.0	30.9	16.7
	2019	87.1	64.4	126	0	107	0	512	0	130	0	0	0	85.5	28.5	20.4
	2020	0	55.8	33.3	0	15.4	0	12.6	0	0	0	0	0	9.76	34.5	2.81
	2021	65	0	0	0	0	0	0	0	0	32.1	0	0	8.09	33.0	2.23
	2022	0	36.3	82.7	0	0	0	0	0	0	0	0	0	9.92	36.9	3.06
	2023	0	0	0	0	0	0	0	0	0	0	0	0	0.00	37.9	0.00
Naphthalene	2015	--	--	--	--	--	1,050	856	919	696	676	846	827	839	32.7	229
	2016	2,510	1,280	1,360	5,040	1,320	1,390	1,030	1,770	449	1,530	1,750	1,910	1,780	43.4	645
	2017	700	851	1,110	1,350	1,050	1,480	1,120	1,390	20,600	5,220	10,100	7,790	4,400	37.9	1,390
	2018	6,850	5,770	8,470	6,620	7,800	9,280	16,600	25,400	14,500	13,700	7,510	7,120	10,800	30.9	2,780
	2019	12,700	12,400	17,500	10,500	13,300	6,850	17,100	4,760	9,550	2,710	4,250	5,160	9,730	28.5	2,320
	2020	2,150	6,520	4,330	2,190	3,460	2,170	2,930	1,710	5,640	6,470	2,140	4,340	3,670	34.5	1,060
	2021	2,280	2,750	2,580	4,300	2,230	2,520	2,530	1,250	2,560	4,230	1,360	2,700	2,610	33.0	720
	2022	1,330	6,280	7,040	4,560	3,270	2,060	2,610	2,980	5,240	6,170	5,170	2,670	4,120	36.9	1,270
	2023	2,810	4,990	1,410	952	1,680	1,280	1,180	770	995	2,050	960	774	1,650	37.9	520
Cyanide	2015	--	--	--	--	--	318	207	192	313	156	201	187	225	32.7	61.3
	2016	281	217	191	341	176	336	235	296	218	285	250	278	259	43.4	93.7
	2017	253	198	254	188	260	208	166	208	--	176	132	198	204	37.9	64.5
	2018	137	84	138	165	128	127	99.5	112	151	117	207	166	136	30.9	35.0
	2019	127	126	97.2	166	94.3	21	126	179	151	204	190	184	139	28.5	33.0
	2020	207	182	255	187	127	224	207	223	163	141	180	168	189	34.5	54.4
	2021	178	175	171	221	207	170	178	196	142	165	193	177	181	33.0	49.9
	2022	170	193	172	180	189	206	193	196	171	158	143	180	179	36.9	55.2
	2023	125	141	135	241	161	178	186	215	227	210	197	166	182	37.9	57.5

Table 2-4
Concentration and Mass of Contaminants in Siltronic Pretreatment Plant Influent

Contaminant	Year	Contaminant Concentration (µg/L)													Annual Extracted Volume (MG/yr) ^{2,3}	Mass Removed (lb/yr) ³
		January	February	March	April	May	June	July	August	September	October	November	December	Annual Average ³		
Total VOCs ¹	2015	--	--	--	--	--	1,308.1	1,028	906.4	1,493.55	679.45	842.6	878.93	1,020	32.7	278
	2016	1,000.41	895.95	788.7	1597.1	721.65	615.35	474.3	558.1	453.2	681.24	604.96	674.53	755	43.4	274
	2017	271.89	535.75	573.58	559.37	618.56	483.99	557.85	681.145	2,056.4	1,056.8	1,459.4	1,057.55	826	37.9	261
	2018	855.75	1,006.15	1,136.28	1,362.22	445.24	1,863.13	1,475.47	1,618.98	1,303.05	1,351.45	892.64	806.86	1,180	30.9	304
	2019	1385.7	1551.8	1,489.37	732.56	1,616.25	659.25	807.25	463.92	840.30	470.62	836.26	92.55	912	28.5	217
	2020	304.96	350.80	954.30	366.46	803.00	434.32	362.41	347.58	841.38	410.8	382.00	629.99	516	34.5	149
	2021	711.07	358.66	500.18	835.90	147.16	407.30	281.14	296.78	545.15	900.00	337.51	505.81	486	33.0	134
	2022	257.41	461.10	723.80	832.50	549.60	587.55	508.95	538.00	920.90	333.27	415.70	571.70	558	36.9	172
	2023	310.70	549.90	694.70	218.20	373.65	788.15	294.20	302.80	223.15	366.80	670.40	247.96	420	37.9	133
Total SVOCs ¹	2015	--	--	--	--	--	1139.7	905.33	970.61	739.18	715.08	897.43	876.71	892	32.7	243
	2016	2665	1,365.4	1,451.6	5,405.3	1,407.8	1,489.5	1,088.1	2,051.2	479.37	1,638.9	1,908.2	2,052.1	1,920	43.4	696
	2017	760.92	925.73	1,206.13	1,465.18	1,138.4	1,610.52	1,236.55	1,724.7	25,330.85	7,630.16	14,658.22	9,365.6	5,590	37.9	1,770
	2018	10,755	6,606.5	10,839.3	10,709	8,927.6	16,197.8	22,114	39,582.1	21,571.3	19,664	14,353.1	8,189.8	15,800	30.9	4,070
	2019	18,230.2	17,788.4	24,801.2	12,121.5	19,464.3	7,991.6	40,137	5,672	16,176.9	3,122.9	5,001.9	6,199.9	14,700	28.5	3,500
	2020	2,514.4	9,781.5	6,303.5	2,544.2	4,638.5	2,725.2	3,683.8	2,018.3	6,829.9	8,232.8	2,582.3	5,535.8	4,780	34.5	1,380
	2021	5,321.20	3,401.18	3,142.60	5,511.80	2,600.10	3,041.70	2,992.10	1,474.80	3,229.69	6,262.00	1,584.20	3,137.80	3,470	33.0	960
	2022	1,642.91	8,826.90	11,525.90	5,587.30	4,122.80	2,447.59	3,160.40	3,683.30	6,545.40	7,977.80	6,482.00	3,119.10	5,430	36.9	1,670
	2023	3,453.70	6,327.20	1,804.20	1,130.20	1,947.32	1,550.18	1,422.06	905.36	1,164.75	2,408.80	1,167.80	919.54	2,020	37.9	640
Copper	2015	--	--	--	--	--	0	0.533	0.667	0	0	0	0.733	0.28	32.7	0.08
	2016	0.633	0	0	0	0	0	0	1.43	0.6	0	0	0	0.22	43.4	0.08
	2017	0	0	0	0	0	0	0	0	0.733	0	0	0.802	0.13	37.9	0.04
	2018	0	1.14	0.611	0	0	17.3	0	0	0	0	0	0	1.59	30.9	0.41
	2019	0	0	0	0	0	0	0	0	0	0	0	0	0.00	28.5	0.00
	2020	0	0	0	0	0	0	0	0	0	0	0	0	0.00	34.5	0.00
	2021	0	8.46	0	0	0	0	0	0	0	0	0	0	0.71	33.0	0.19
	2022	0	0	0	0	0	0	0	0	0	0	0	0	0.00	36.9	0.00
	2023	0	0	0	0	0	0	1.03	0	0	0	0	5.09	0.51	37.9	0.16

Table 2-4
Concentration and Mass of Contaminants in Siltronic Pretreatment Plant Influent

Contaminant	Year	Contaminant Concentration (µg/L)													Annual Extracted Volume (MG/yr) ^{2,3}	Mass Removed (lb/yr) ³
		January	February	March	April	May	June	July	August	September	October	November	December	Annual Average ³		
Iron	2015	--	--	--	--	--	23,900	26,800	26,200	24,900	25,400	29,100	30,800	26,700	32.7	7280
	2016	29,500	27,500	29,500	31,300	28,800	34,400	31,200	42,600	32,900	36,300	33,800	36,400	32,900	43.4	11900
	2017	32,100	30,800	30,700	32,200	32,400	27,300	29,300	31,200	30,800	30,400	32,600	64,800	33,700	37.9	10700
	2018	32,800	30,800	32,500	31,500	31,200	129,000	32,300	42,700	31,700	35,000	33,800	33,500	41,400	30.9	10700
	2019	34,200	31,800	36,000	34,000	34,400	39,000	37,200	35,500	36,000	34,000	36,000	32,000	35,000	28.5	8330
	2020	33,900	33,900	33,500	32,100	34,500	30,300	33,700	32,400	32,900	33,800	34,300	37,400	33,600	34.5	9680
	2021	34,300	34,600	35,600	36,500	30,800	32,300	33,100	34,600	32,900	35,400	33,300	33,200	33,900	33.0	9340
	2022	35,300	34,200	32,700	36,000	33,200	58,000	32,400	32,800	33,100	34,700	34,900	35,900	36,100	36.9	11120
	2023	37,400	32,700	34,600	30,600	35,000	34,900	32,900	32,800	32,900	32,900	35,700	47,200	35,000	37.9	11100

Notes:

Values below detection limit are shown as zero in this table (ND=0).

Monthly chemistry data for selected contaminants in Siltronic influent are provided by SES.

--: Data are not available.

1. Total VOCs and Total SVOCs were calculated by adding all contaminants within each category and setting non-detect and estimated values due to matrix interference equal to zero. Estimated results detected above the specified MDL or MRL were included in the total.

2. Extracted volume from the following wells is directed to the Siltronic Pretreatment Plant and is included in the annual sum: PW-3-118, PW-2L, PW-1L, PW-1Lb, PW-3U, PW-11U, PW-11Ub, PW-2U, PW-1U, PW-1Ub, and PW-1Uc.

3. Calculated values were rounded to 3 significant figures.

µg/L: microgram per liter
lb/yr: pound per year
MDL: method detection limit
MG/yr: million gallons per year
MRL: method reporting limit
ND: non-detect
SES: Sevenson Environmental Services, Inc.
Siltronic: Siltronic Corporation
SVOC: semivolatile organic compound
VOC: volatile organic compound

Table 2-5
Annual Contaminant Mass Removed

Contaminant	Location	2015	2016	2017	2018	2019	2020	2021	2022	2023	Cumulative
Benzene (lbs)	NWN	309	366	327	246	302	200	241	125	141	2256
	Siltronic	135	151	120	90.8	62.9	44.2	37.6	61.1	60.9	763
	Total	444	517	446	336	365	244	279	186	202	3019
Benzo(a)pyrene (lbs)	NWN	3.29	0.37	0.23	10.3	294	3.43	0.41	0.23	0.06	312
	Siltronic	0.00	0.31	5.61	16.7	20.4	2.81	2.23	3.06	0.00	51
	Total	3.3	0.7	5.8	27.1	314.5	6.2	2.6	3.3	0.06	363.6
Naphthalene (lbs)	NWN	239	336	296	534	1810	194	148	55	27	3639
	Siltronic	229	645	1390	2780	2320	1060	720	1270	520	10933
	Total	468	981	1686	3314	4130	1254	868	1325	547	14573
Cyanide (lbs)	NWN	142	162	118	101	109	106	85	66	55	945
	Siltronic	61.3	93.7	64.5	35.0	33.0	54.4	49.9	55.2	57.5	505
	Total	203	256	183	136	142	160	135	122	113	1449
Total VOCs (lbs)	NWN	356	430	387	293	350	228	271	146	236	2696
	Siltronic	278	274	261	304	217	149	134	172	133	1921
	Total	634	703	648	597	567	377	405	318	368	4617
Total SVOCs (lbs)	NWN	351	398	353	1100	12200	370	206	90	78	15147
	Siltronic	243	696	1770	4070	3500	1380	960	1670	640	14929
	Total	594	1094	2123	5170	15700	1750	1166	1760	718	30076
Copper (lbs)	NWN	0.56	0.46	0.42	0.35	0.05	0.00	0.00	2.54	2.46	6.85
	Siltronic	0.08	0.08	0.04	0.41	0.00	0.00	0.19	0.00	0.16	0.96
	Total	0.64	0.54	0.46	0.75	0.05	0.00	0.19	2.54	2.63	7.81
Iron (lbs)	NWN	41800	54400	48400	39700	50800	46800	45200	38600	40000	405700
	Siltronic	7280	11900	10700	10700	8330	9680	9340	11120	11100	90150
	Total	49080	66300	59100	50400	59130	56480	54540	49720	51100	495850

Notes:

lbs: pounds

NWN: NW Natural

SVOC: semivolatile organic compound

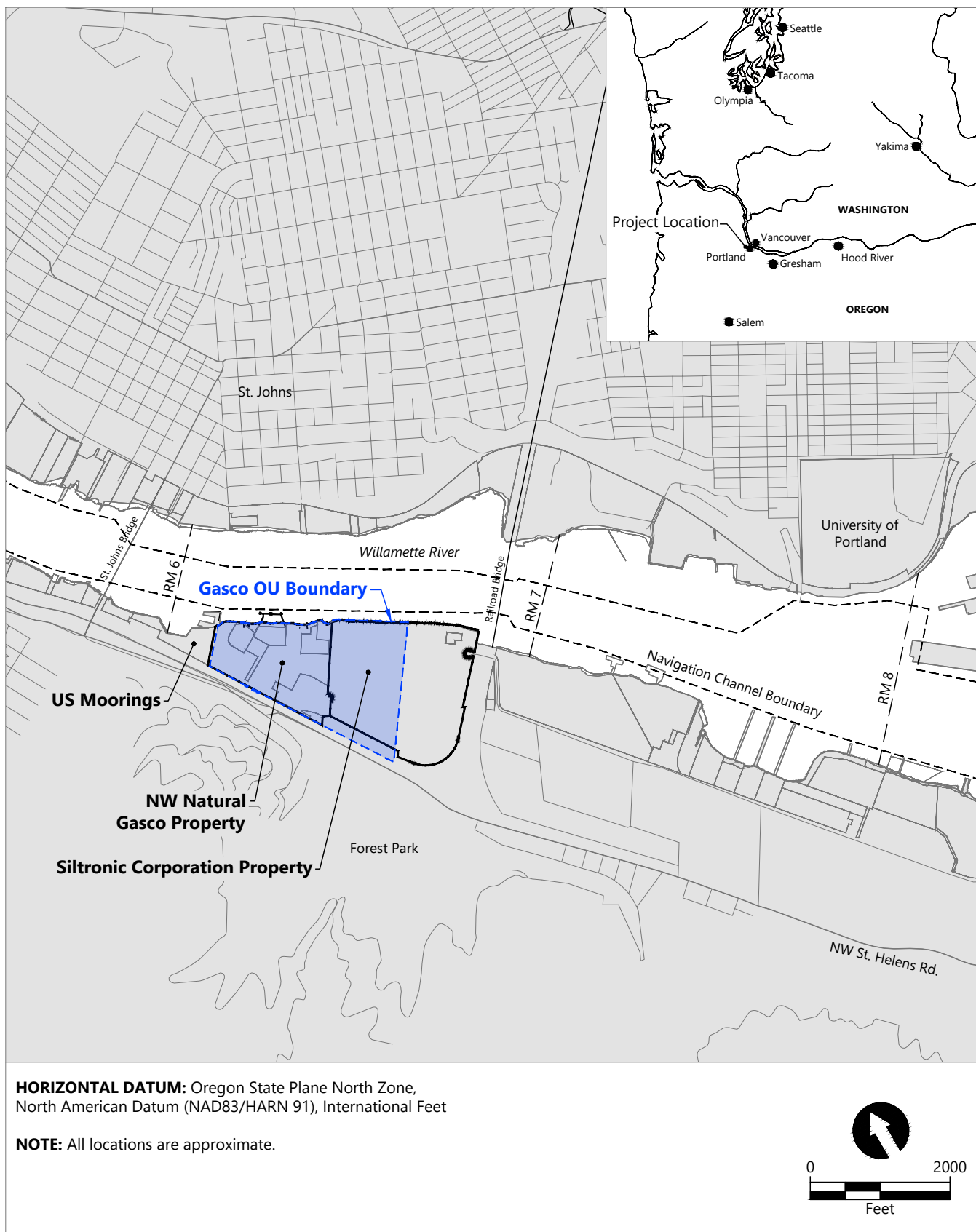
VOC: volatile organic compound

Table 3-1
Summary of HC&C System Operational Figures

Subject	Figure No.	Count of Figures Prepared Semiannually/ Annually	Contents	Use
Vicinity Map	1.1	1/2	Vicinity map	Site location
Well Location Maps	2.1 to 2.4	4/8	Well locations in Fill, Upper Alluvium, Lower Alluvium, and Deep Lower Alluvium WBZs	Display well array in each WBZ
Groundwater Elevation and River Elevation Differential Contour Maps	3.1 (a, b, c) to 3.12 (a, b, c)	36/72	Contours of the difference between groundwater and river elevations for the Fill, Upper Alluvium, and Lower Alluvium WBZs using Serfes 3-day average values (values recorded during two 3-day periods each month [e.g., July 11 through July 13 and July 24 through July 26])	Confirm that the nearshore groundwater elevations in the Upper and Lower Alluvium WBZs in the upland along the HC&C alignment are lower than the river level
Transducer Data and Serfes Averages for Individual Wells and the River	4.1 to 4.66	66/132	Plots of continuous (i.e., 15-minute intervals) water level data for each of 66 monitoring wells, the river stilling wells, and the difference between the groundwater elevation and the river elevation (based on continuous data and calculate Serfes average data)	Compare the river elevation to the groundwater elevation in each well; confirm that the groundwater elevations in the Upper and Lower Alluvium WBZ wells are below the river elevation along the HC&C alignment
Vertical Gradients Between Upper and Lower Alluvium WBZs and Lower and Deep Lower Alluvium WBZs Downgradient of the Former Tar Pond Area	5.1 to 5.21	21/42	Plots of continuous groundwater elevations and the difference in the groundwater elevations for 21 well pairs in different WBZs (e.g., Lower Alluvium WBZ well WS-21-112 and Deep Lower Alluvium WBZ well WS-47-183) over a 6-month period	Confirm that an upward vertical hydraulic gradient is maintained at select Alluvium WBZ well pairs located along Segment 1, downgradient of the Former Tar Pond Area
Vertical Gradient Contour Maps	6.1 to 6.12	12/24	Contours of the differences between the potentiometric surfaces for the Upper and Lower Alluvium WBZs (for the same two 3-day periods each month shown in Figures 3-1a through 3-1d)	Confirm that an upward vertical hydraulic gradient is maintained at select Alluvium WBZ well pairs located along Segment 1, downgradient of the Former Tar Pond Area
Transducer Data and Serfes Averages for Pumping Wells	7.1 to 7.30	30/60	For each of the 27 extraction wells, groundwater elevations in the well, pumping rates, and calculated Serfes 3-day average pumping rates; also, the pumping rate and Serfes 3-day average for the total combined pumping rate in the Upper and Lower Alluvium WBZs	Monitor extraction well operation and performance

Notes:
HC&C: hydraulic control and containment
WBZ: water-bearing zone

Figures

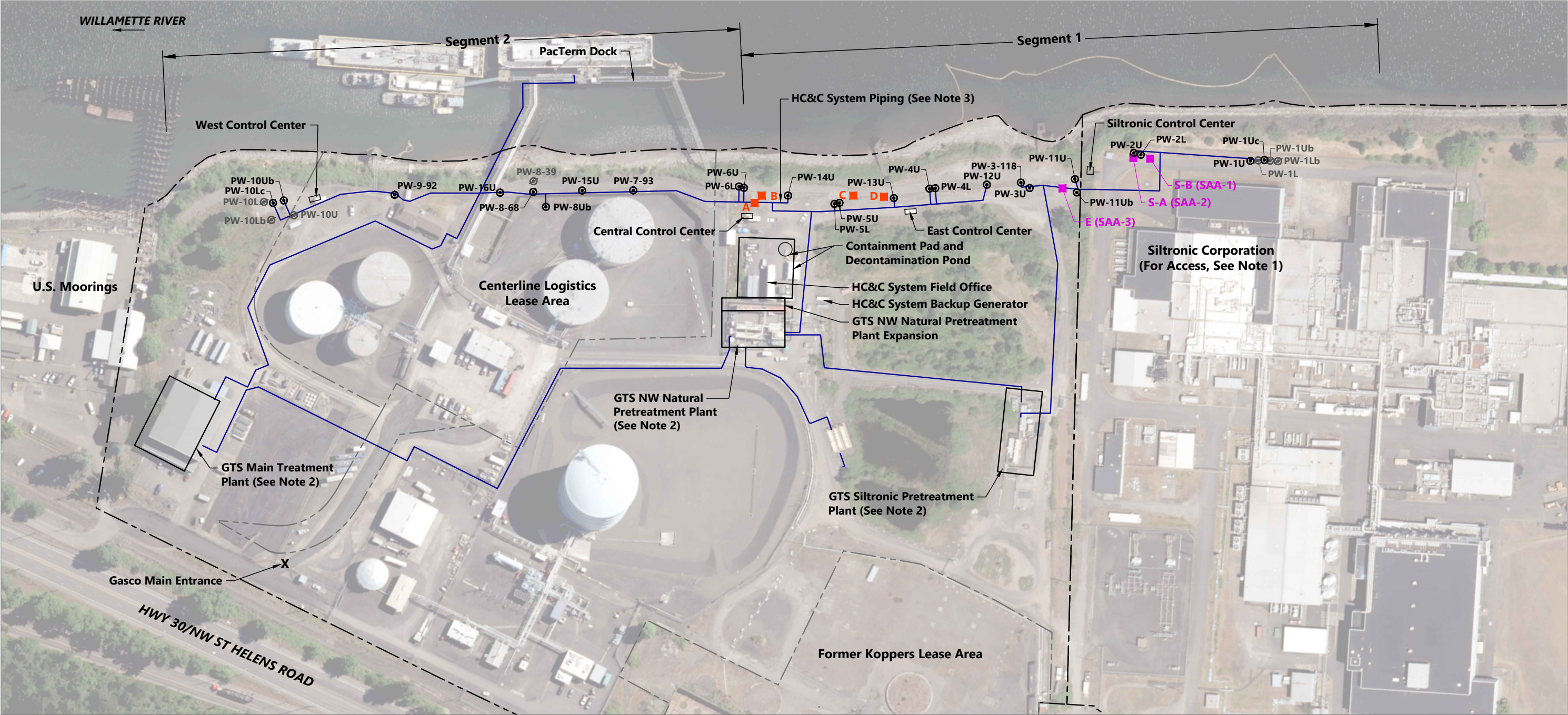


Publish Date: 2024/04/17 12:28 PM | User: hmerrick
 Filepath: K:\Projects\0029-NW Natural Gas Co\Gasco Source Control\HC&C System Annual Report 2023\0029-RP-001 (Vicinity Map).dwg Figure 1-1



Figure 1-1
Vicinity Map

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HORIZONTAL DATUM: Oregon State Plane North NAD83, International Feet

VERTICAL DATUM: City of Portland (COP)

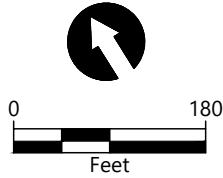
AERIAL SOURCE: PortlandMaps.com dated 2023

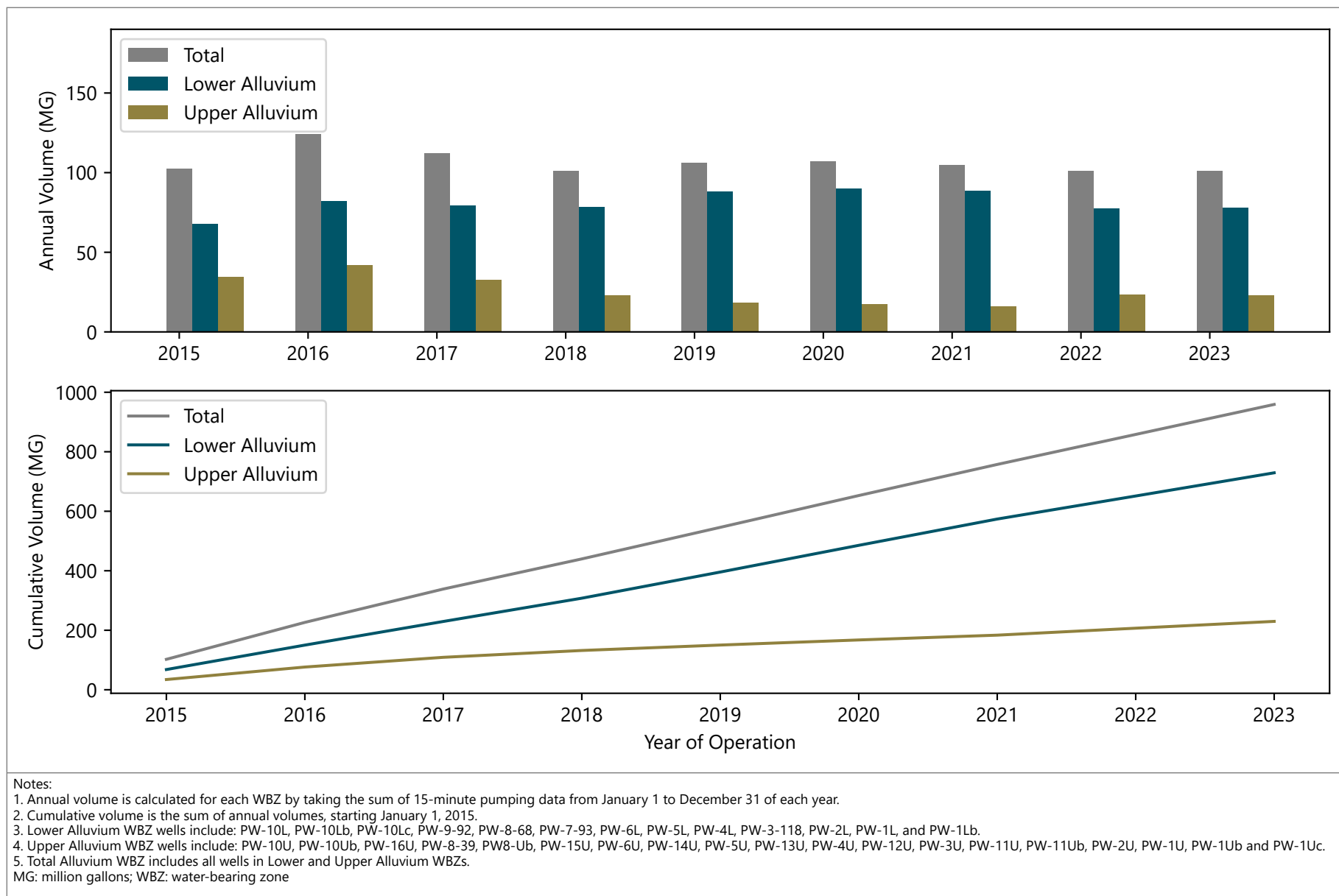
NOTES:

1. Access to Siltronic Corporation property is not available from the Gasco property. Main entrance to Siltronic Corporation property is not shown herein.
2. Piping for Groundwater Treatment System (GTS) not shown herein.
3. Control well and monitoring well installations not shown herein.
4. PW-1Uc was brought into service in February 2022.
5. PW-11Ub was brought into service in March 2022.

LEGEND:

- HC&C System Piping Footprint
- Existing HC&C System Extraction Well
- Decommissioned Extraction Well
- MGP-Only DNAPL Storage Location
- MGP/TCE DNAPL Storage Location (RCRA Satellite Accumulation Area – SAA)
- Lease Boundary (Approximate)
- Property Boundary (Approximate)



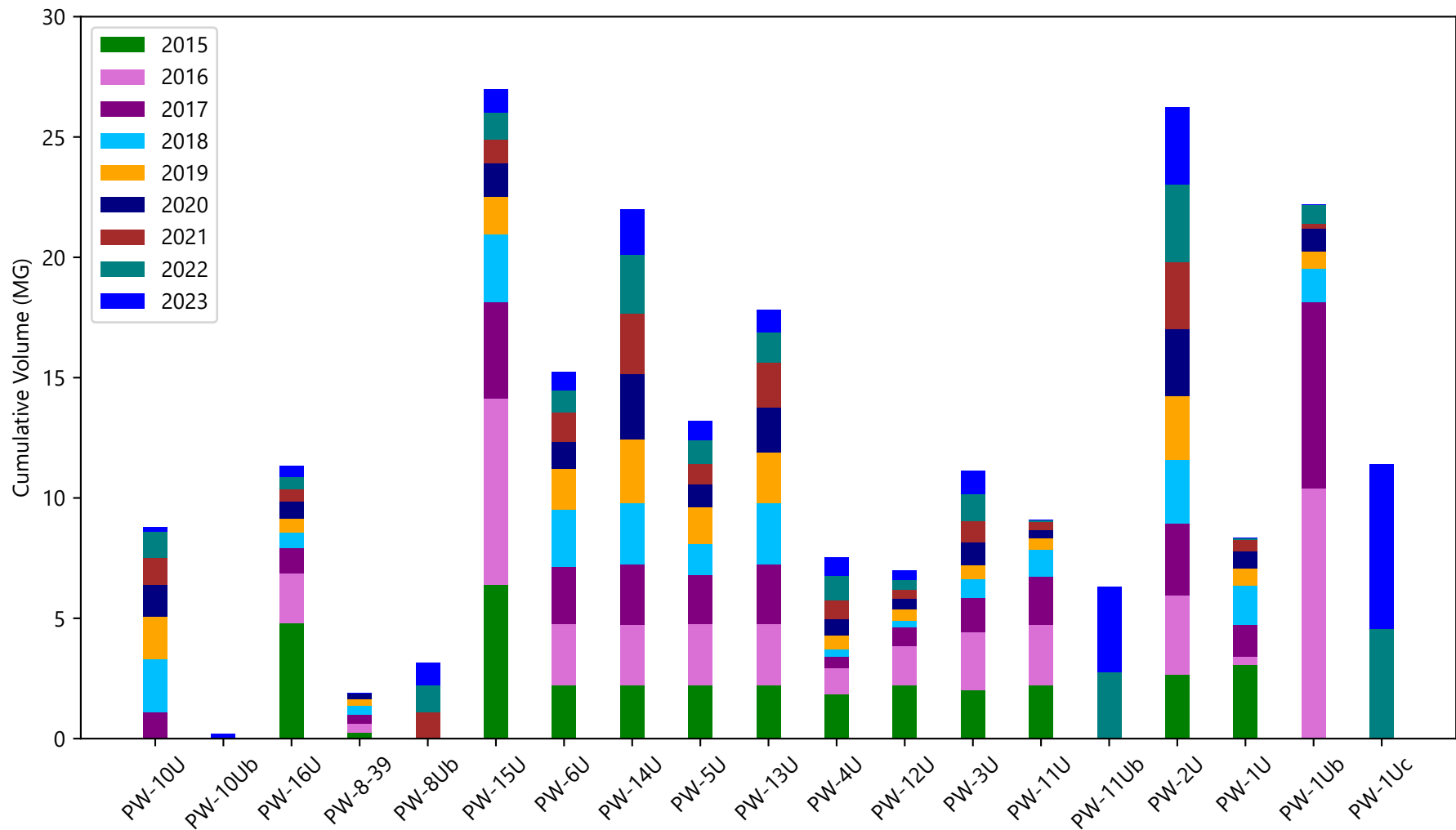


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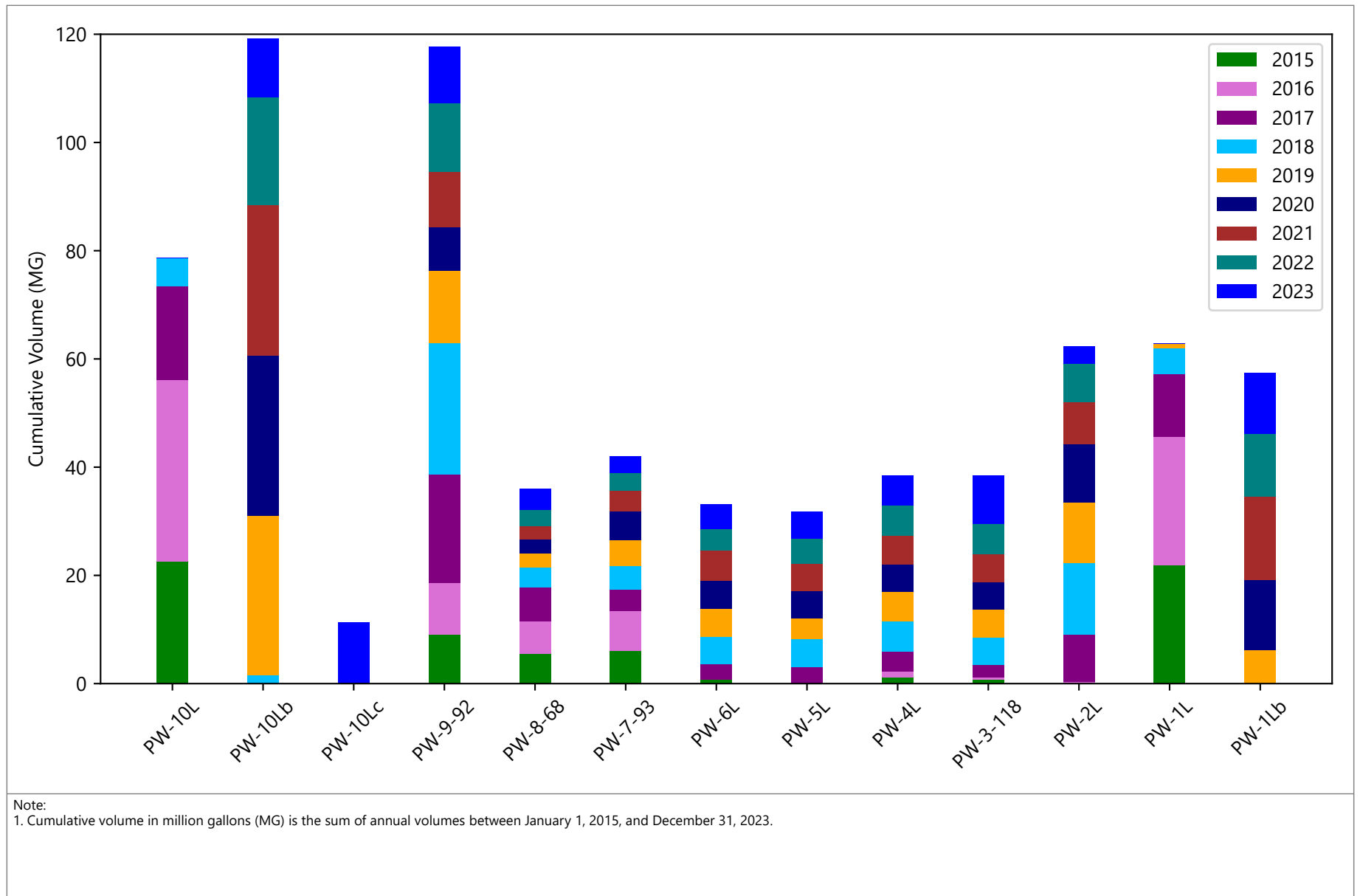


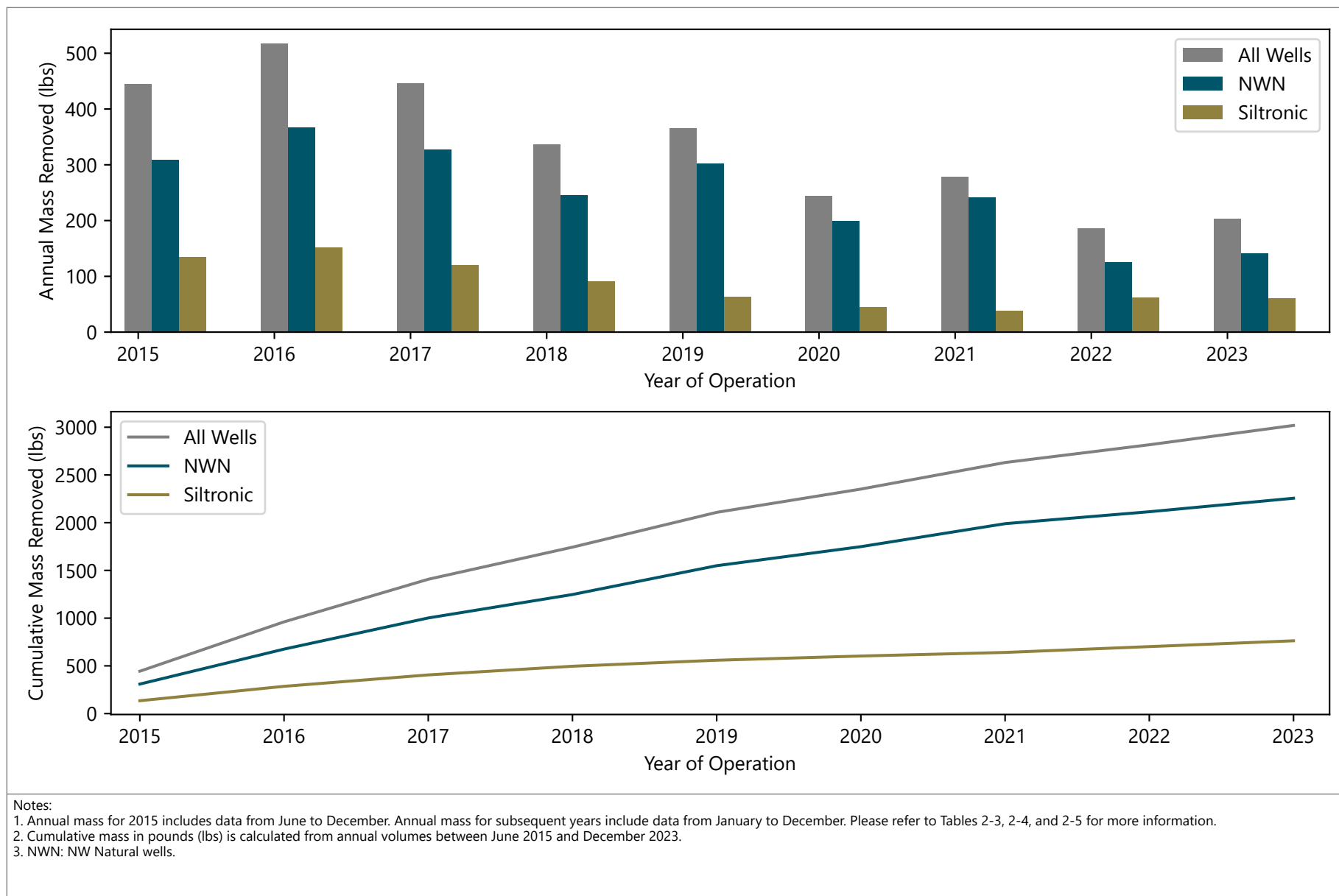
Figure 2-1
Annual and Cumulative Volume of Groundwater Extracted by the HC&C System

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Note:
1. Cumulative volume in million gallons (MG) is the sum of annual volumes between January 1, 2015, and December 31, 2023.

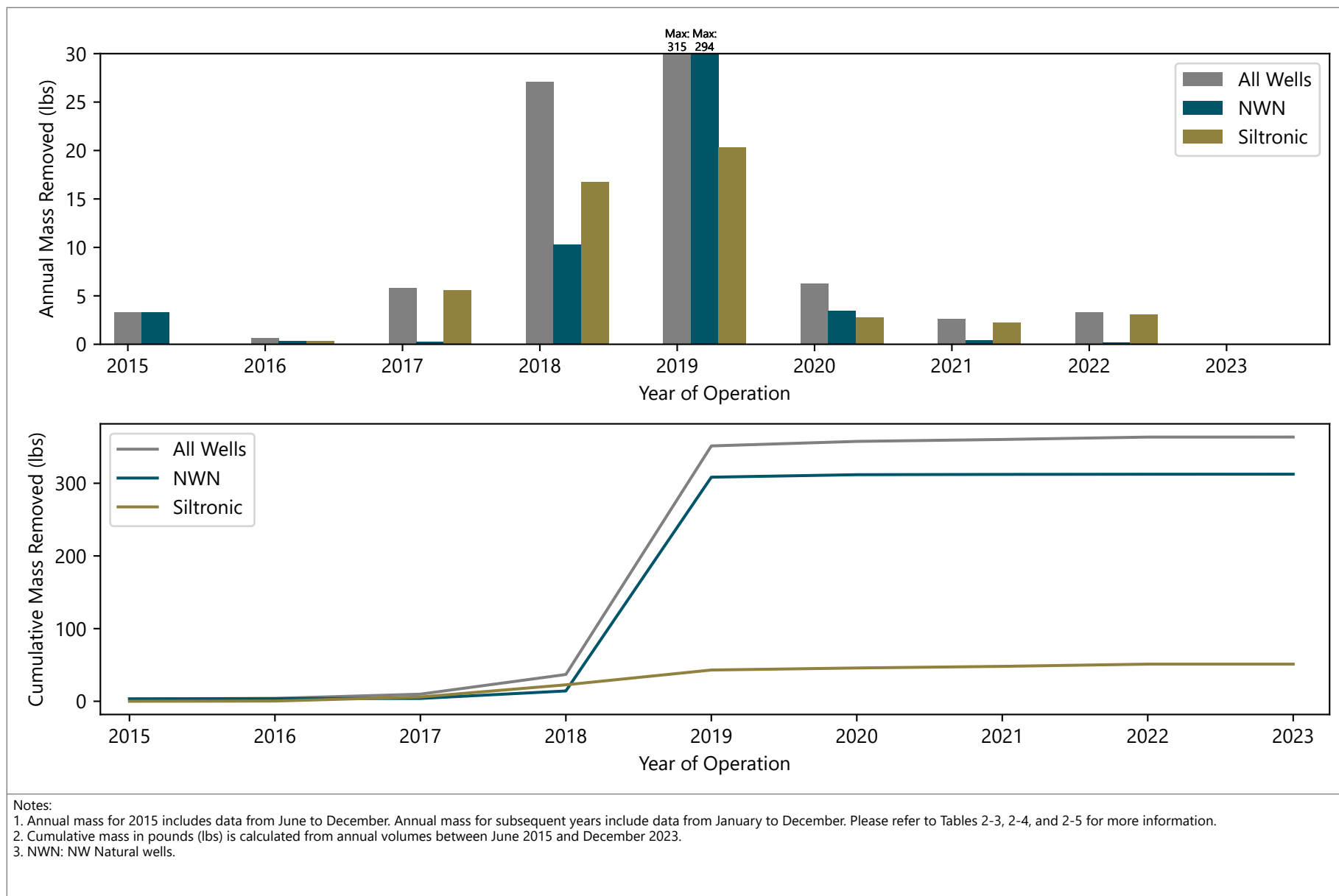




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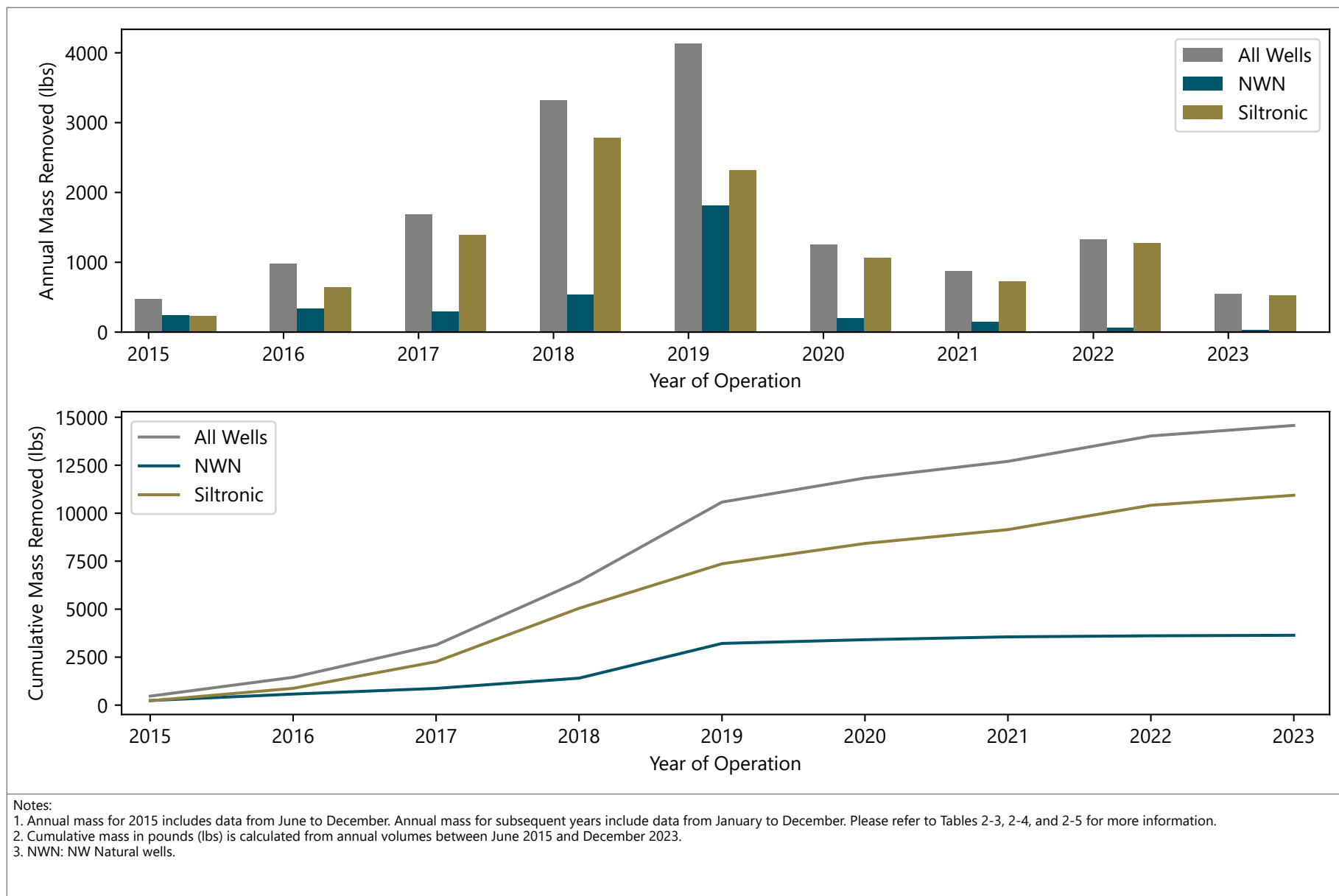
Figure 2-4
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Benzene
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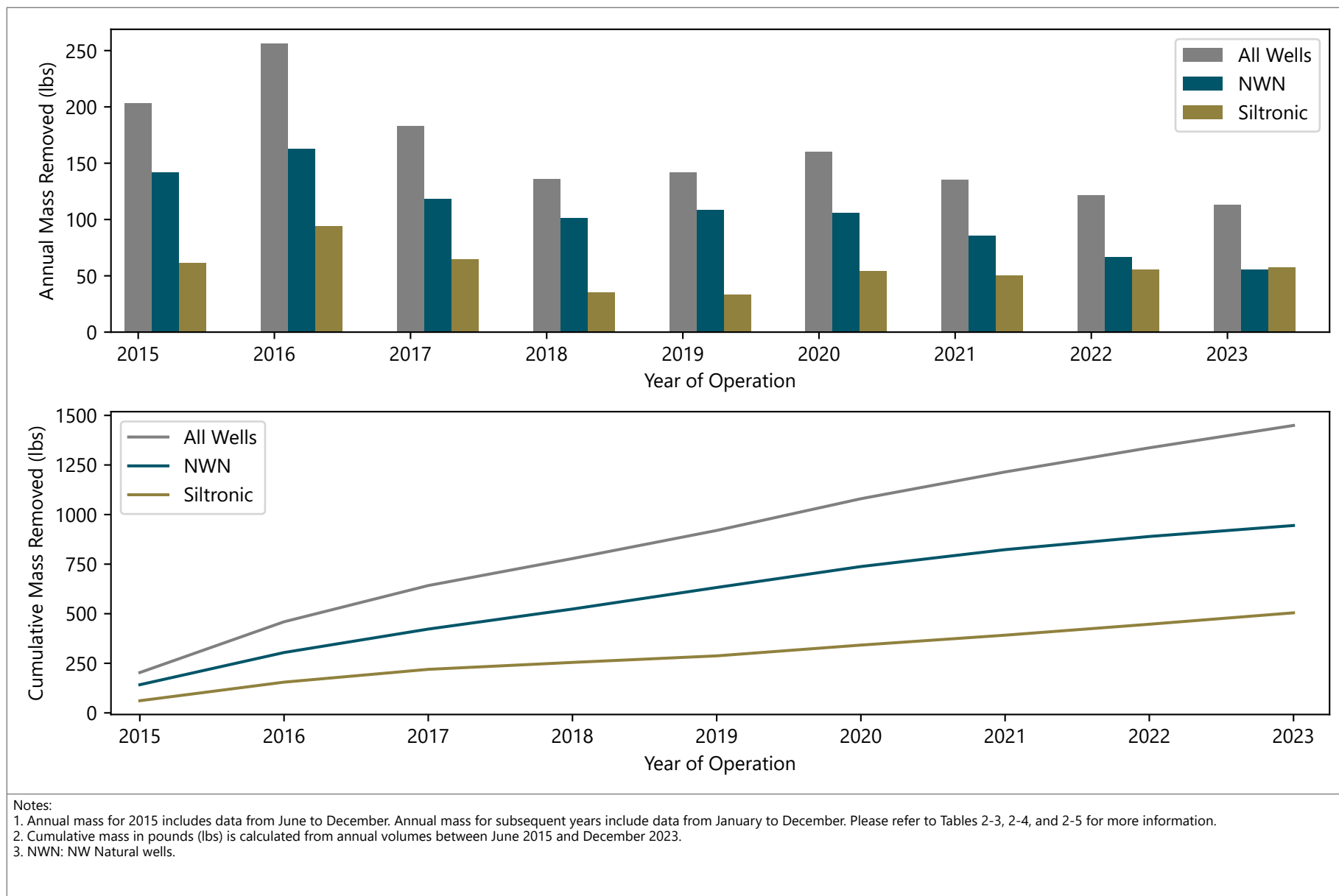
Figure 2-5
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Benzo(a)pyrene
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Figure 2-6
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Napthalene
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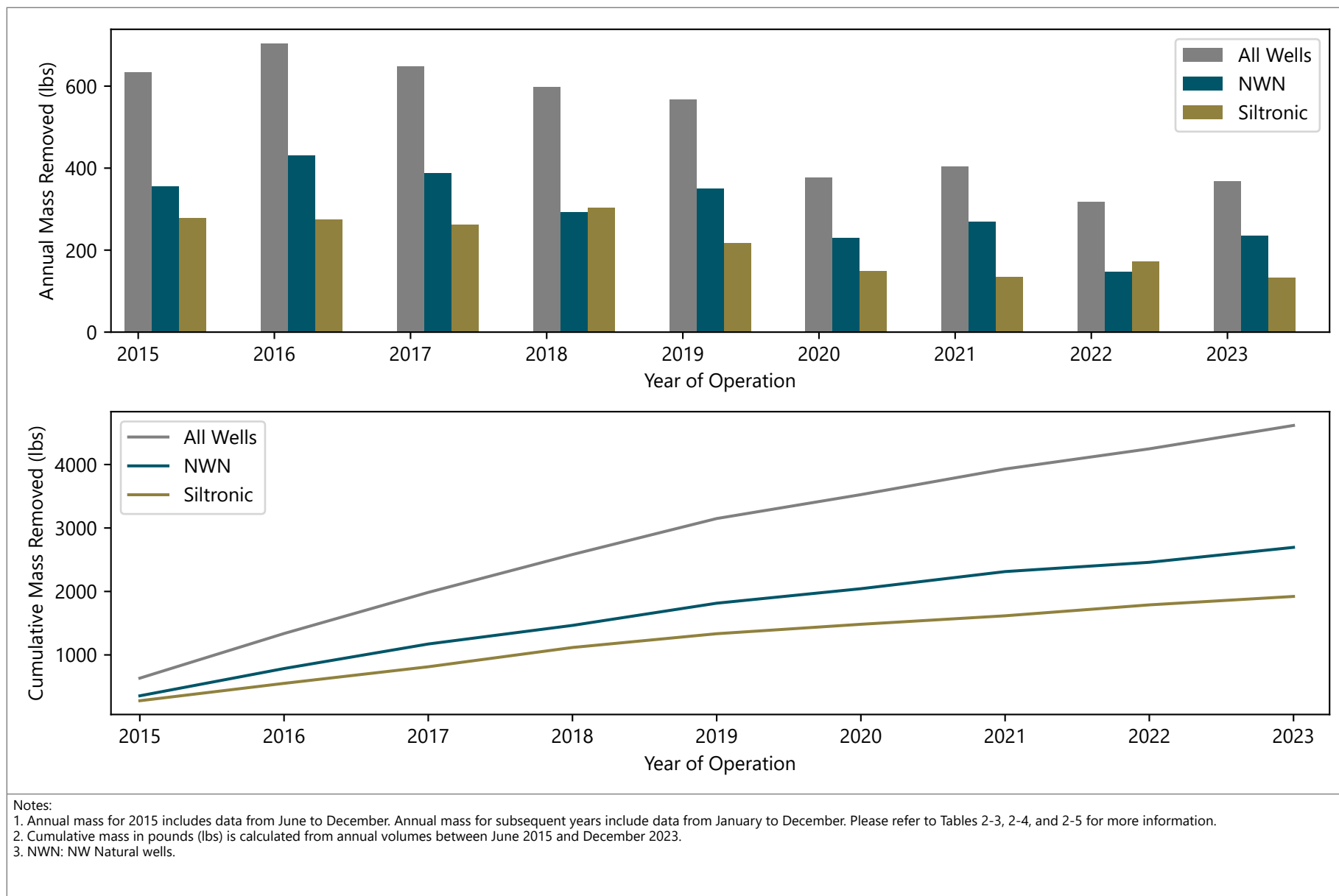


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 \\fuji\anchor\Projects\NW Natural\Gasco\Source_Control_OPMDR\HC&C Annual Rpt\2023\2. Analyses\ContaminantMass\ContaminantMass.py



Figure 2-7
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Cyanide

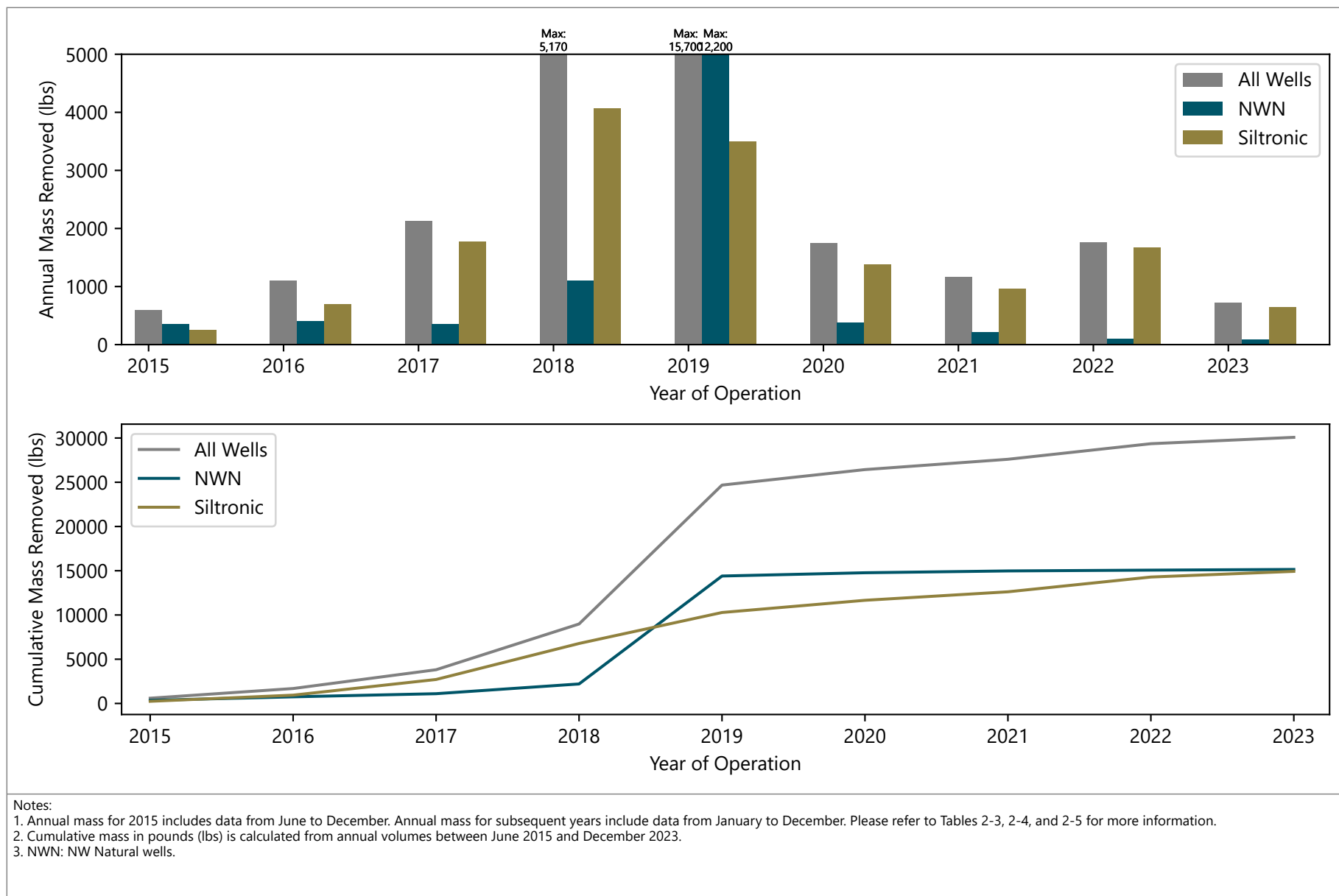
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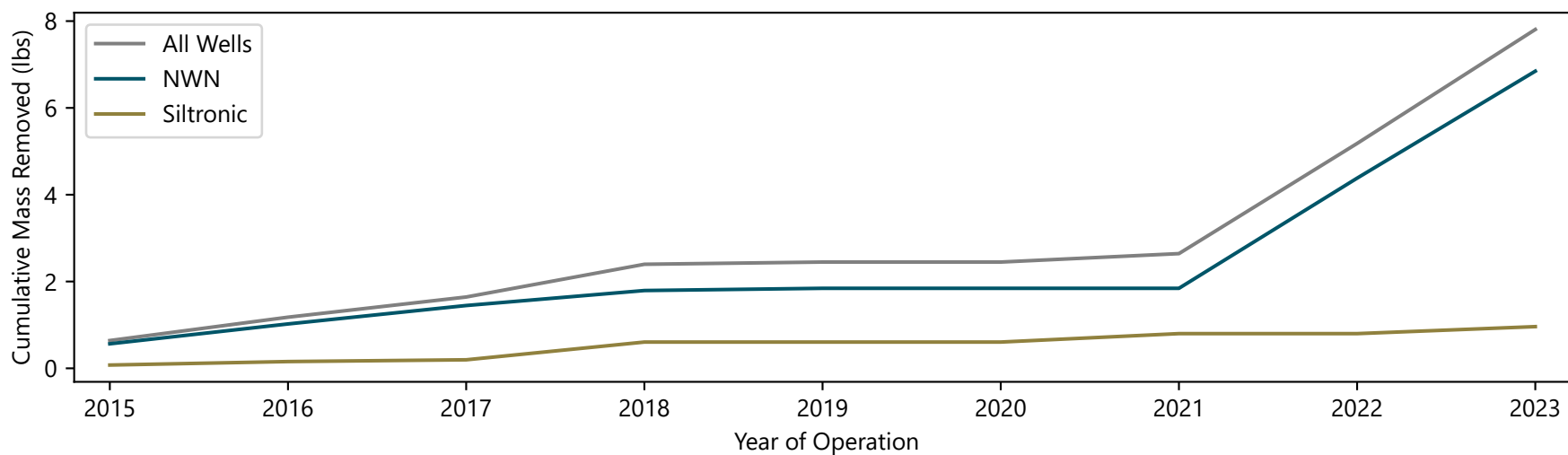
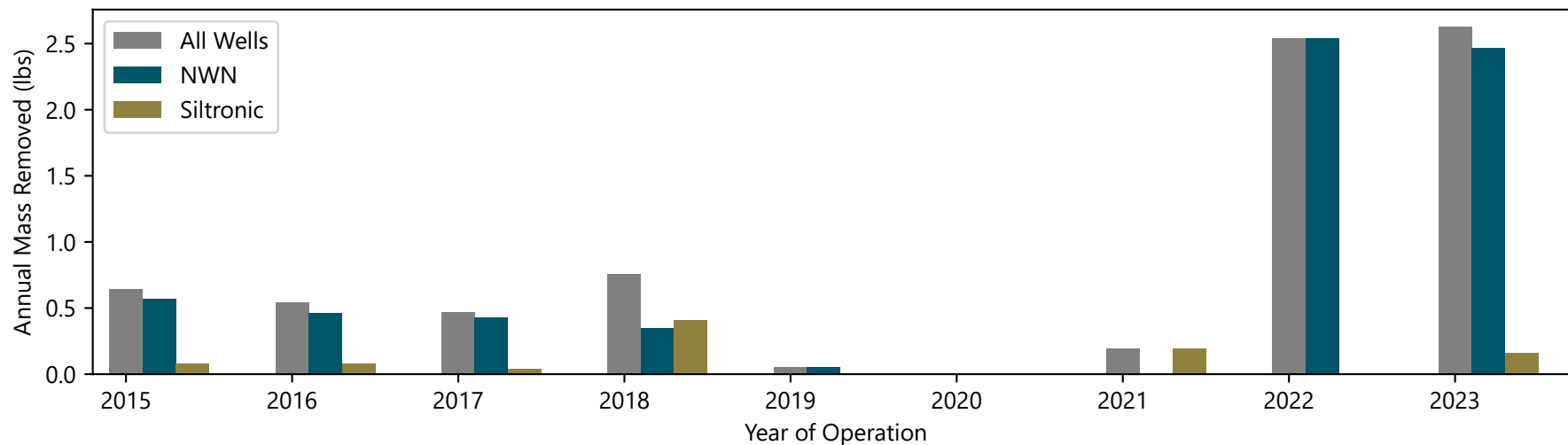
Figure 2-8
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Total VOCs
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Figure 2-9
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Total SVOCs
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Notes:

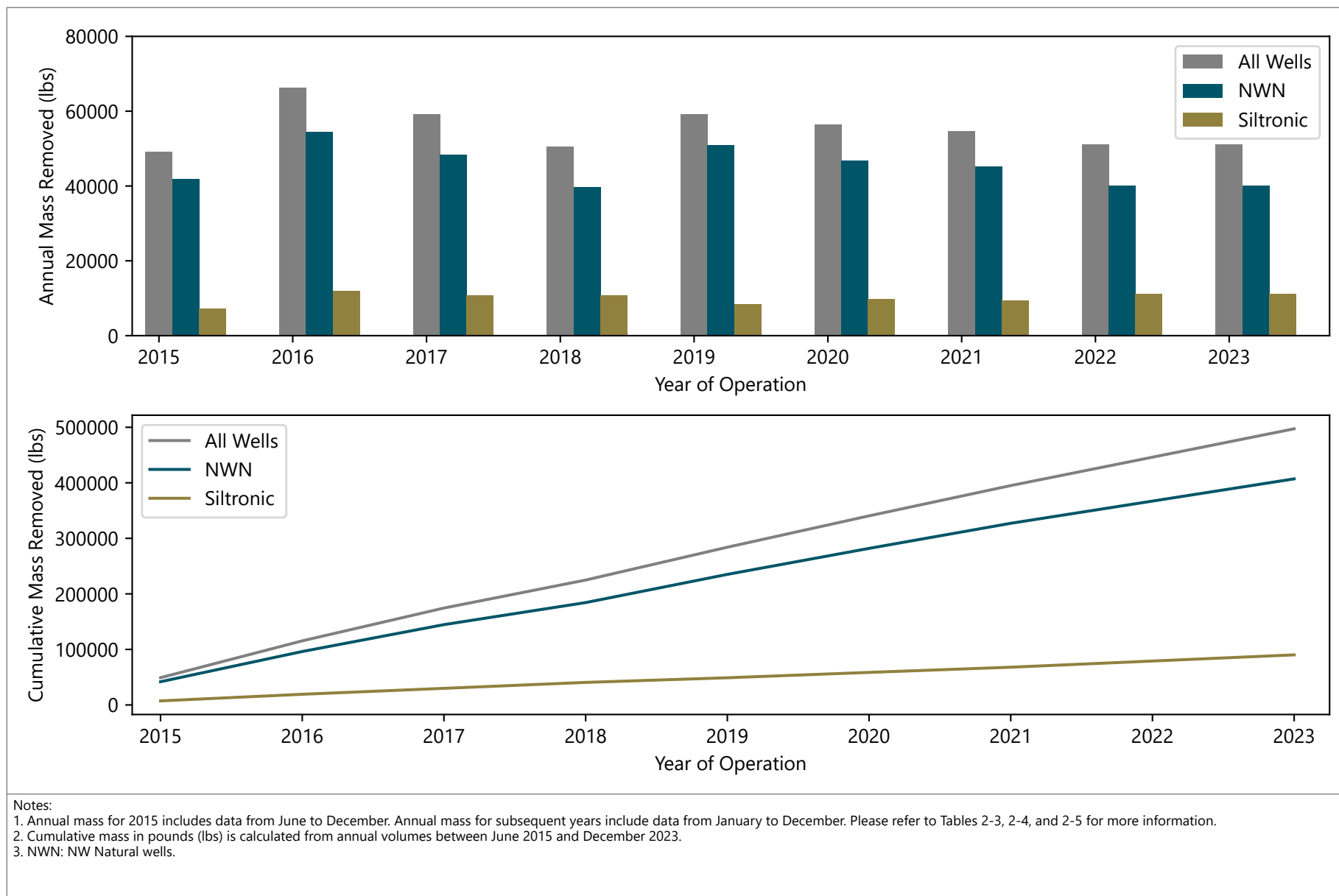
1. Annual mass for 2015 includes data from June to December. Annual mass for subsequent years include data from January to December. Please refer to Tables 2-3, 2-4, and 2-5 for more information.
2. Cumulative mass in pounds (lbs) is calculated from annual volumes between June 2015 and December 2023.
3. NWN: NW Natural wells.

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 \\fuji\anchor\Projects\NW Natural\Gasco\Source_Control_OPMDR\HC&C Annual Rpt\2023\2. Analyses\ContaminantMass\ContaminantMass.py



Figure 2-10
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Copper

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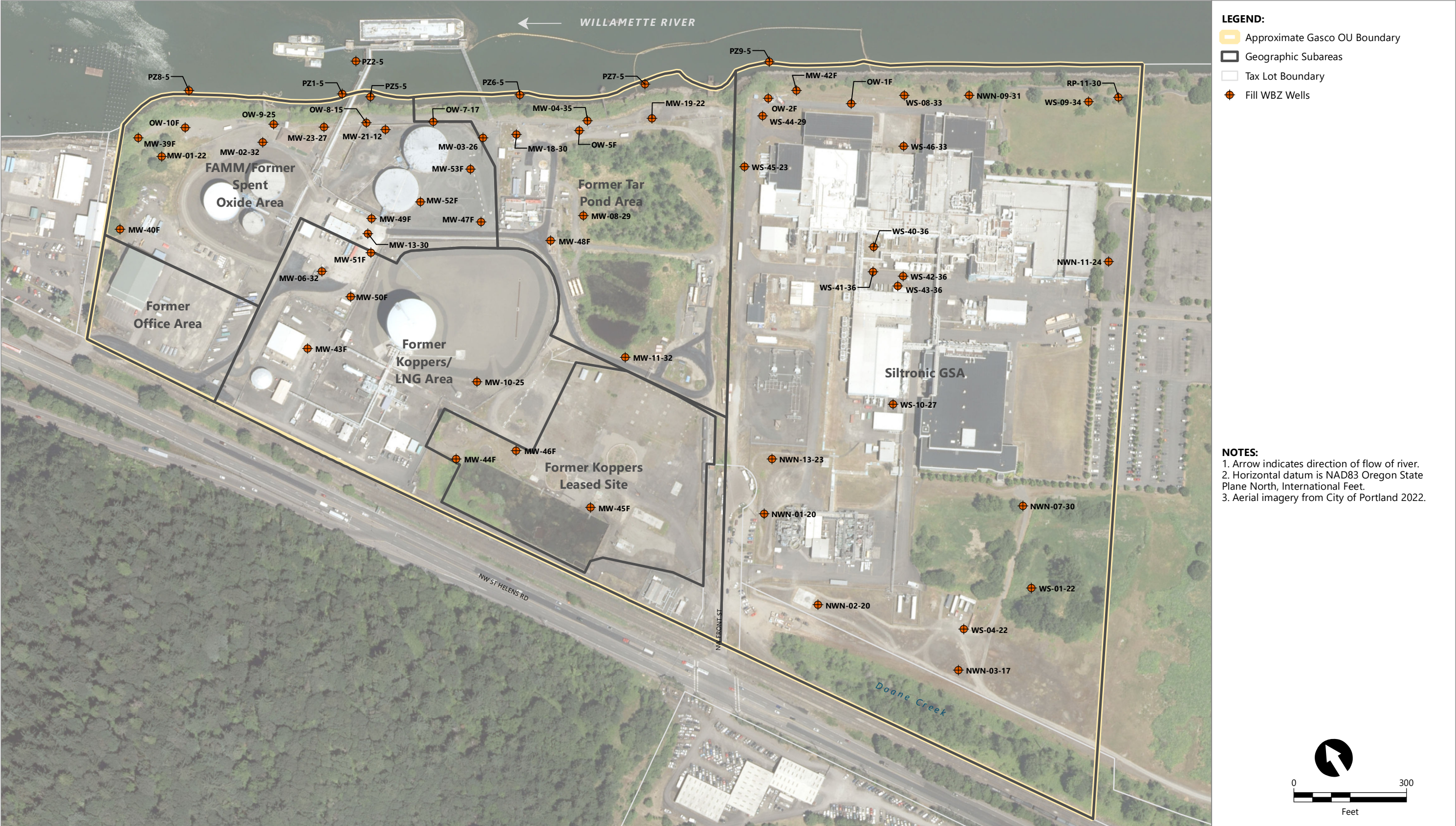


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Figure 2-11
Annual and Cumulative Contaminant Mass Removed from the HC&C System – Iron

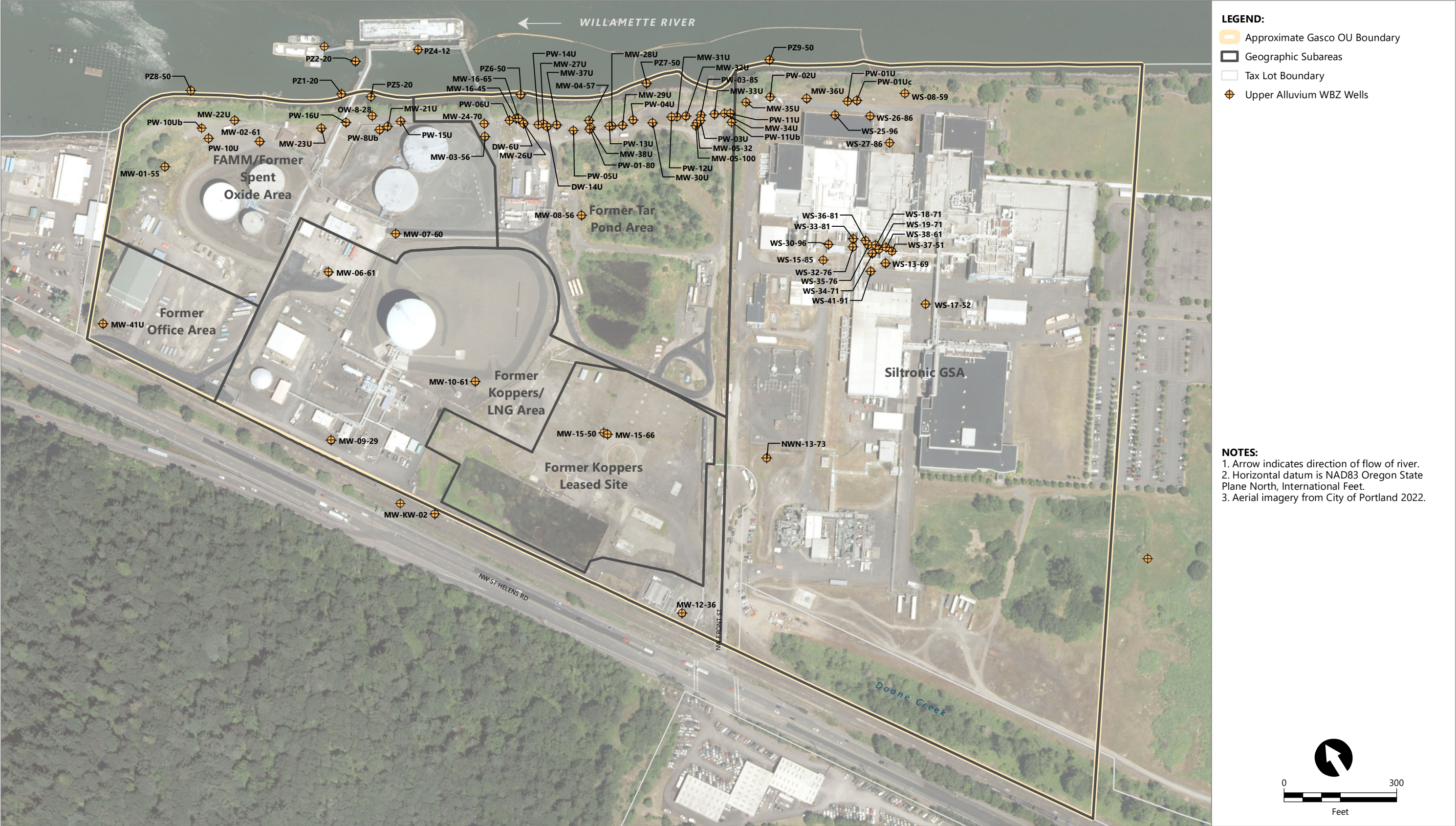
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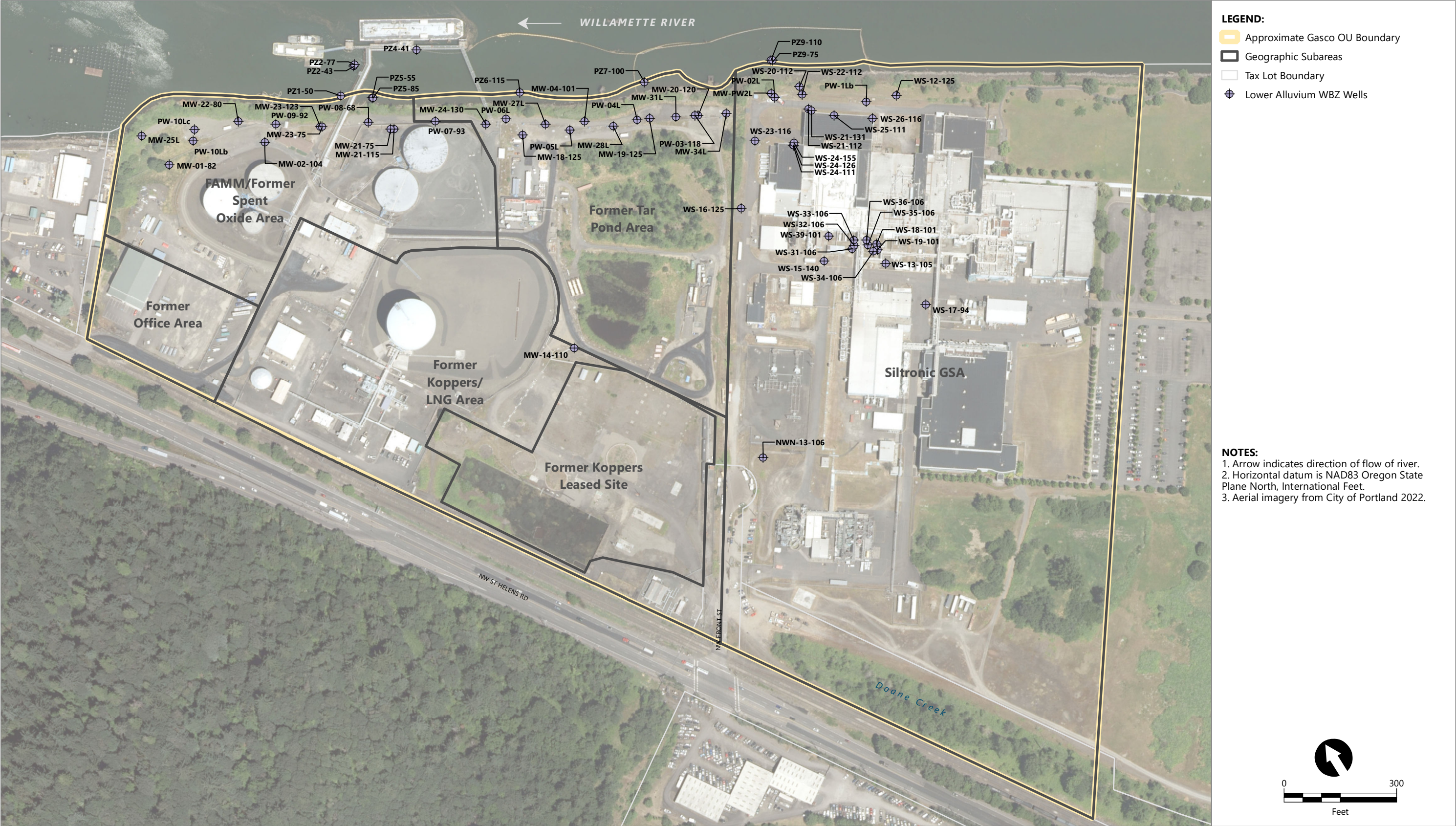
Figure 5-1
Fill WBZ Wells
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Figure 5-2
Upper Alluvium WBZ Wells
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Filepath: \\gstfile01\gis\Jobs\NW_Natural_Gas_0029\Gasco_Site_Remediation\Maps\HCCAnnualReport\2023\AQ_HCC_Fig5-3_WBZwells_LowerAlluvium.mxd



Figure 5-3
Lower Alluvium WBZ Wells
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Filepath: \\orcac\gis\Jobs\NW_Natural_Gas_0029\Gasco_Site_Remediy\Maps\HCCAnnualReport\2023\AQ_HCC_Fig5-4_WBZwells_DeepLowerAlluvium.mxd



Figure 5-4
Deep Lower Alluvium WBZ Wells
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Appendix A

Summary of HC&C System Maintenance Activities

Appendix A
Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-1U				PW-1Ub				PW-1Uc				PW-1L				PW-1Lb				PW-2U				PW-2L				PW-3U				PW-3L (PW-3-118)				PW-4U				PW-4L				PW-5U			
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)								
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1/1-30/2013		X		X						X		X																																				
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Appendix A
Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-1U				PW-1Ub				PW-1Uc				PW-1L				PW-1Lb				PW-2U				PW-2L				PW-3U				PW-3L (PW-3-118)				PW-4U				PW-4L				PW-5U				
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)									
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4/6/2017																																																	
8/7-11/2017			X				X				X							X					X				X						X				X						X						
12/18-22/2017			X				X				X							X					X				X						X				X						X						
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Appendix A

Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-1U				PW-1Ub				PW-1Uc				PW-1L				PW-1Lb				PW-2U				PW-2L				PW-3U				PW-3L (PW-3-118)				PW-4U				PW-4L				PW-5U			
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)								
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8/6-9/2018			X				X					X							X					X				X					X								X							
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Appendix A

Summary of HC&C System Maintenance Activities

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Appendix A
Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-1U				PW-1Ub				PW-1Uc				PW-1L				PW-1Lb				PW-2U				PW-2L				PW-3U				PW-3L (PW-3-118)				PW-4U				PW-4L				PW-5U			
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)								
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Appendix A

Summary of HC&C System Maintenance Activities

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Appendix A
Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-5L				PW-6U				PW-6L				PW-7L (PW-7-93)				PW-8U				PW-8Ub				PW-8L (PW-8-68)				PW-9L (PW-9-92)				PW-10U				PW-10Ub				PW-10L				PW-10Lb			
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)								
6/1/2007																																																
3/1-4/2010									X	X		X									X	X		X	X	X		X																				
8/19/2010													X	X																																		
4/13/2012																																																
4/19/2012						X																																										
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4/30/2012																																																
5/10-31/2012						X																																										
6/12-15/2012														X												X																						
11/16-20/2012									X																																							
1/1-30/2013		X		X																																												
2/5-28/2013																																																
3/4-14/2013																																																
1/21-28/2014																																																
2/3-12/2014														X		X																																
9/8-10/2014																																																
4/1-29/2015						X				X					X										X																							
5/1-31/2015			X																																													
12/10/2015																																																
1/6/2016																																																
1/8/2016																																																
1/18/2016																																																
1/22/2016							X									X																																
1/25/2016																																																
1/28/2016																																																
2/15/2016																																				</												

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Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-5L				PW-6U				PW-6L				PW-7L (PW-7-93)				PW-8U				PW-8Ub				PW-8L (PW-8-68)				PW-9L (PW-9-92)				PW-10U				PW-10Ub				PW-10L				PW-10Lb			
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)				
3/30/2016							X				X									X																												
4/15/2016																																																
5/17/2016				X								X									X																											
5/23/2016																																																
7/13/2016																																																
7/18/2016																																																
8/3/2016												X																																				
8/5/2016																																																
8/18/2016																																																
8/25/2016																																																
12/20/2016																																																
1/6/2017																																																
1/27/2017																																																
2/20-24/2017			X			X				X					X						X				X																							
4/6/2017																																																
8/7-11/2017												X									X																											
12/18-22/2017			X			X				X					X						X				X																							
1/16/2018				X				X																																								
1/17/2018												X													X																							
1/24/2018																																																
1/25/2018														X																																		
1/26/2018							X																																									
1/29/2018																																																
2/6/2018				X																																												
2/7/2018																																																
2/12/2018								X				X					X							X																								
3/19/2018																																																
3/21/2018																																																
5/24/2018				X			X					X					X							X																								
5/24/2018						X																		X																								
5/25/2018																																																
6/20/2018																																																

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Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-5L				PW-6U				PW-6L				PW-7L (PW-7-93)				PW-8U				PW-8Ub				PW-8L (PW-8-68)				PW-9L (PW-9-92)				PW-10U				PW-10Ub				PW-10L				PW-10Lb					
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)										
7/17/2018																																																		
8/6-9/2018			X				X				X																																							
8/10/2018																																																		
8/15/2018																																																		
8/16/2018																																																		
8/23/2018														X																																				
8/27/2018																	X	X																																
8/28/2018																																																		
10/3/2018																																																		
10/30/2018												X					X																																	
11/1/2018																																																		
2/6/2019																																																		
2/21/2019																																																		
2/27/2019						X																																												
3/25/2019																																																		
3/27/2019																																																		
4/10/2019																																																		
4/17/2019																																																		
4/24/2019																																																		
4/25/2019																																																		
5/1/2019																																																		
5/15/2019																																																		
5/22/2019													X	X	X																																			
7/12/2019																																																		
7/24/2019																																																		
7/29/2019																																																		
8/16/2019																																																		
8/29/2019																																																		
10/11/2019																																																		
11/15/2019																																																		
11/19/2019			X																																															
11/20/2019																																																		

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Summary of HC&C System Maintenance Activities

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Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-5L				PW-6U				PW-6L				PW-7L (PW-7-93)				PW-8U				PW-8Ub				PW-8L (PW-8-68)				PW-9L (PW-9-92)				PW-10U				PW-10Ub				PW-10L				PW-10Lb			
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)								
2/4/2022								X																																								
2/10/2022												X																																				
2/11/2022																																																
2/17/2022									X	X	X																																					
4/13/2022			X																																													
4/18/2022			X																																													
4/20/2022							X																																									
4/26/2022																																																
5/11/2022						X																																										
5/16/2022																																																
5/19/2022																																																
5/24/2022																																																
6/23/2022																																																
6/27/2022																																																
7/21/2022																																																
7/25/2022																			X	X																												
7/27/2022																																																
8/25/2022																																									X	X		X				
8/30/2022																							X																									
11/8/2022																																																
11/10/2022																							X																									
11/21/2022																																																
11/28/2022															X																																	
12/1/2022																								X																								
1/16/2023																																																
1/26/2023							X																																									
2/16/2023			X																																													
5/4/2023																									X	X		X																				

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Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-10Lc				PW-11U				PW-11Ub				PW-12U				PW-13U				PW-14U				PW-15U				PW-16U				
	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)					
Date																													Comment				
6/1/2007																													Initial development				
3/1-4/2010																													Initial development, includes air lifting				
8/19/2010																													Initial development				
4/13/2012																													Initial development				
4/19/2012																													Initial development				
4/23/2012																													Initial development				
4/30/2012																													Initial development				
5/10-31/2012																													2nd round development				
6/12-15/2012																													2nd round development				
11/16-20/2012																													Initial development, includes air lifting				
1/1-30/2013						X		X										X		X									Initial and 2nd round development, includes airlift and jetting				
2/5-28/2013											X		X		X		X												Initial development, includes air lifting and jetting				
3/4-14/2013																													Initial development, includes air lifting				
1/21-28/2014																													3rd development with air lift & jetting, video taken				
2/3-12/2014																		X															
9/8-10/2014																						X		X		X		X	Mid-install and initial developments (jetting on initial)				
4/1-29/2015							X						X				X						X		X				CO ₂ injections				
5/1-31/2015																													CO ₂ injections				
12/10/2015																													Reused motor, removed air relief valve				
1/6/2016																													Reused motor, pump & piping, removed air relief valve				
1/8/2016																																	
1/18/2016																													Remove air relief, flushed line				
1/22/2016								X					X				X				X			X				X	Removed air relief valve				
1/25/2016																													Clean out downhole piping				
1/28/2016											X																		Clean out downhole piping				
2/15/2016																													New well completion				
3/8/2016																												X	Flowmeter displaying 6,7 gpm when idle, repaired				
3/15/2016												X					X												CO ₂ injection				
3/16/2016							X																						CO ₂ injection				
3/17/2016																							X			X			CO ₂ injection				
3/28/2016																			X				X						CO ₂ injection				

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Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-10Lc				PW-11U				PW-11Ub				PW-12U				PW-13U				PW-14U				PW-15U				PW-16U				
	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)					
Date																																	
3/30/2016												X															X		CO ₂ injection				
4/15/2016																										X		X	Replaced SS check valve and pump only				
5/17/2016																													Removed air relief valve				
5/23/2016																													Replaced back flowing check valve				
7/13/2016																													Repair leak at discharge tee				
7/18/2016																													Unclog CO2 downhole pipe				
8/3/2016																													Repair leaking pipe at discharge valve				
8/5/2016																								X					Replaced back flowing check valve				
8/18/2016												X															X		WSE Well Screen Maintenance				
8/25/2016																											X		Replaced flowmeter, reading sporadic				
12/20/2016																													Repair leaking pipe at union				
1/6/2017																													Pipe freeze, cracked at tee, 1/27/17 replaced				
1/27/2017																													Replaced pipe at red bushing				
2/20-24/2017							X					X			X								X				X		X				
4/6/2017																													New well install				
8/7-11/2017							X					X											X				X		CO ₂ injection				
12/18-22/2017							X					X			X			X					X				X		CO ₂ injection				
1/16/2018																													Cleaned all drop tubes				
1/17/2018																													Cleaned all drop tubes				
1/24/2018																								X				X	Cleaned all drop tubes				
1/25/2018													X																Cleaned all drop tubes				
1/26/2018							X								X			X											Cleaned all drop tubes				
1/29/2018																													Cleaned all drop tubes				
2/6/2018													X																Clean flowmeter internals				
2/7/2018																													Clean flowmeter internals				
2/12/2018																								X				X	Clean flowmeter internals				
3/19/2018																									X	X			Replaced pump only				
3/21/2018																													Lower pump to bottom of screen				
5/24/2018							X					X			X		X			X			X					X	Install sun lids on flowmeter displays				
5/24/2018												X																	Replace flowmeter keypad and display				
5/25/2018																													Install sun lids on flowmeter displays				
6/20/2018																													Boresaver				

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Production Well Downhole Maintenance	PW-10Lc				PW-11U				PW-11Ub				PW-12U				PW-13U				PW-14U				PW-15U				PW-16U				
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	Comment				
7/17/2018																													Clean flowmeter internals				
8/6-9/2018							X				X				X				X					X			X		CO ₂ injection				
8/10/2018																																	
8/15/2018																													OFF - well screen compromised.				
8/16/2018																													Install new flowmeter, read -9 gpm with no flow				
8/23/2018																													Install new check valve, old allowed backflow				
8/27/2018																																	
8/28/2018																																	
10/3/2018																													Removal of pump, motor, piping for abandonment				
10/30/2018																									X			X	Clean out CO ₂ injection drop tube				
11/1/2018																													New well install.				
2/6/2019																													Decommision - well removed from service				
2/21/2019																													Boresaver				
2/27/2019																													Boresaver				
3/25/2019							X																						Boresaver				
3/27/2019												X																	Unicid + catalyst				
4/10/2019																													Unicid + catalyst				
4/17/2019																													Unicid + catalyst				
4/24/2019																																	
4/25/2019																													Removed sand in sump w/ 1" waterra, Boresaver				
5/1/2019									X	X	X																		Unicid + catalyst				
5/15/2019																									X	X	X		Unicid + catalyst, replaced pump only				
5/22/2019																													Unicid + catalyst, reused pump, new piping				
7/12/2019																													Boresaver				
7/24/2019																													Boresaver				
7/29/2019																								X					Boresaver				
8/16/2019																													Boresaver				
8/29/2019																													Unicid + catalyst				
10/11/2019																											X		Boresaver - short treatment, recirc 8 hours				
11/15/2019																													Unicid + catalyst				
11/19/2019																													Boresaver				
11/20/2019															X														Boresaver				

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Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-10Lc				PW-11U				PW-11Ub				PW-12U				PW-13U				PW-14U				PW-15U				PW-16U				
	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)					
Date																													Comment				
11/25/2019																													Unicid + catalyst				
12/2/2019																			X										Unicid + catalyst				
12/4/2019																													Unicid + catalyst				
12/9/2019																													Boresaver				
12/12/2019																													Boresaver				
1/20/2020											X																		Boresaver				
1/21/2020																													All new pump, motor, SS piping, PVC drop tubes, electrical lead				
1/28/2020																													Boresaver				
2/12/2020							X																						Boresaver				
2/18/2020																										X			Boresaver				
2/24/2020																													Boresaver				
2/27/2020																													Boresaver				
3/24/2020																							X						Boresaver				
3/30/2020																													Boresaver				
4/7/2020																																	
6/3/2020																									X	X			Replaced All, Bail only				
6/17/2020																													Boresaver				
6/23/2020																													Boresaver				
7/21/2020																																	
7/28/2020																																	
7/30/2020																																	
8/12/2020															X														Boresaver				
10/28/2020																													Initial installation and development				
11/18/2020						X			X																				Boresaver at PW-11U; new flowmeter at PW-2U				
11/28/2020																													Initial install of pump & piping				
12/21/2020																													Boresaver				
1/11/2021																										X			Boresaver				
1/19/2021						X																							Unicid + catalyst				
1/21/2021																													Unicid + catalyst				
1/25/2021																													Unicid + catalyst				

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Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-10Lc				PW-11U				PW-11Ub				PW-12U				PW-13U				PW-14U				PW-15U				PW-16U				
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	Comment				
1/28/2021																													Boresaver				
2/9/2021															X																		
2/16/2021																					X	X											
2/25/2021																														PW-1Ub turned off			
3/1/2021																								X			X		16U - Boresaver, 15U cleaned sump				
4/13/2021																																	
4/20/2021											X																						
4/27/2021																																	
5/11/2021																													Boresaver				
5/13/2021																										X			Boresaver				
5/18/2021																													Boresaver				
5/20/2021																													Boresaver				
6/15/2021																													Boresaver				
8/17/2021																X													Boresaver				
8/25/2021																													Boresaver				
10/13/2021																													Boresaver, Transducer stuck in well, no air surging performed.				
10/20/2021																													Boresaver, troubleshoot pump/VFD issues at start up.				
10/26/2021																													Boresaver				
10/28/2021																													Boresaver				
11/11/2021																							X						Boresaver, excessive silting, no air surging performed.				
11/16/2021																													Boresaver				
11/22/2021																													Boresaver				
11/24/2021																					X	X											
11/29/2021																													Boresaver				
12/1/2021																													Boresaver				
12/24/2021																													Well installation complete				
1/12/2022																													Initial install				
2/1/2022										X																			Initial install				
2/3/2022																													Old pump at 100% FLA, pump fault in past. Runtime reset on 2/11/22.				

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Production Well Downhole Maintenance	PW-10Lc				PW-11U				PW-11Ub				PW-12U				PW-13U				PW-14U				PW-15U				PW-16U				
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	Comment				
2/4/2022																													Initial start-up PW-1Uc, Pump faulted PW-6L (both runtimes reset on 2/11/22)				
2/10/2022																													Pump fault, run F->R, now running at 7.4 amps, 10.5 FLA				
2/11/2022									X																				Initial pump install. Online on 3/24/2022. PW-11U in standby on 3/28/2022.				
2/17/2022																													Used Boresaver 2/15 & 2/16, bailed to remove 5' of sediment				
4/13/2022																																	
4/18/2022																													Boresaver				
4/20/2022																													Boresaver				
4/26/2022																													Boresaver				
5/11/2022																													Boresaver				
5/16/2022																													Boresaver				
5/19/2022												X																	Boresaver				
5/24/2022																													Boresaver				
6/23/2022																											X		Boresaver				
6/27/2022																													Covers well screen cleaning.				
7/21/2022																													Boresaver				
7/25/2022																													Boresaver, pump fault on restart, pump replacement scheduled and completed on 8/2/2022				
7/27/2022															X														Boresaver				
8/25/2022																			X										PW-10Lb had 10' packer installed at top of screen				
8/30/2022																													Boresaver				
11/8/2022																													Boresaver				
11/10/2022																													Boresaver, no air surging, stuck transducer				
11/21/2022																								X					Boresaver, no air surging, excess silt				
11/28/2022																													Boresaver				
12/1/2022																													Pump off, casing failure from 11/25				
1/16/2023																													Boresaver				
1/26/2023																													Boresaver				
2/16/2023																													Boresaver				
5/4/2023		X		X																									Initial development completed, installed pump and piping				

Appendix A
Summary of HC&C System Maintenance Activities

Production Well Downhole Maintenance	PW-10Lc				PW-11U				PW-11Ub				PW-12U				PW-13U				PW-14U				PW-15U				PW-16U				
Date	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	New Pump, Motor, Piping	Surge and Bail	Well Screen Maintenance	Other (Note in Comments)	Comment				
5/9/2023																													Boresaver				
5/11/2023																													Boresaver				
5/15/2023																													Boresaver				
5/17/2023												X																	Boresaver				
5/22/2023																											X		Boresaver				
6/8/2023				X																									Initial startup				
6/19/2023											X																		Boresaver				
6/21/2023																													Boresaver				
6/27/2023															X														Boresaver				
6/29/2023																													Boresaver				
8/15/2023																			X										Boresaver				
8/23/2023																													Boresaver				
8/28/2023																													Boresaver				
9/21/2023																													Went Bad				
11/1/2023																													Went Bad				
11/16/2023																													Boresaver				
11/27/2023																													Boresaver				
11/29/2023																													Boresaver				
12/7/2023																													Boresaver				
12/11/2023																										X			Boresaver				
12/13/2023																													Boresaver				

Appendix A

Summary of HC&C System Maintenance Activities

Notes:

2023 well screen maintenance still required for these wells: PW-1Lb, PW-1Uc, PW-2U, PW-3L, PW-4U, PW-8L, PW-8Ub, PW-9L, PW-13U, PW-14U, and PW-15U.

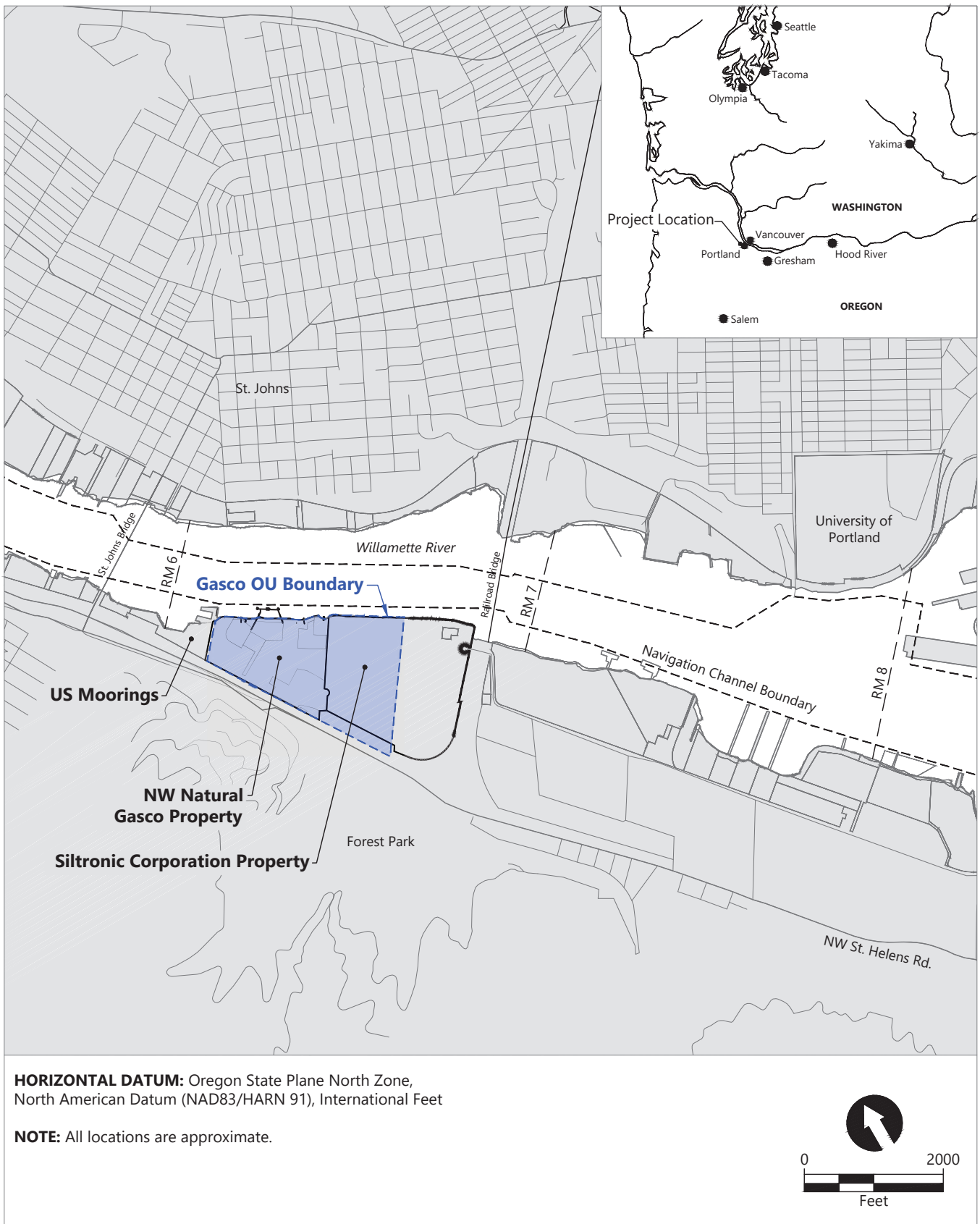
prior to well installation or after well decommission

Appendix B

HC&C System Operational Figures

Appendix B1

January Through June 2023

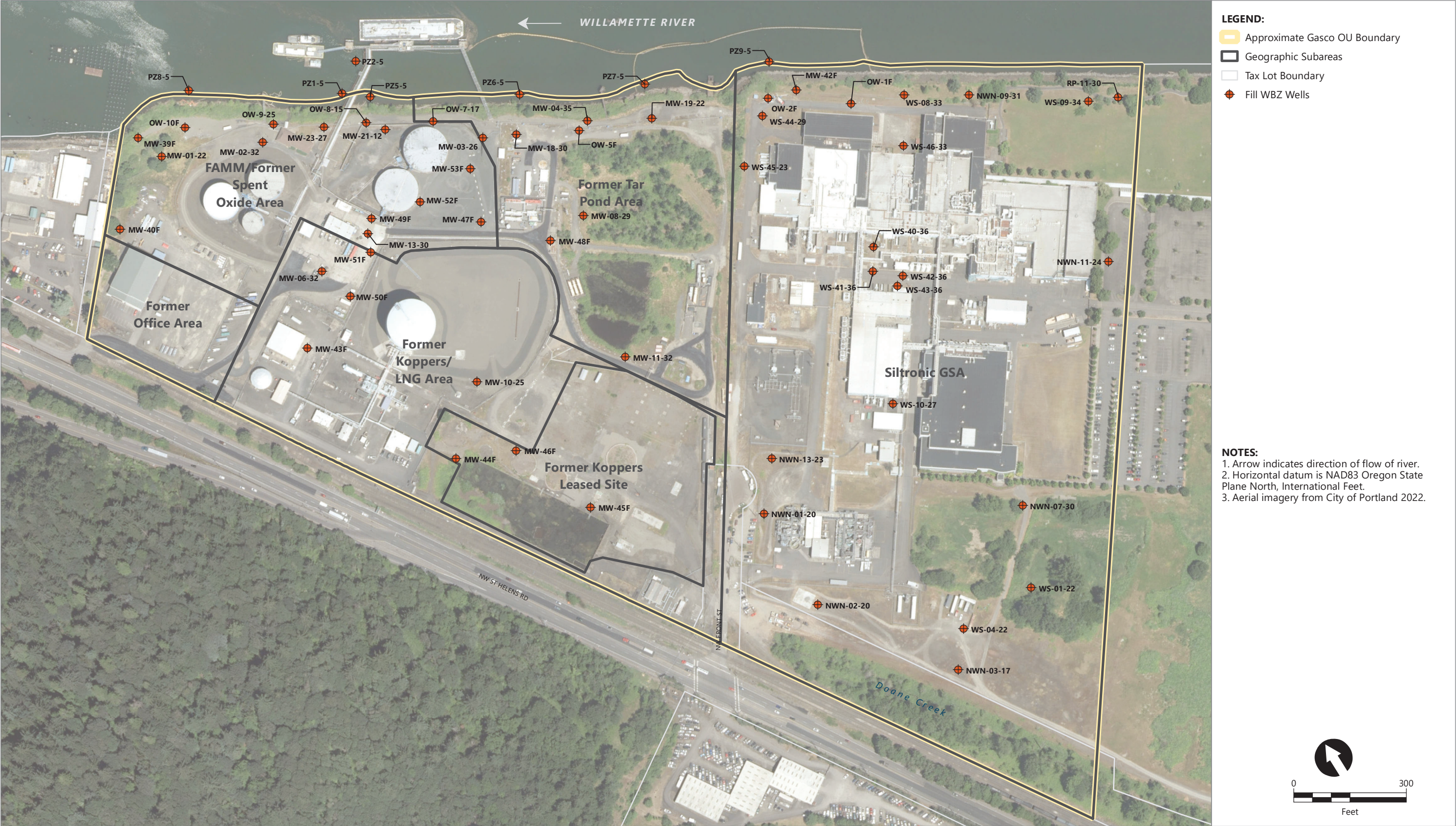


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**Figure 1.1
Vicinity Map**

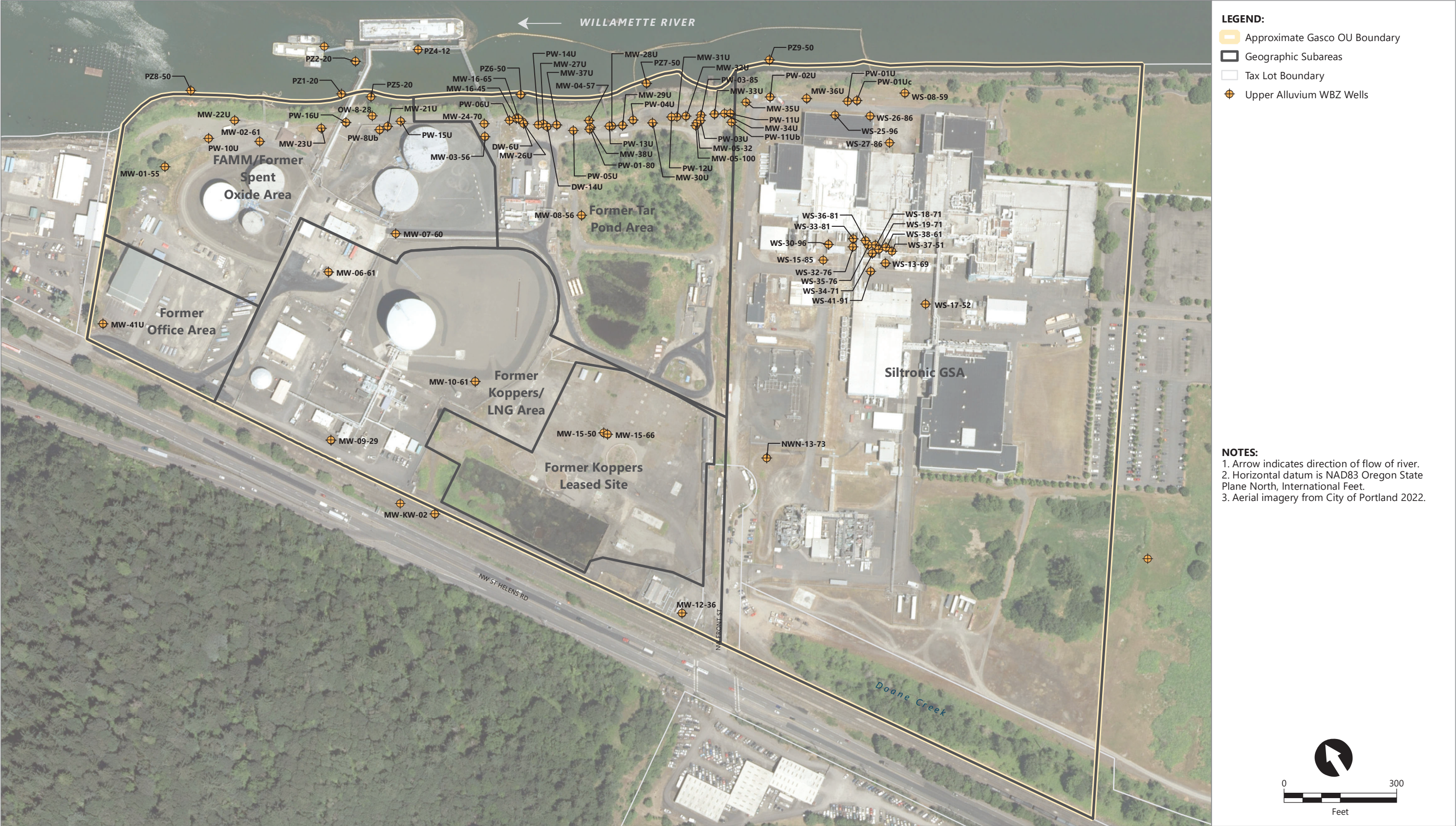
NW Natural Gasco Site



Publish Date: 2023/06/22, 10:03 AM | User: alesueur
Filepath: \\orcas\gis\Jobs\NW_Natural_Gas_0029\Gasco_Site_Remediy\Maps\HCCAnnualReport\2022\AQ_HCC_Fig5-1_WBZwells_Fill.mxd



Figure 2.1
Fill WBZ Wells
NW Natural Gasco Site



Publish Date: 2023/06/22, 10:07 AM | User: alesueur
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Figure 2.2
Upper Alluvium WBZ Wells
NW Natural Gasco Site



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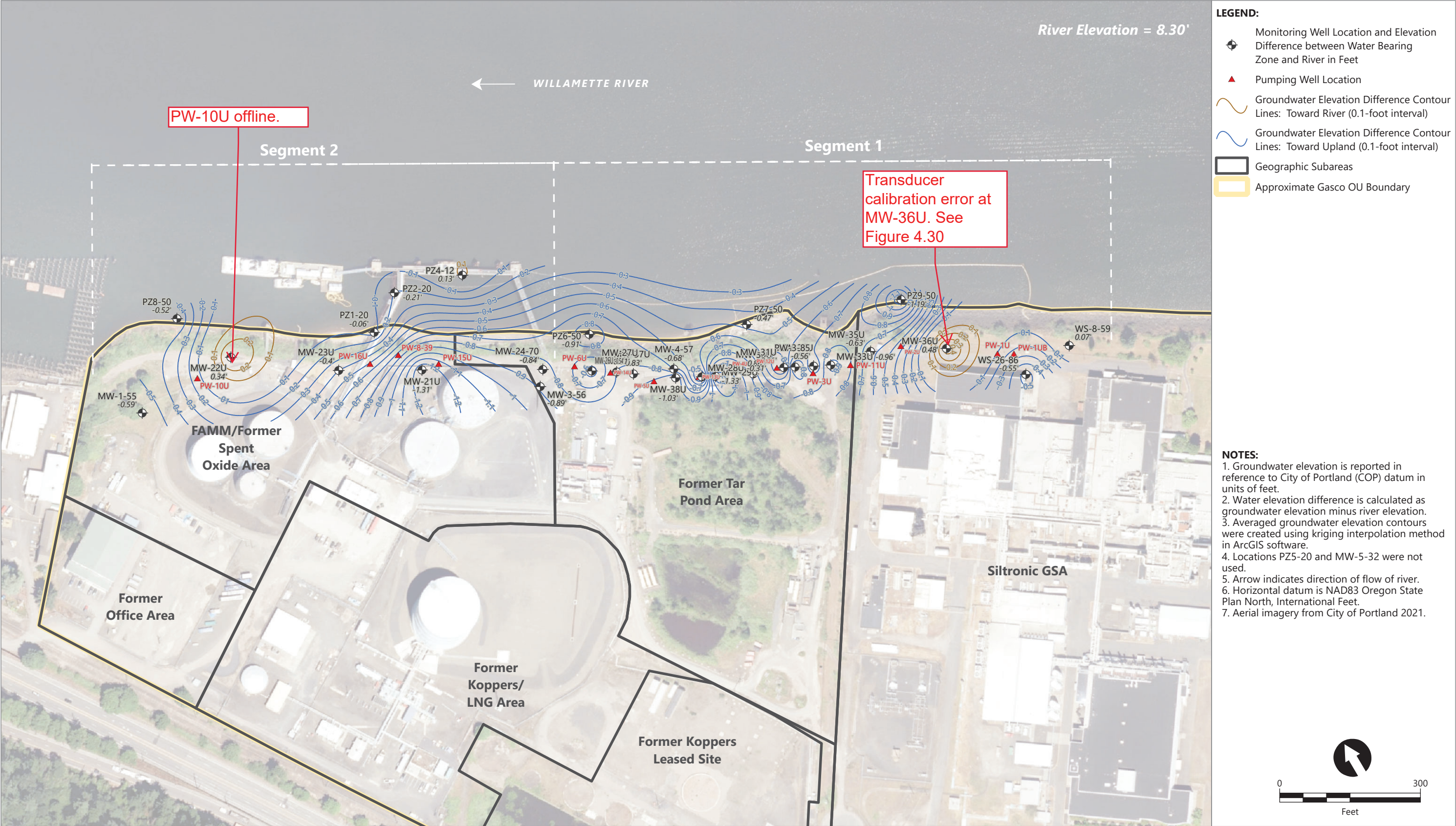
Figure 2.3
Lower Alluvium WBZ Wells
NW Natural Gasco Site



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Figure 2.4
Deep Lower Alluvium WBZ Wells
NW Natural Gasco Site



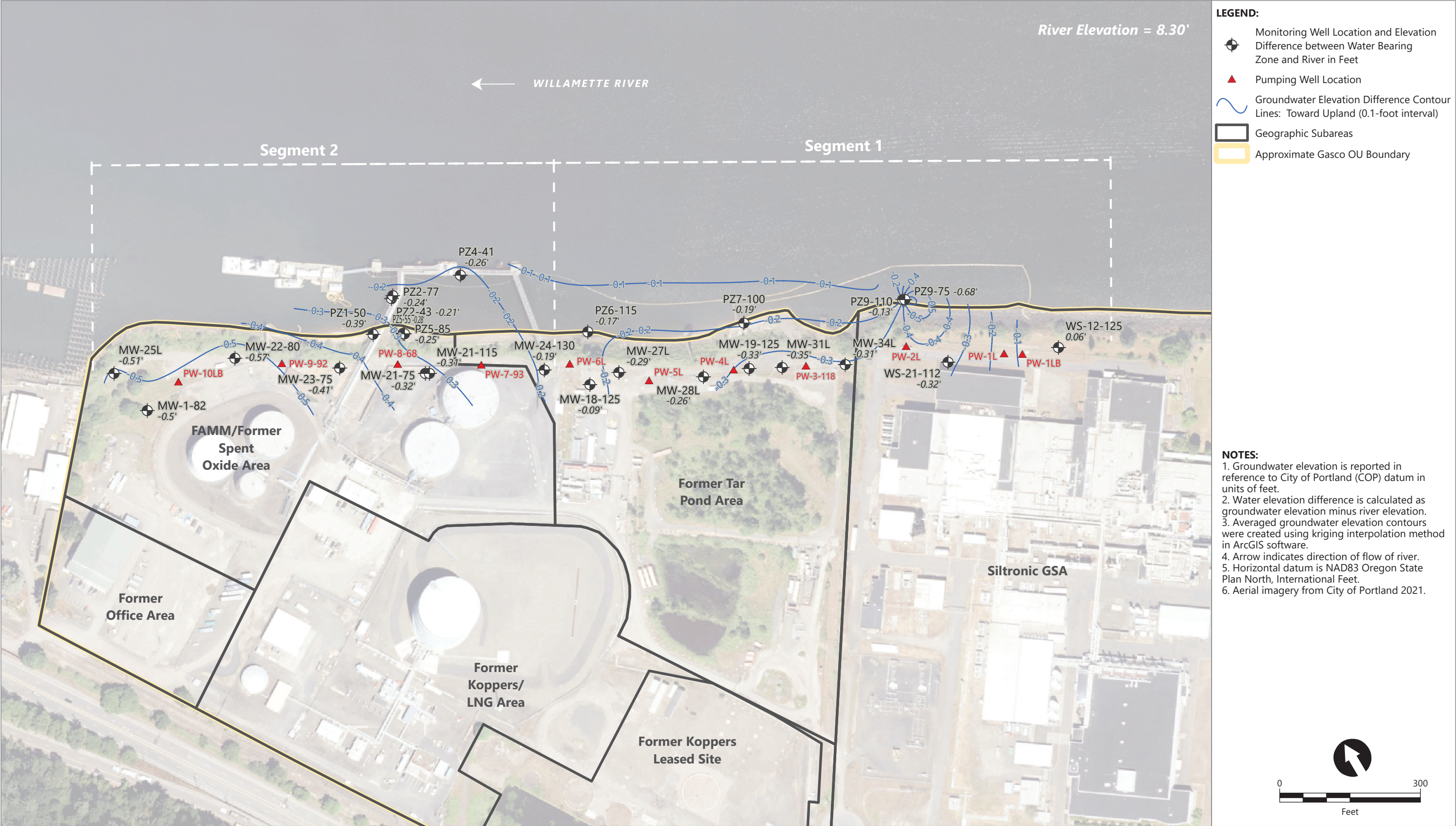
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Figure 3.1a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 1/11/2023-1/13/2023

NWN Gasco Site
Portland, Oregon

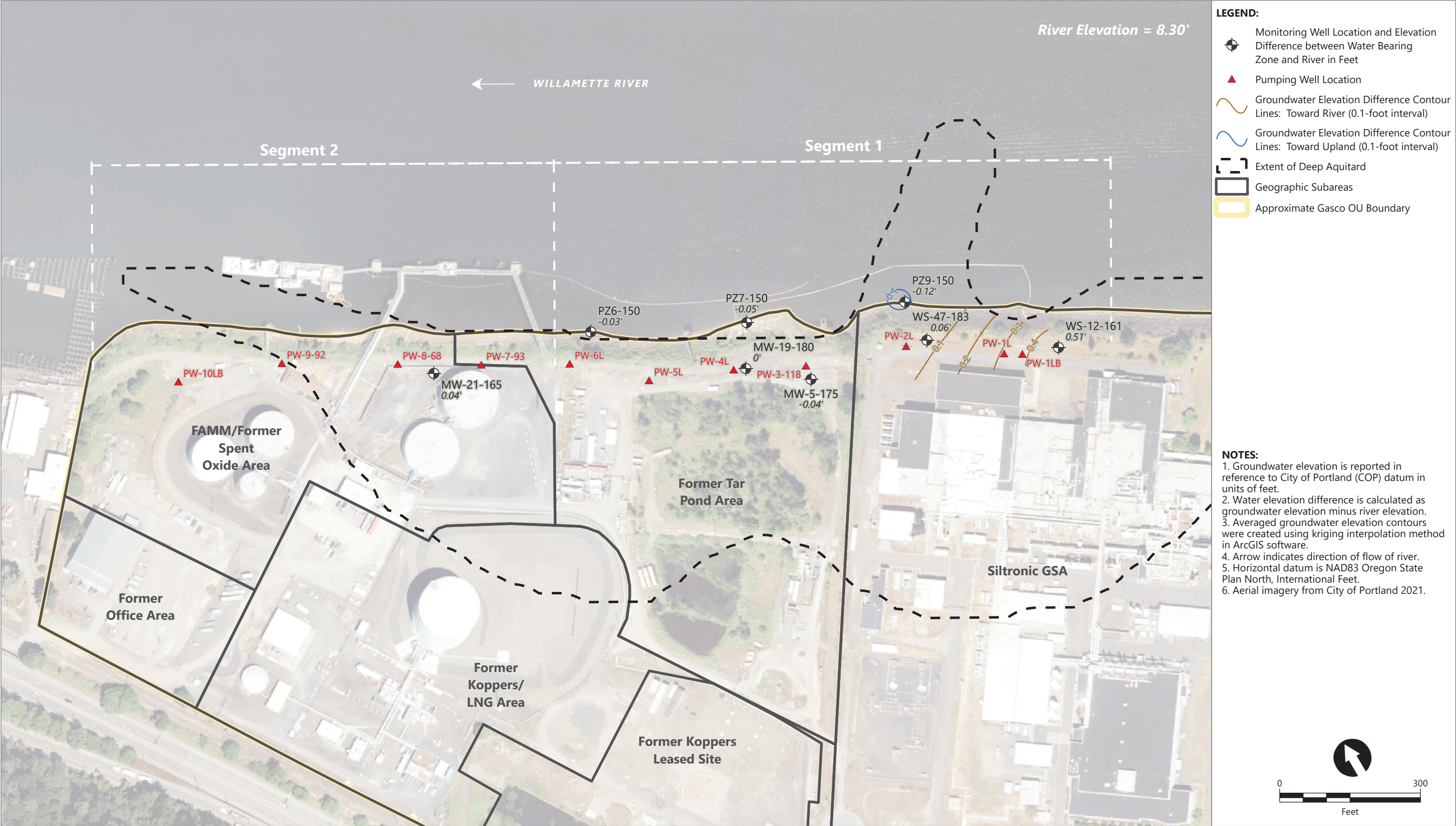


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Figure 3.1b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 1/11/2023-1/13/2023

NWN Gasco Site
Portland, Oregon



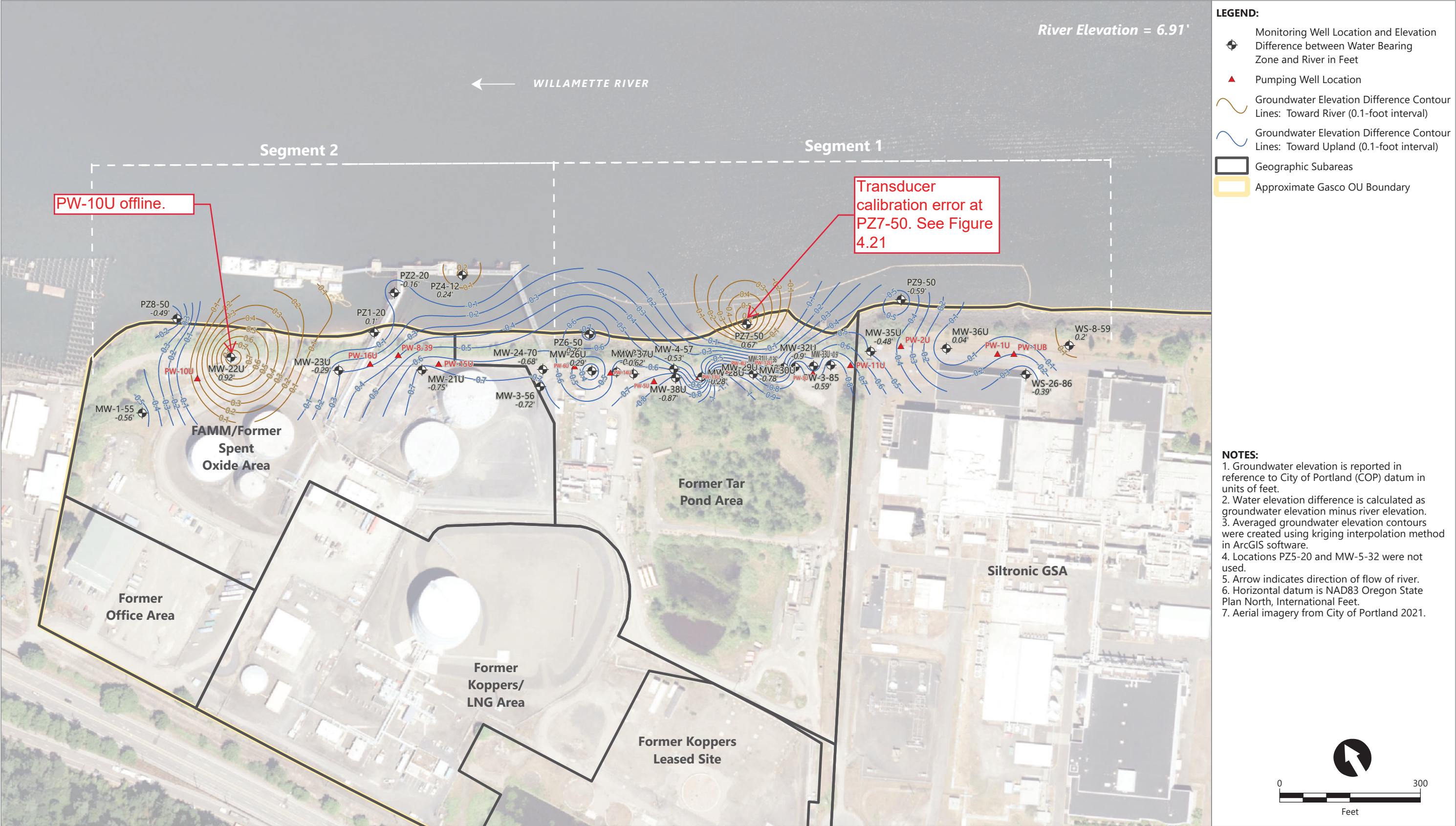
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Figure 3.1c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 1/11/2023-1/13/2023

NWN Gasco Site
Portland, Oregon

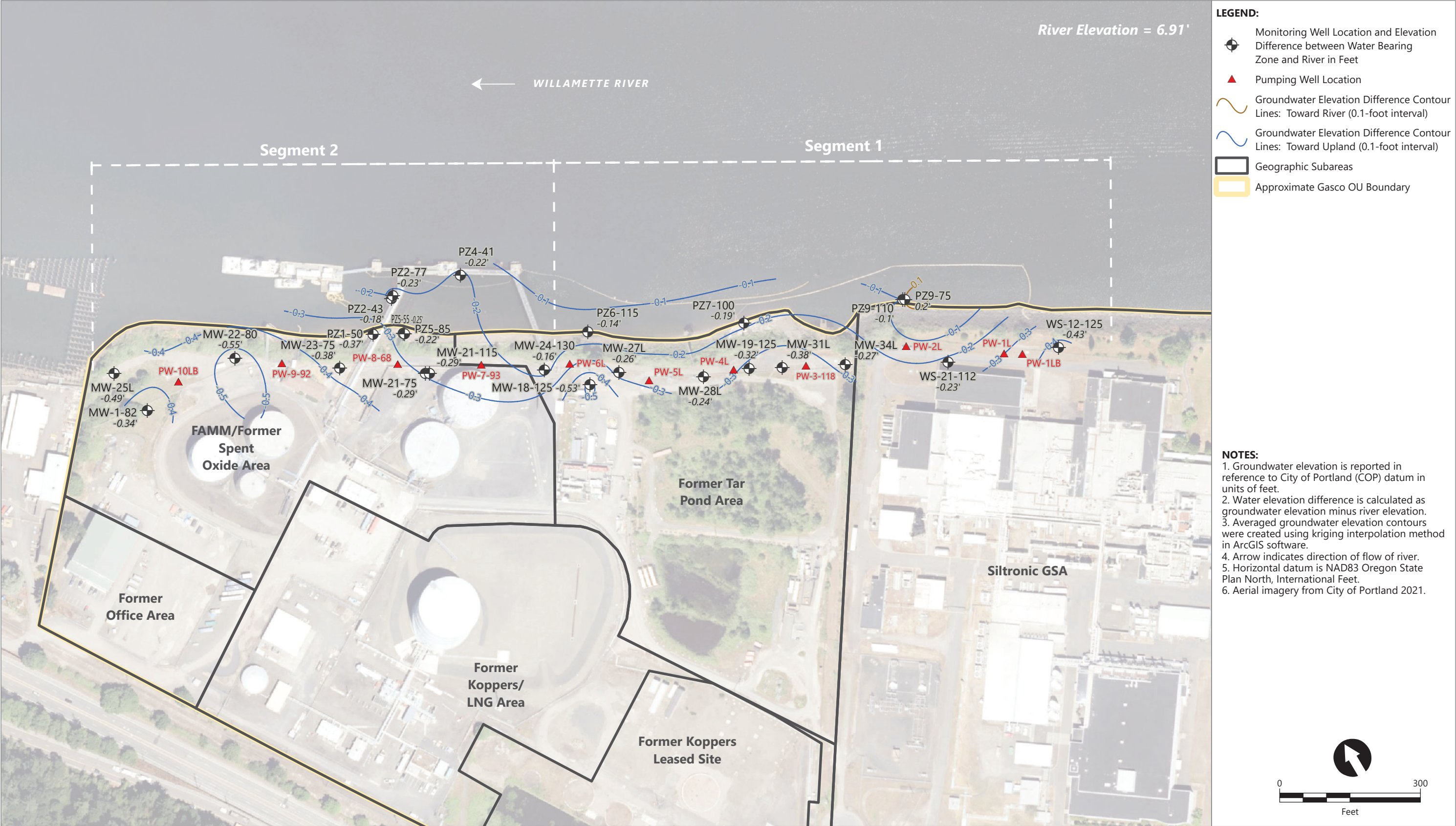


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Figure 3.2a
Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 1/24/2023-1/26/2023

NWN Gasco Site
Portland, Oregon

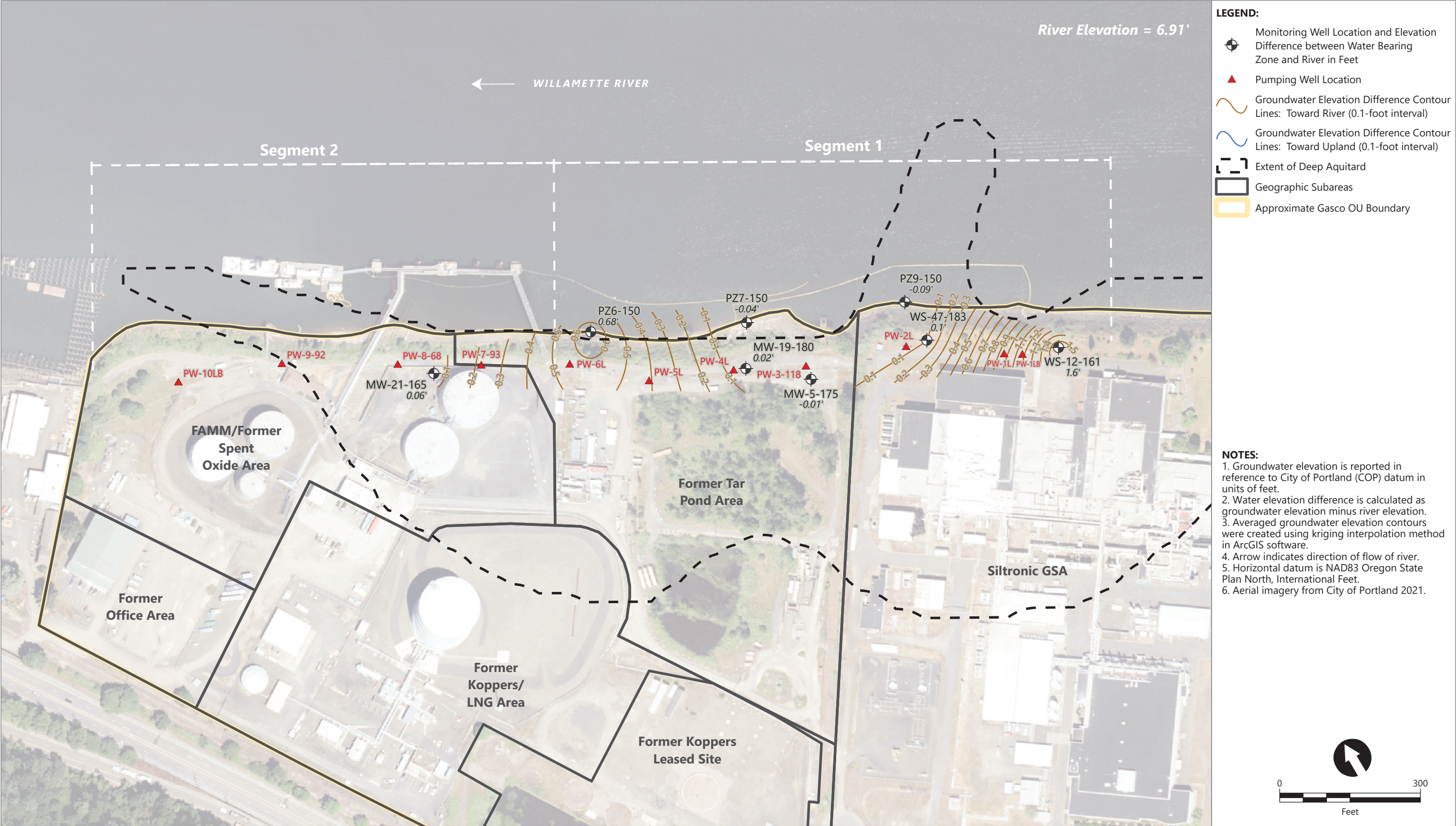


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Figure 3.2b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 1/24/2023-1/26/2023

NWN Gasco Site
Portland, Oregon



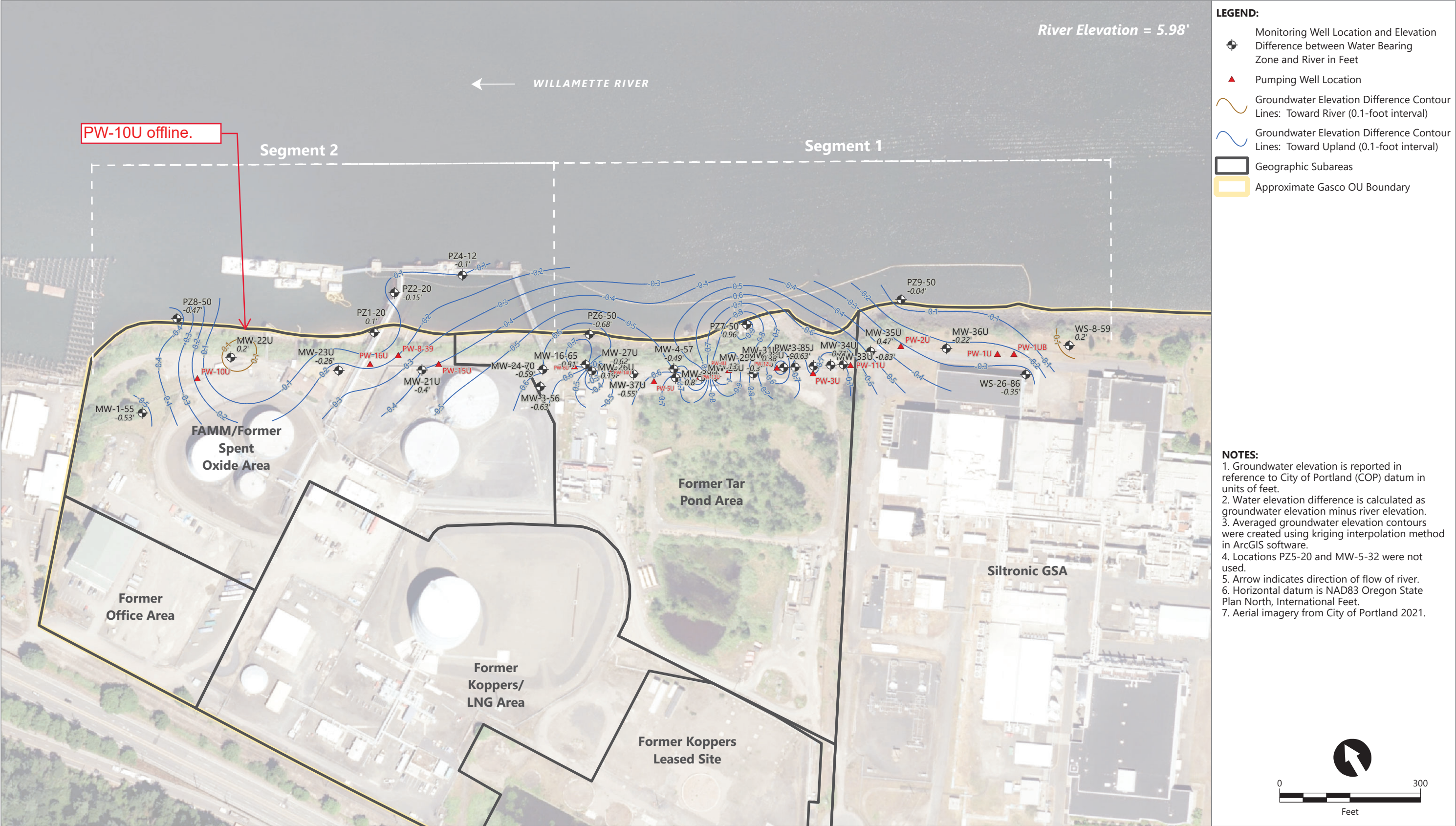
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Figure 3.2c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 1/24/2023-1/26/2023

NWN Gasco Site
Portland, Oregon



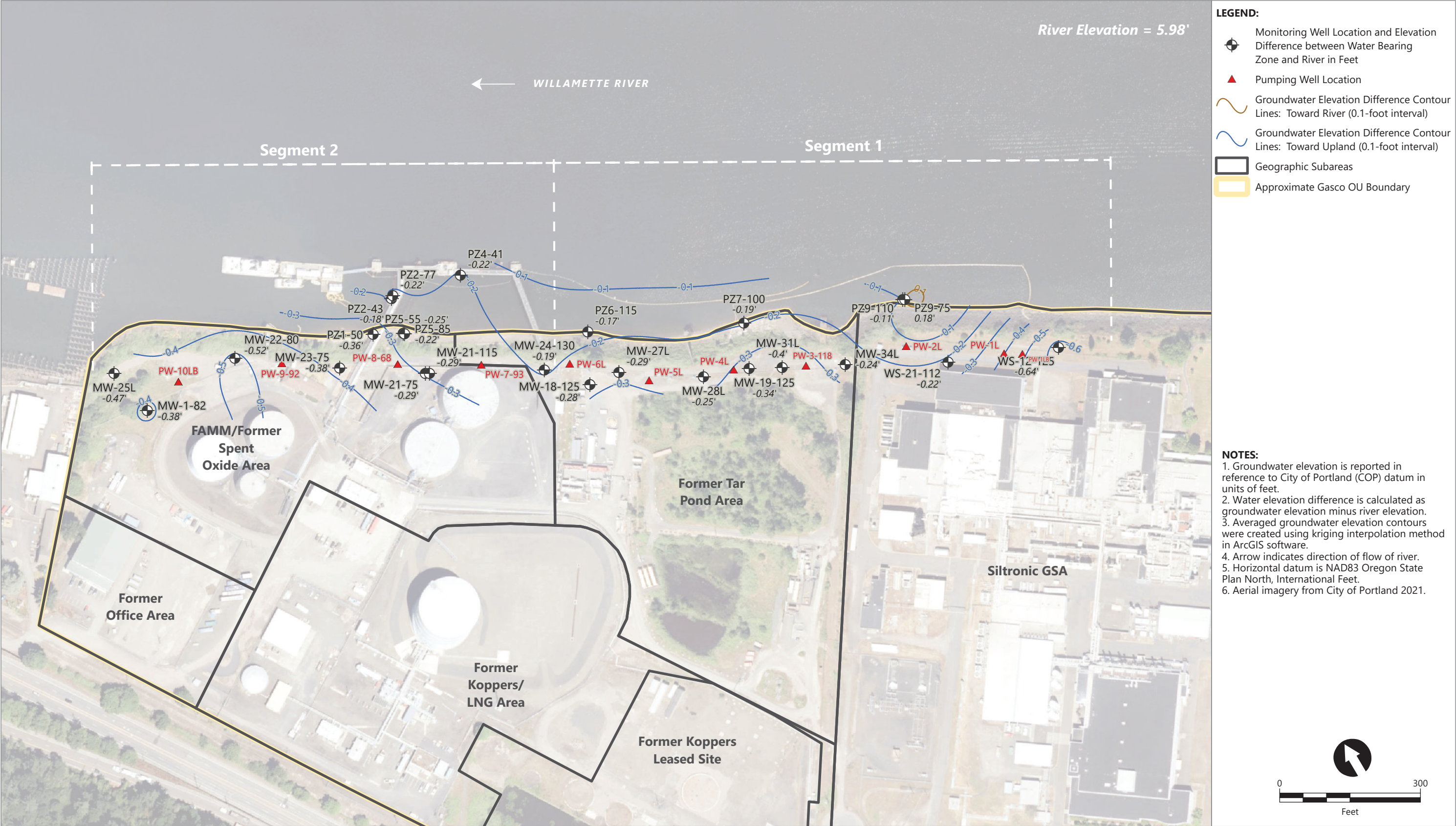
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Figure 3.3a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 2/11/2023-2/13/2023

NWN Gasco Site
Portland, Oregon

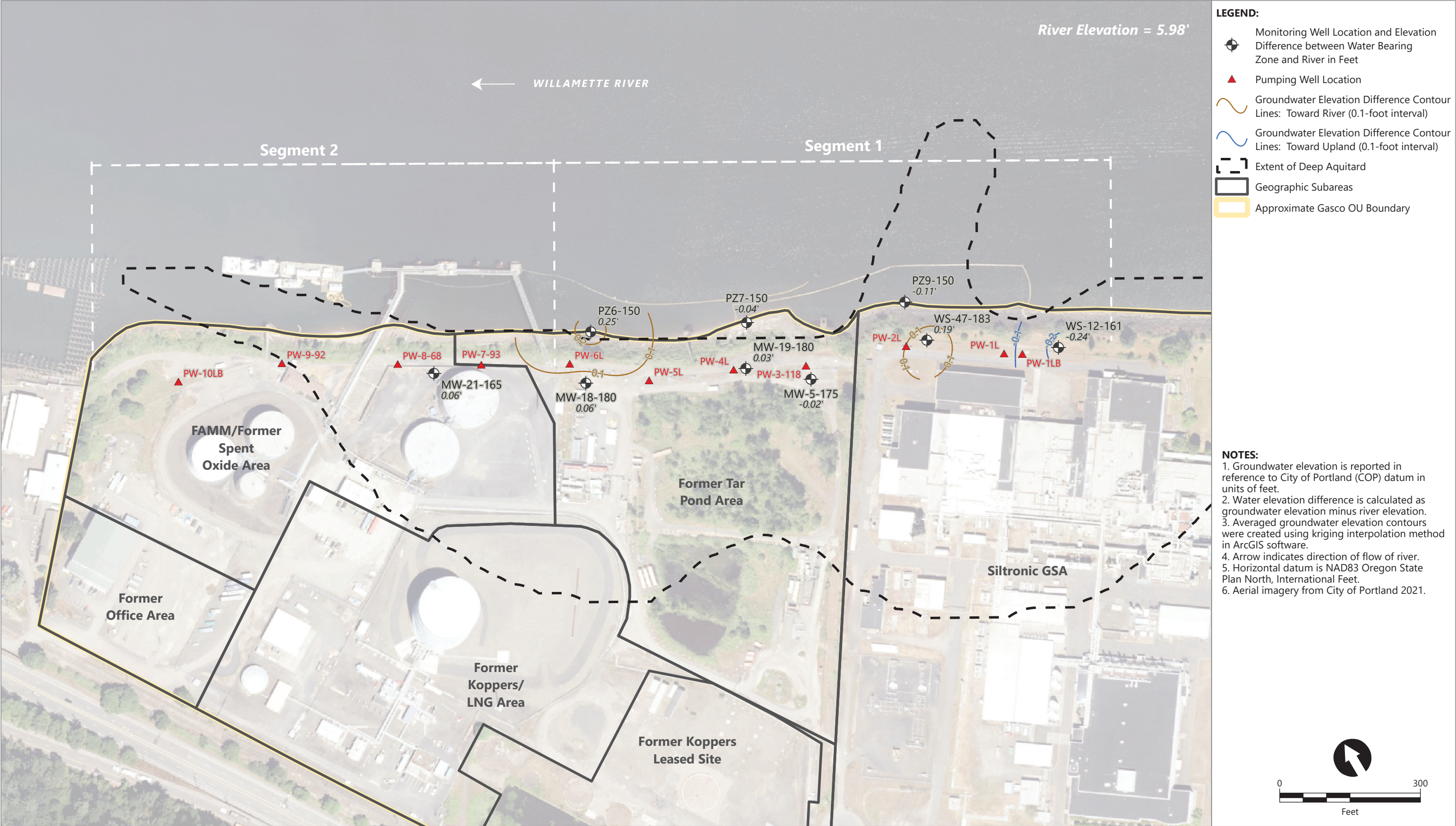


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Figure 3.3b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 2/11/2023-2/13/2023

NWN Gasco Site
Portland, Oregon

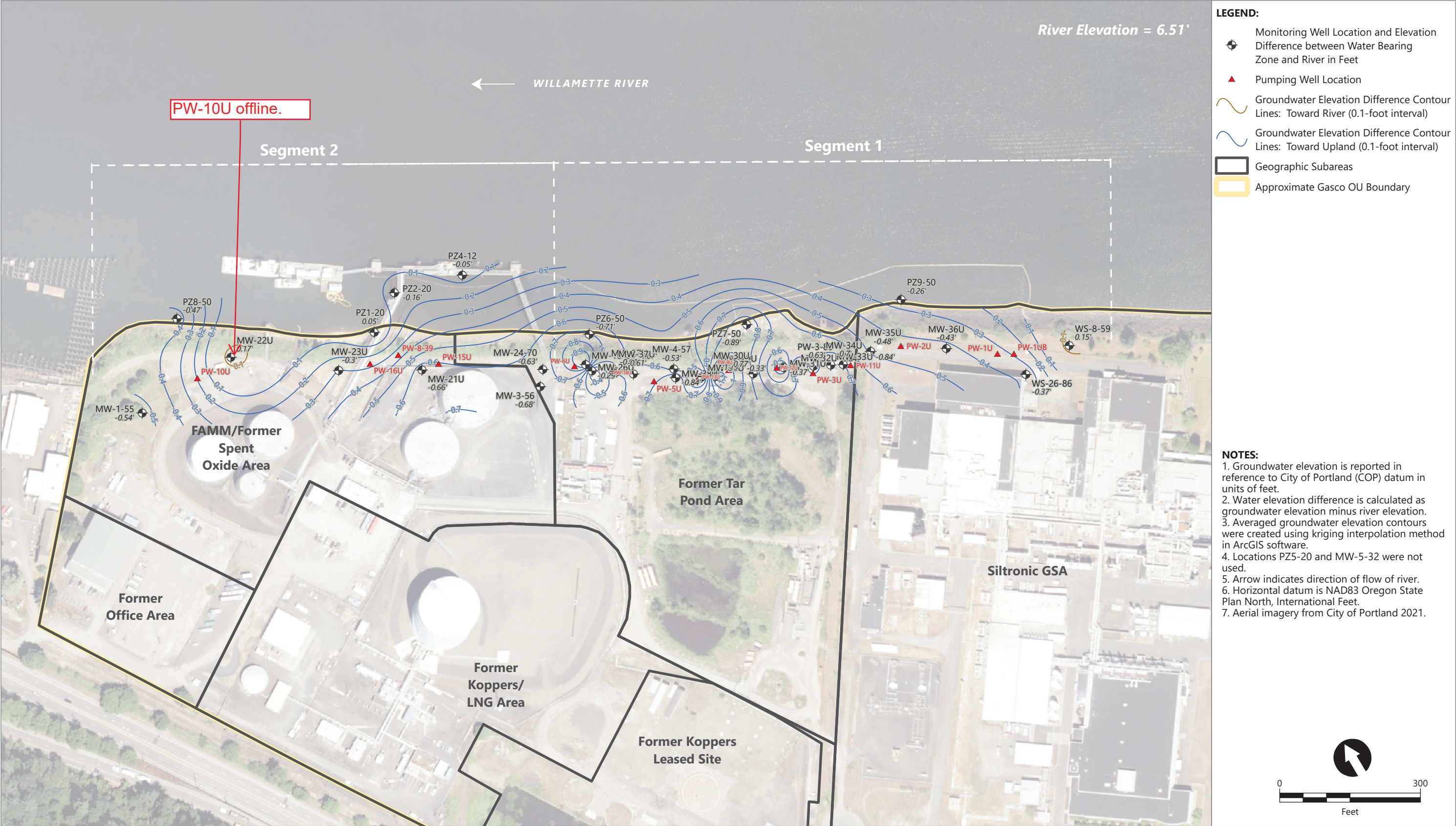


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Figure 3.3c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 2/11/2023-2/13/2023

NWN Gasco Site
Portland, Oregon



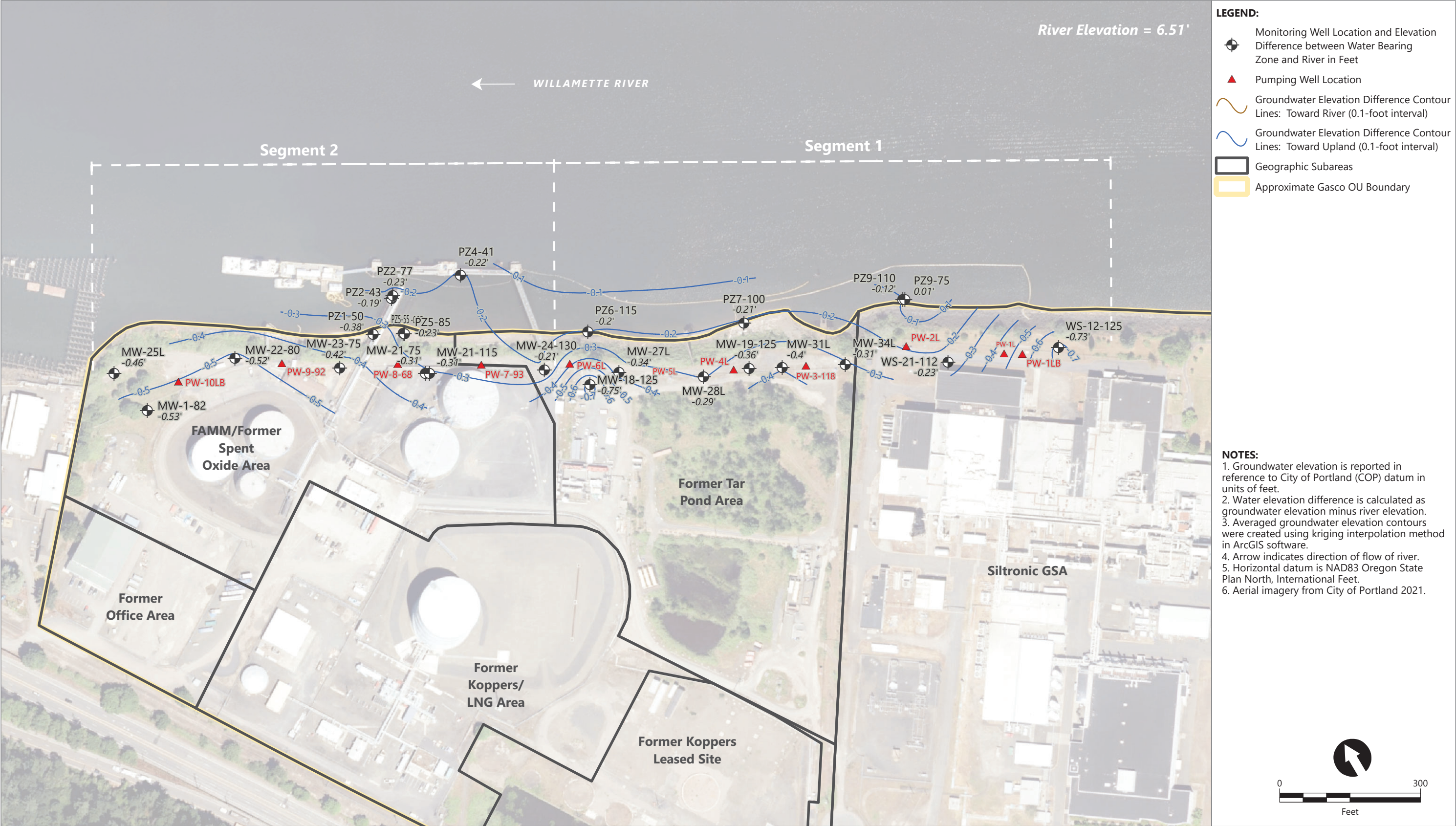
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Figure 3.4a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 2/24/2023-2/26/2023

NWN Gasco Site
Portland, Oregon



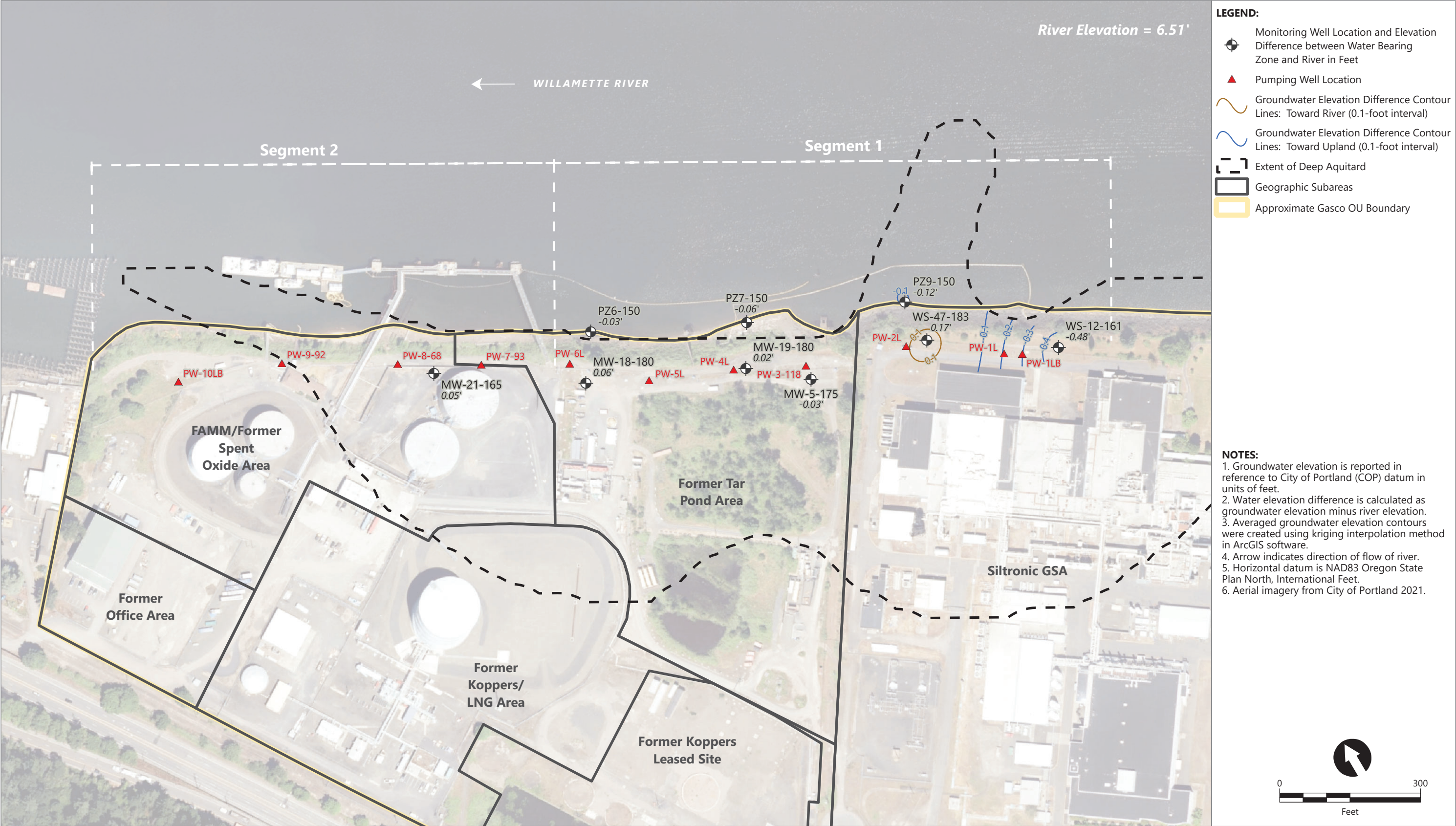
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Figure 3.4b

Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 2/24/2023-2/26/2023

NWN Gasco Site
Portland, Oregon



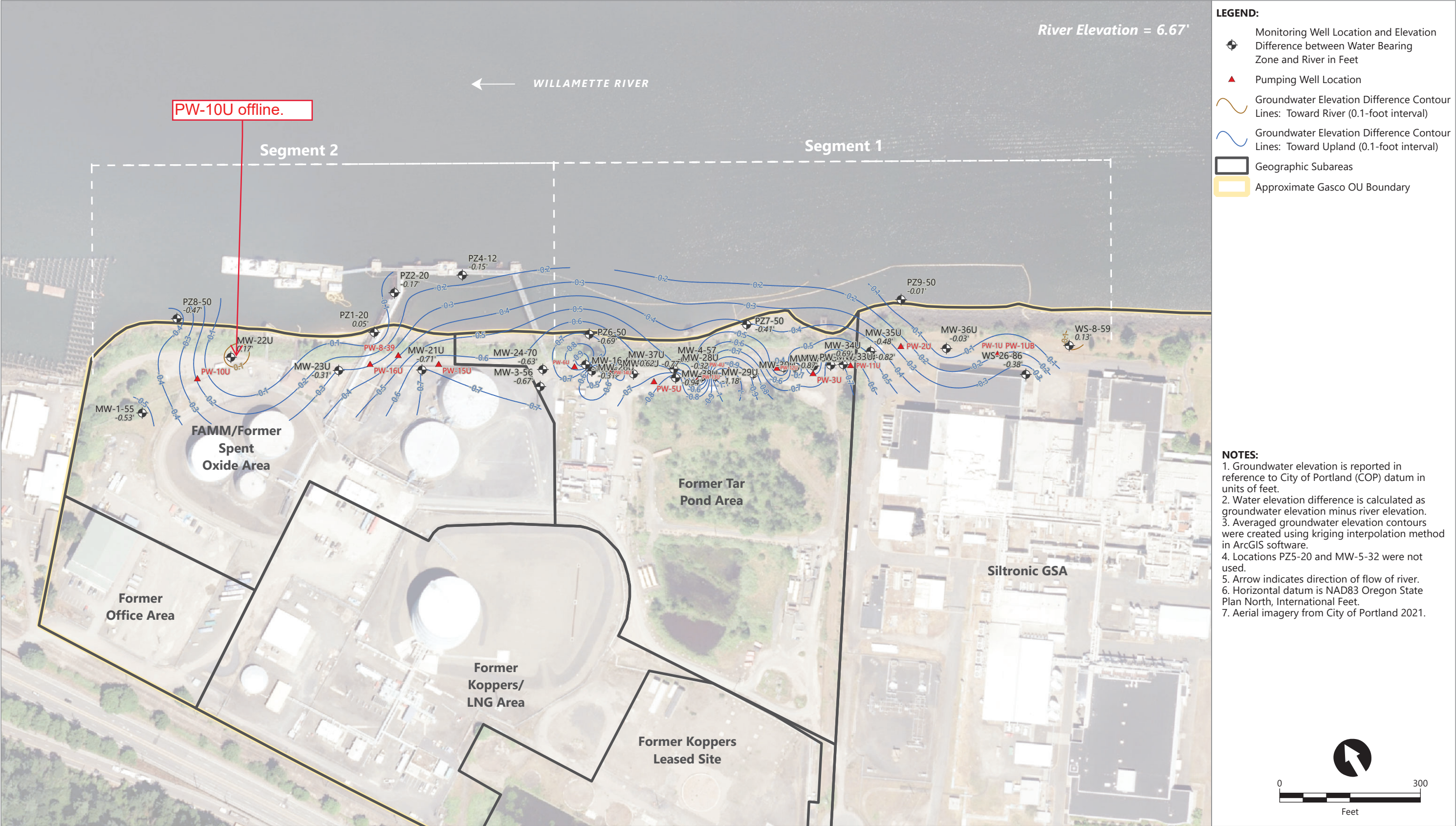
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Figure 3.4c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 2/24/2023-2/26/2023

NWN Gasco Site
Portland, Oregon



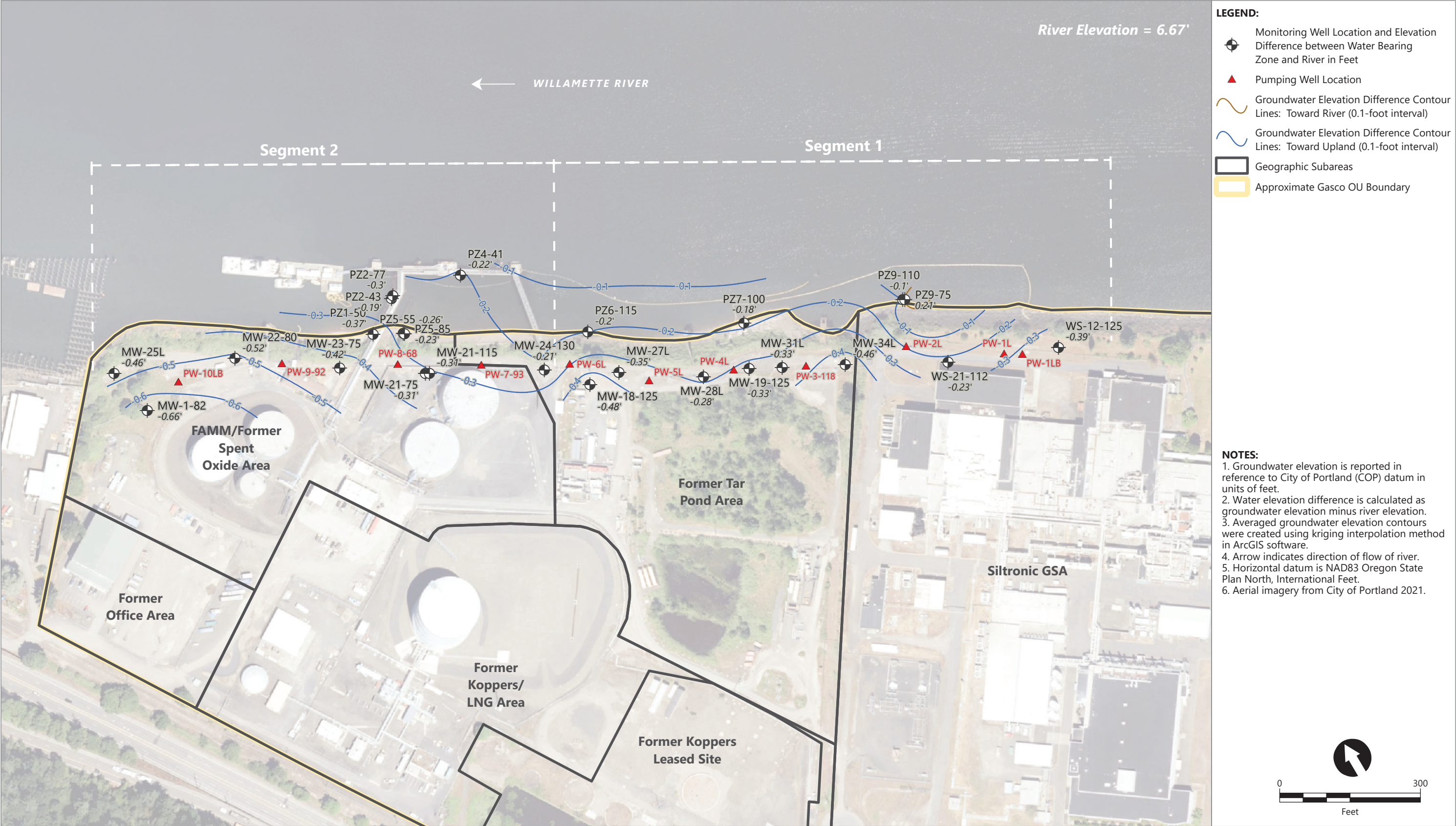
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Figure 3.5a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 3/11/2023-3/13/2023

NWN Gasco Site
Portland, Oregon

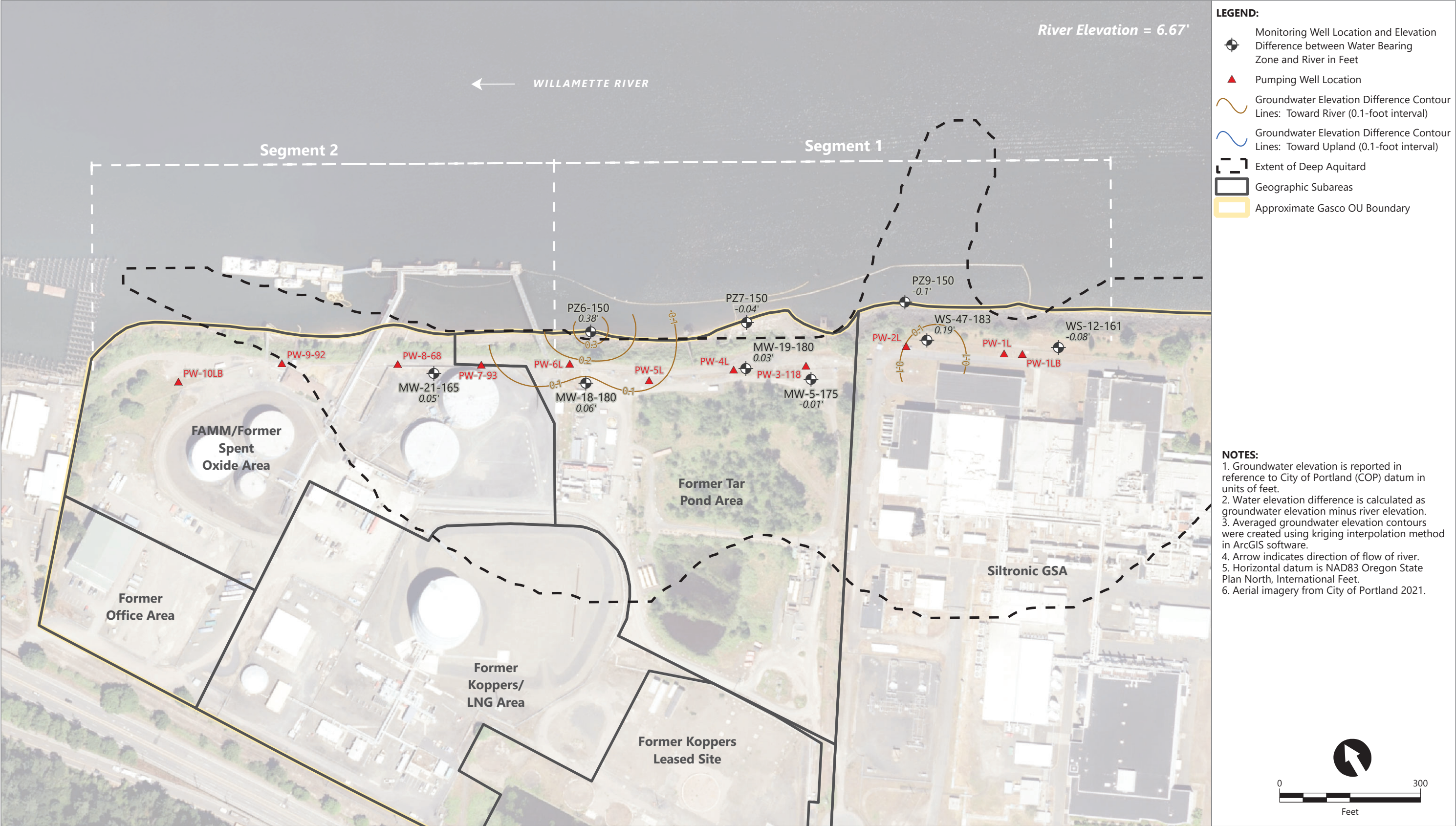


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Figure 3.5b

NWN Gasco Site
Portland, Oregon

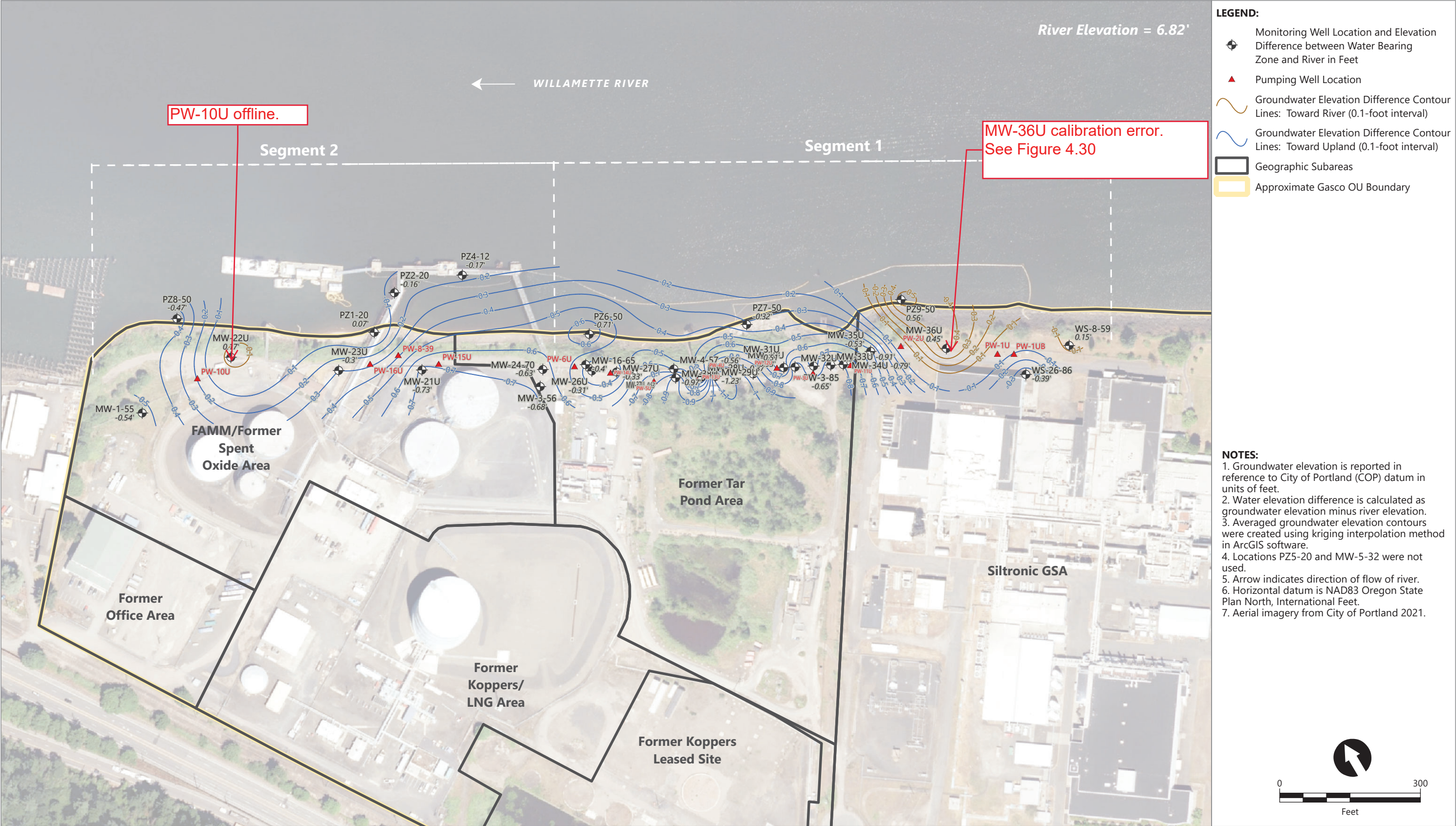


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Figure 3.5c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 3/11/2023-3/13/2023

NWN Gasco Site
Portland, Oregon



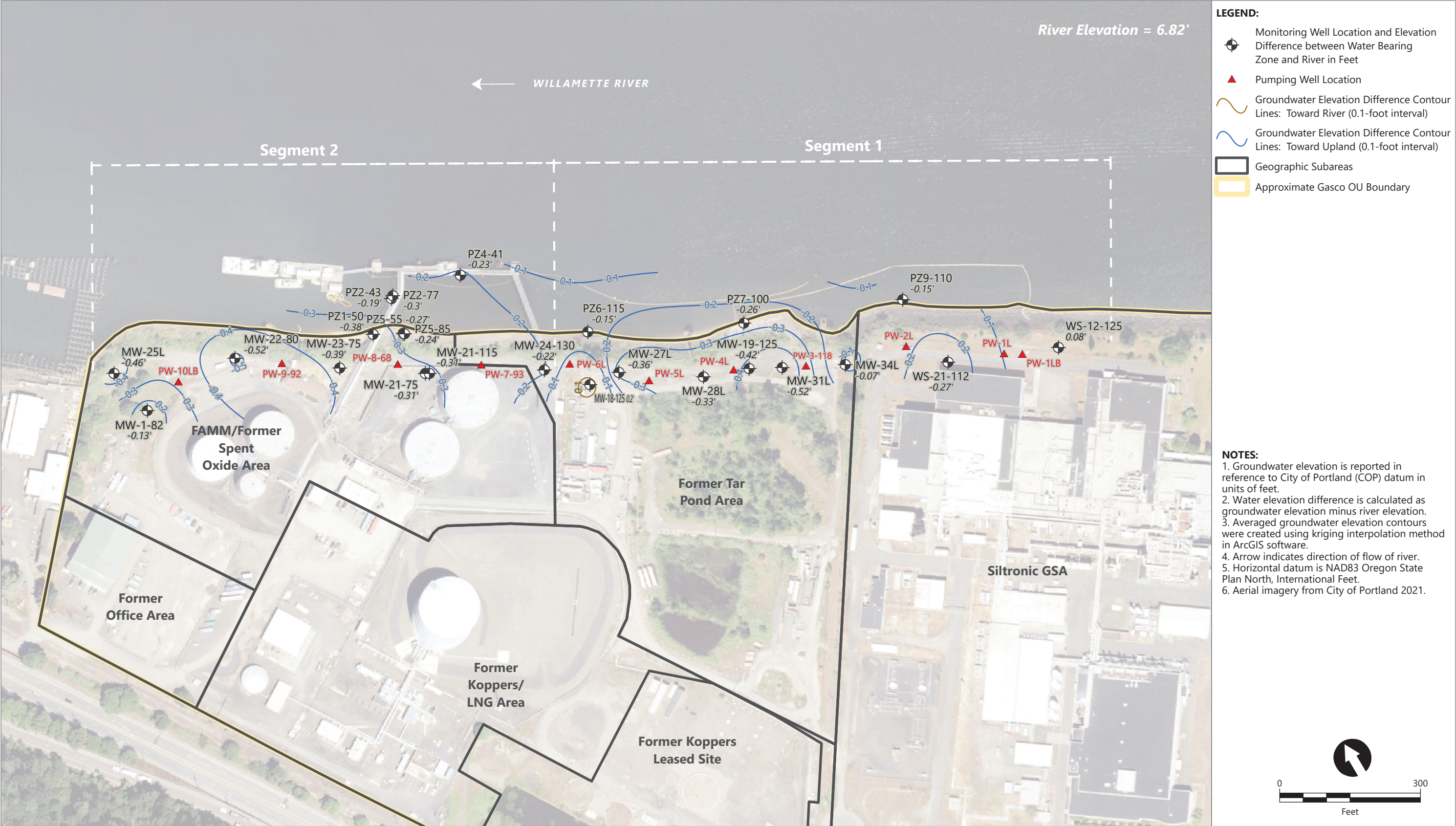
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Figure 3.6a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 3/24/2023-3/26/2023

NWN Gasco Site
Portland, Oregon

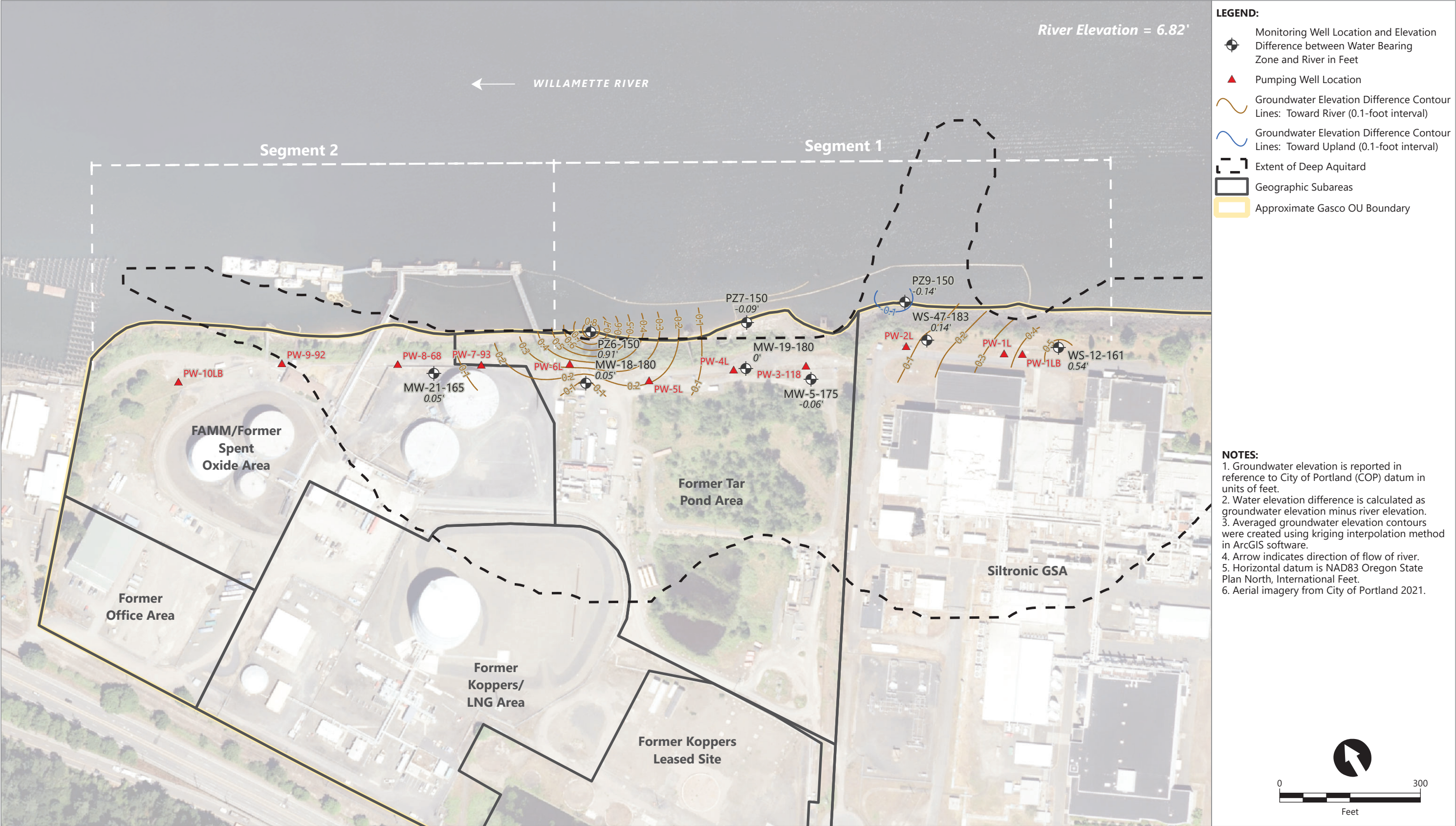


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Figure 3.6b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 3/24/2023-3/26/2023

NWN Gasco Site
Portland, Oregon

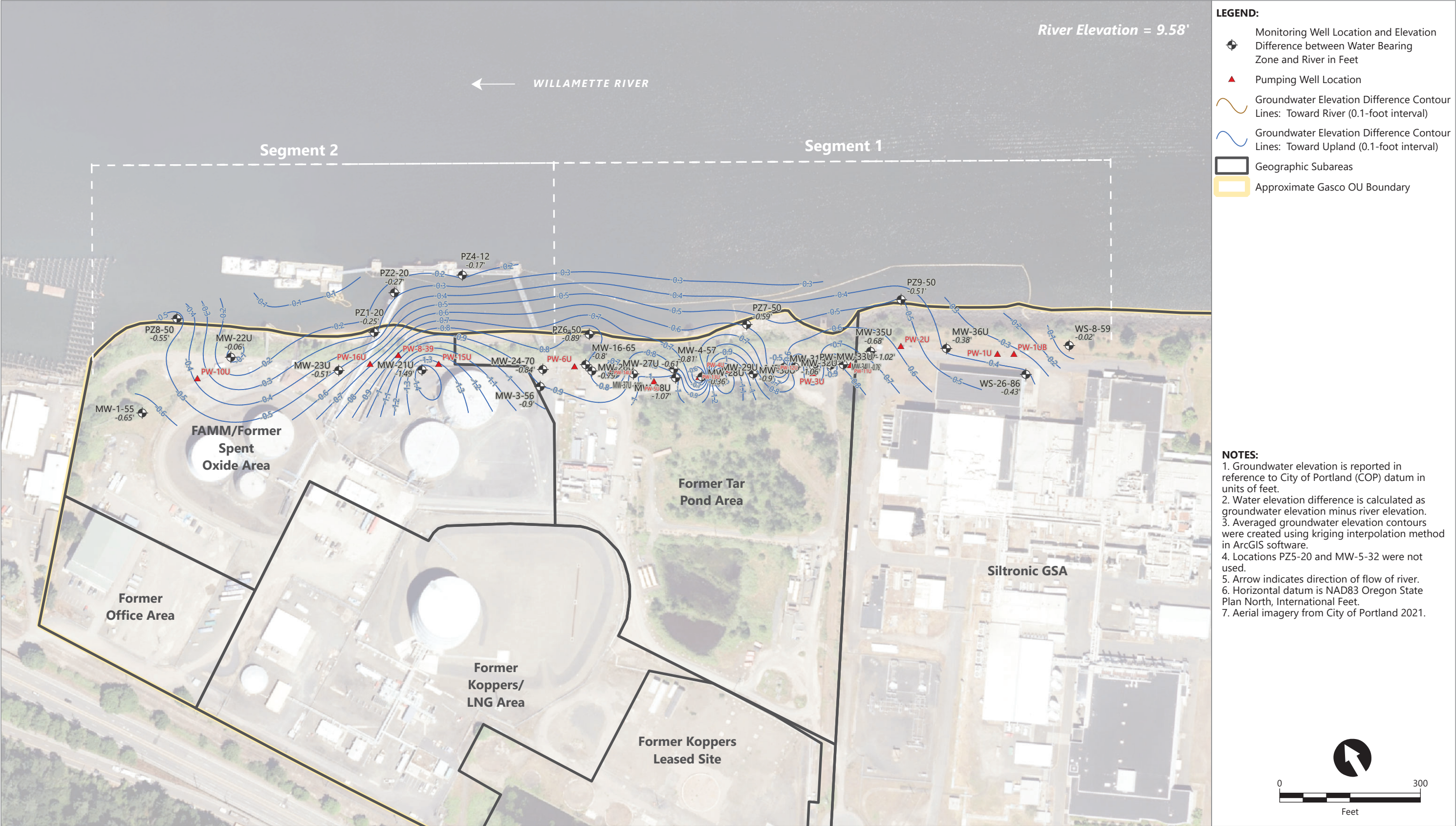


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Figure 3.6c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 3/24/2023-3/26/2023

NWN Gasco Site
Portland, Oregon



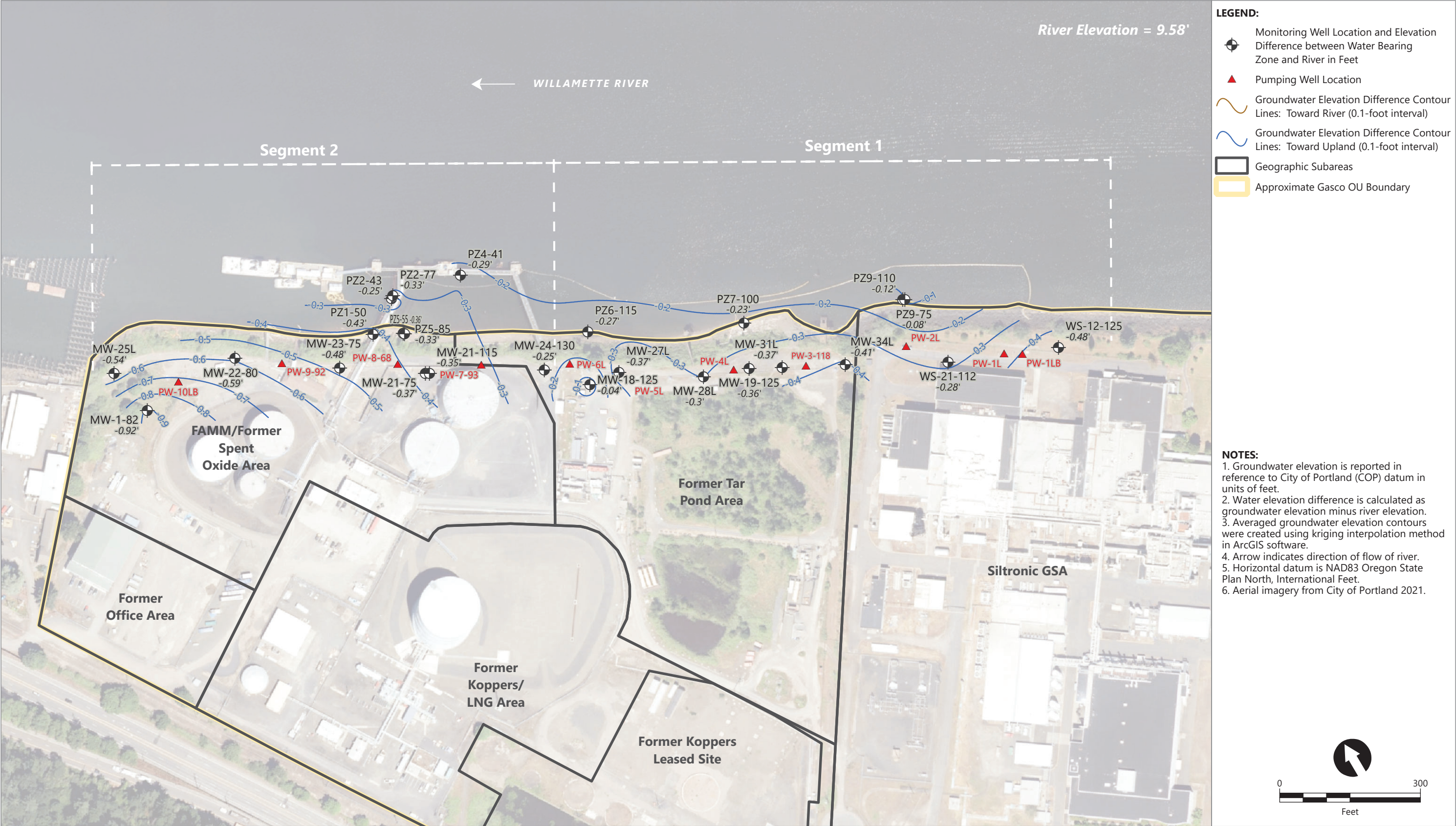
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Figure 3.7a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 4/11/2023-4/13/2023

NWN Gasco Site
Portland, Oregon

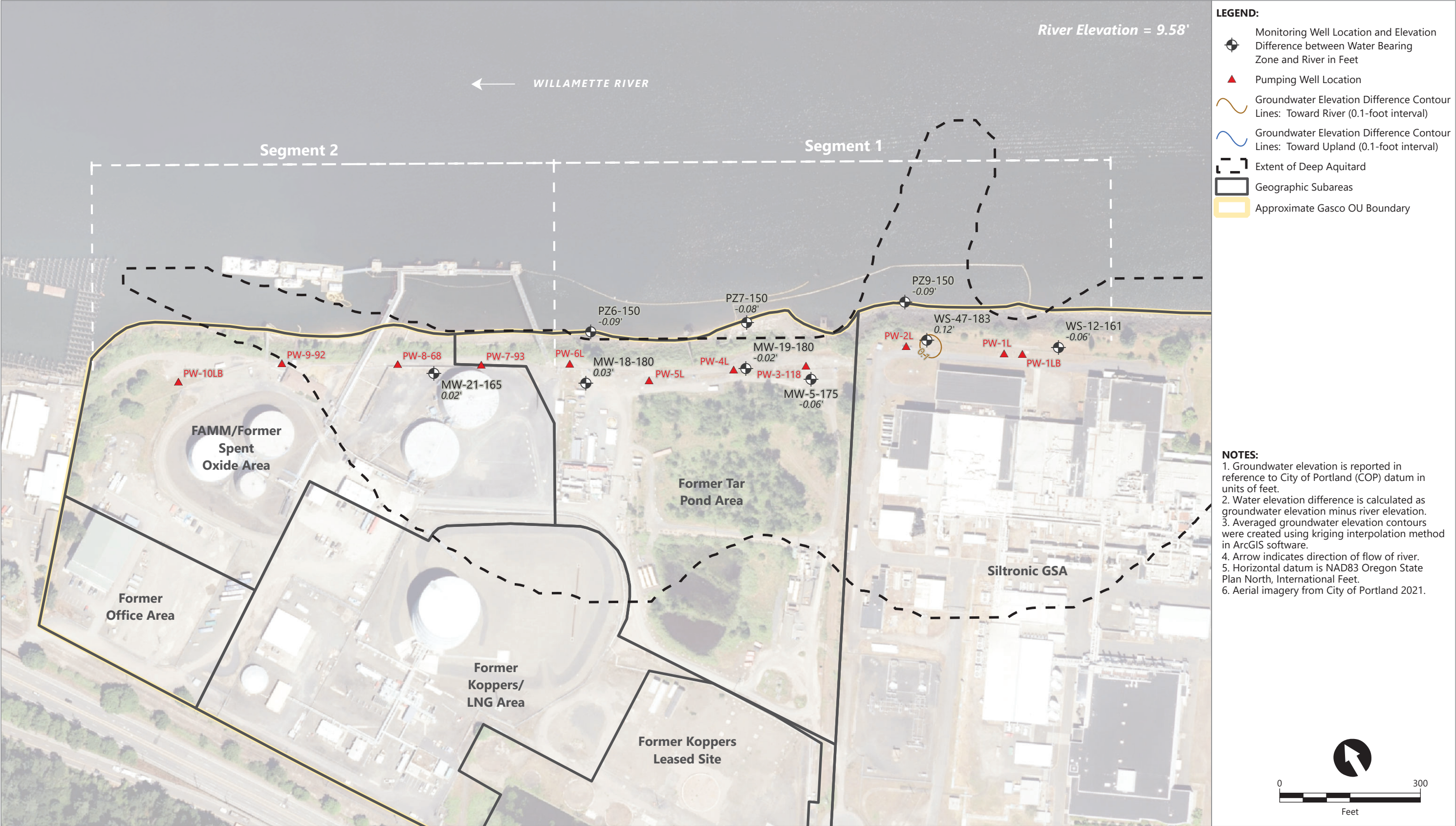


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Figure 3.7b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 4/11/2023-4/13/2023

NWN Gasco Site
Portland, Oregon



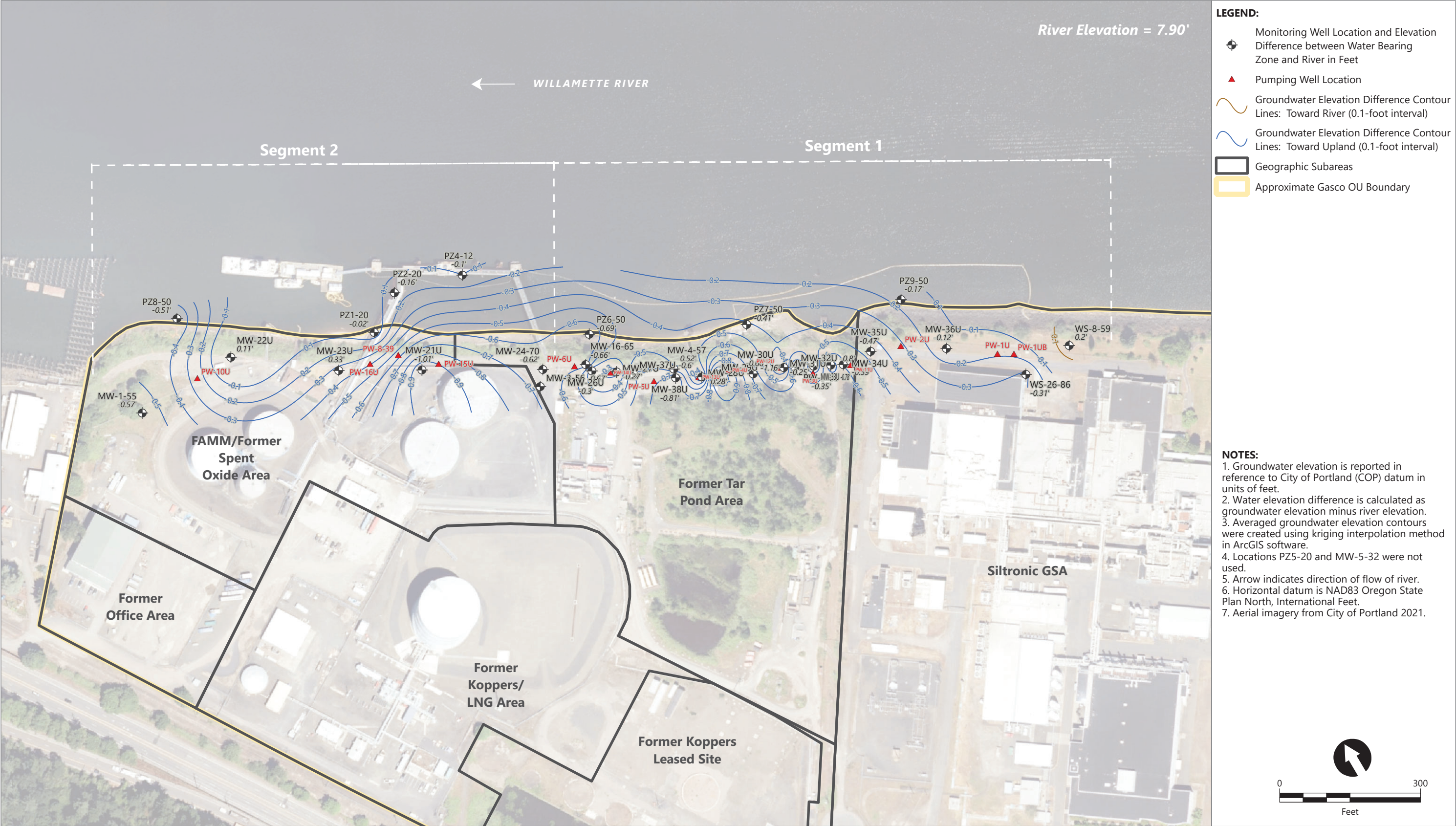
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Figure 3.7c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 4/11/2023-4/13/2023

NWN Gasco Site
Portland, Oregon



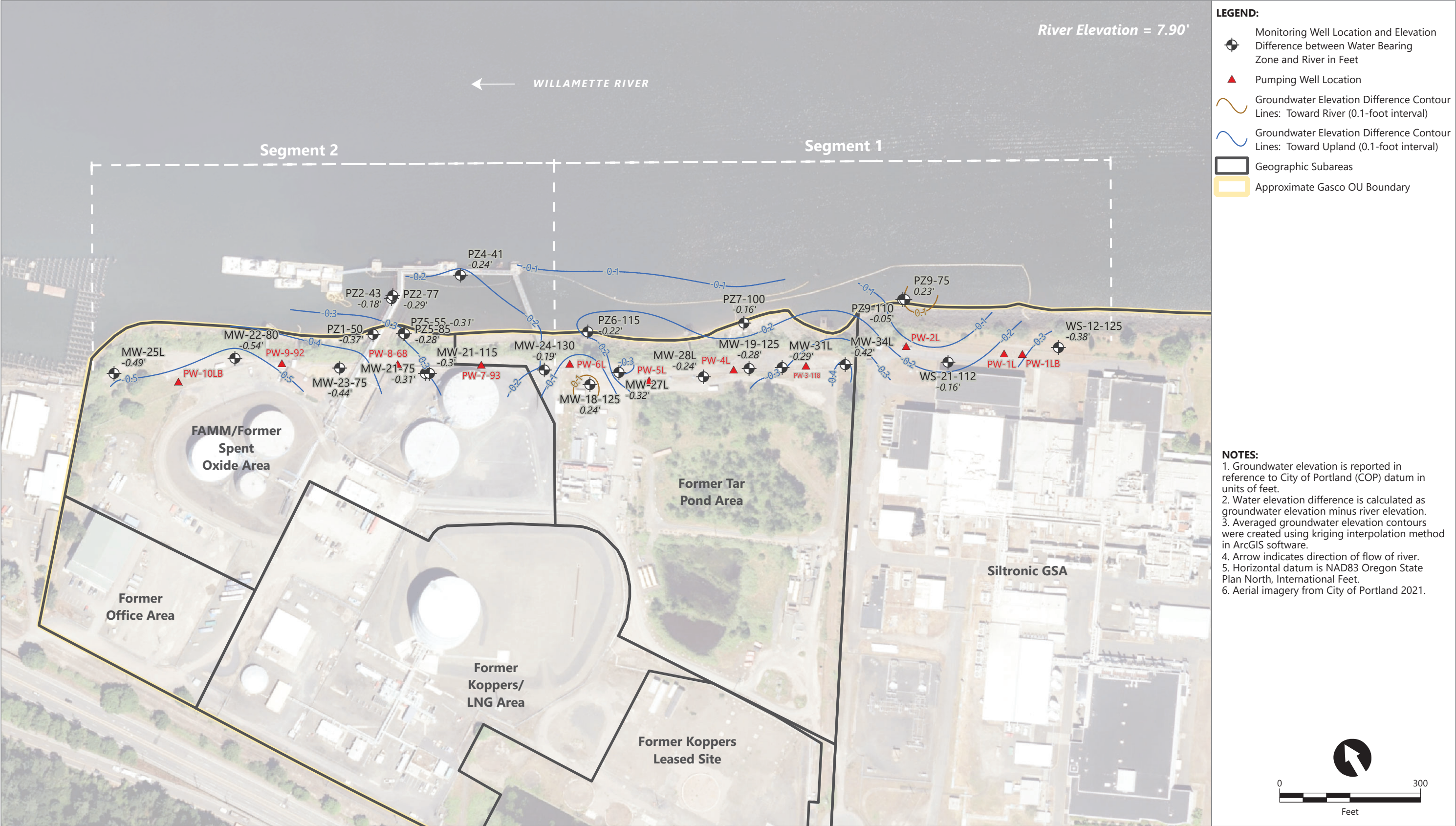
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Figure 3.8a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 4/24/2023-4/26/2023

NWN Gasco Site
Portland, Oregon

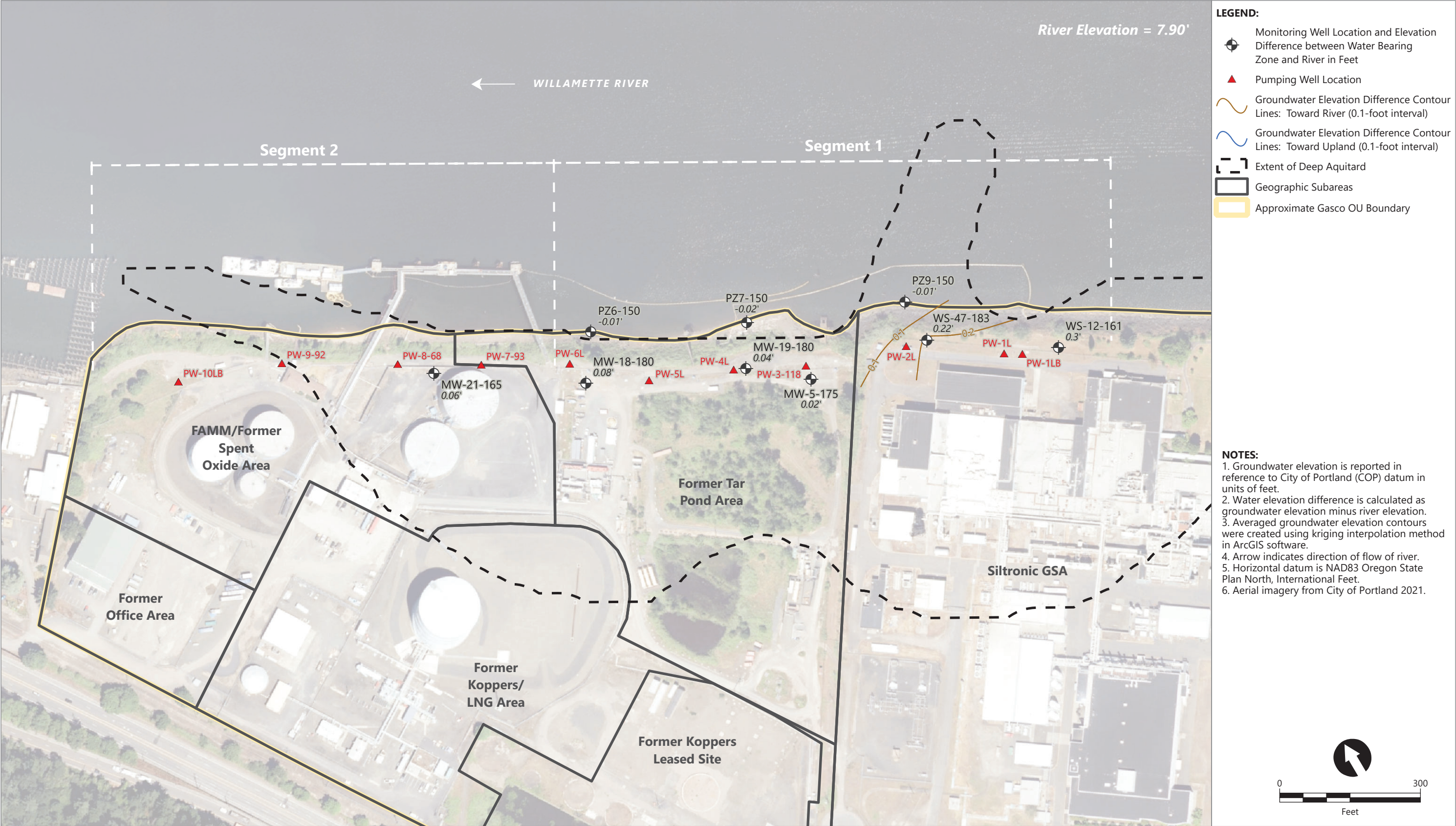


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Figure 3.8b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 4/24/2023-4/26/2023

NWN Gasco Site
Portland, Oregon

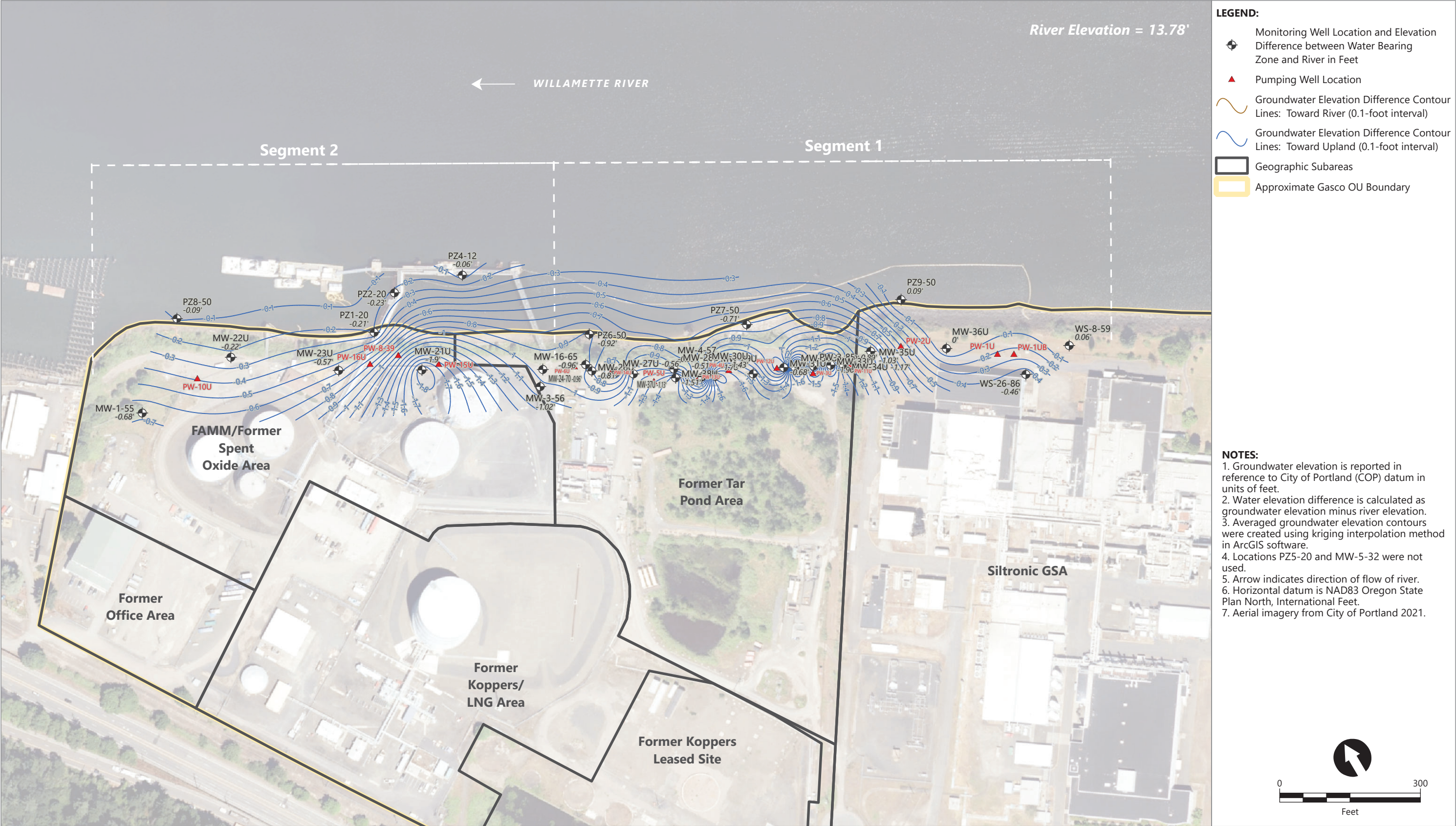


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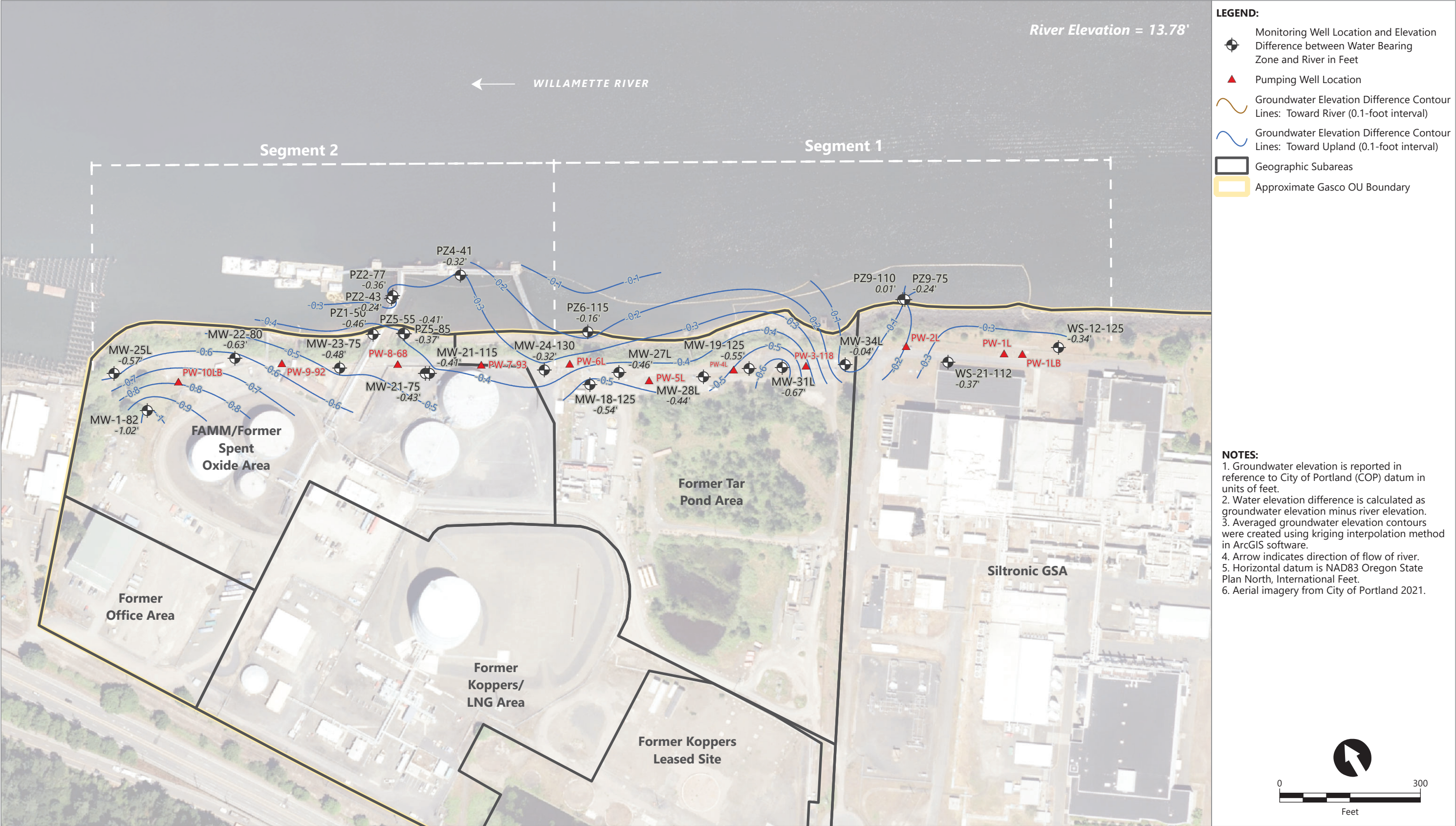
Figure 3.8c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 4/24/2023-4/26/2023

NWN Gasco Site
Portland, Oregon



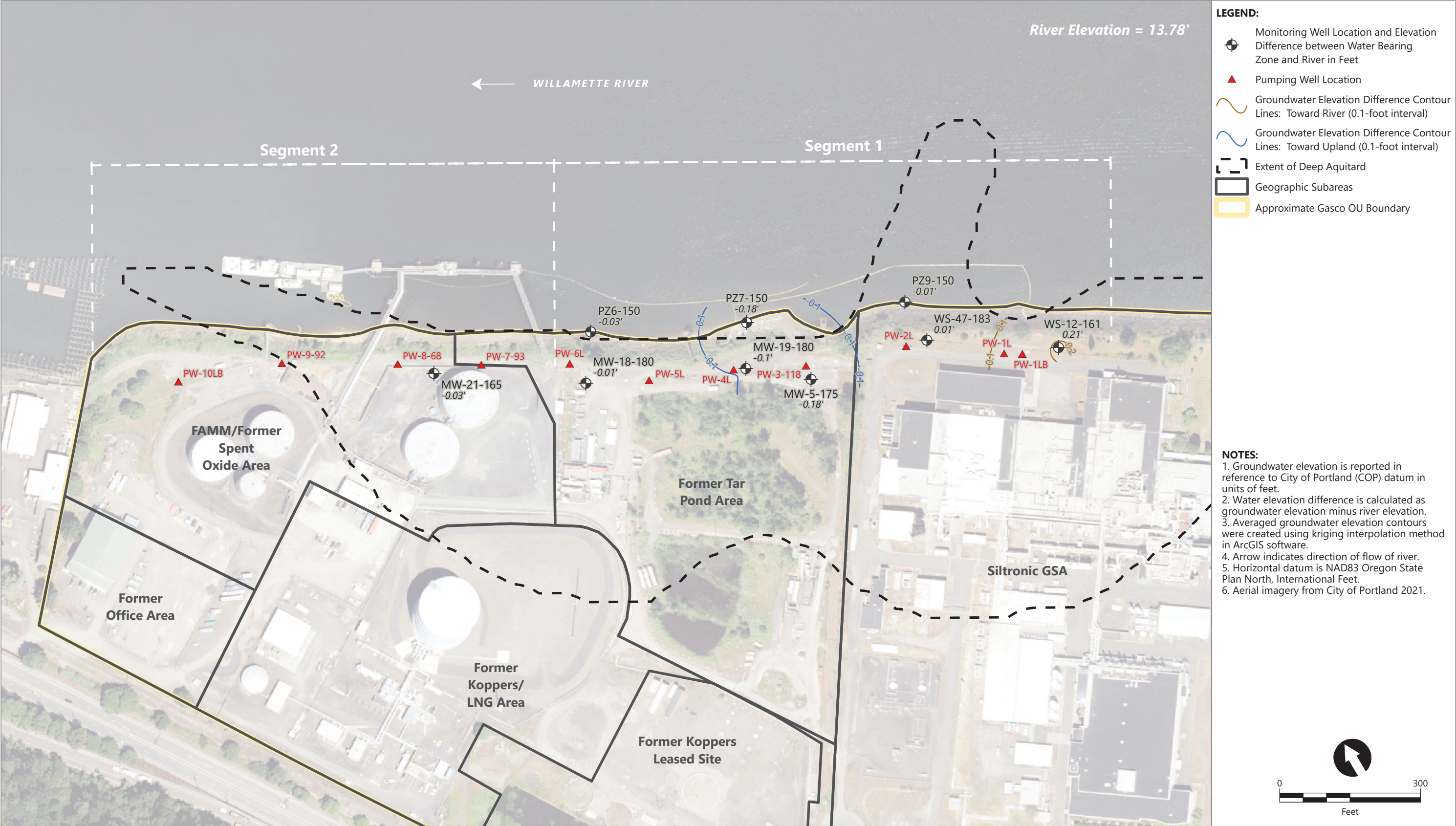
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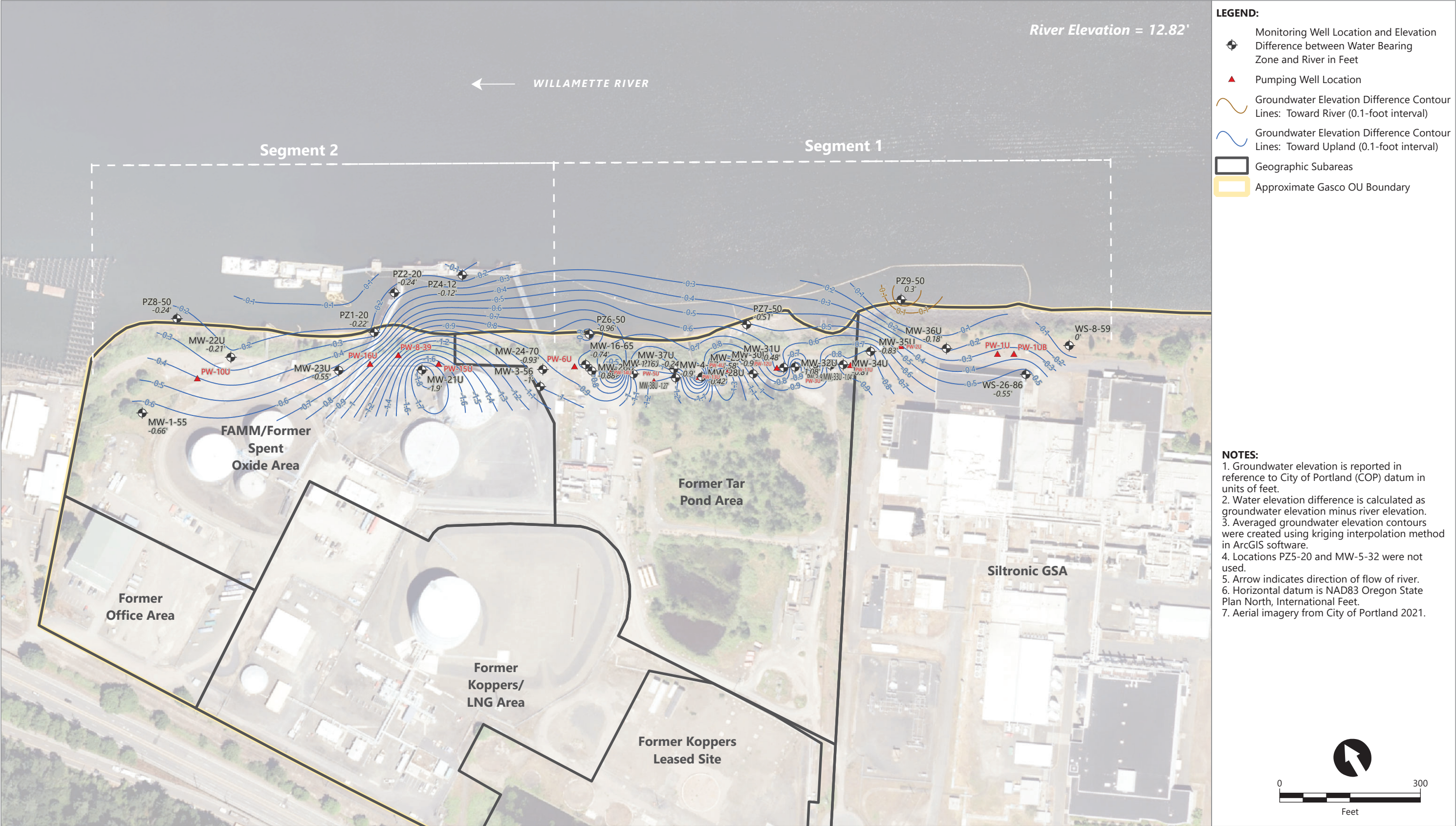
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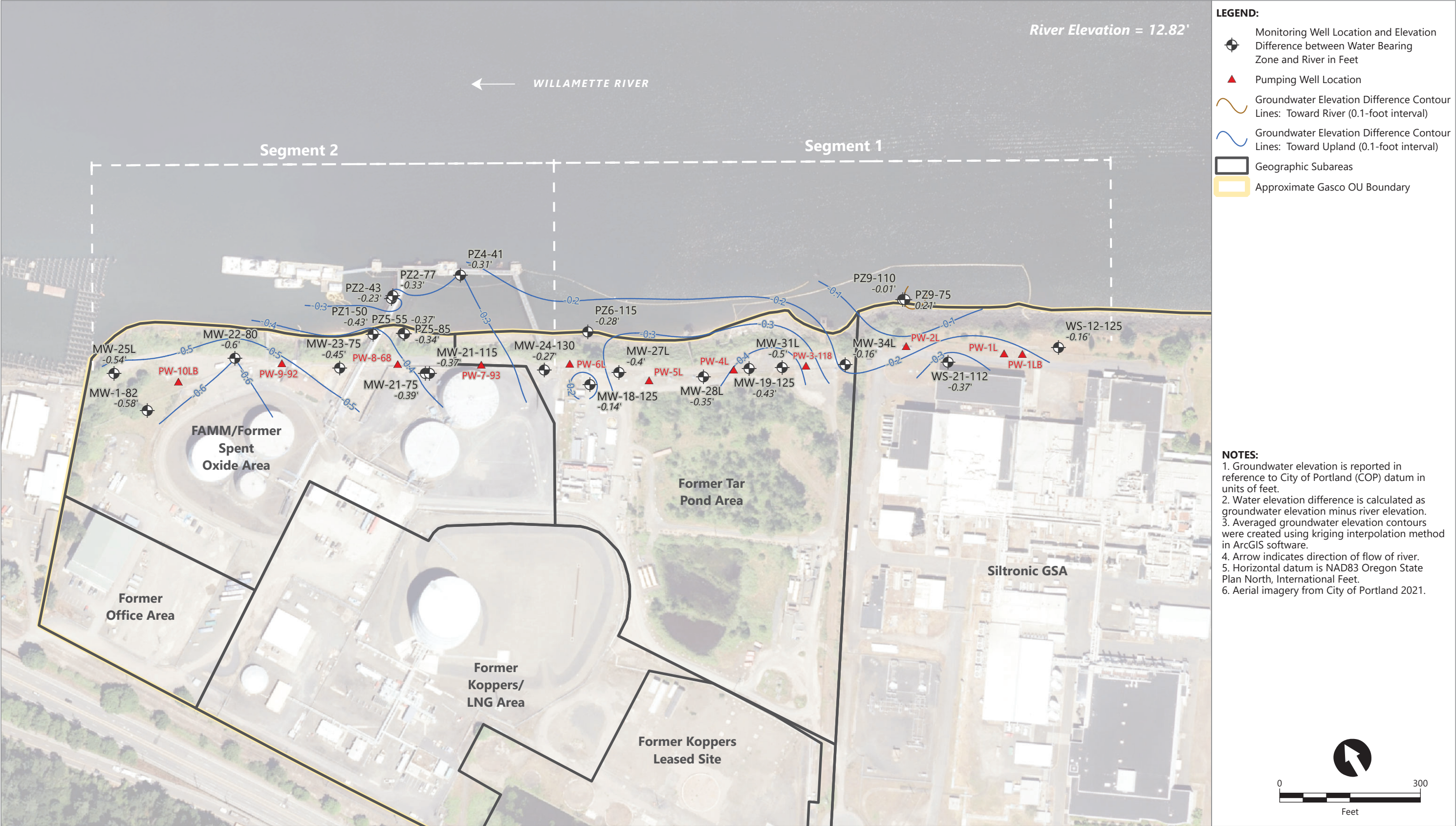
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Figure 3.9a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 5/11/2023-5/13/2023

NWN Gasco Site
Portland, Oregon

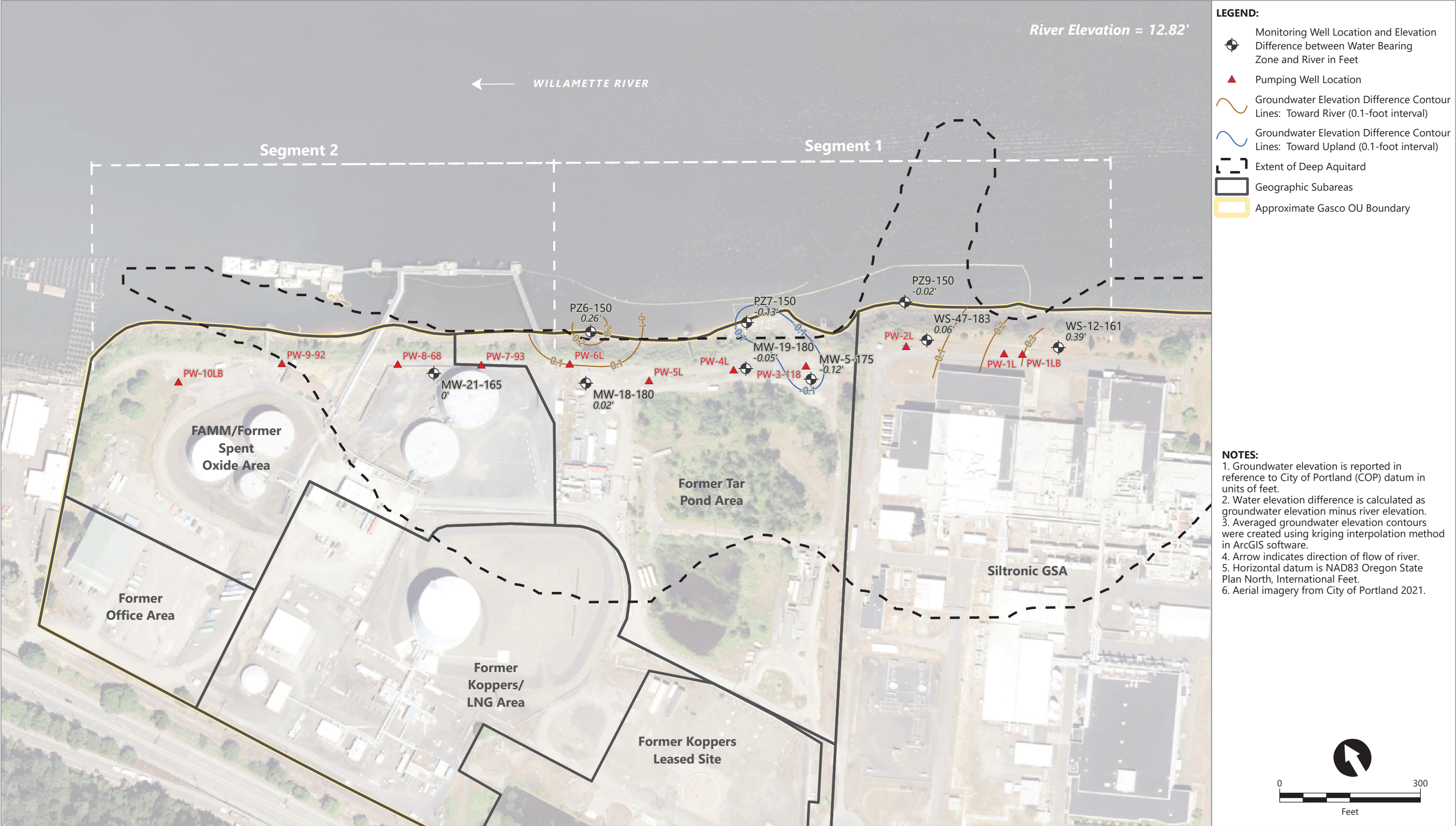


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Figure 3.9b

NWN Gasco Site
Portland, Oregon



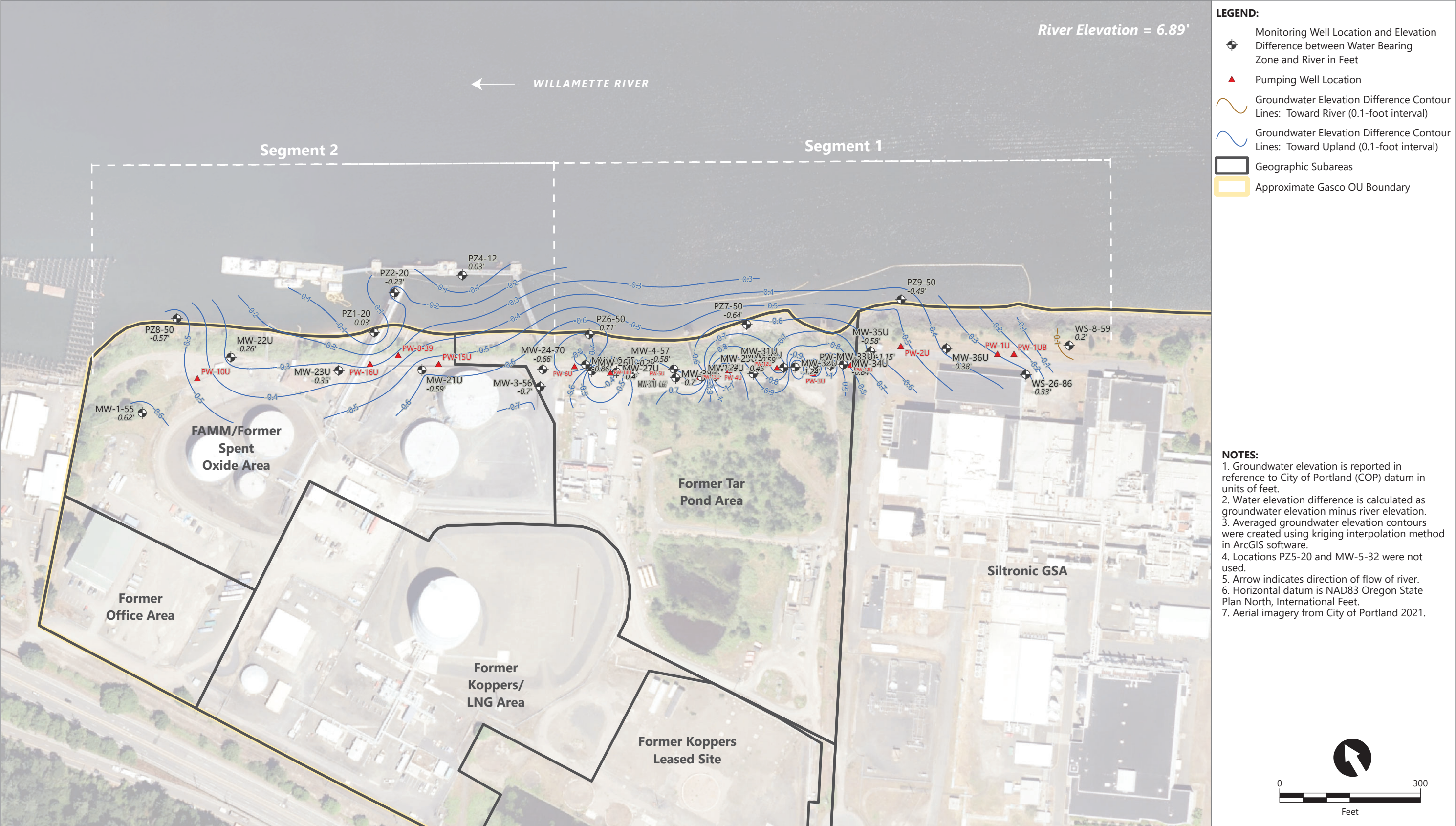
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Figure 3.9c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 5/11/2023-5/13/2023

NWN Gasco Site
Portland, Oregon

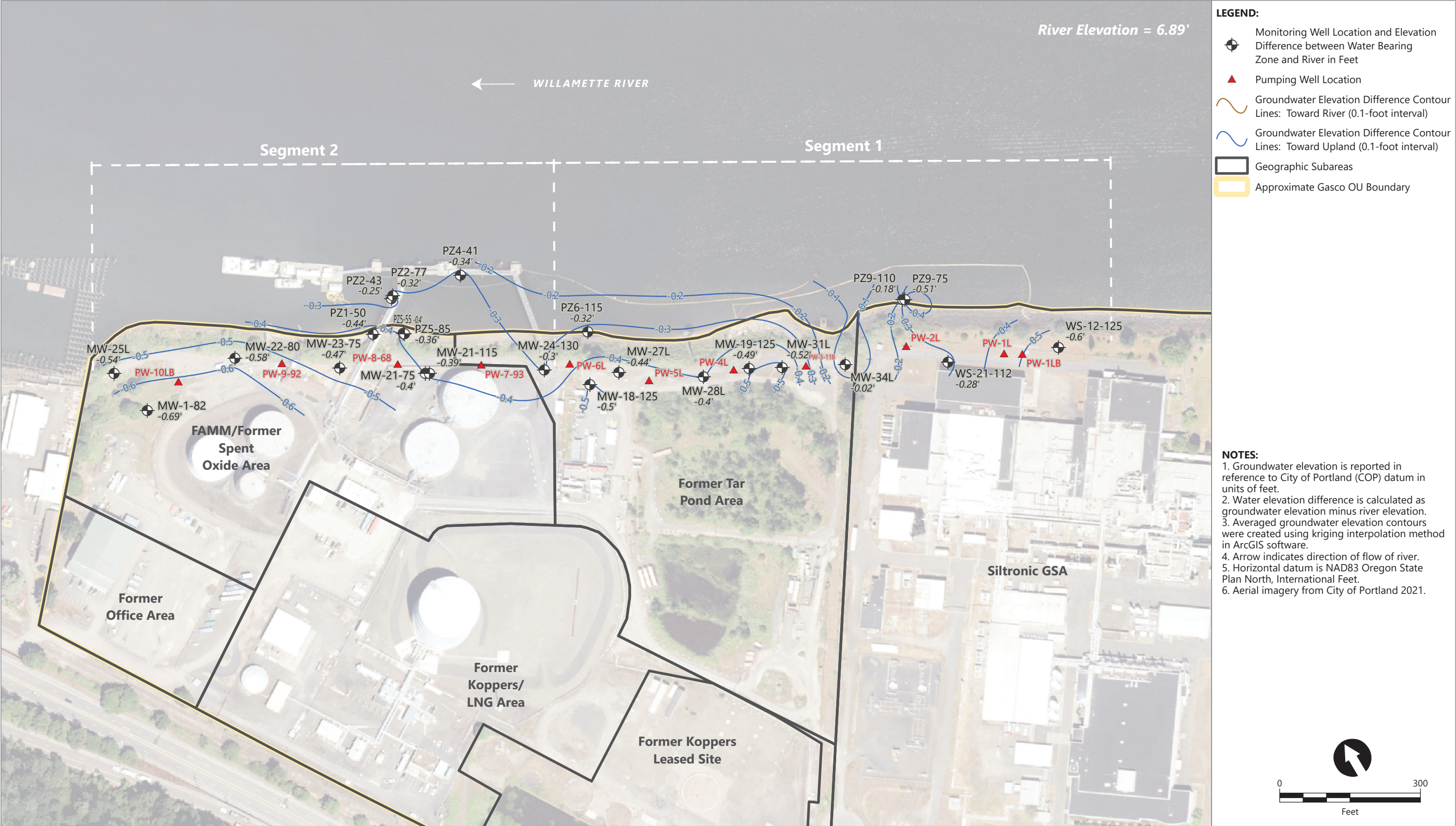


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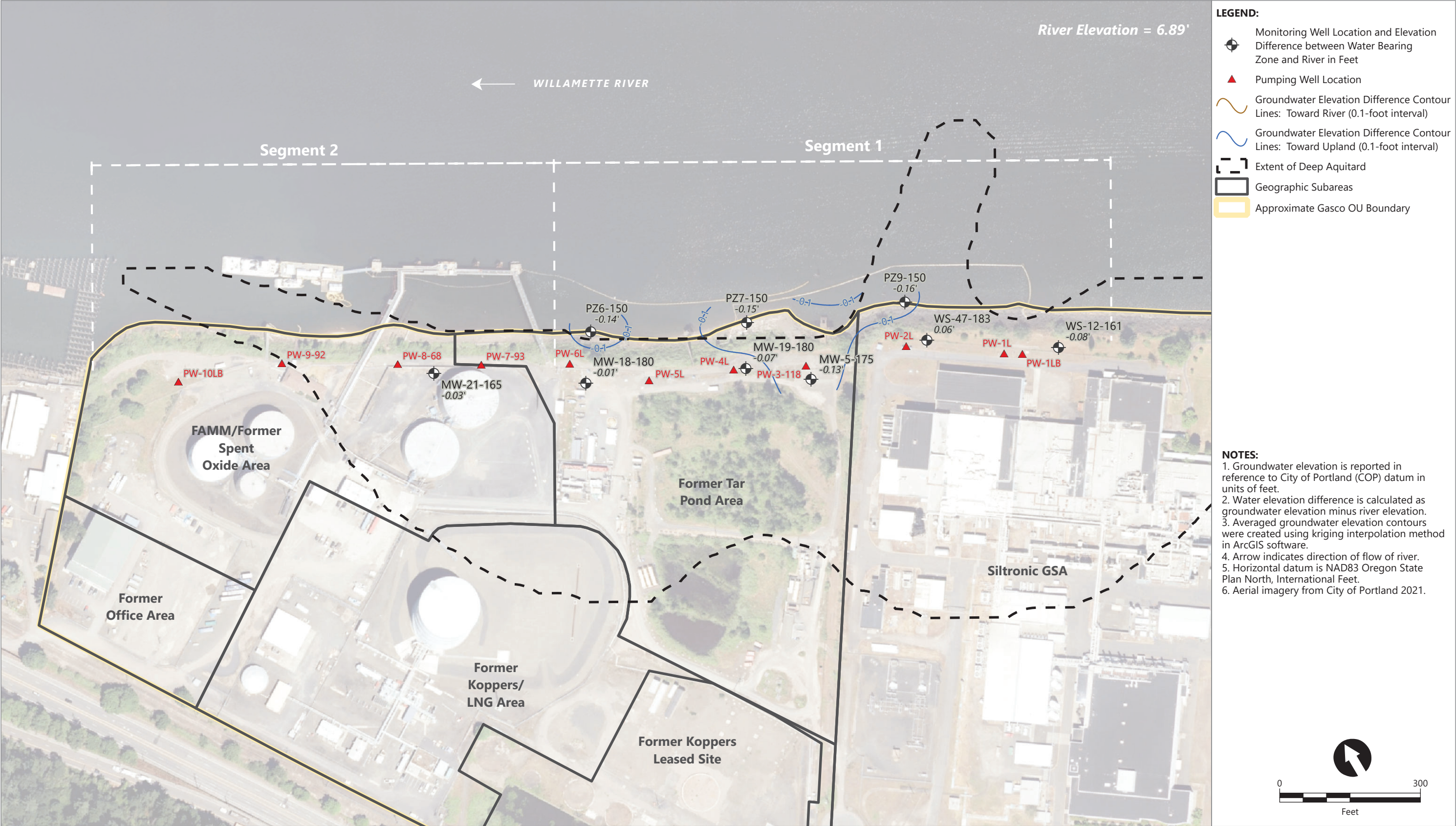
Figure 3.11a
Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 6/11/2023-6/13/2023

NWN Gasco Site
Portland, Oregon



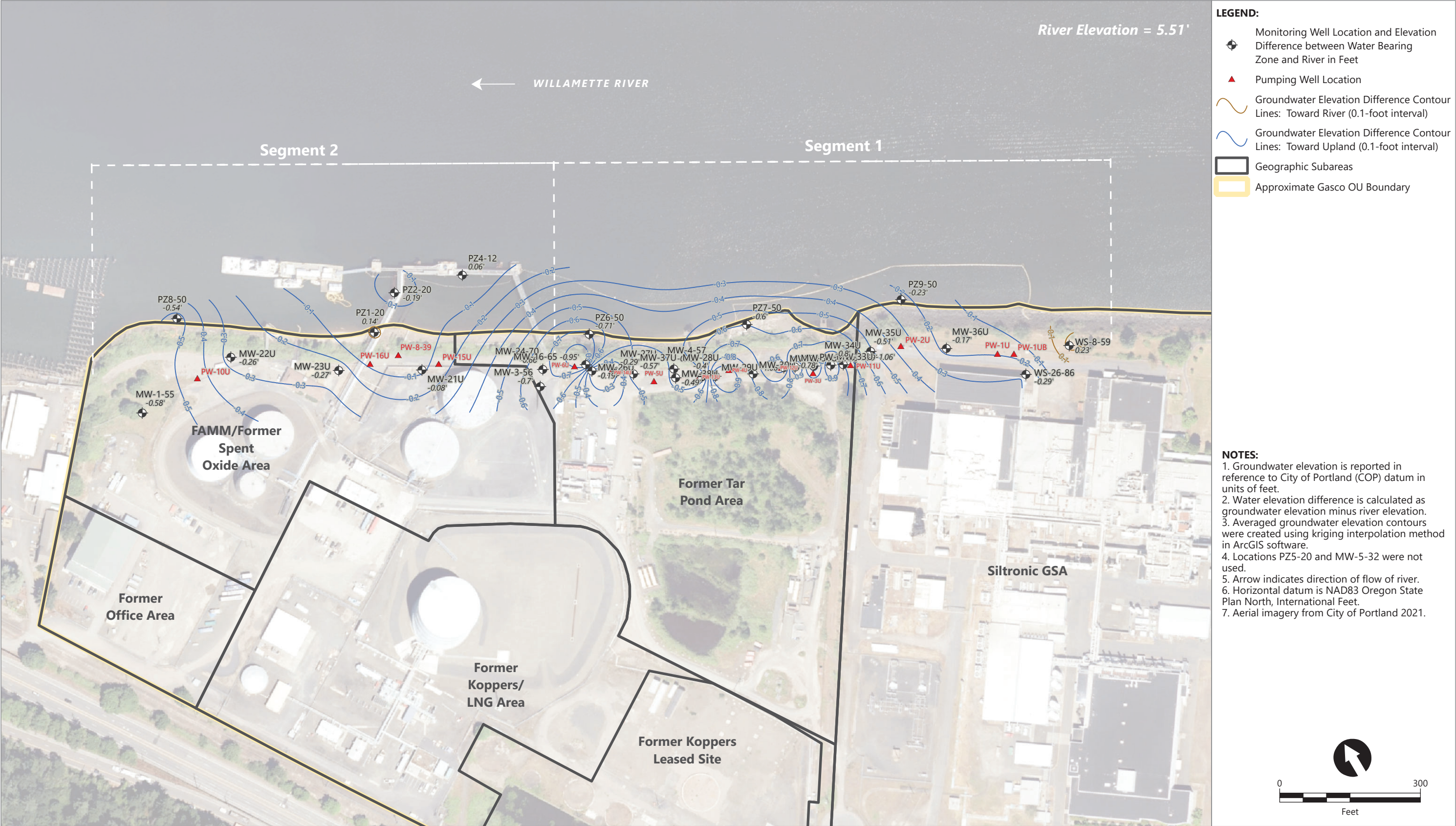
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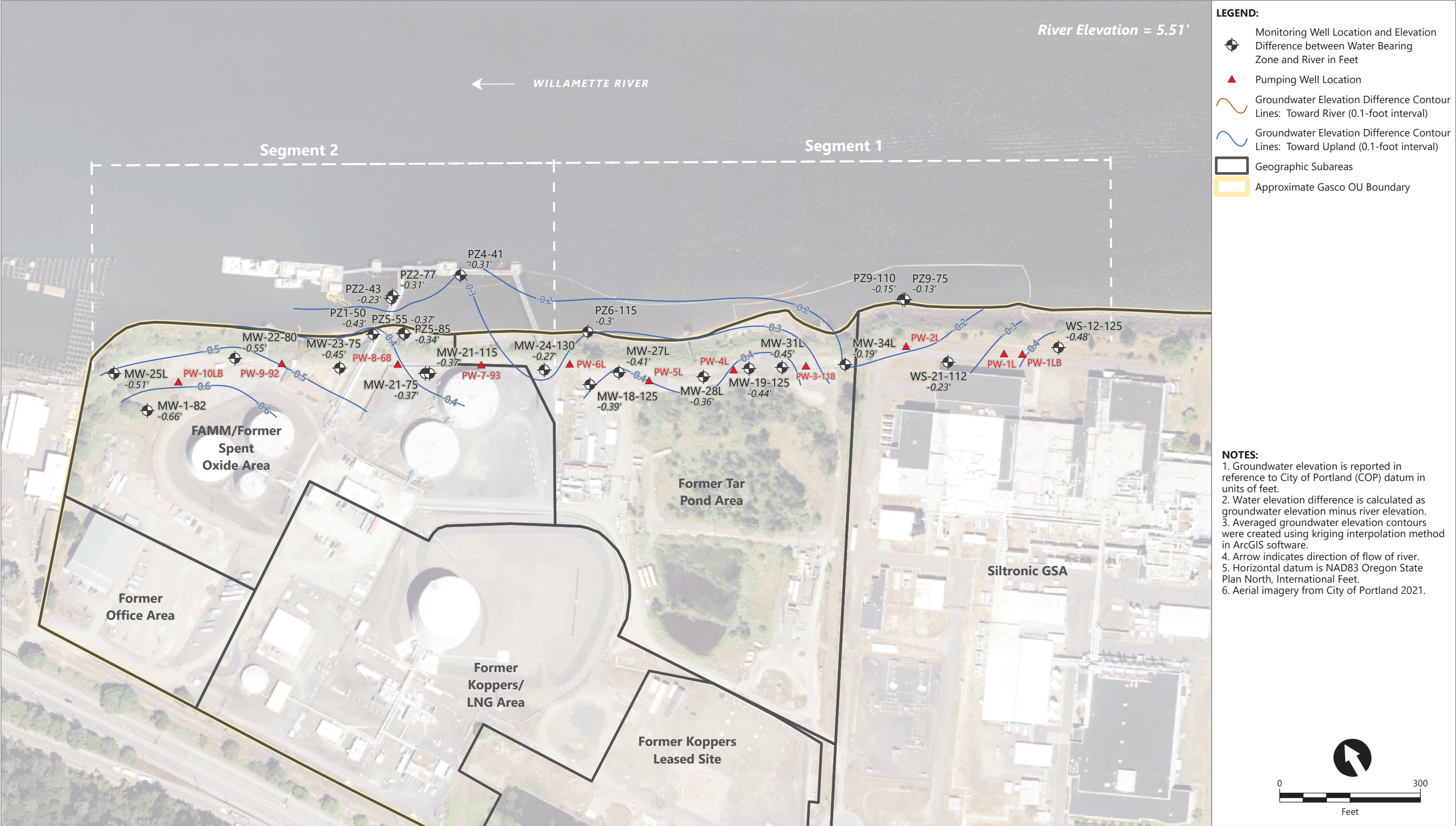
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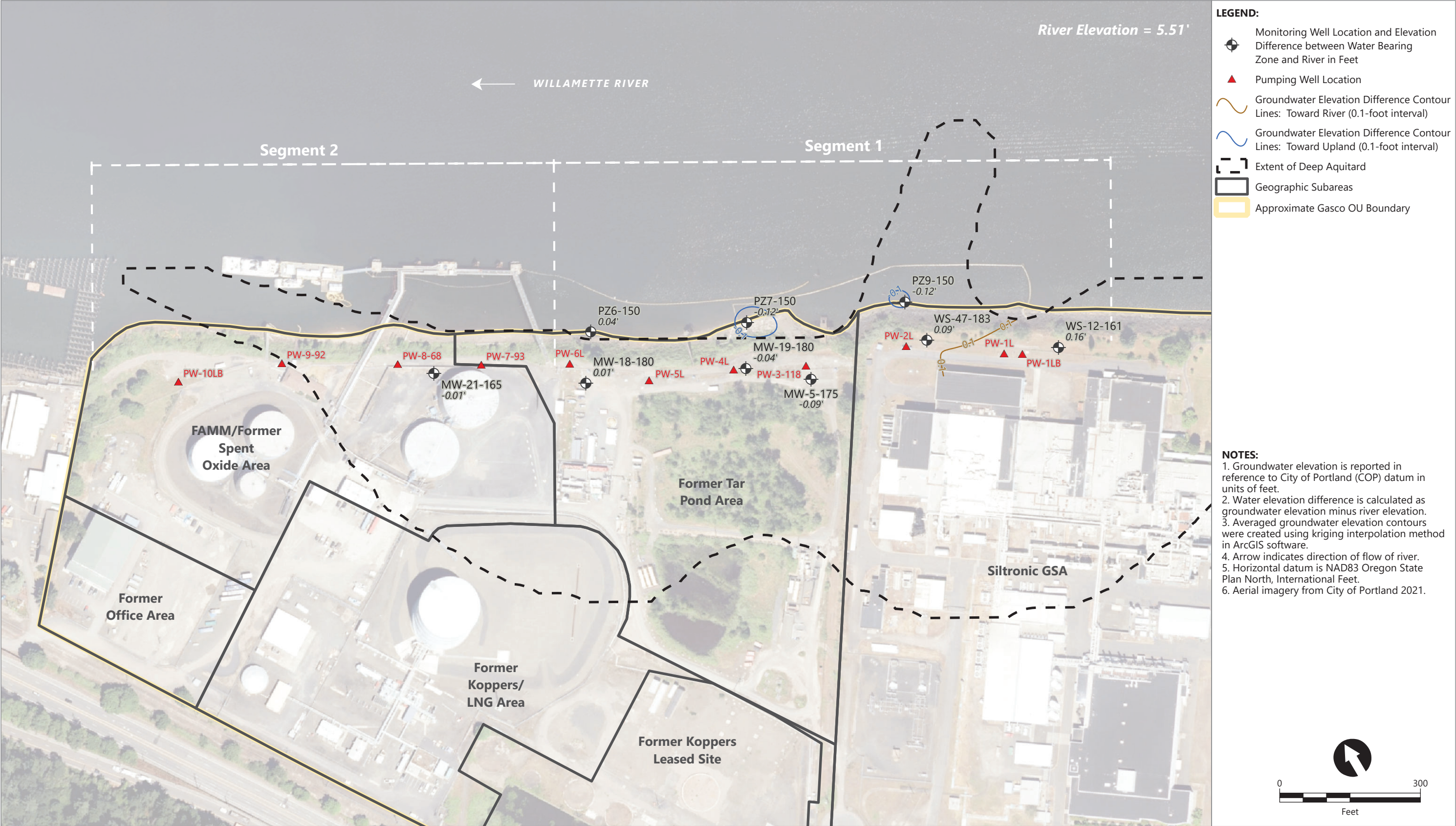
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Figure 3.12b

Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 6/24/2023-6/26/2023

NWN Gasco Site
Portland, Oregon



Publish Date: 2023/08/09, 2:57 PM | User: cgardner
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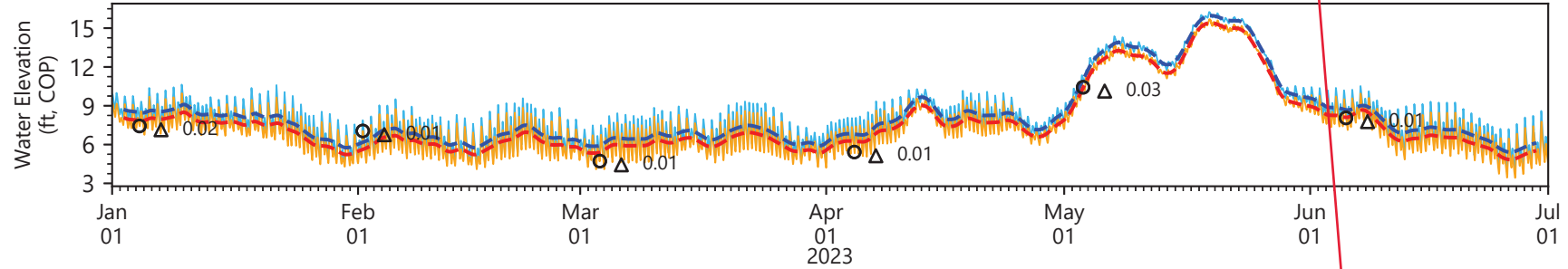


Figure 3.12c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 6/24/2023-6/26/2023

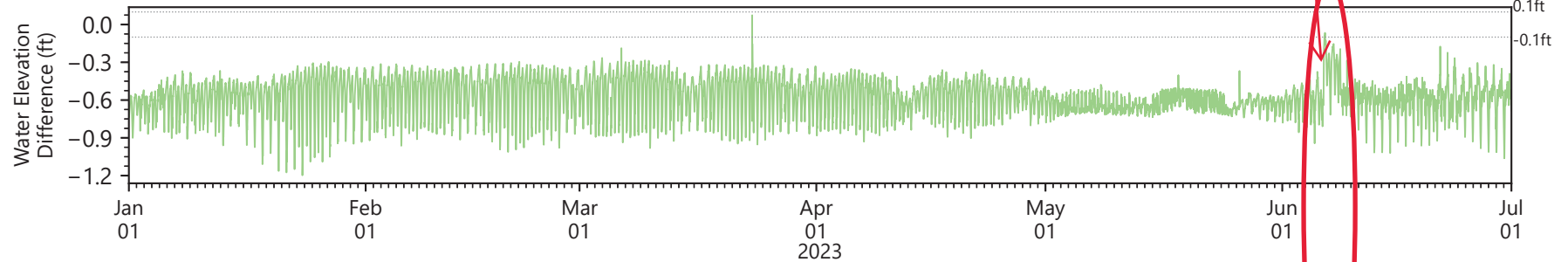
NWN Gasco Site
Portland, Oregon

PW-10Lb offline

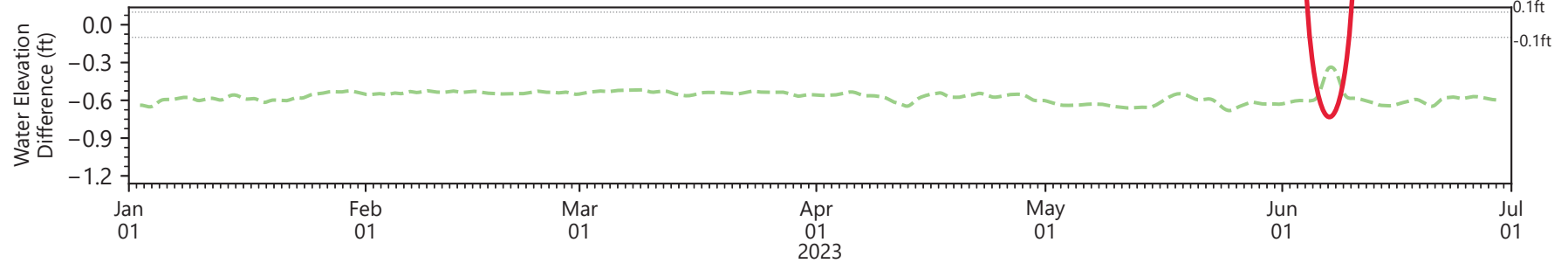
Upper Alluvium (MW-1-55) and River



Water Elevation Difference Using 15-min Data: Upper Alluvium minus River



Water Elevation Difference Using Serfes 3 Day Rolling Averages: Upper Alluvium minus River



Notes: COP = City of Portland Datum. Paired manual and transducer readings are shown as circles with their differences labeled as delta values, where the numbers are hydraulic head differences in feet.

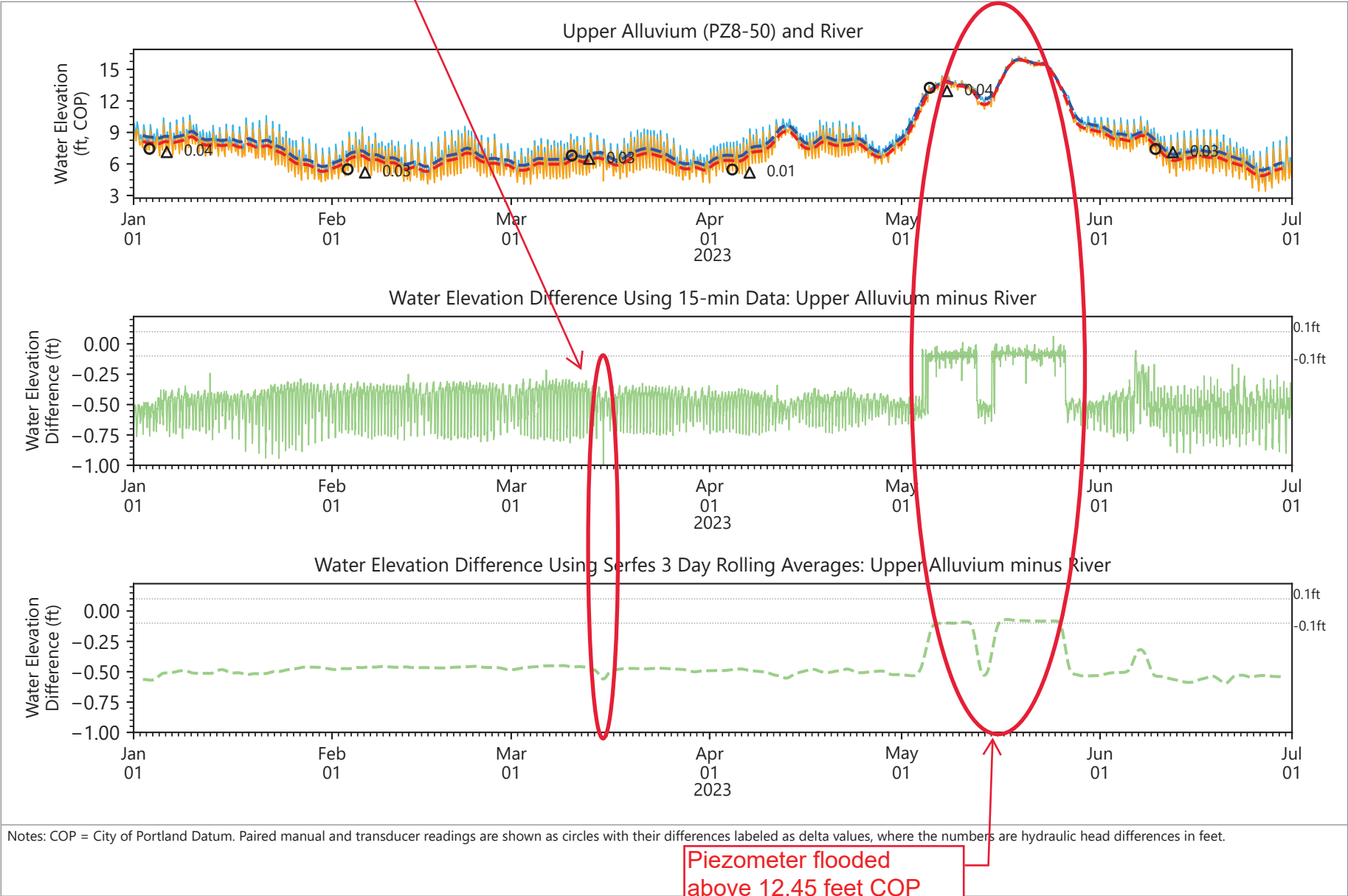
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 \\fuji\Anchor\Data Management\Users\Albert\Projects\Gasco\Python\elelevation_time_series_per6months_EQUIS.py



- Upper Alluvium: 15-min Data
- - - Upper Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.1
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling



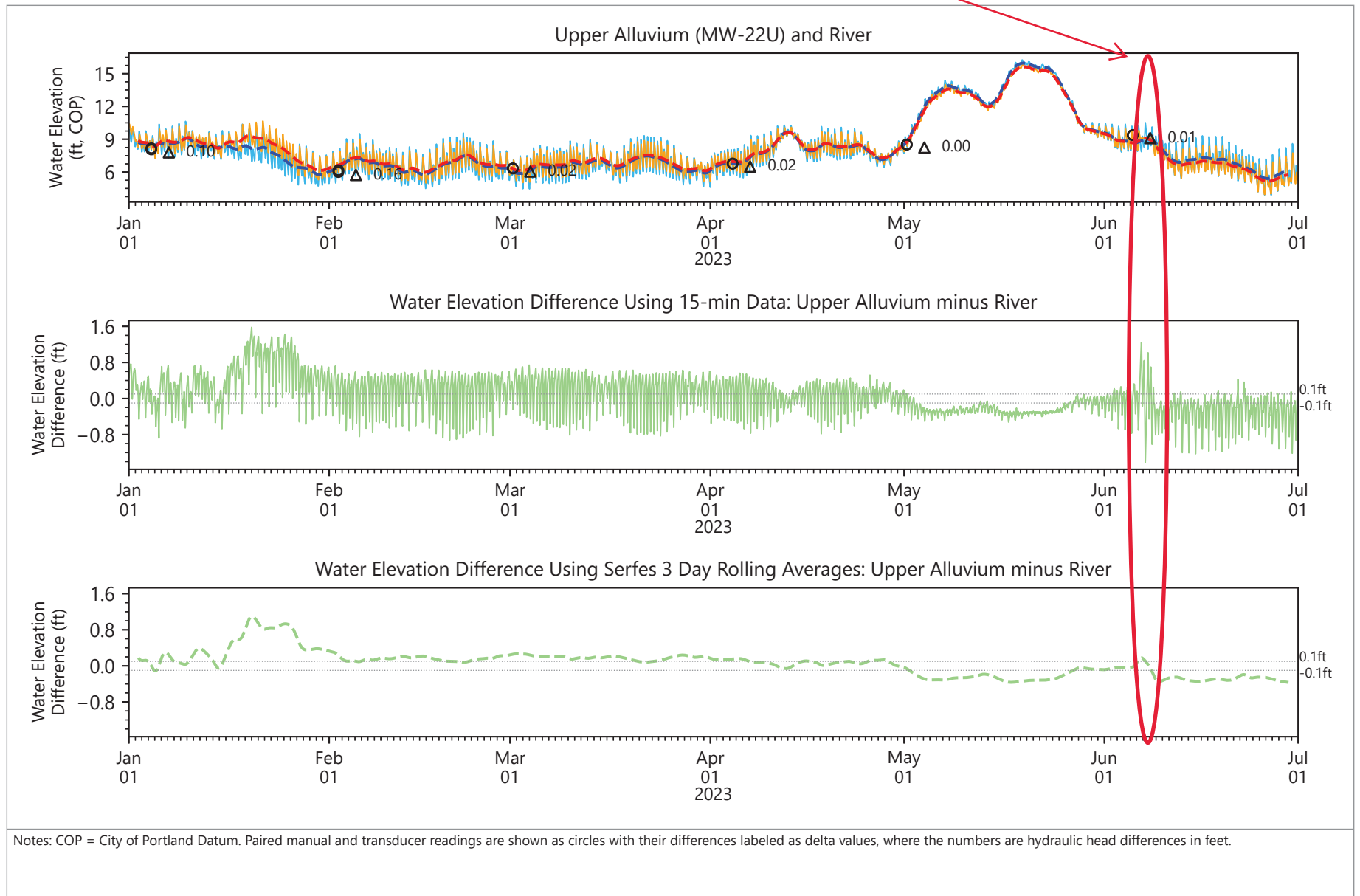
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.2
Groundwater Elevation Differences
NW Natural Gasco Site

PW-10Lb offline

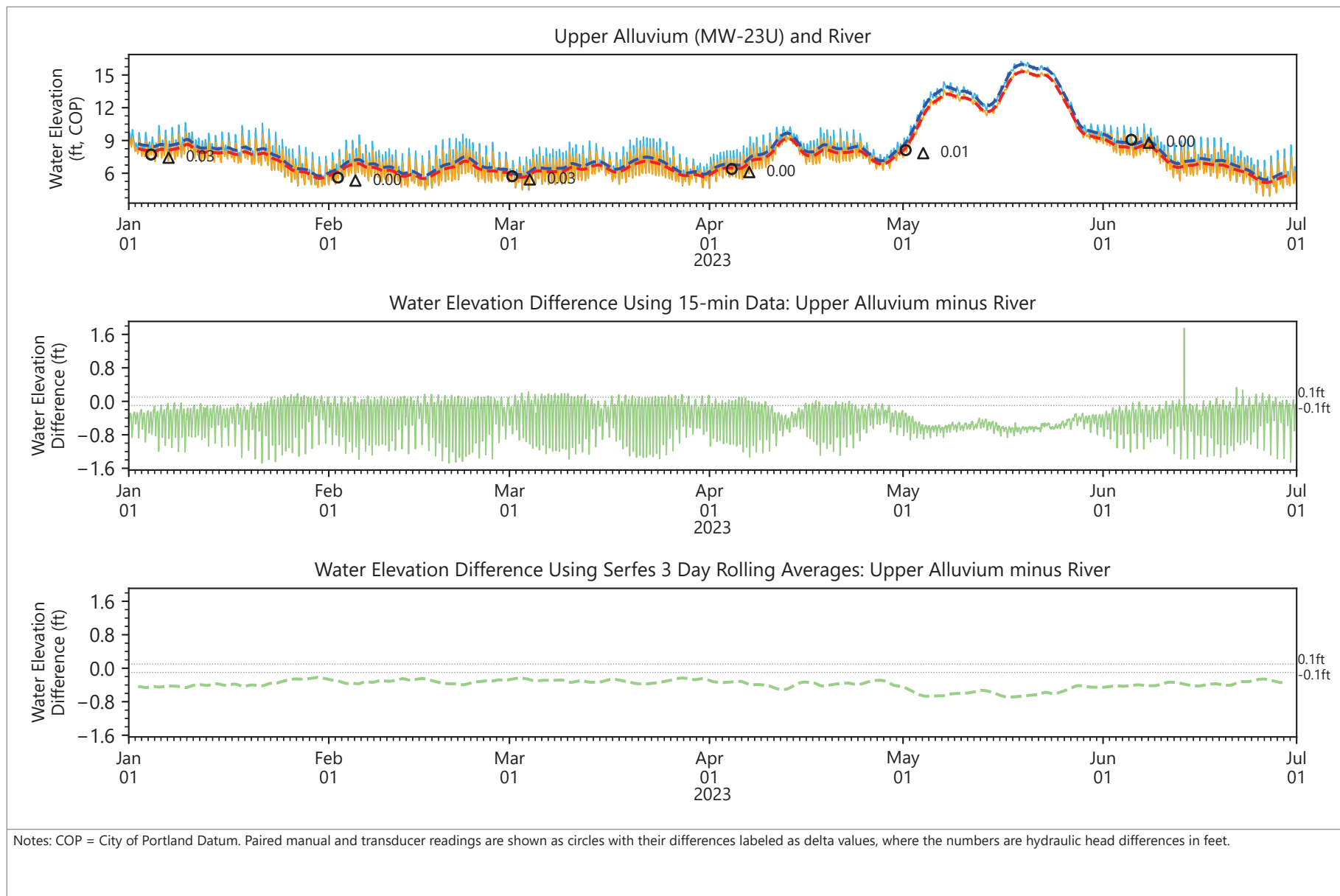


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.3
Groundwater Elevation Differences
 NW Natural Gasco Site

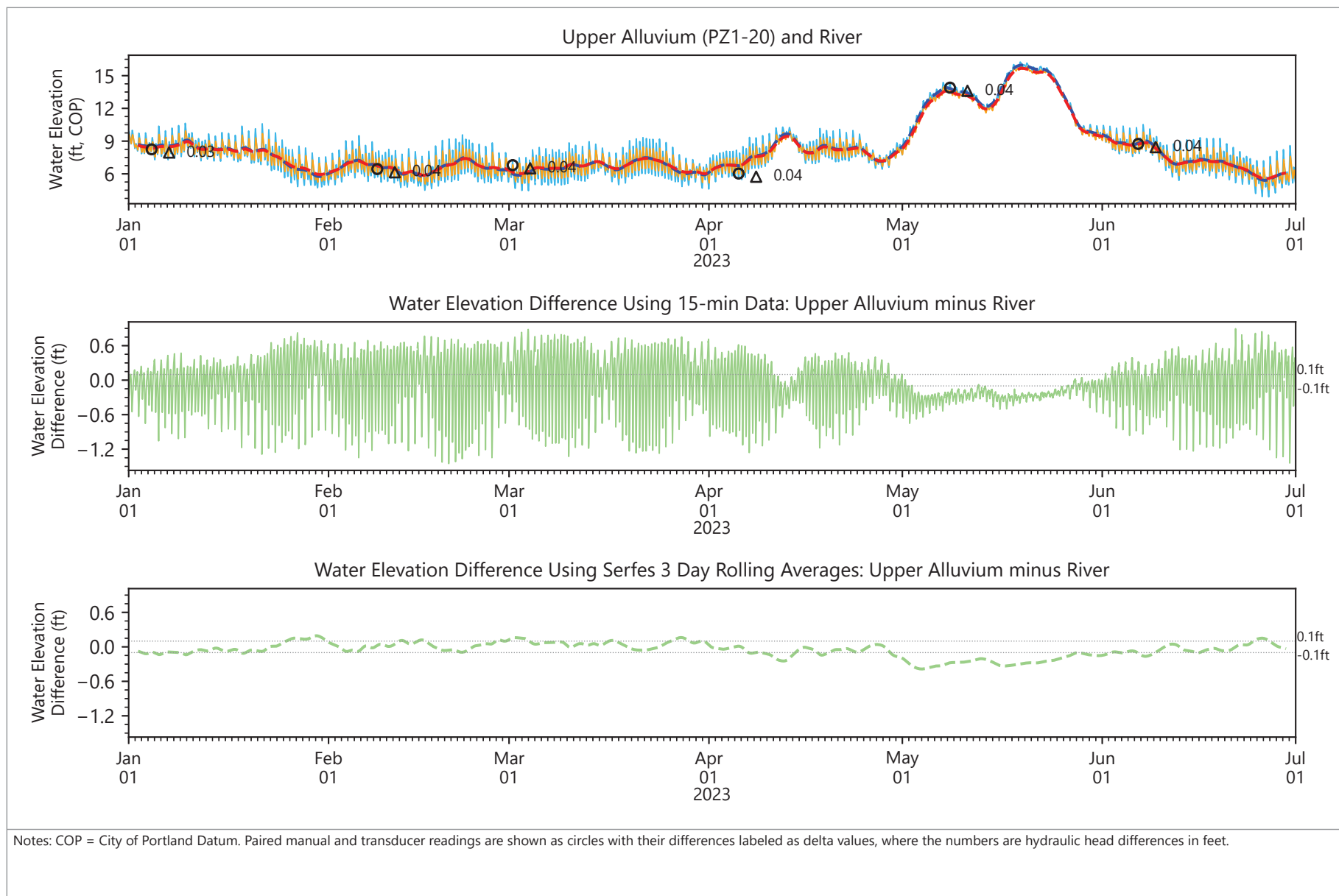


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- Upper Alluvium: 15-min Data
- - - Upper Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.4
Groundwater Elevation Differences
 NW Natural Gasco Site



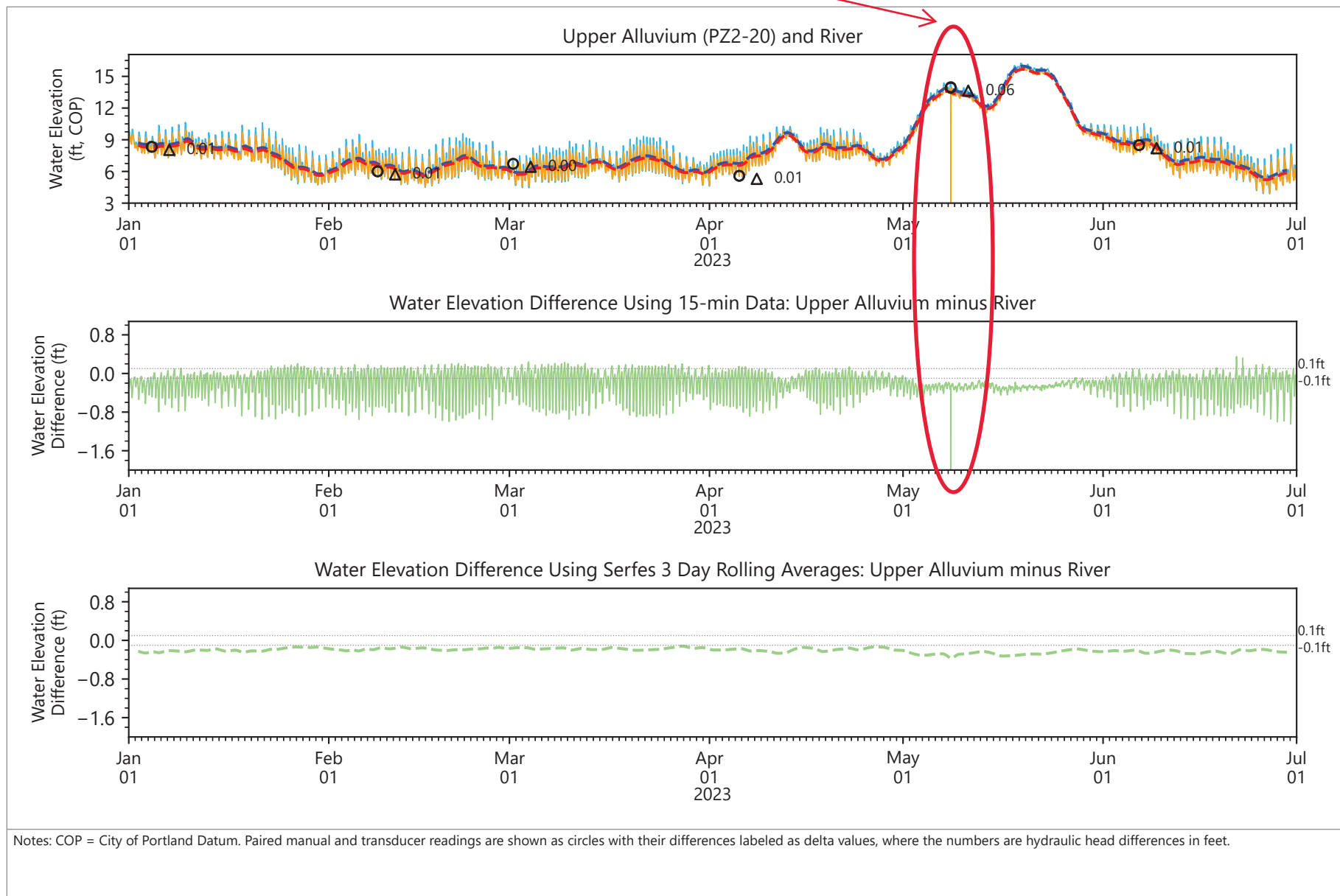
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- Upper Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Upper Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.5
Groundwater Elevation Differences
 NW Natural Gasco Site

Transducer Calibration



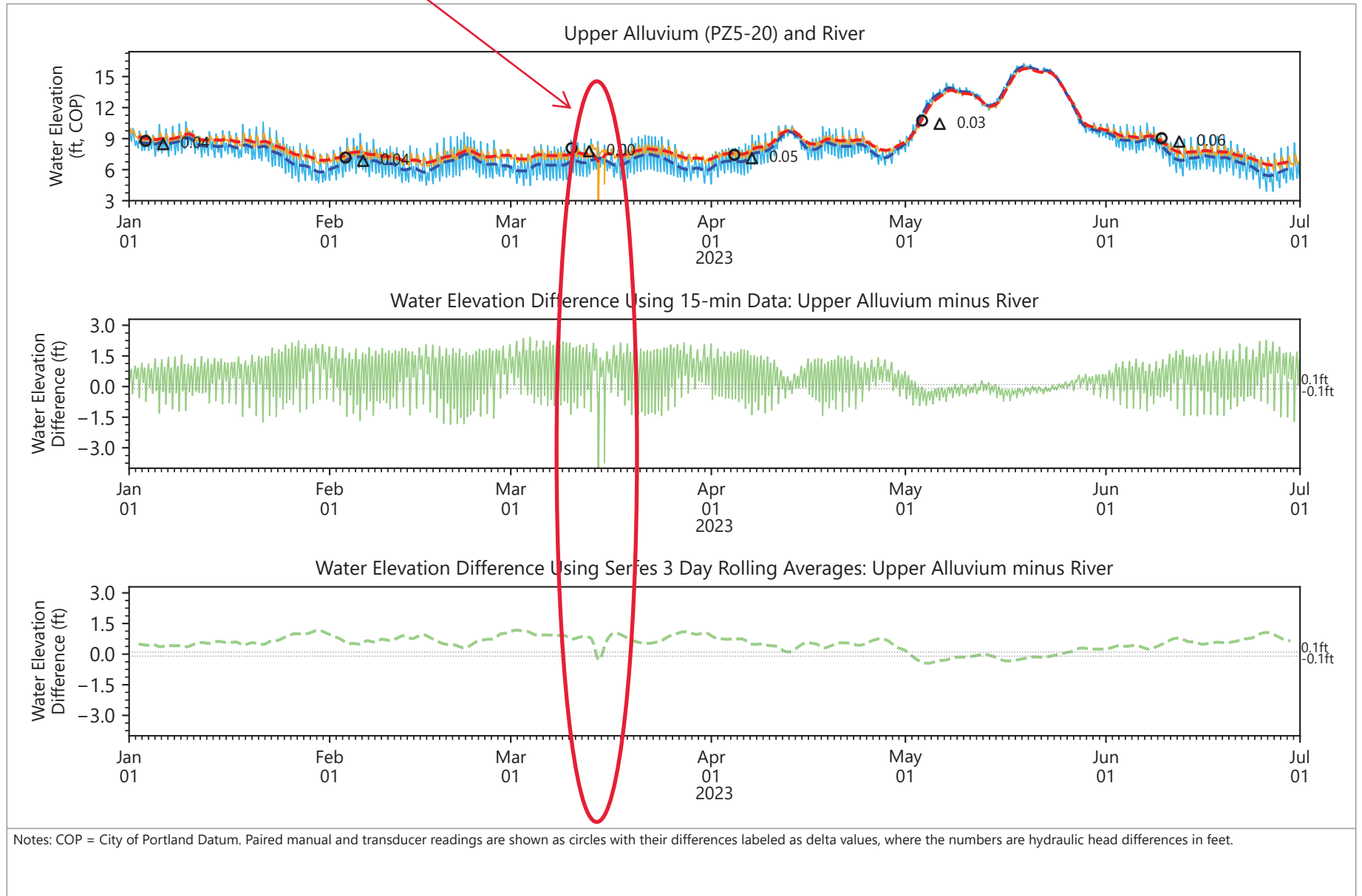
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.6
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

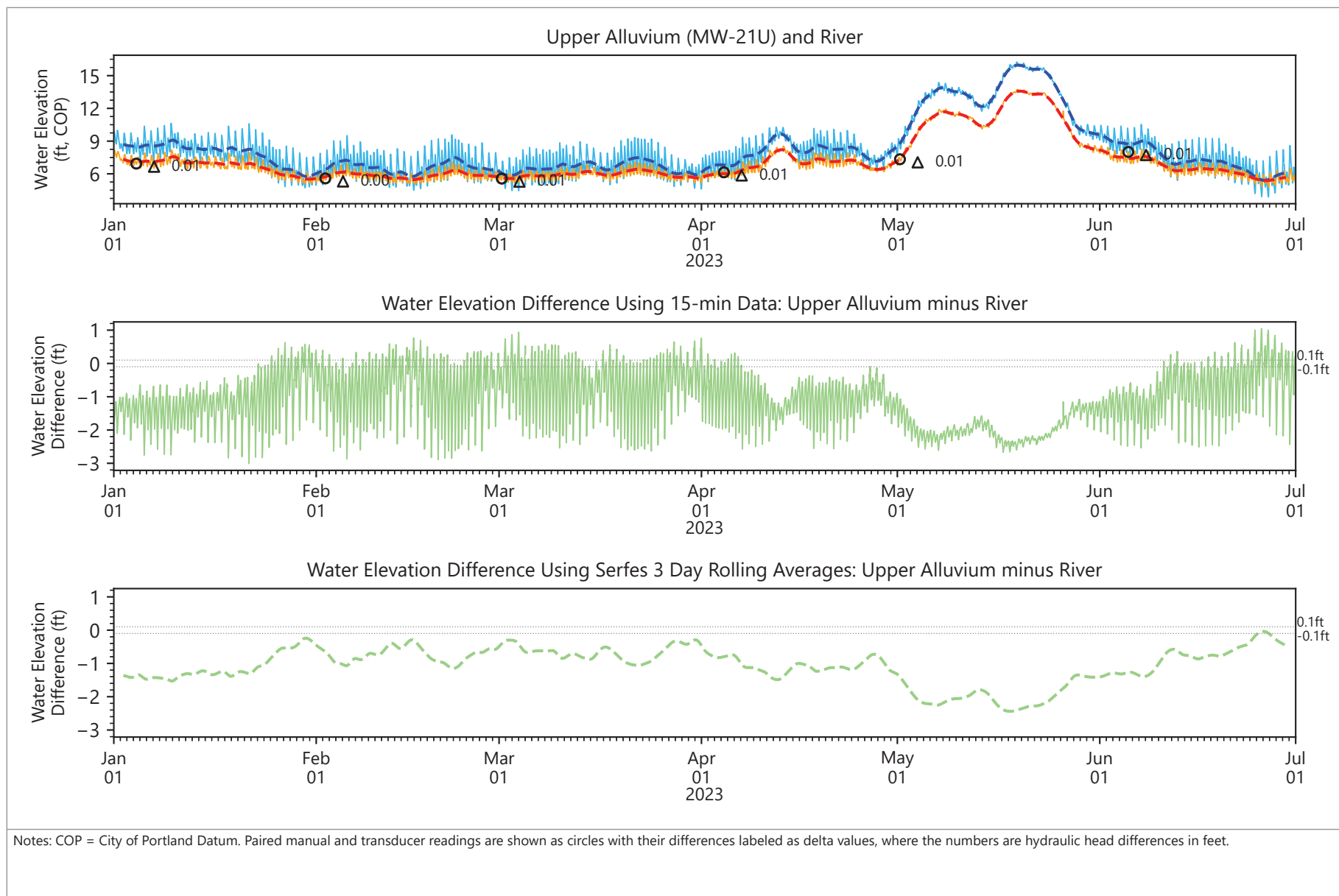


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Series Averages
- River: 15-min Data
- River: Series Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Series Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.7
Groundwater Elevation Differences
 NW Natural Gasco Site

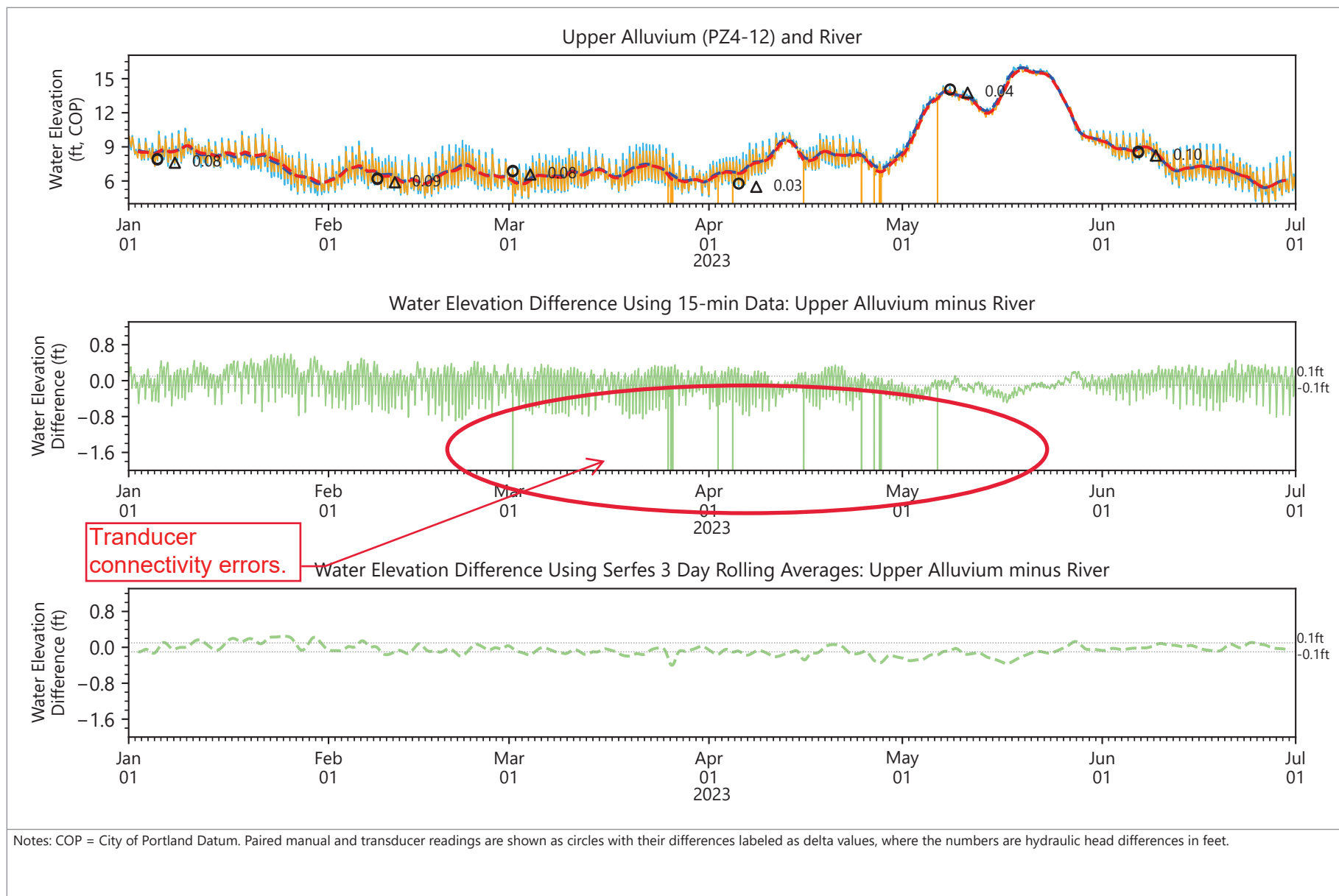


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

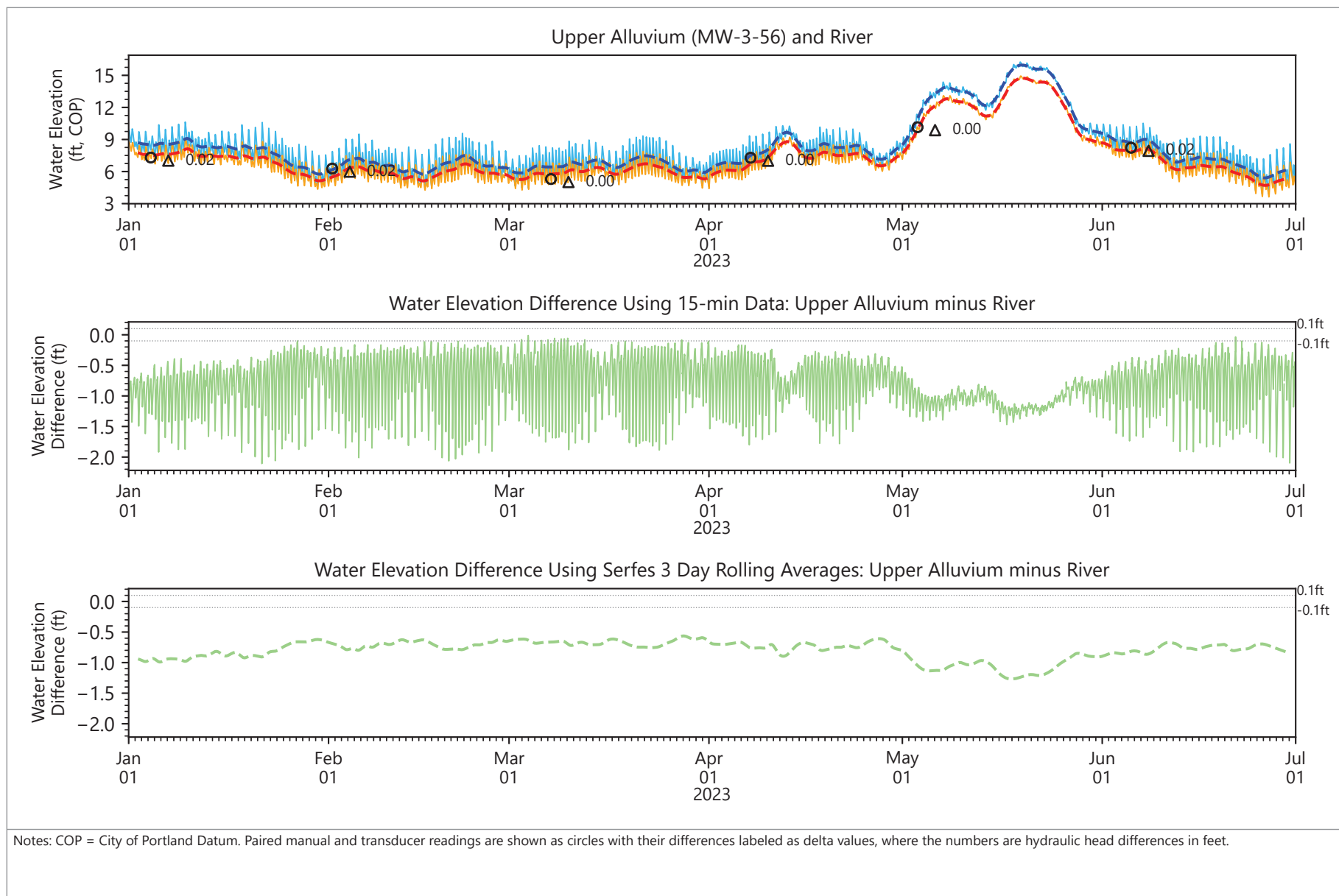
Figure 4.8
Groundwater Elevation Differences
 NW Natural Gasco Site



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Figure 4.9
Groundwater Elevation Differences
 NW Natural Gasco Site

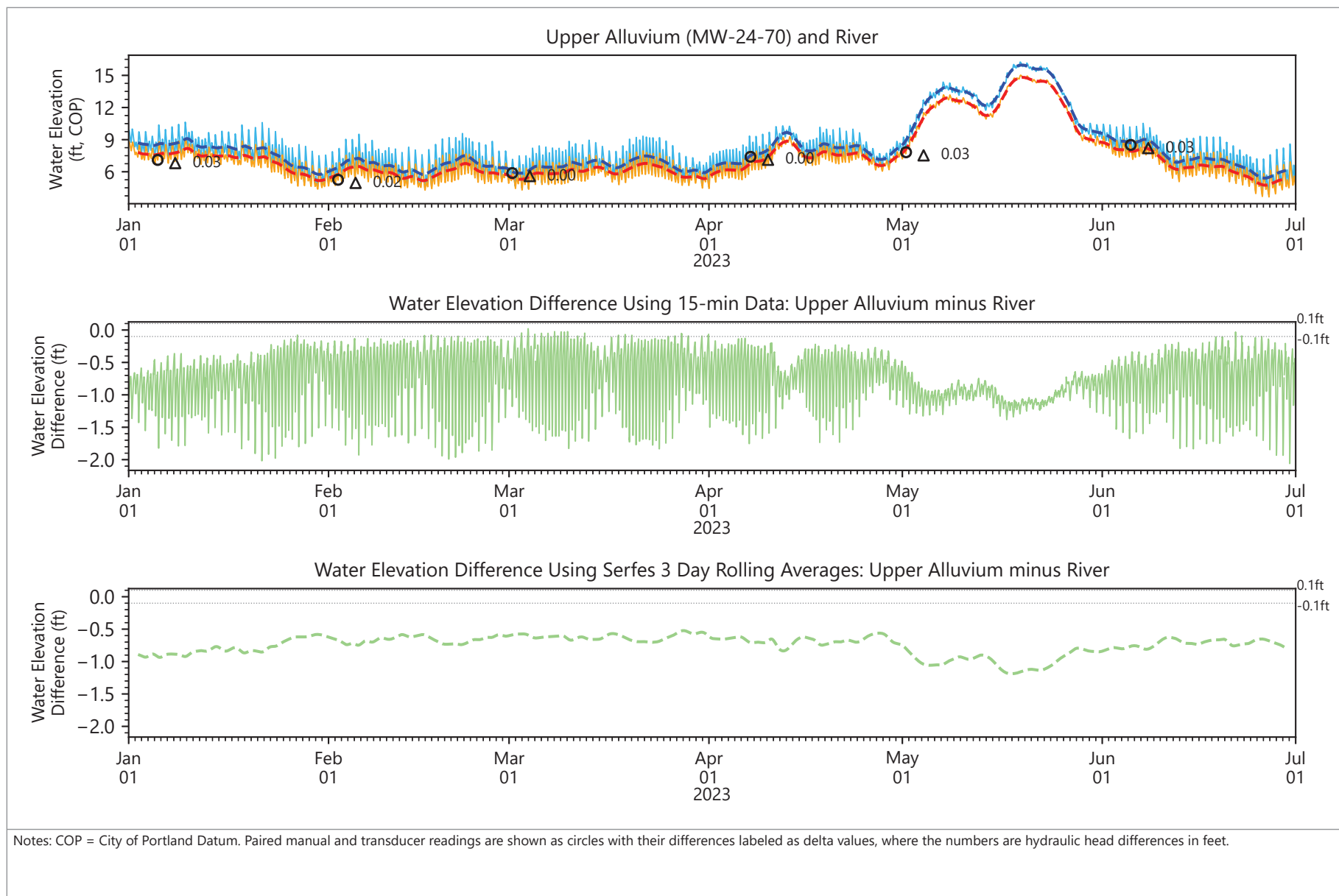


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.10
Groundwater Elevation Differences
 NW Natural Gasco Site

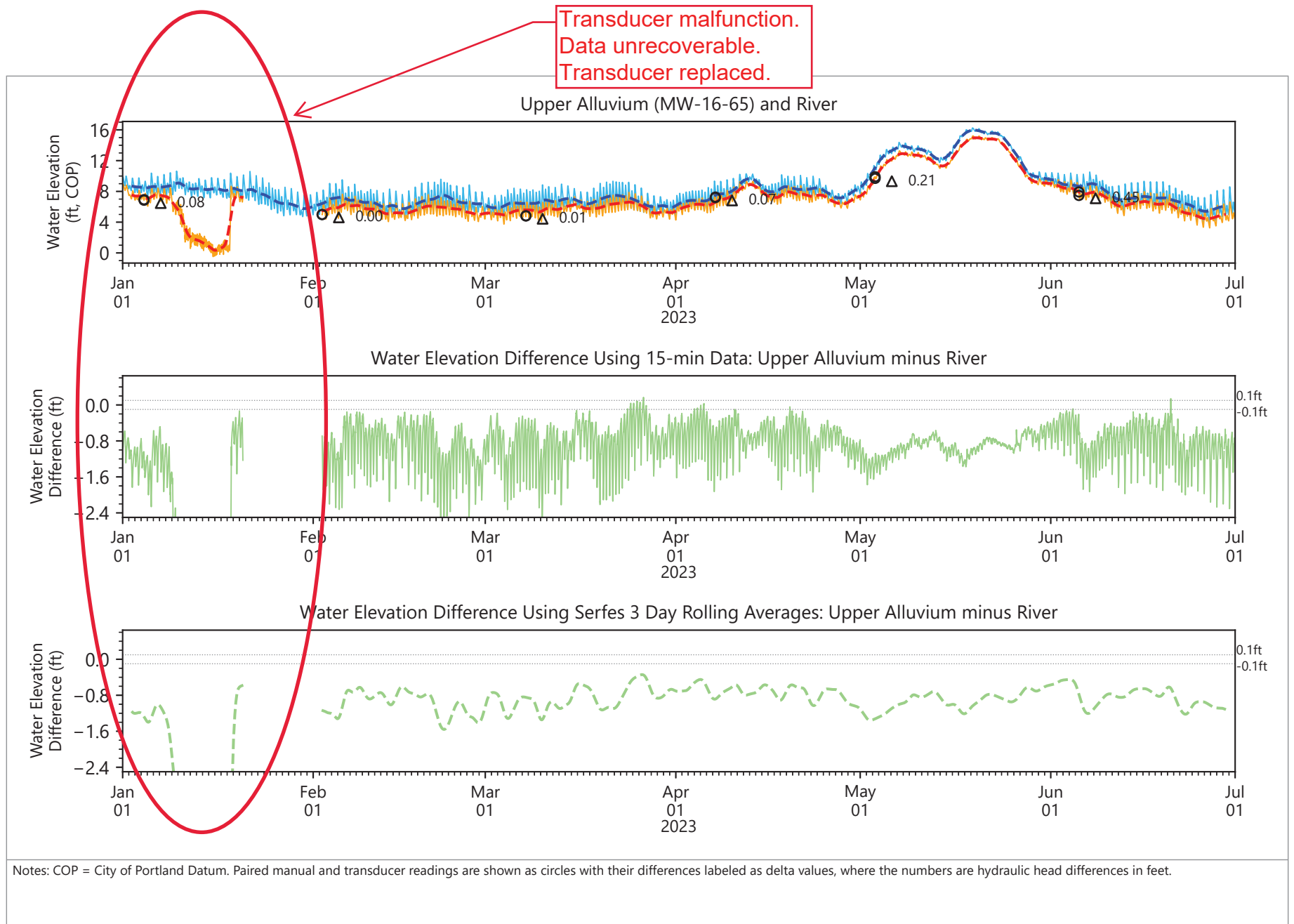


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.11
Groundwater Elevation Differences
 NW Natural Gasco Site



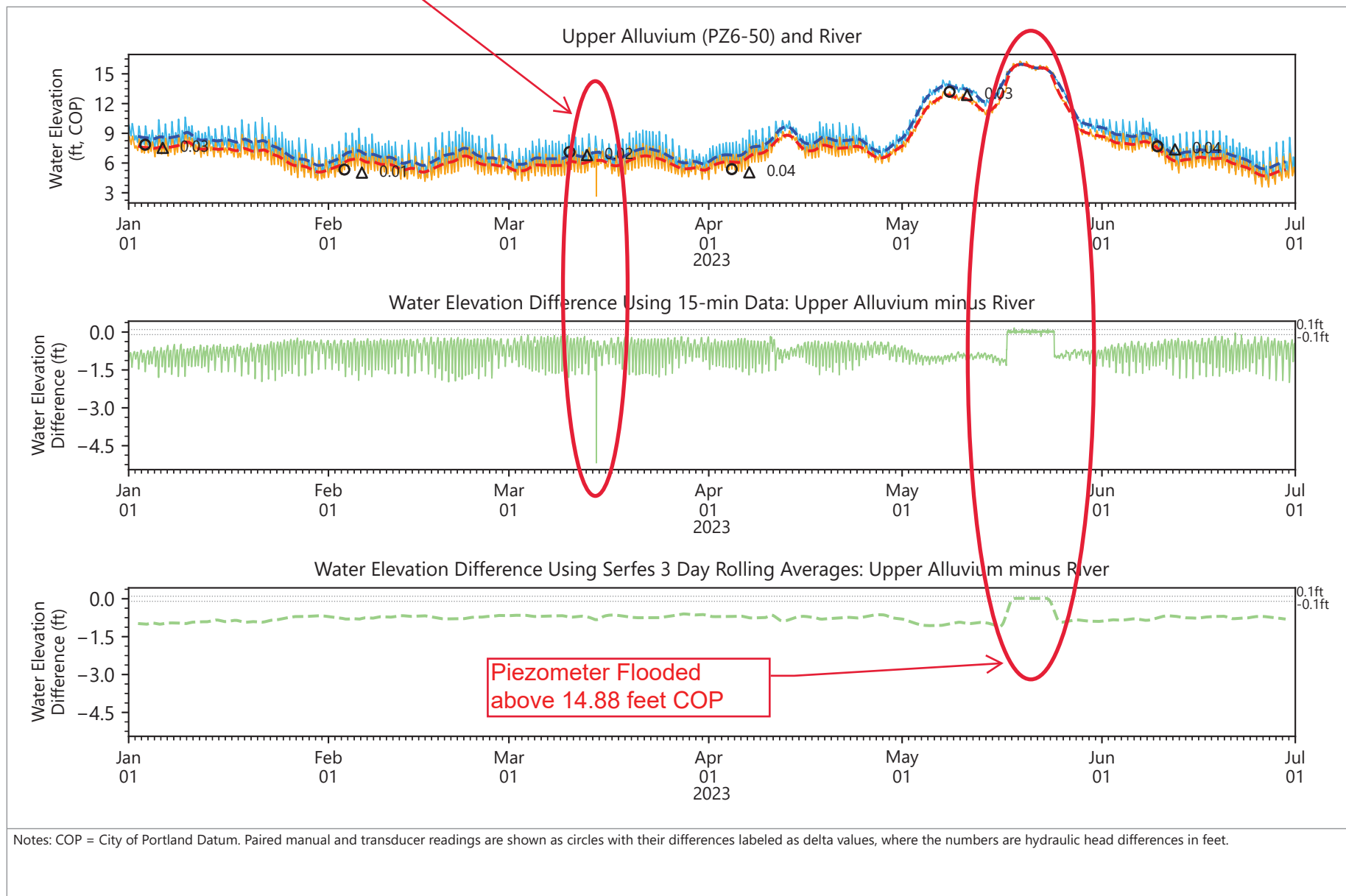
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- - - Upper Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.12
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

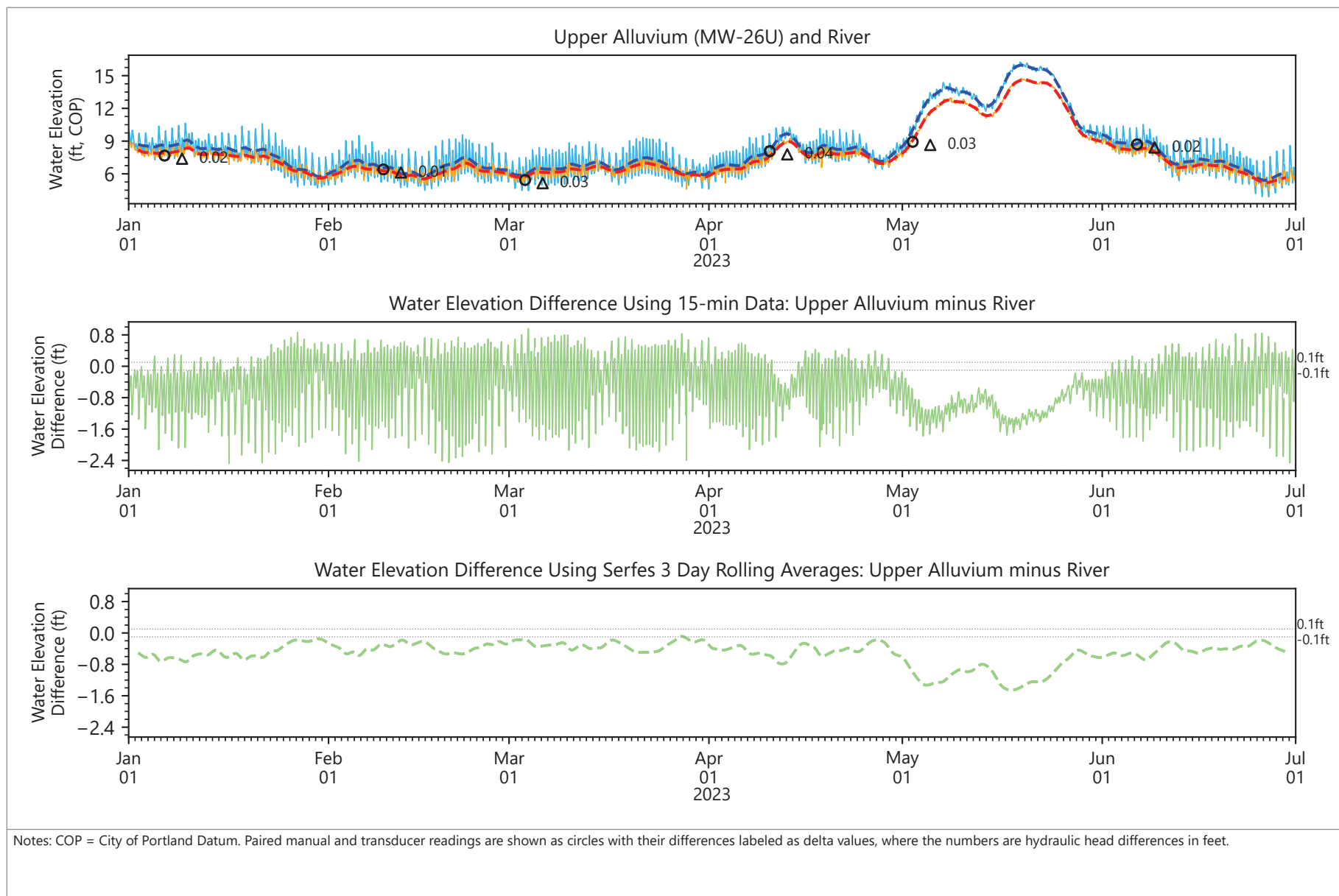


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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.13
Groundwater Elevation Differences
 NW Natural Gasco Site

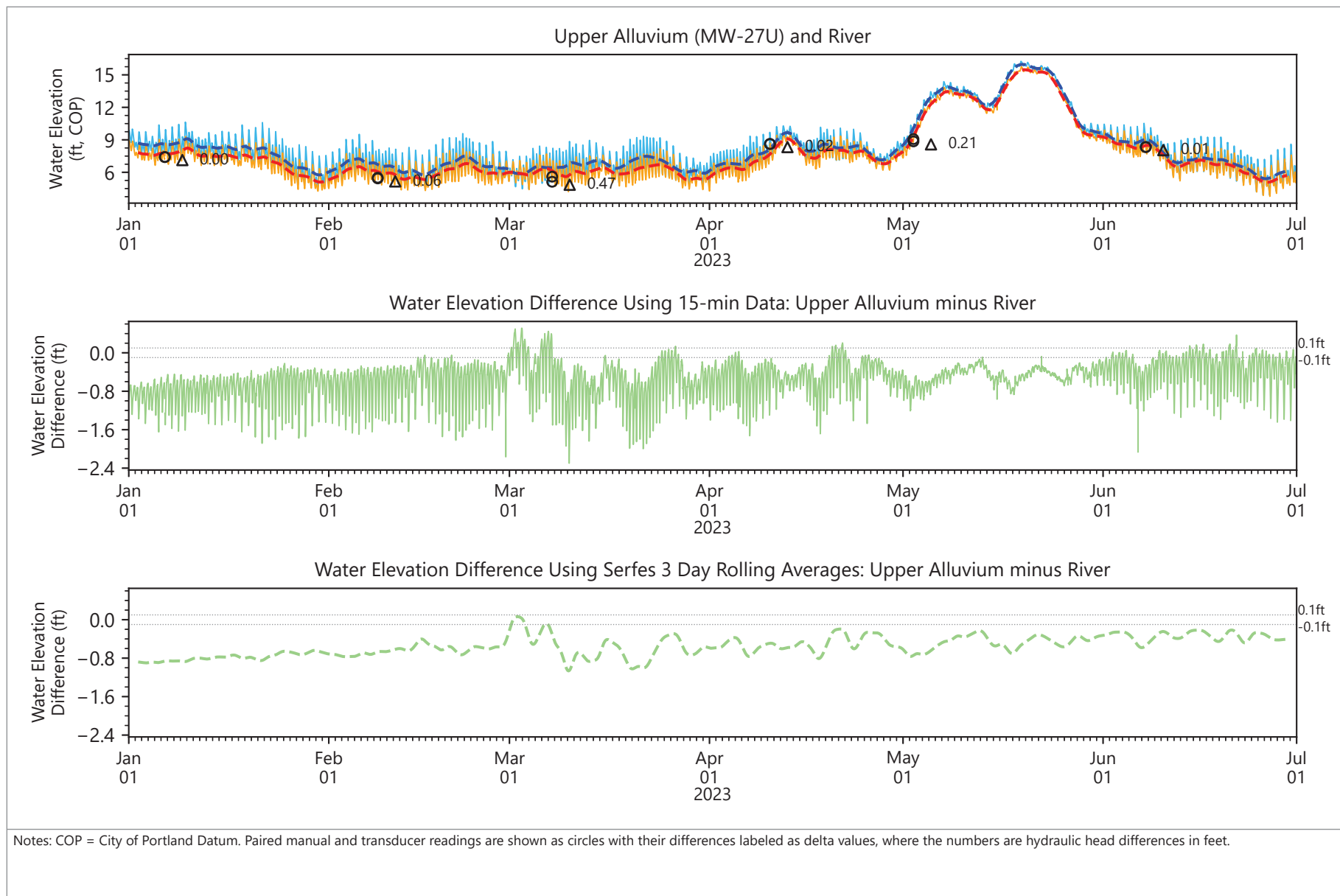


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- Upper Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Upper Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.14
Groundwater Elevation Differences
 NW Natural Gasco Site

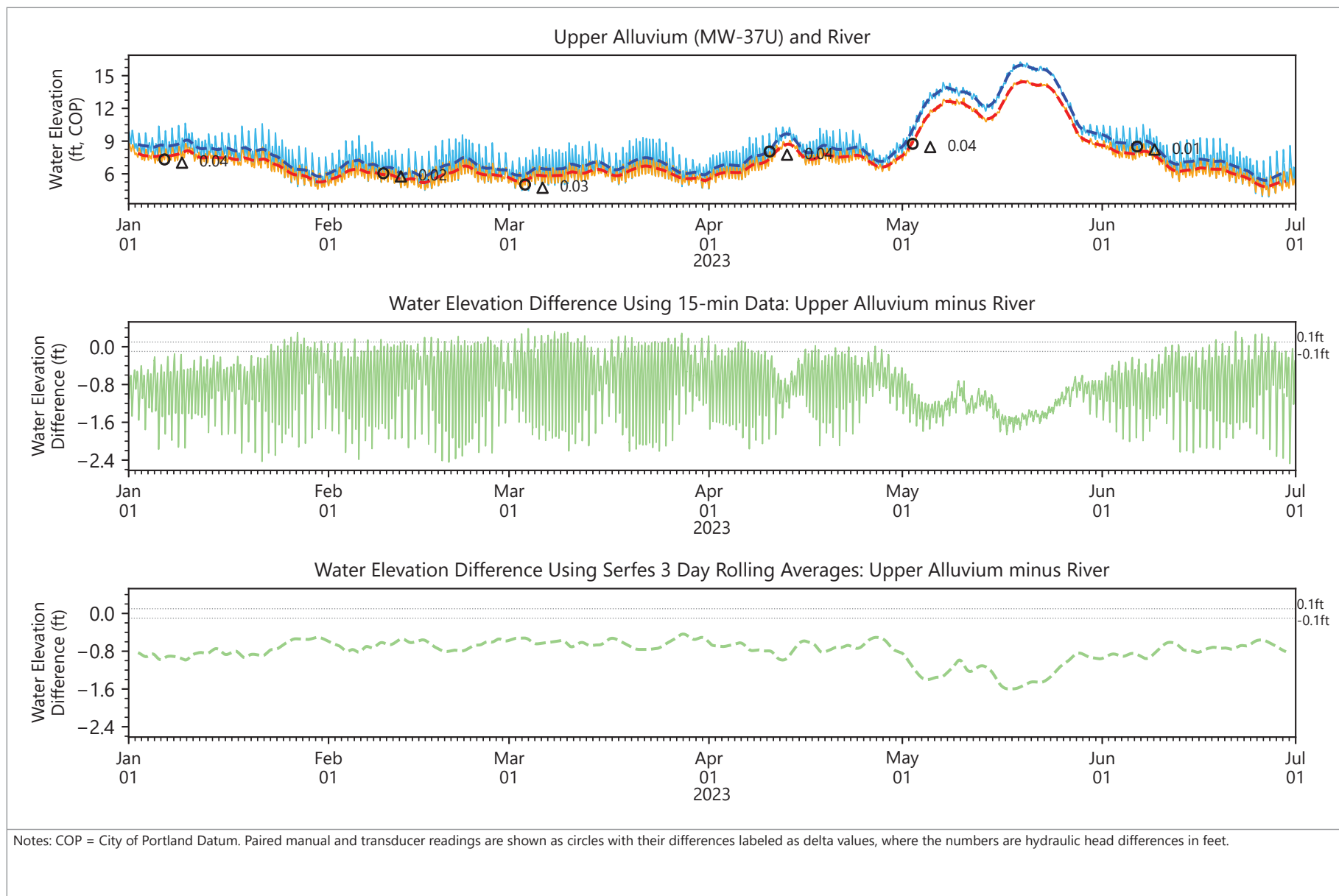


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- Upper Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.15
Groundwater Elevation Differences
 NW Natural Gasco Site

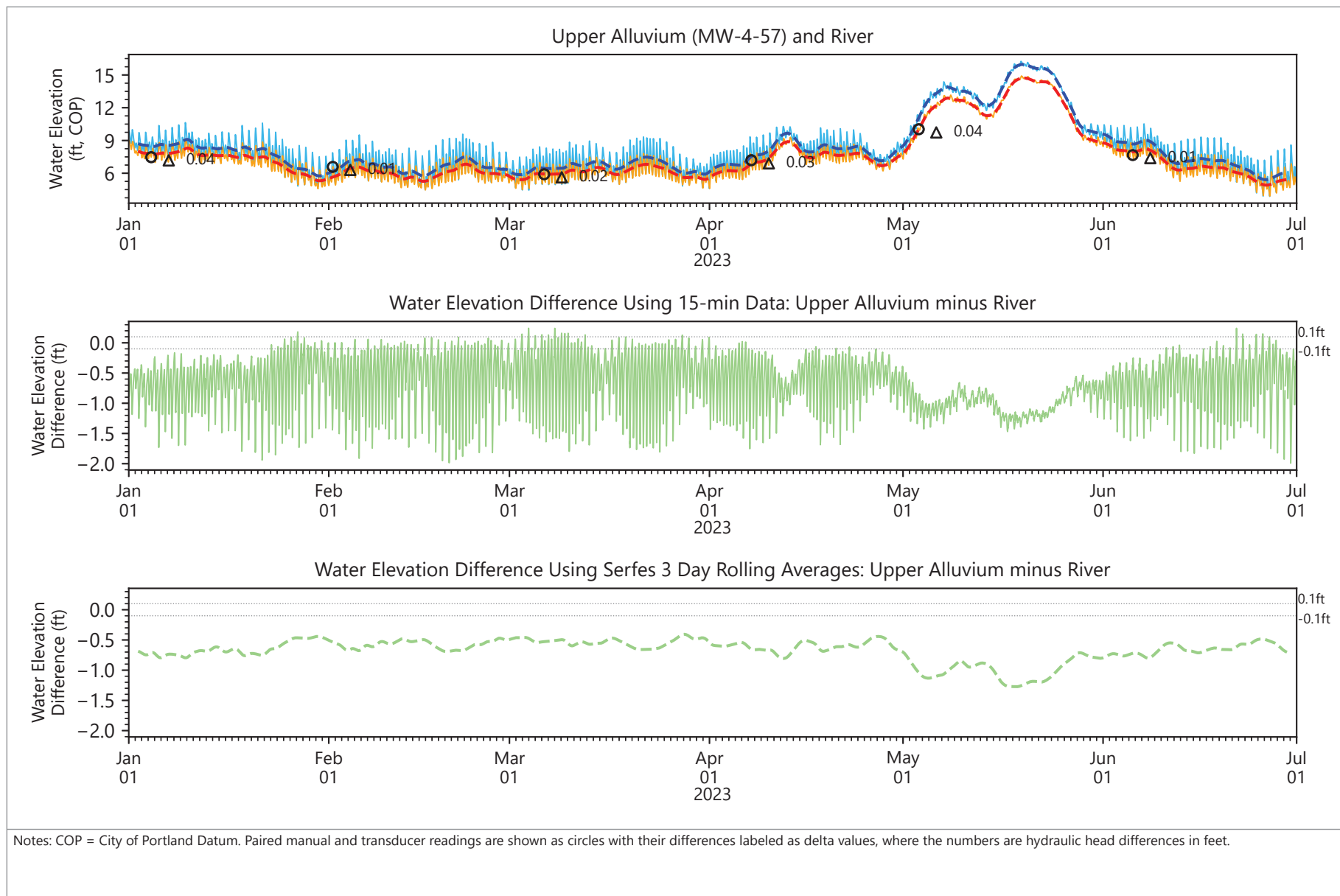


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- Upper Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.16
Groundwater Elevation Differences
 NW Natural Gasco Site

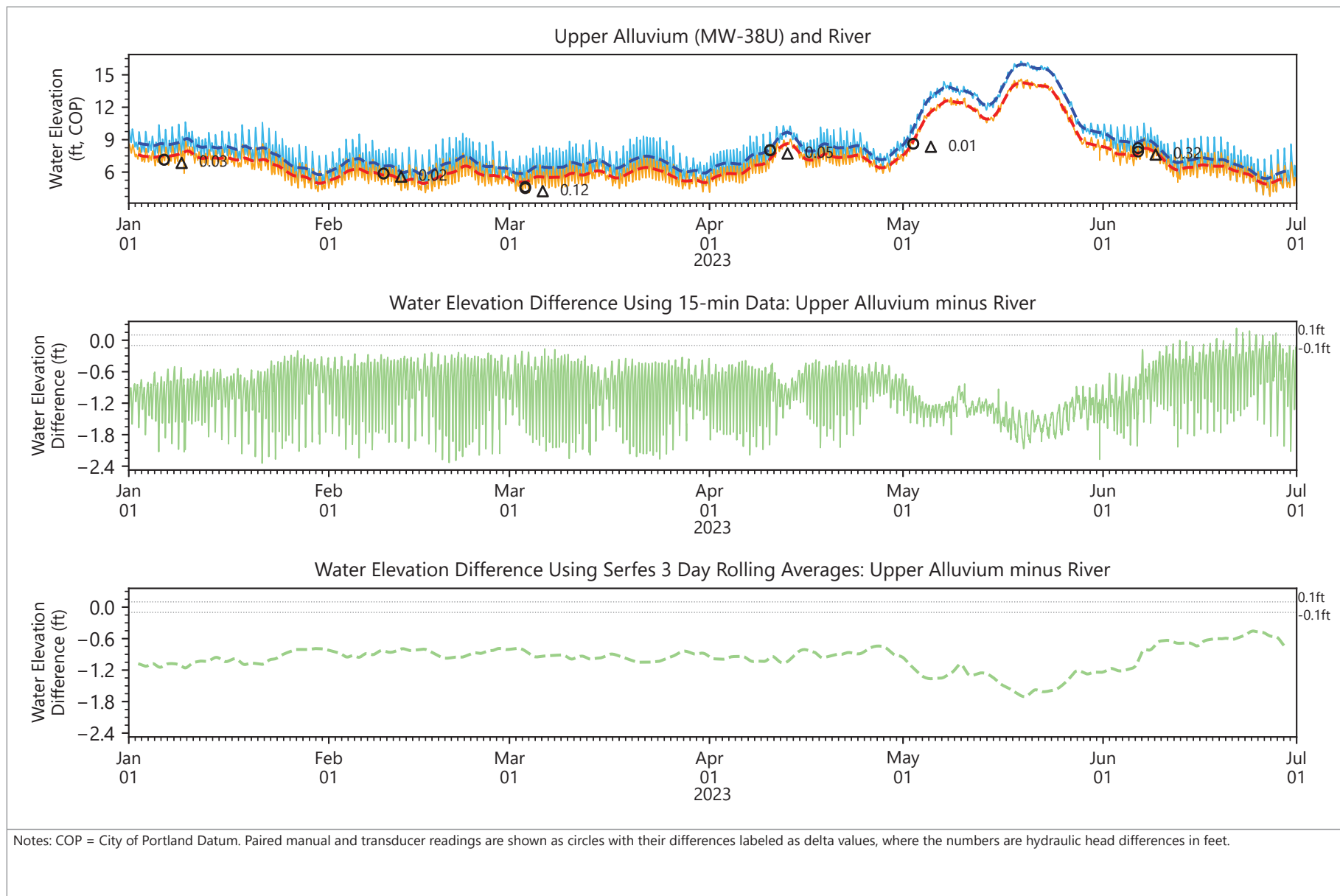


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.17
Groundwater Elevation Differences
 NW Natural Gasco Site

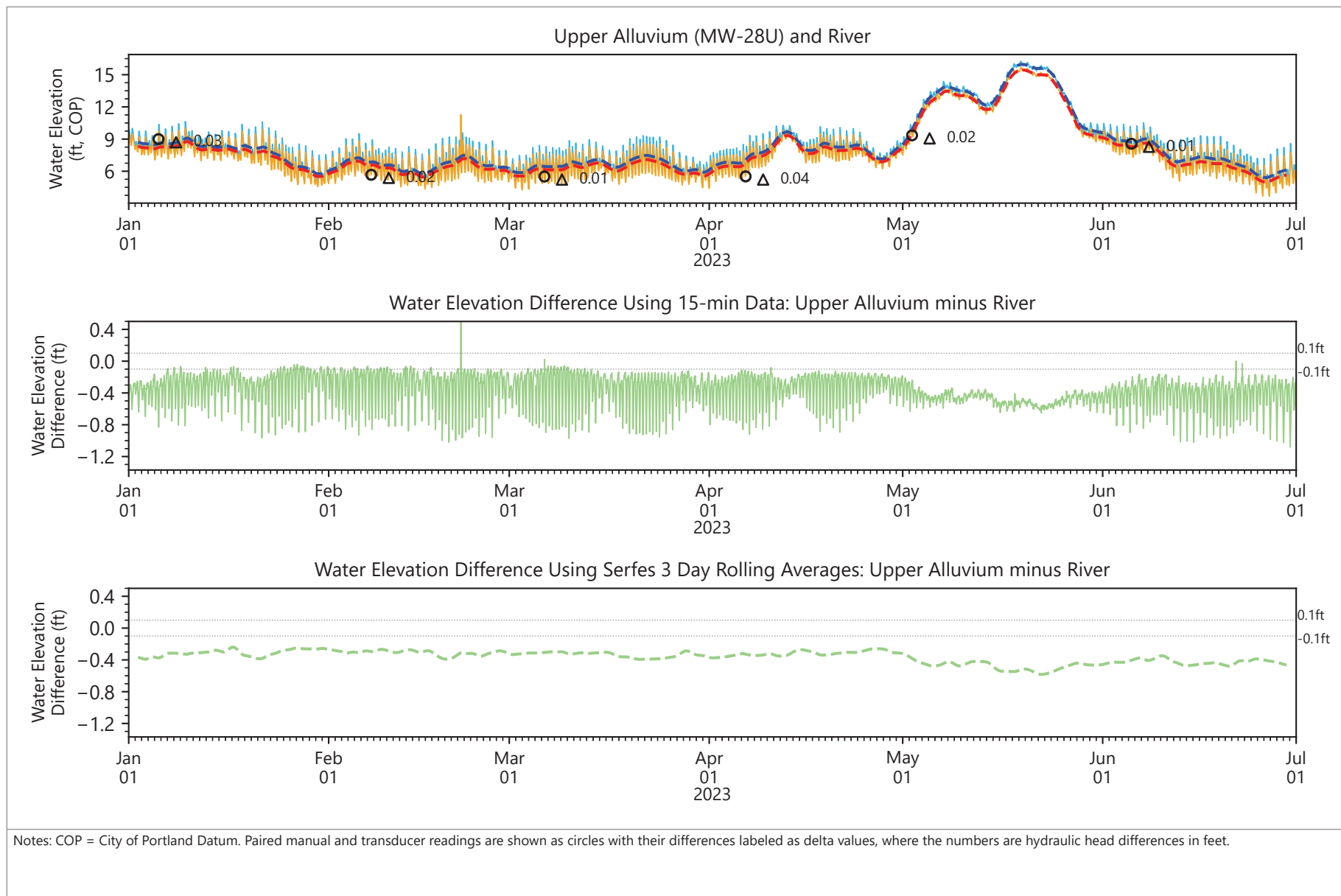


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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.18
Groundwater Elevation Differences
 NW Natural Gasco Site

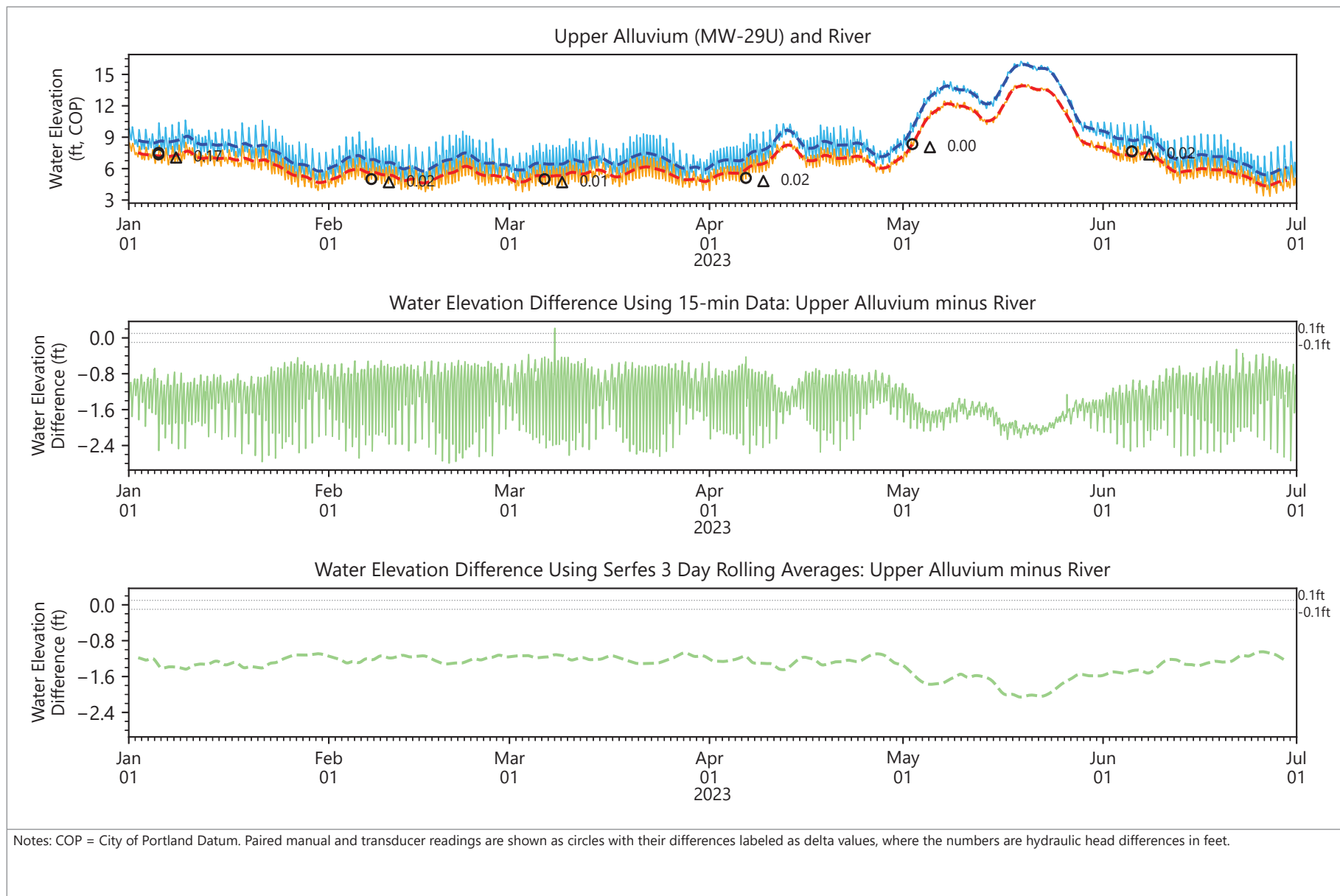


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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.19
Groundwater Elevation Differences
 NW Natural Gasco Site

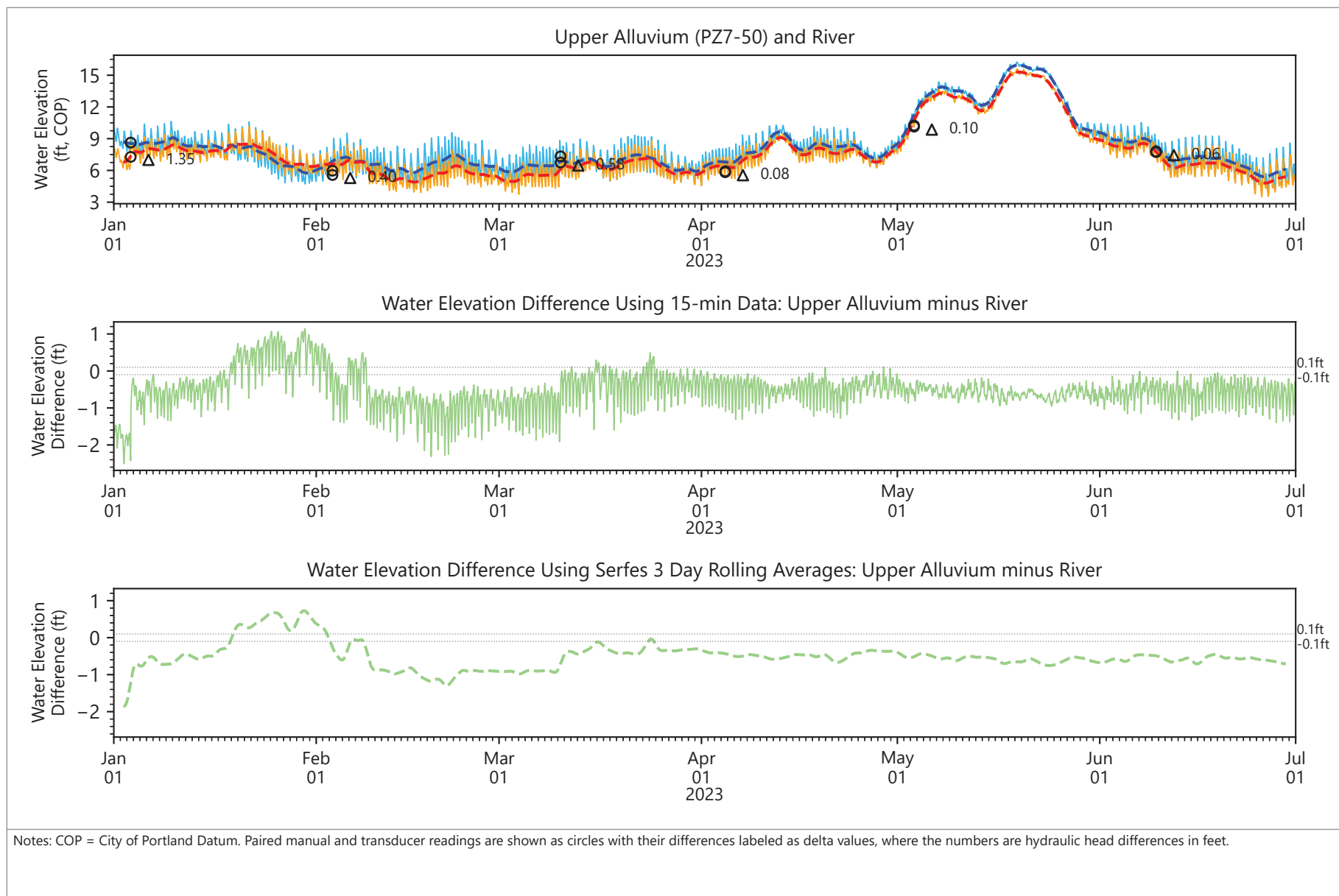


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- Upper Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.20
Groundwater Elevation Differences
 NW Natural Gasco Site

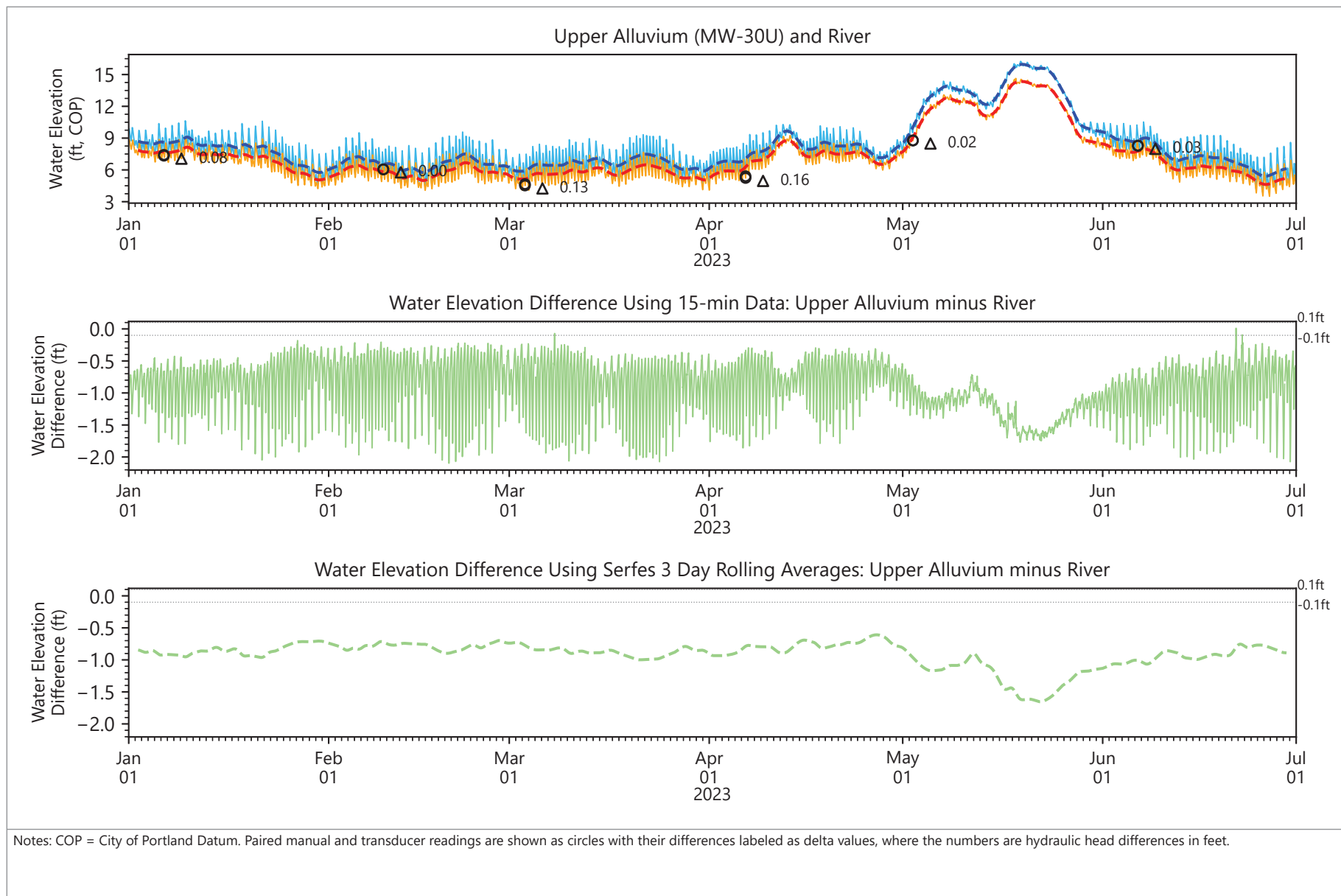


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.21
Groundwater Elevation Differences
 NW Natural Gasco Site

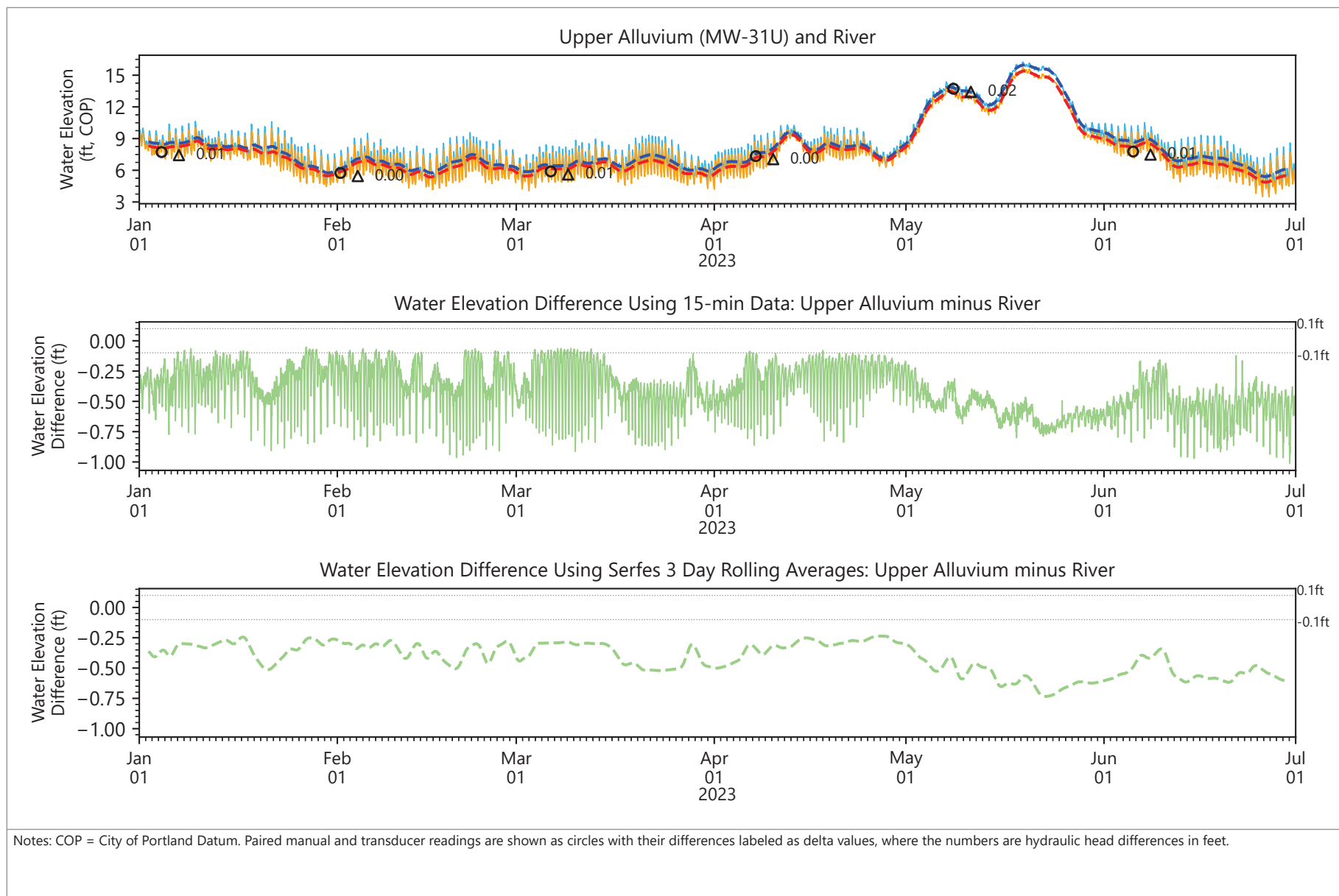


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- River: 15-min Data
- River: Serfes Averages
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- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.22
Groundwater Elevation Differences
 NW Natural Gasco Site

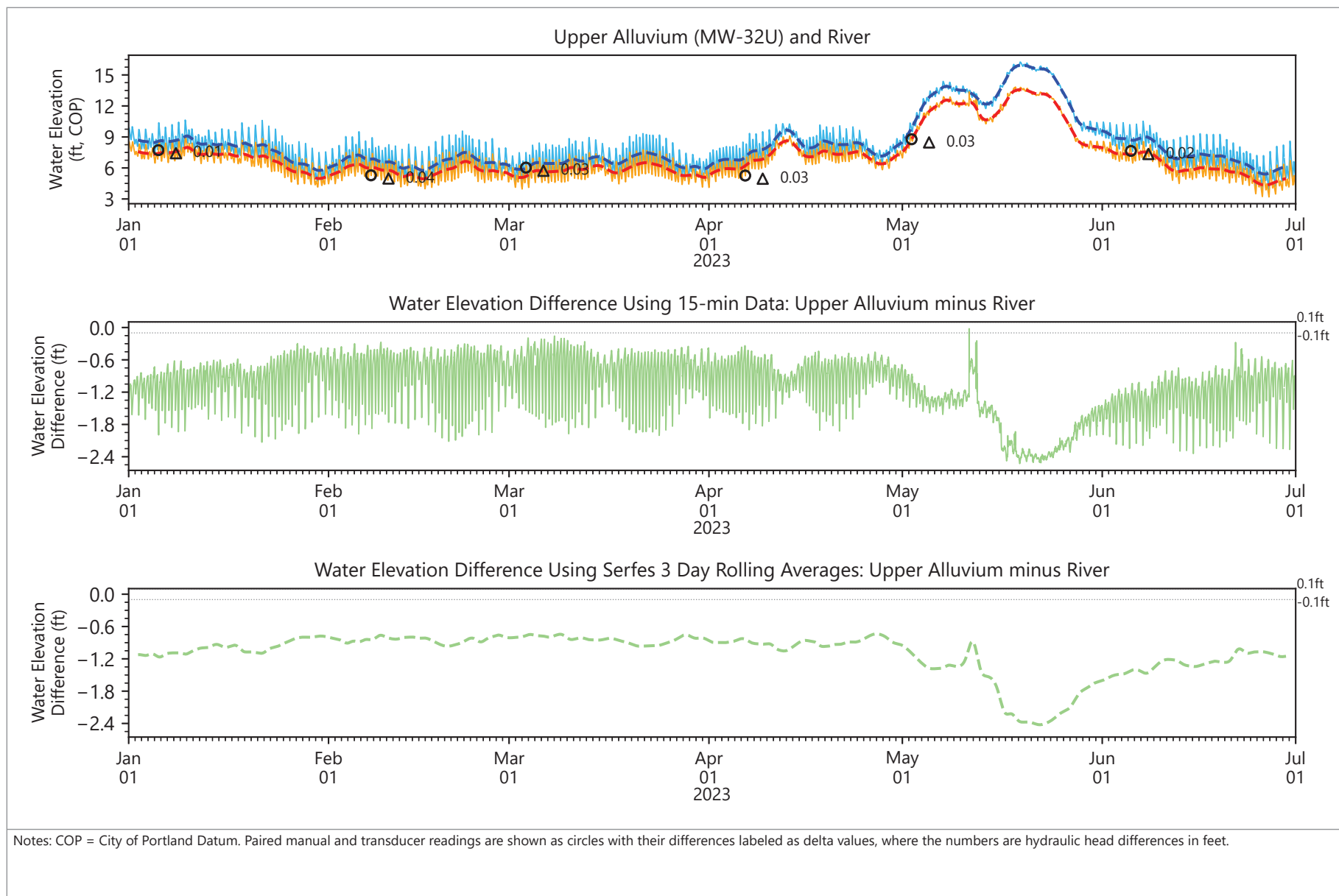


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- Upper Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
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Figure 4.23
Groundwater Elevation Differences
 NW Natural Gasco Site

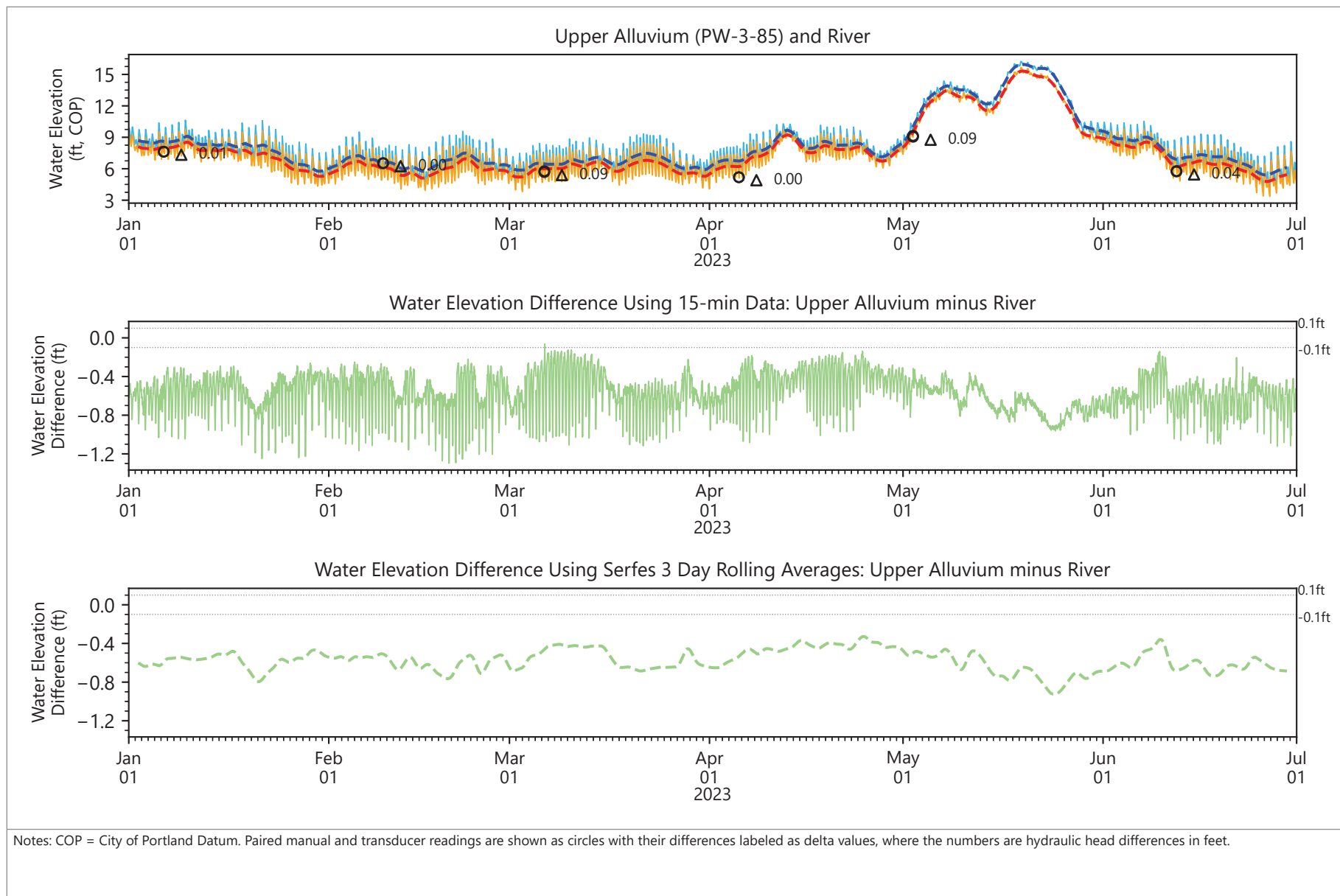


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.24
Groundwater Elevation Differences
 NW Natural Gasco Site

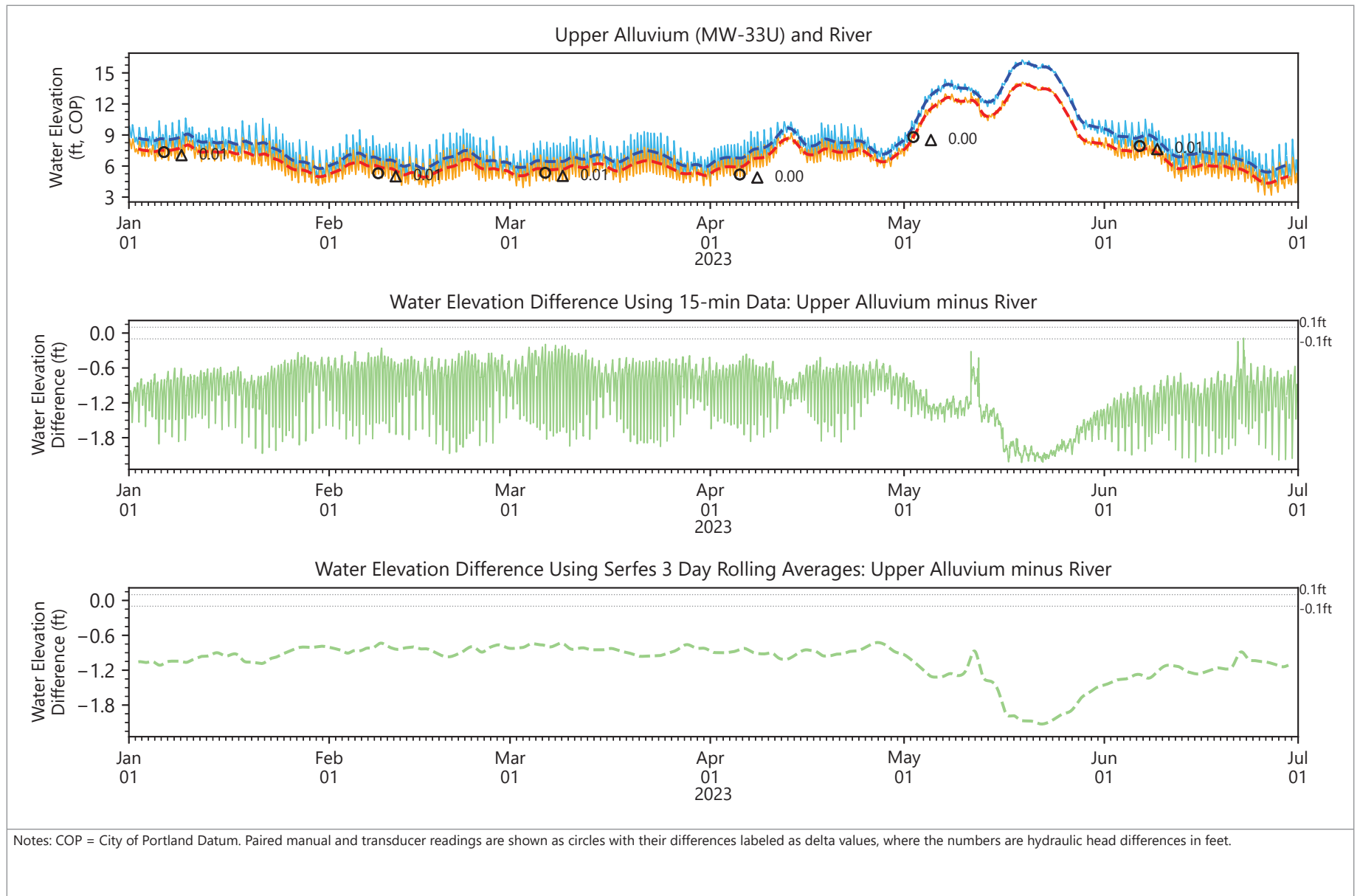


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.25
Groundwater Elevation Differences
 NW Natural Gasco Site

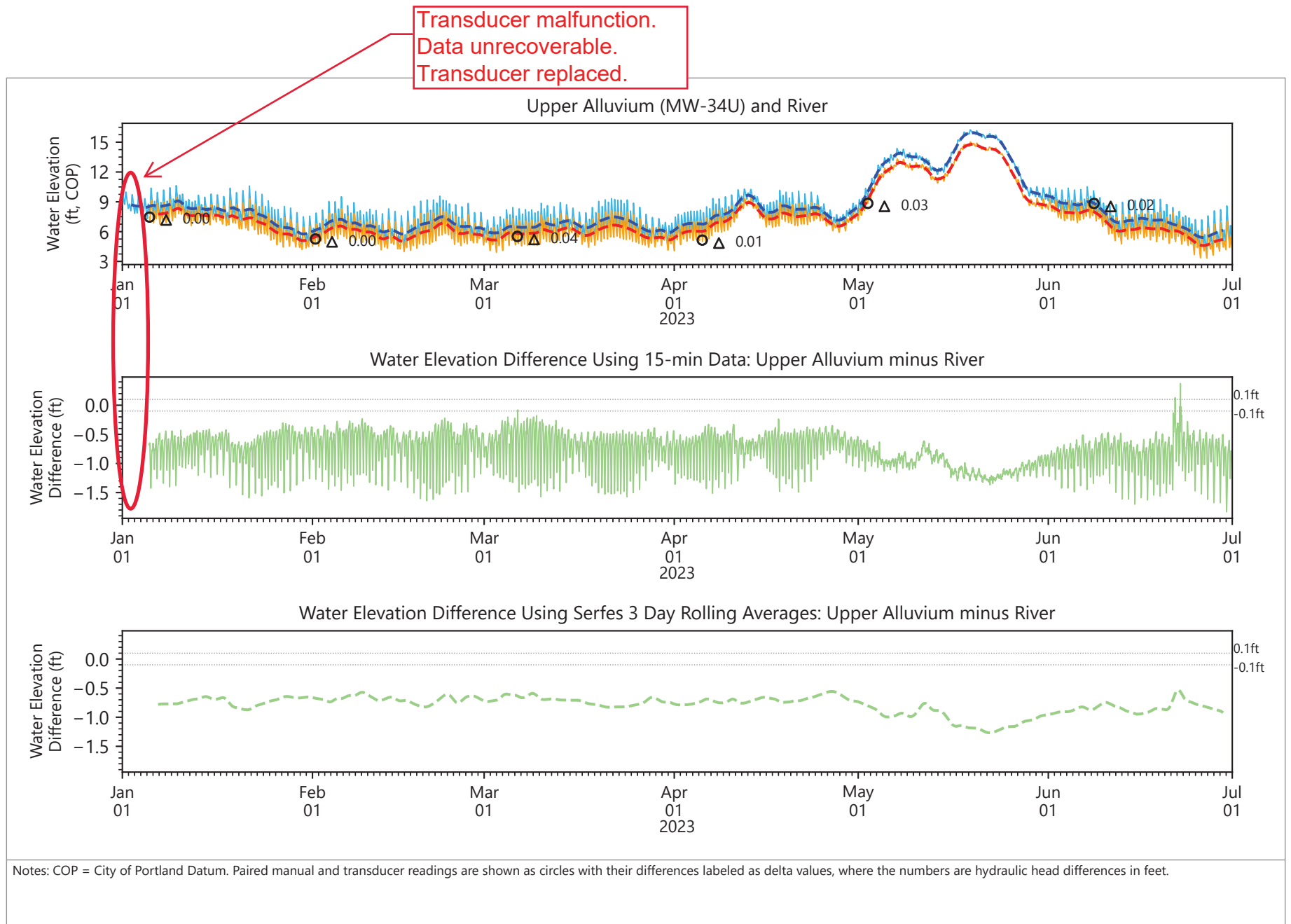


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.26
Groundwater Elevation Differences
 NW Natural Gasco Site



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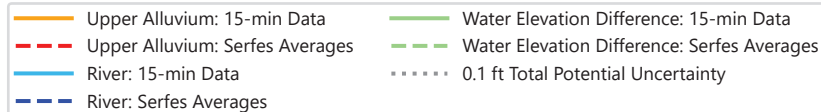
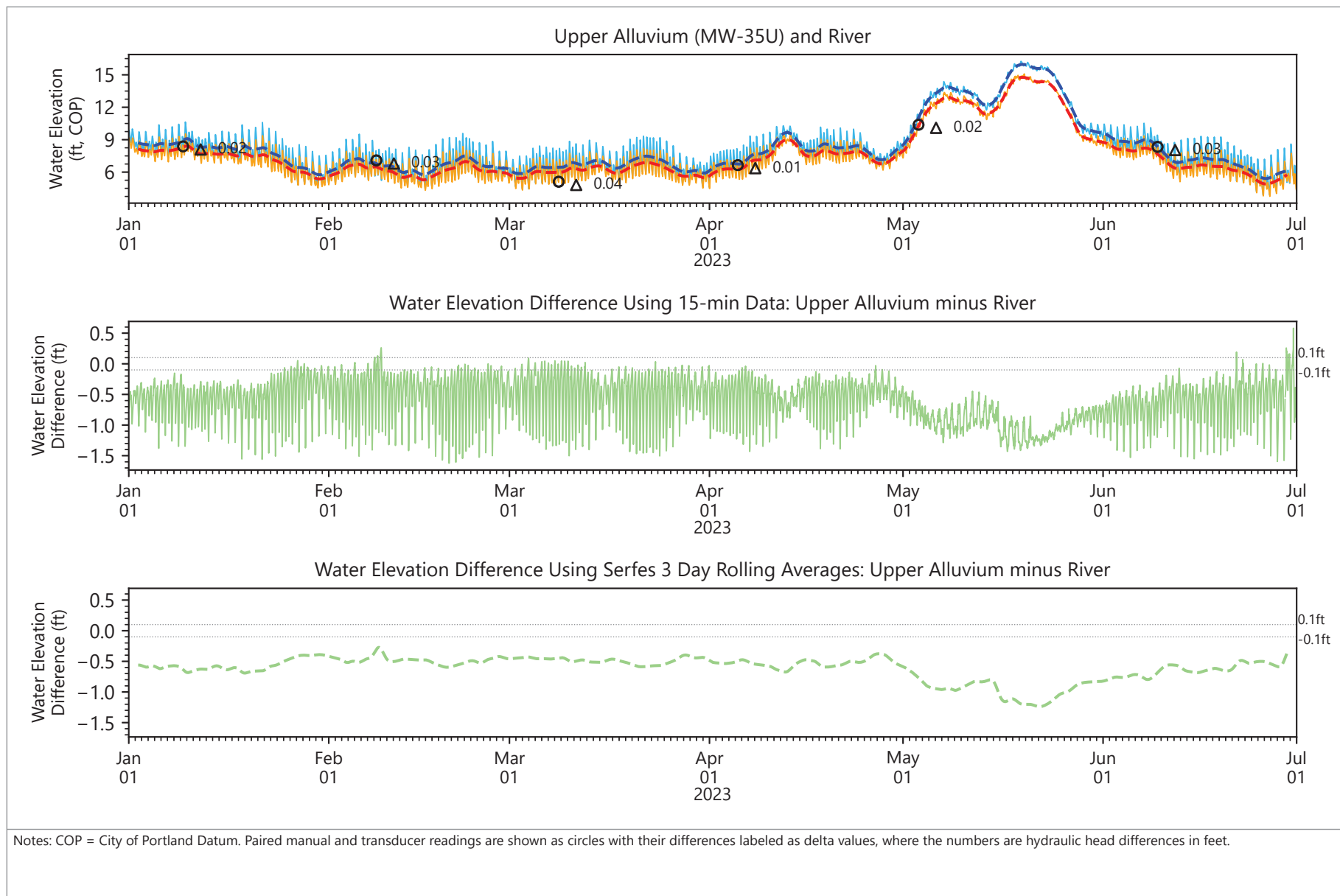


Figure 4.27
Groundwater Elevation Differences
 NW Natural Gasco Site



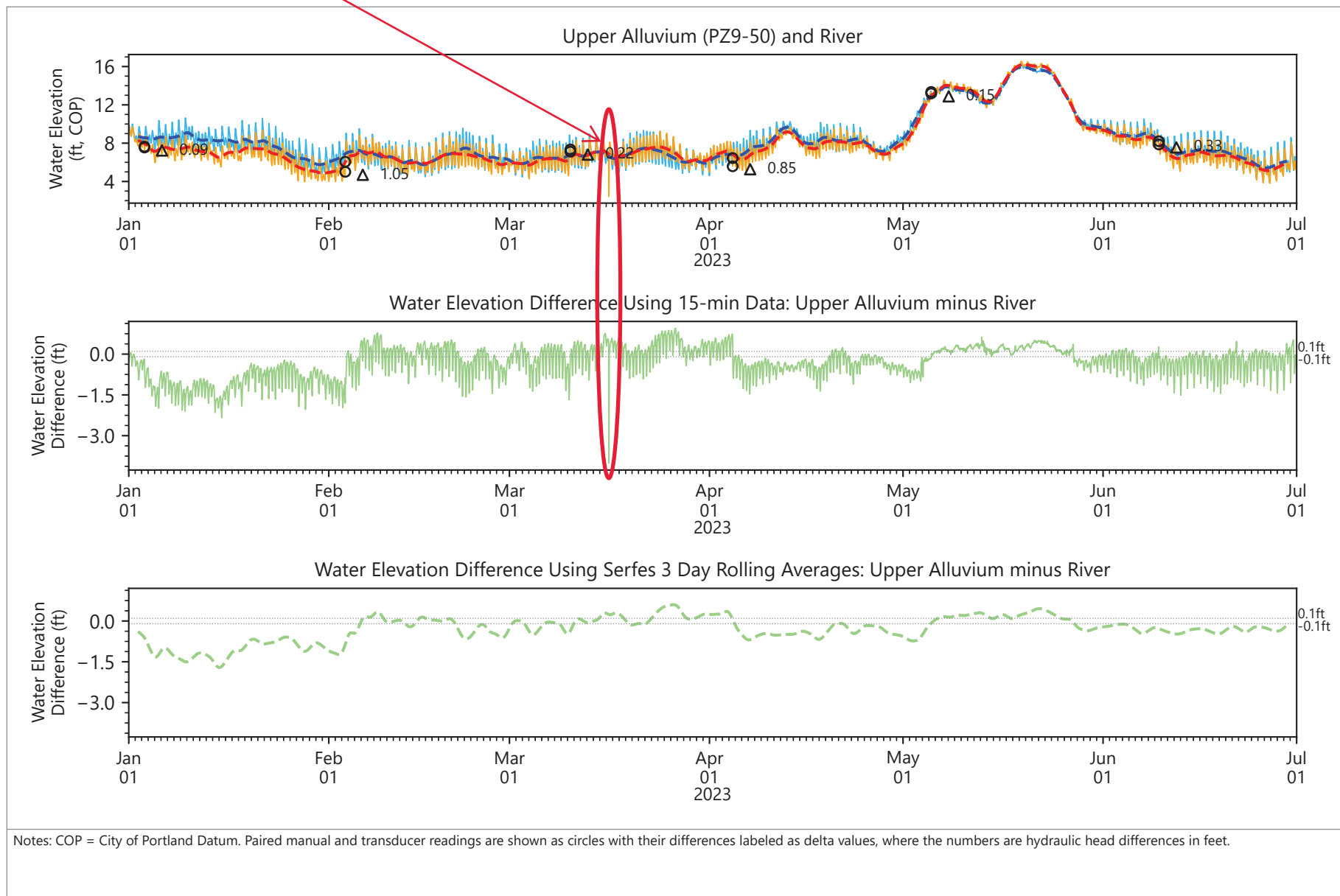
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.28
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

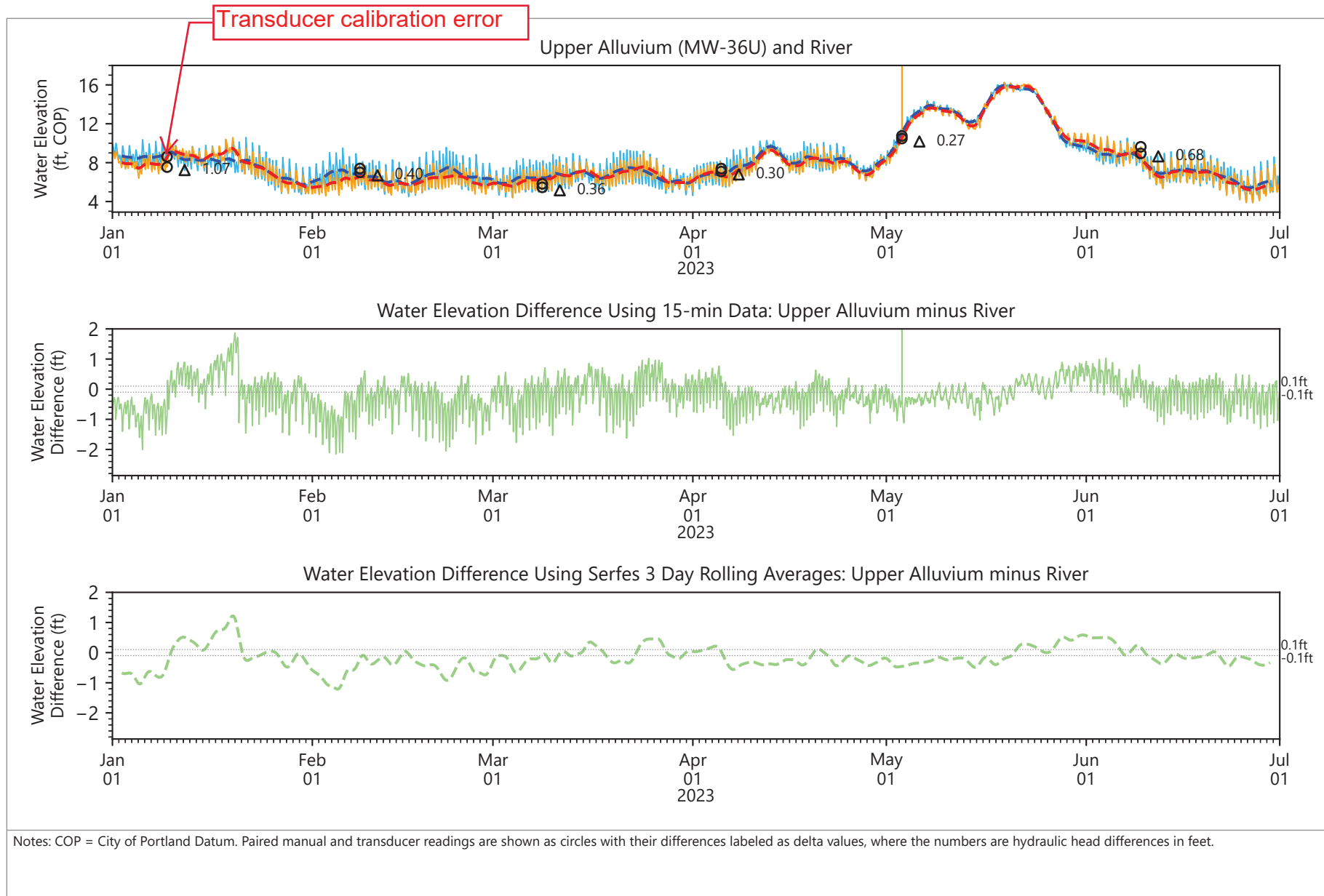


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.29
Groundwater Elevation Differences
 NW Natural Gasco Site



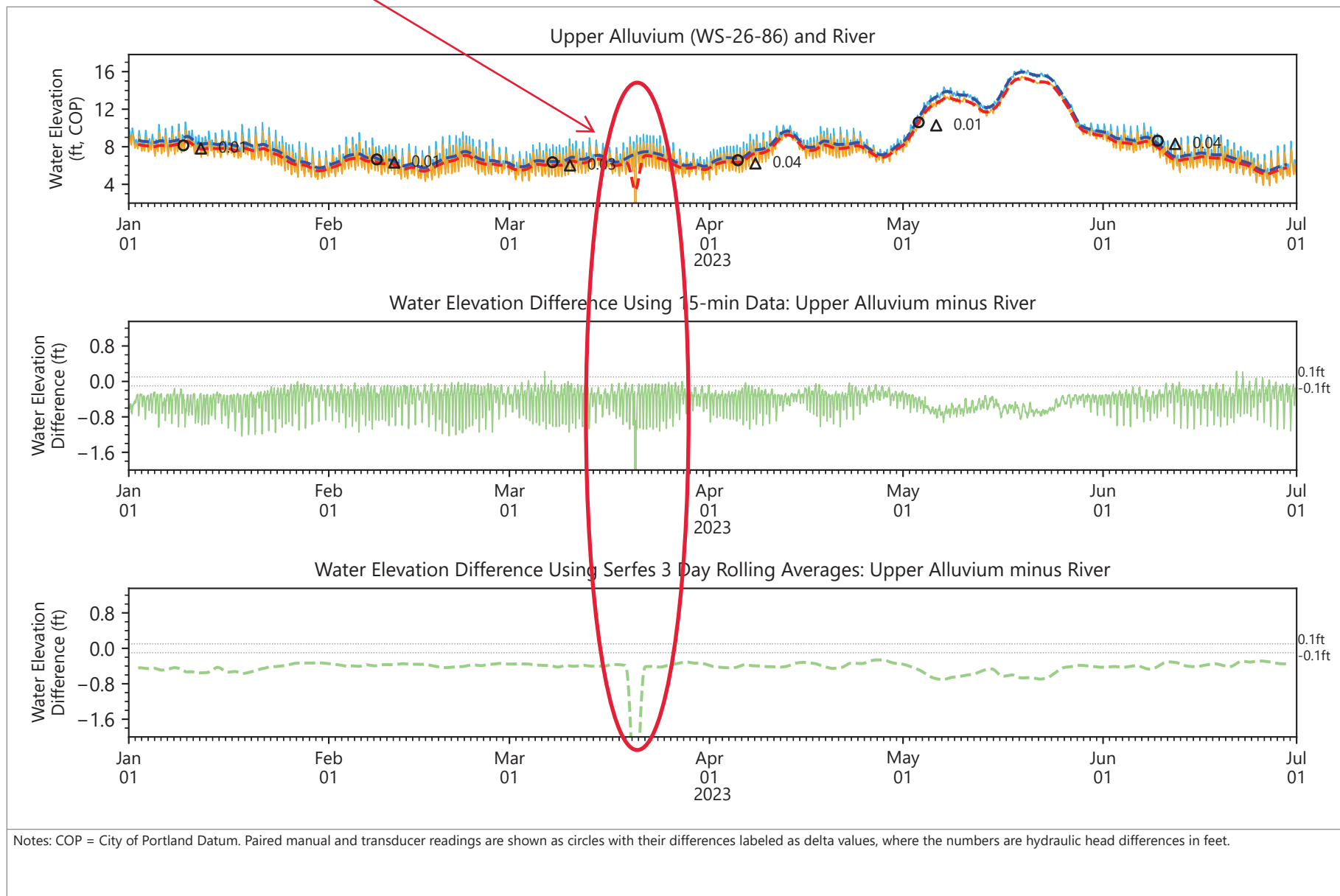
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.30
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

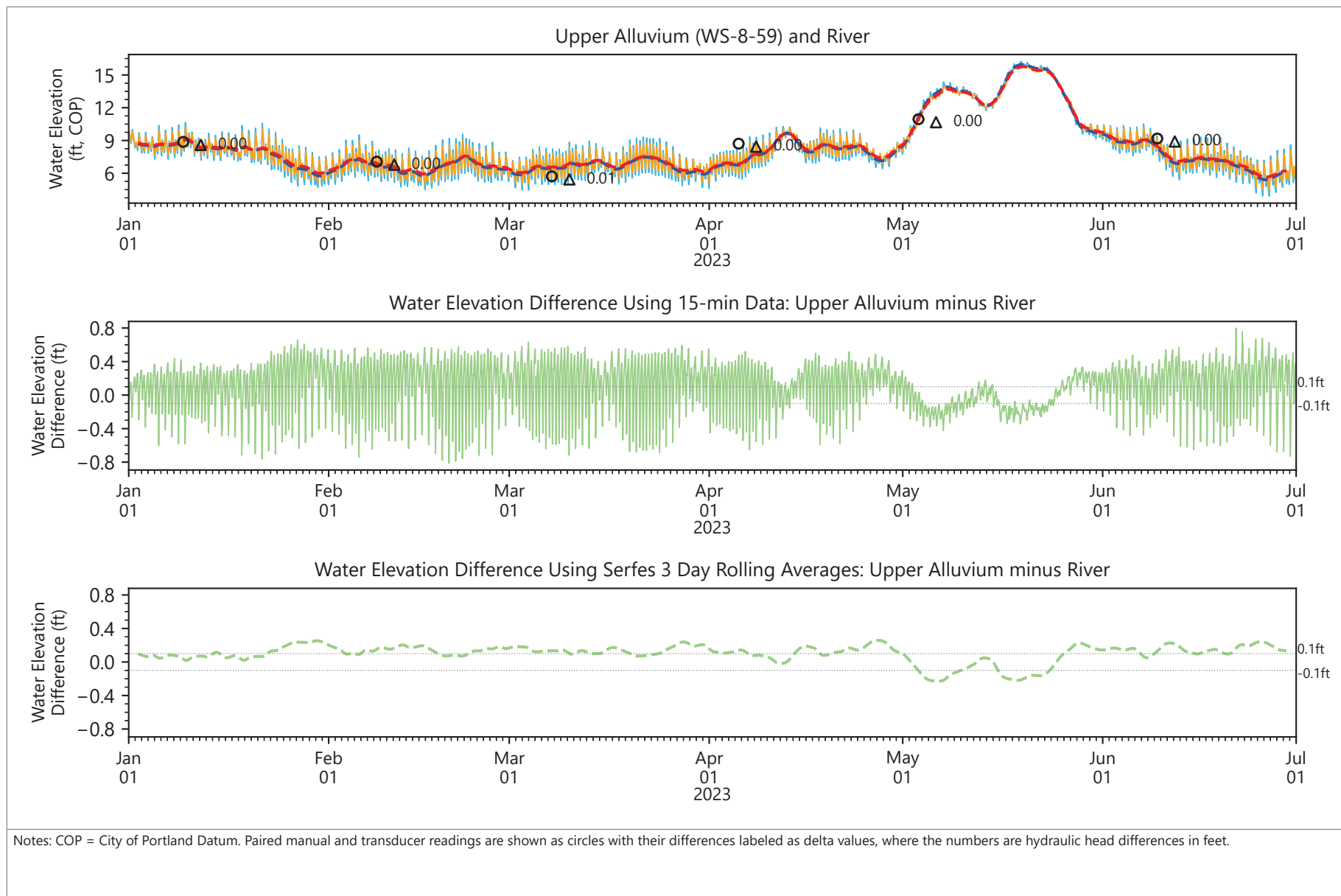


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.31
Groundwater Elevation Differences
 NW Natural Gasco Site



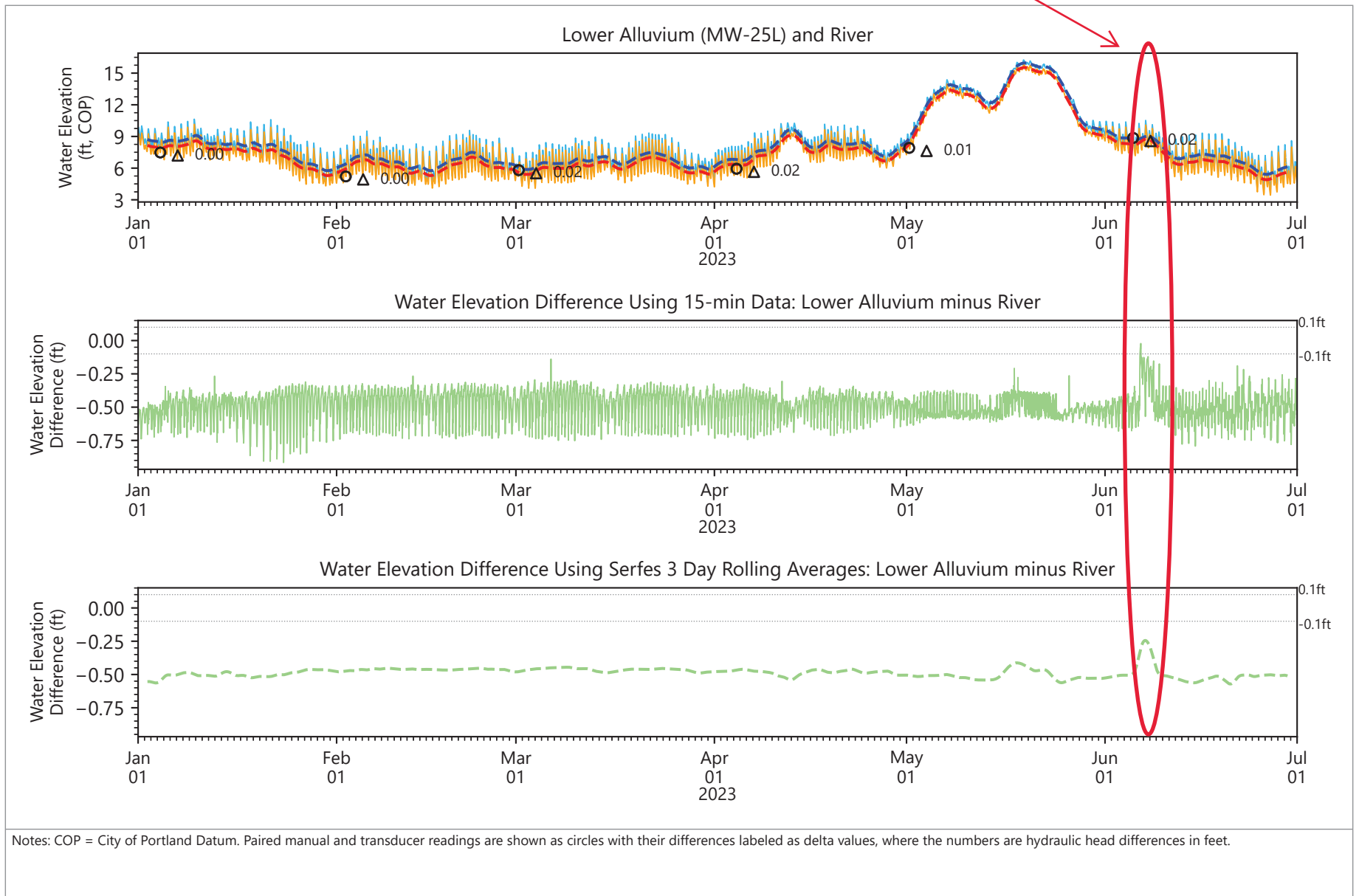
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.32
Groundwater Elevation Differences
 NW Natural Gasco Site

PW-10Lb offline



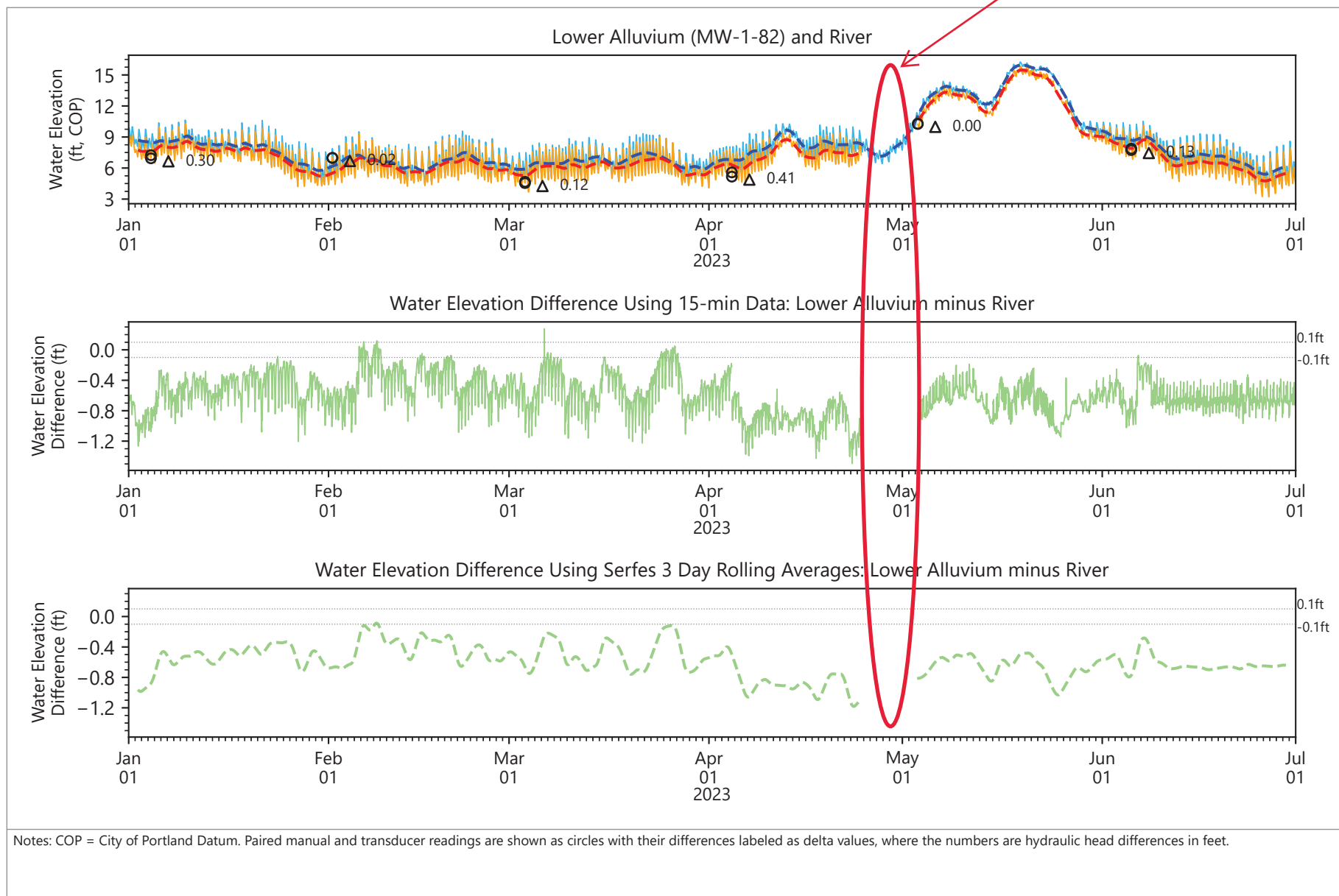
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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.33
Groundwater Elevation Differences
 NW Natural Gasco Site

Transducer malfunction.
Data unrecoverable.



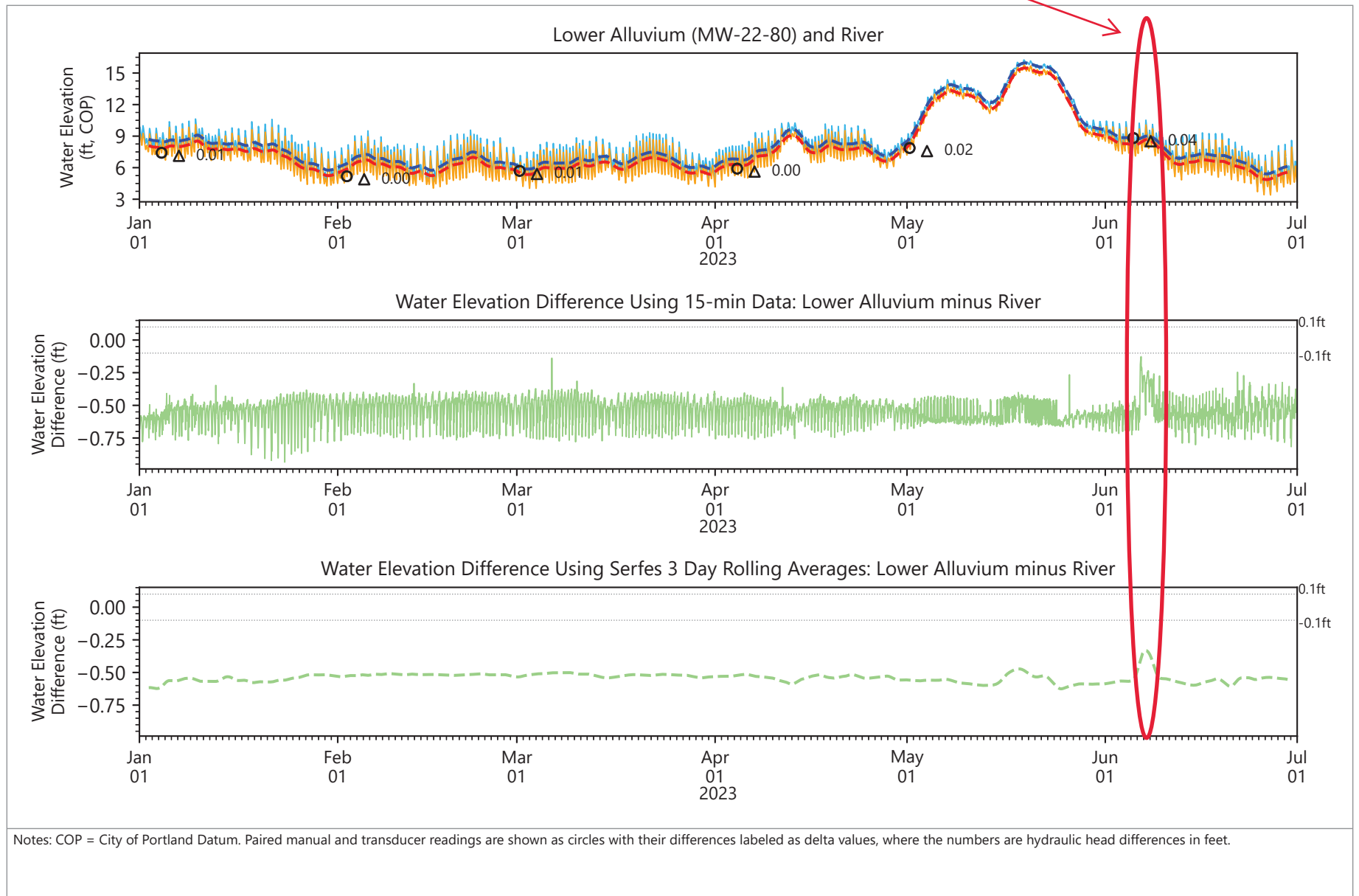
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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.34
Groundwater Elevation Differences
 NW Natural Gasco Site

PW-10Lb offline

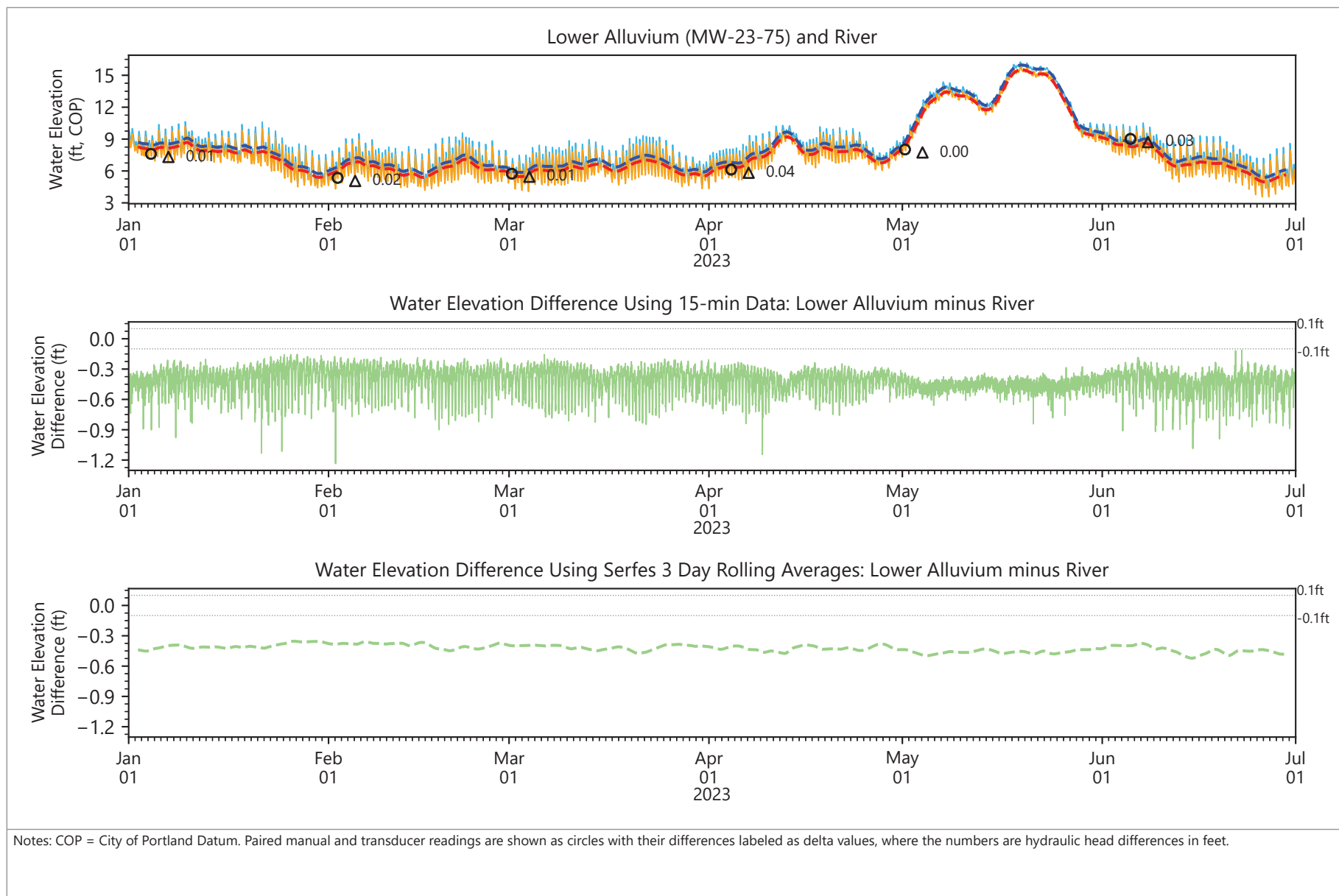


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.35
Groundwater Elevation Differences
 NW Natural Gasco Site



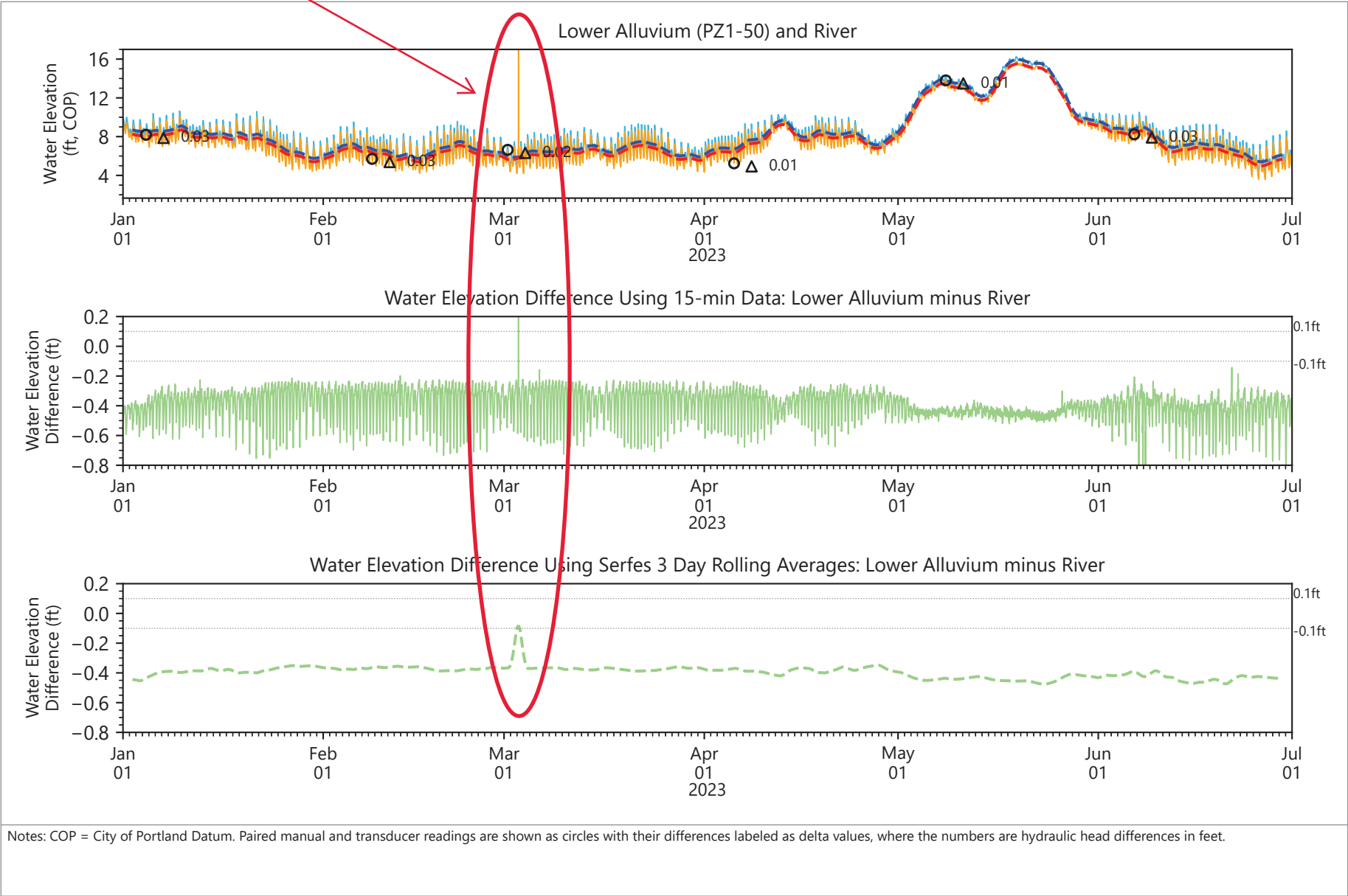
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- Lower Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.36
Groundwater Elevation Differences
 NW Natural Gasco Site

Transducer maintenance

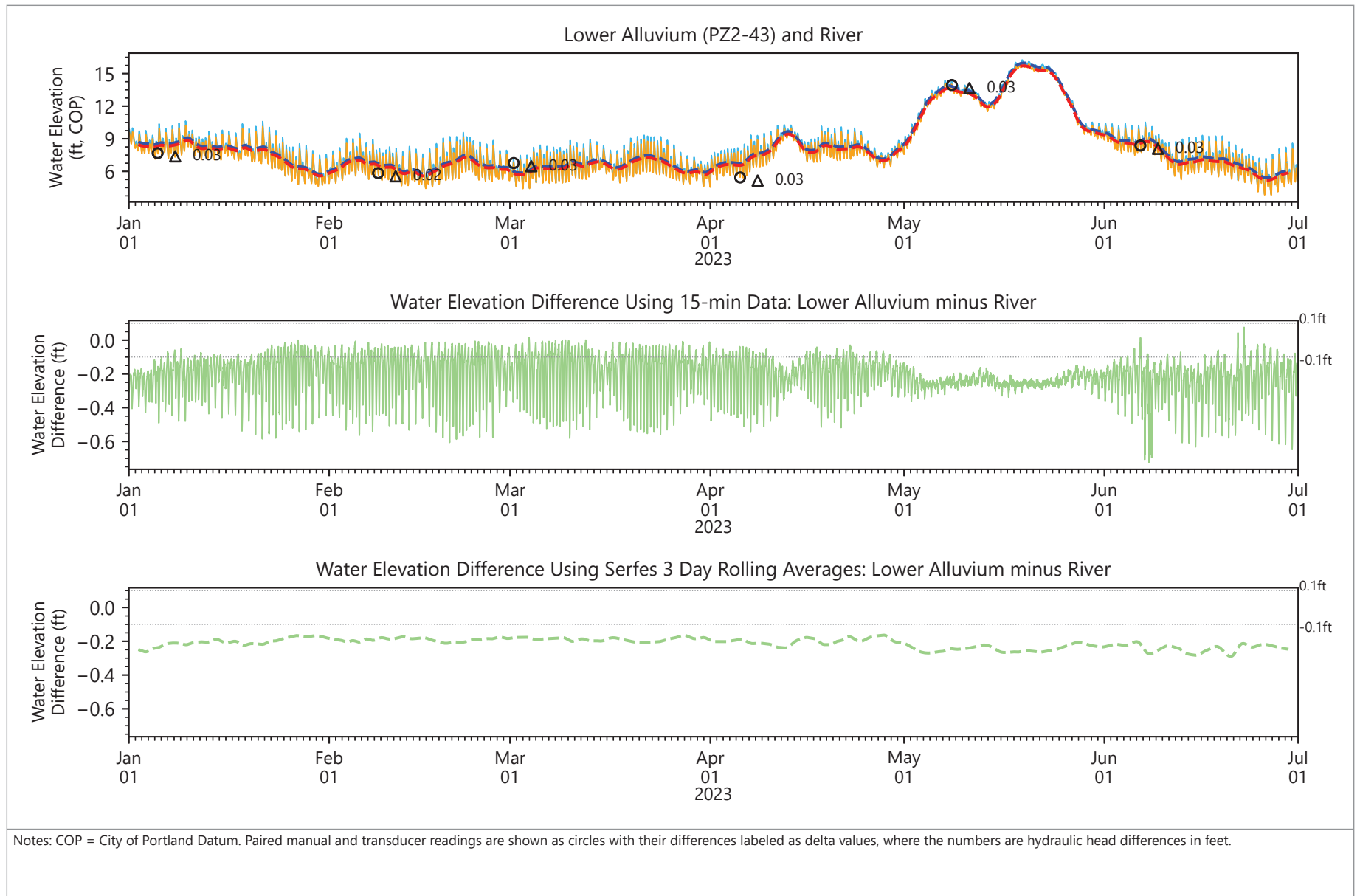


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- Lower Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.37
Groundwater Elevation Differences
NW Natural Gasco Site



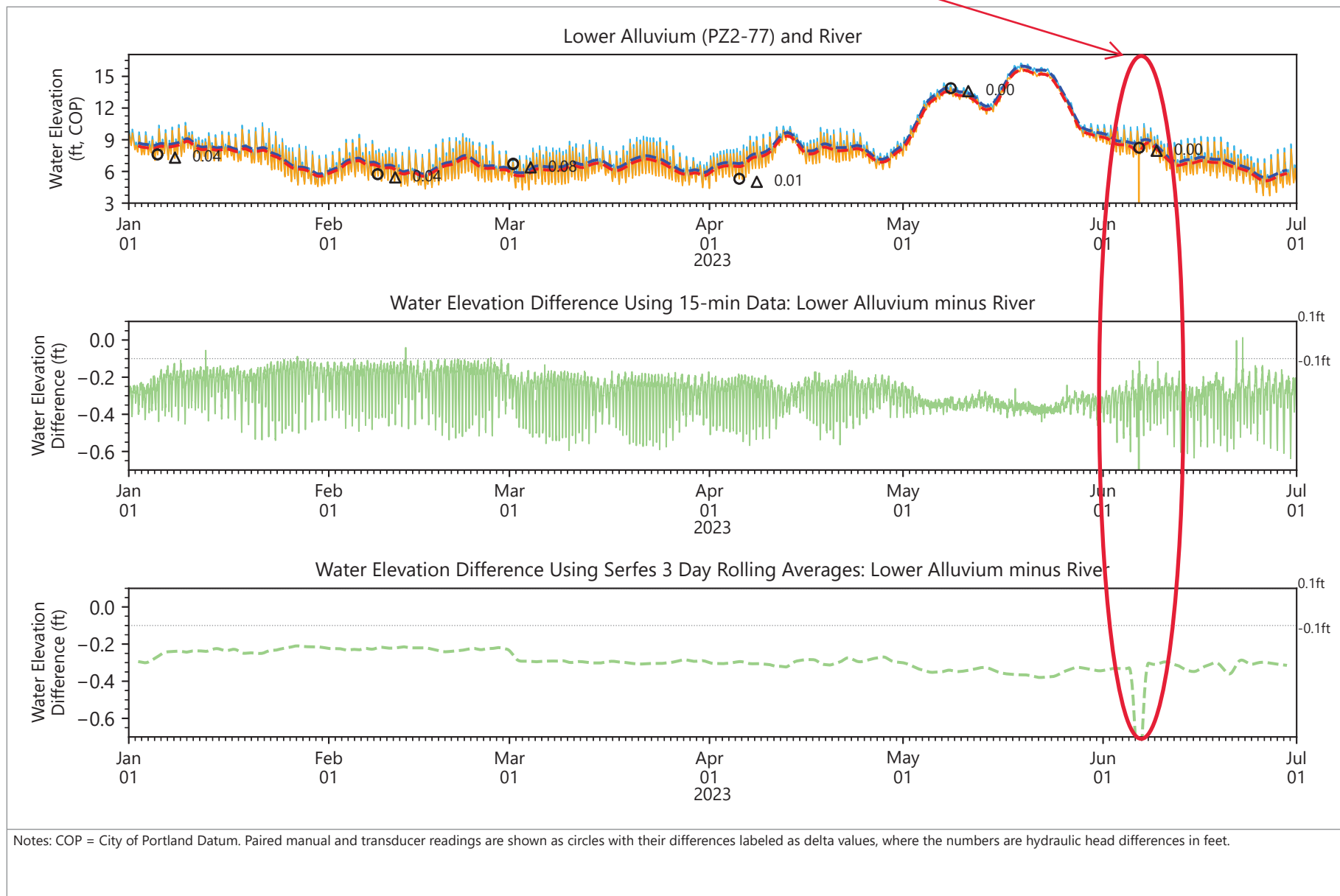
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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.38
Groundwater Elevation Differences
 NW Natural Gasco Site

Transducer Maintenance.



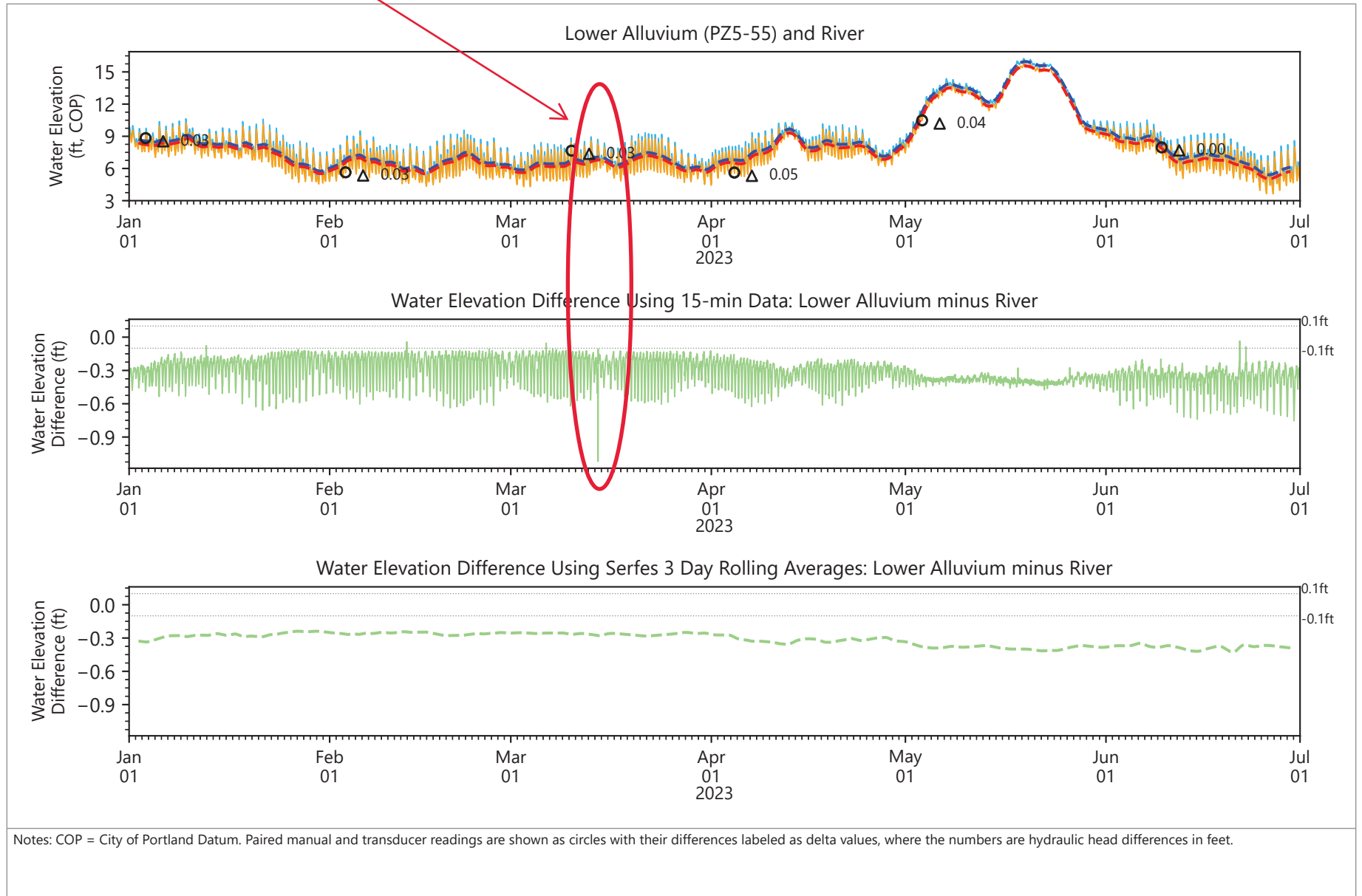
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.39
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling



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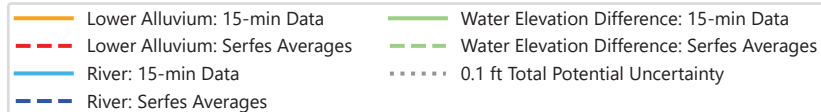
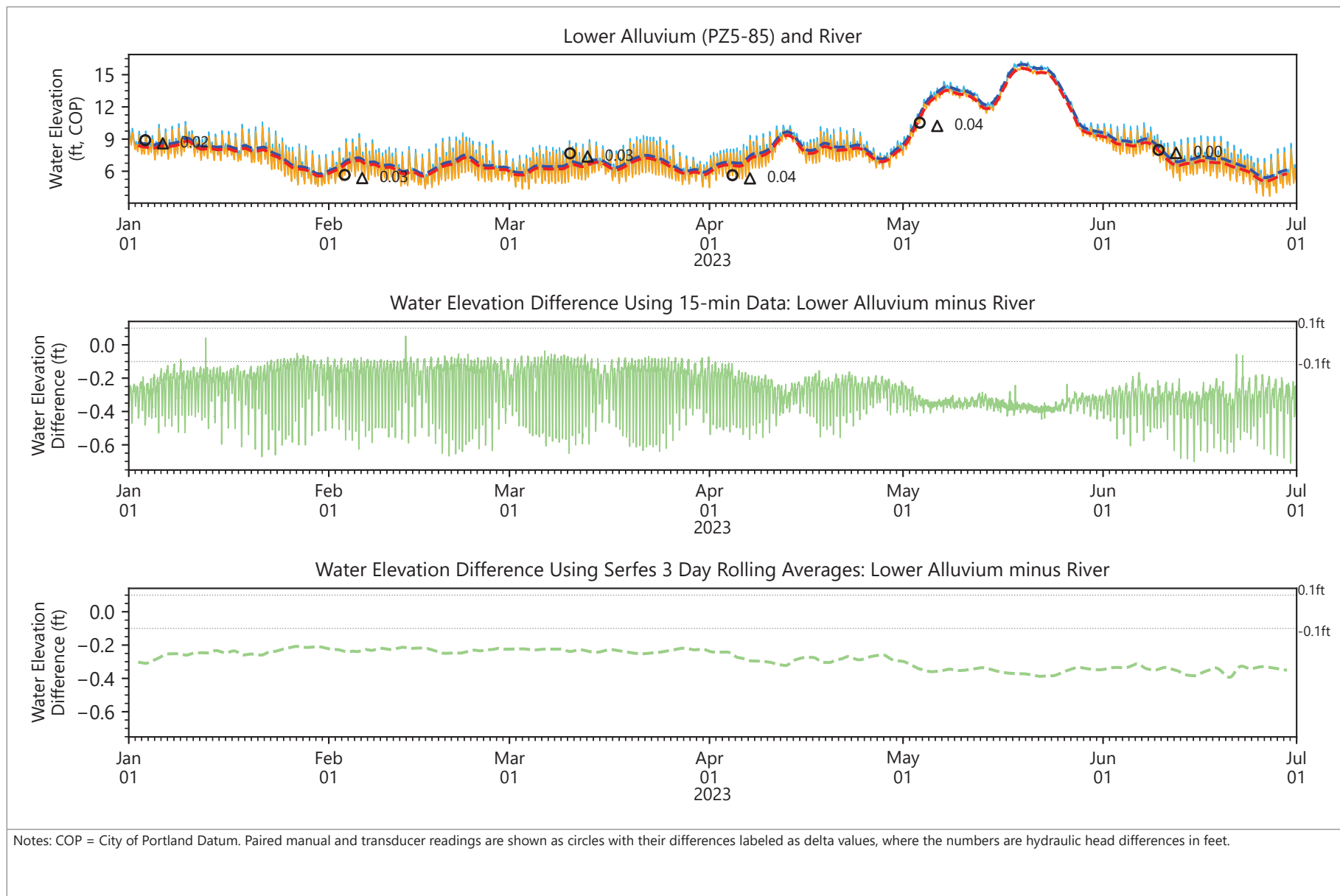


Figure 4.40
Groundwater Elevation Differences
 NW Natural Gasco Site

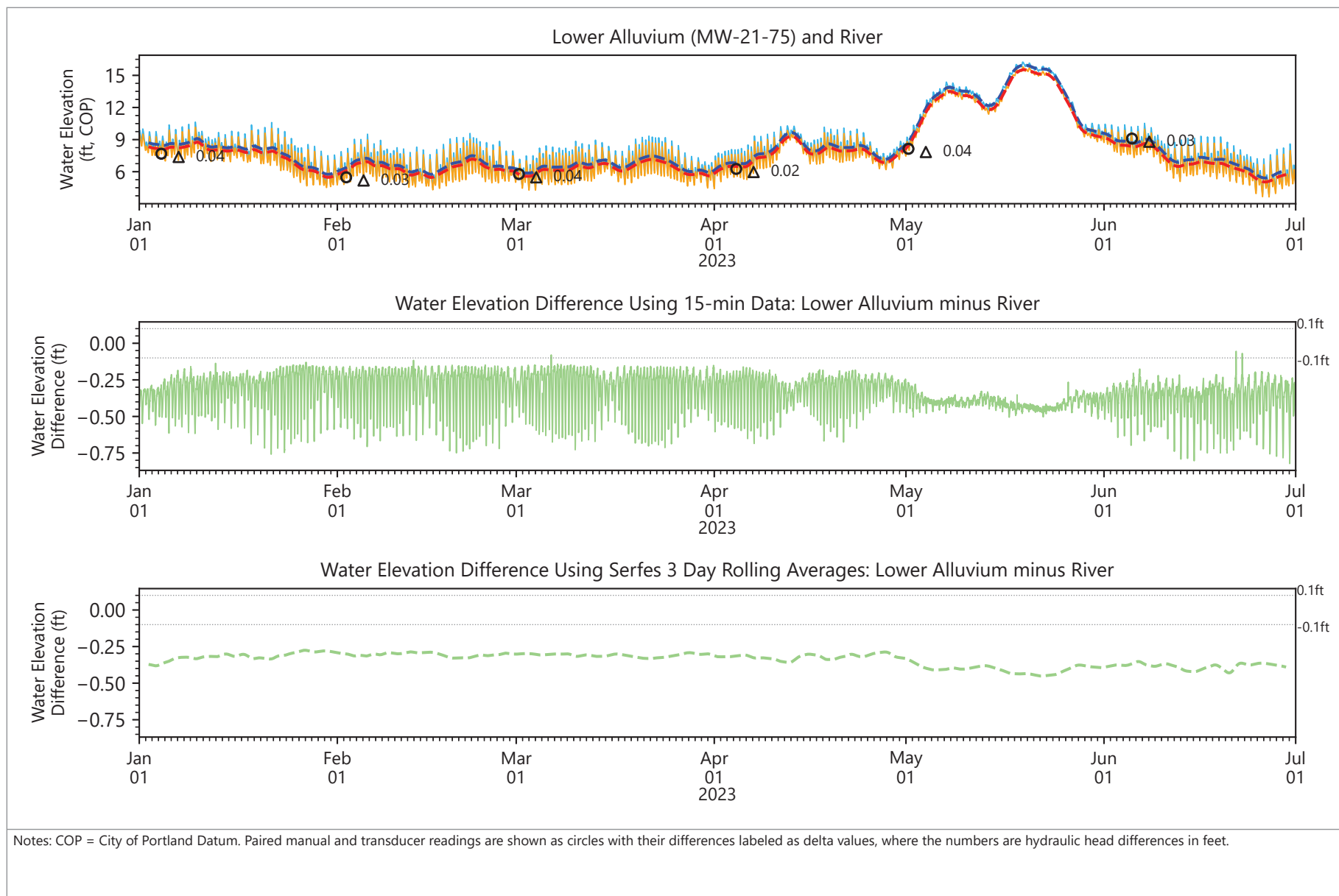


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.41
Groundwater Elevation Differences
 NW Natural Gasco Site

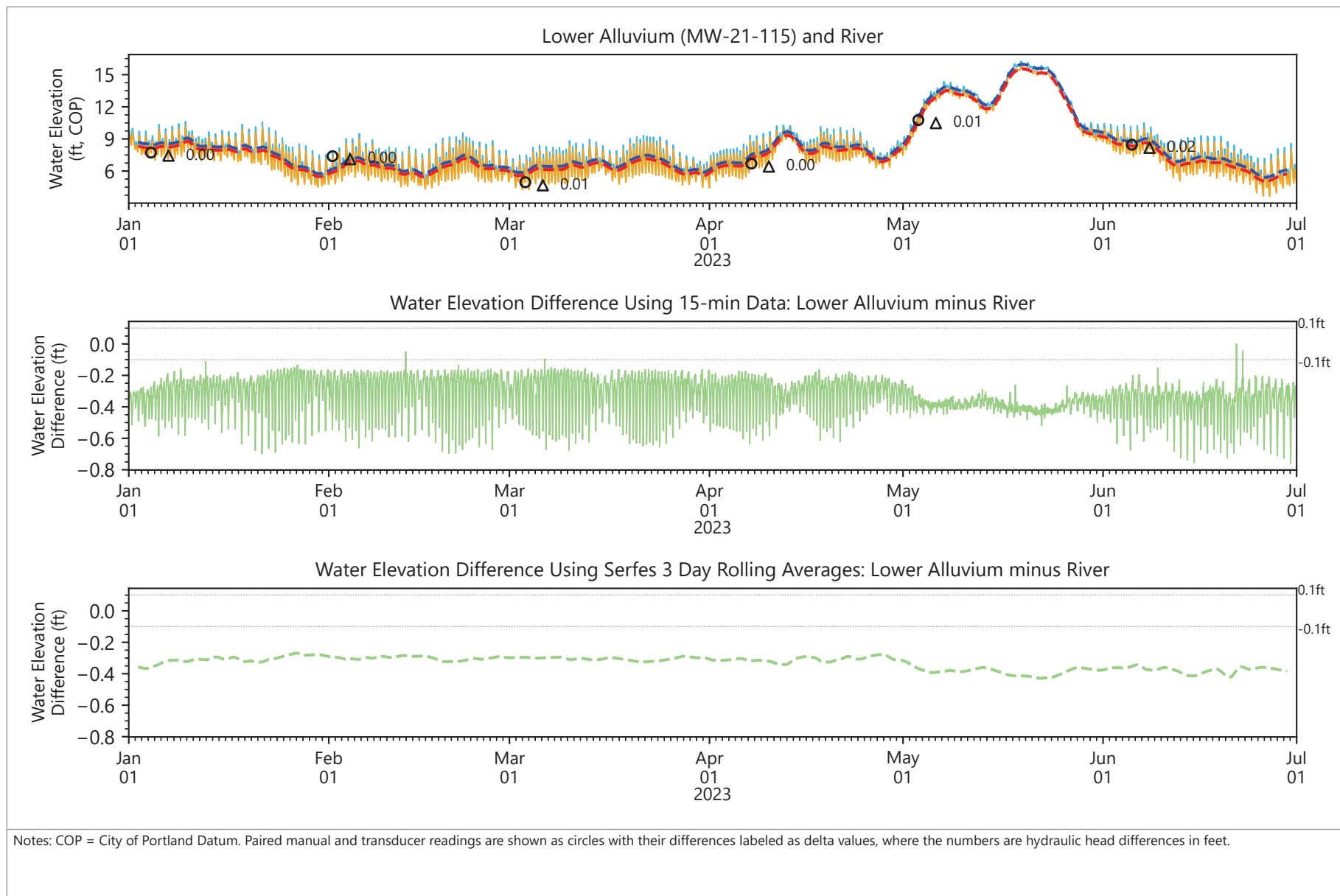


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- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

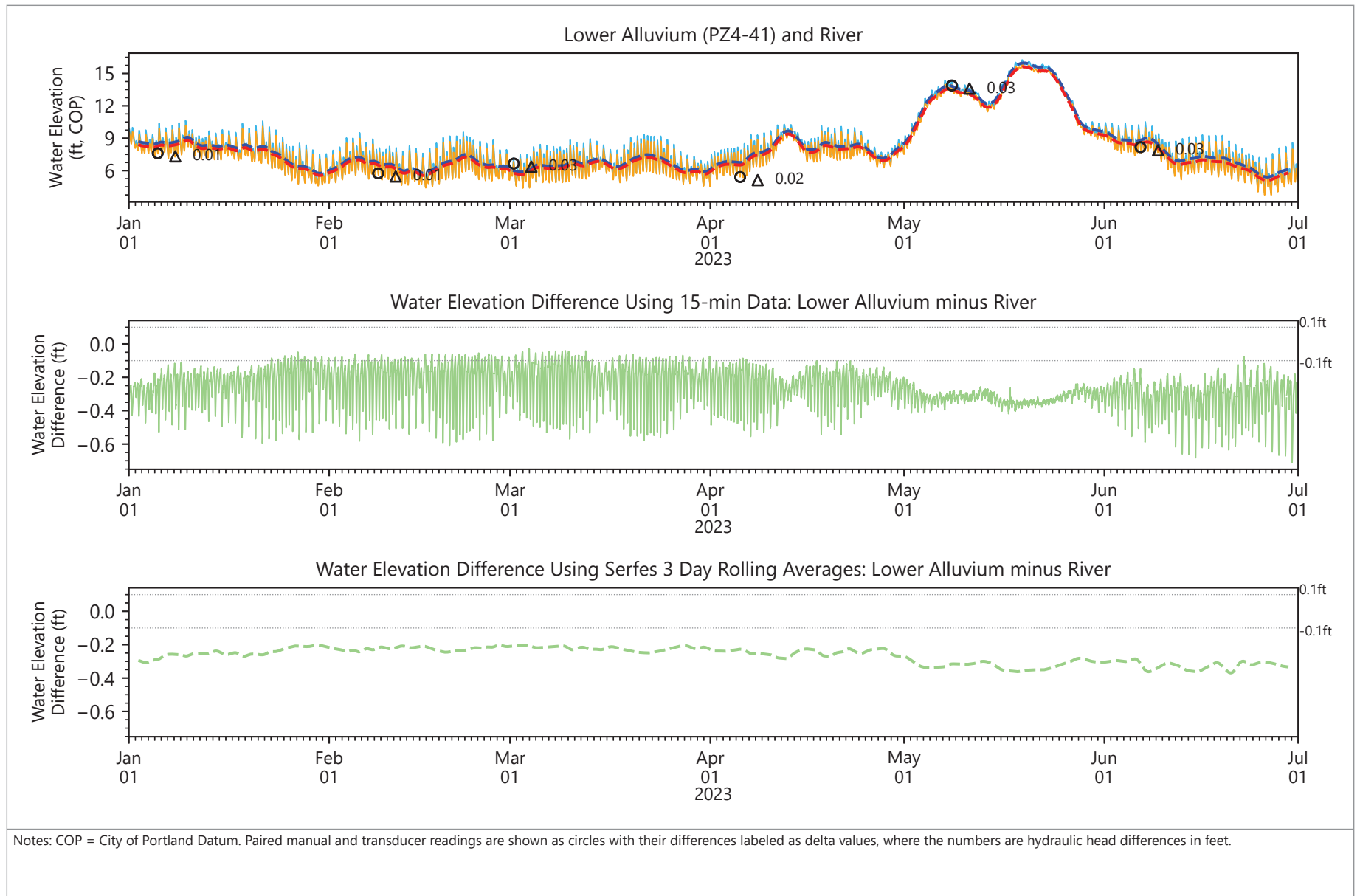
Figure 4.42
Groundwater Elevation Differences
 NW Natural Gasco Site



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Figure 4.43
Groundwater Elevation Differences
NW Natural Gasco Site

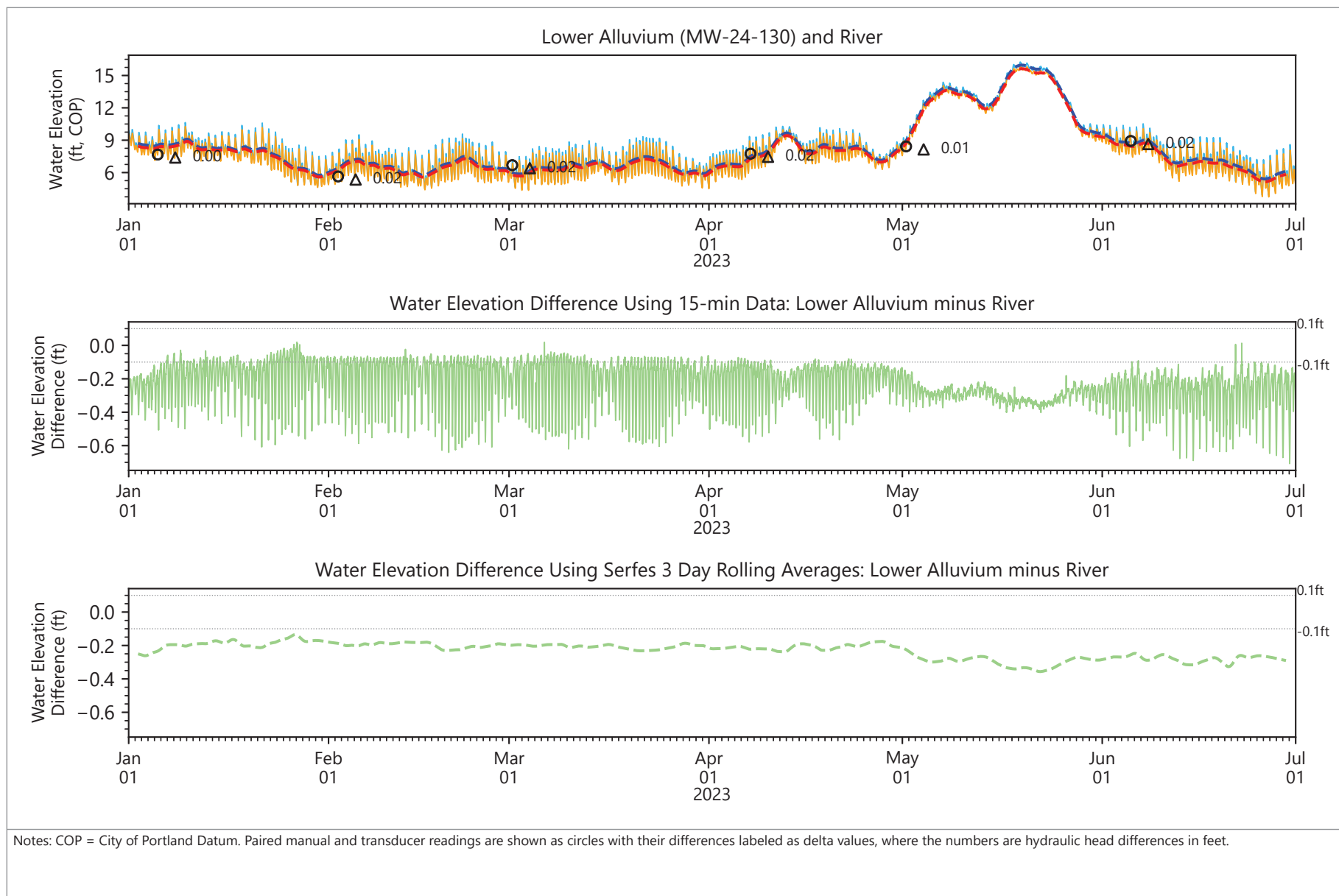


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.44
Groundwater Elevation Differences
 NW Natural Gasco Site



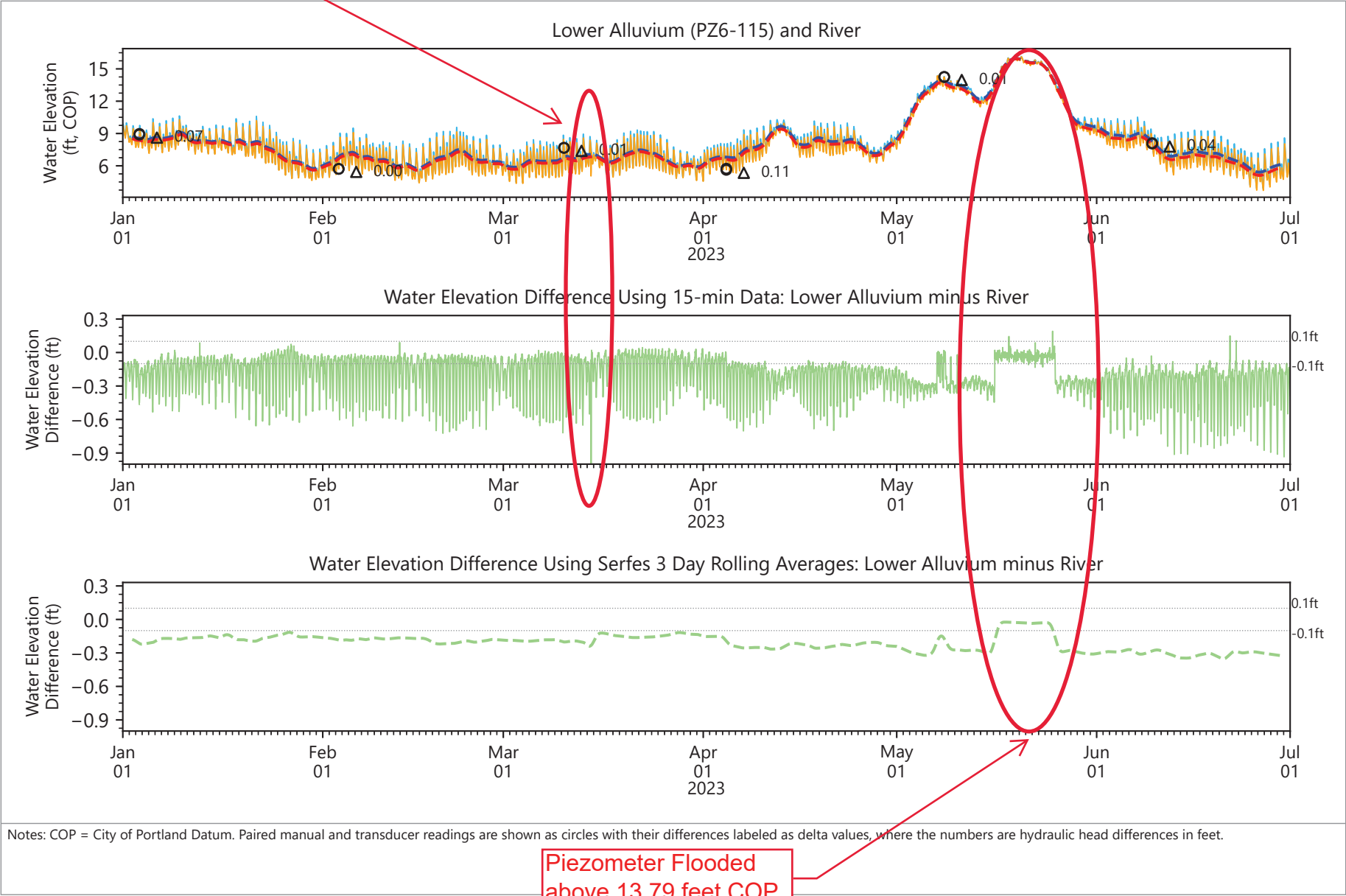
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- Lower Alluvium: 15-min Data
- - - Lower Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.45
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

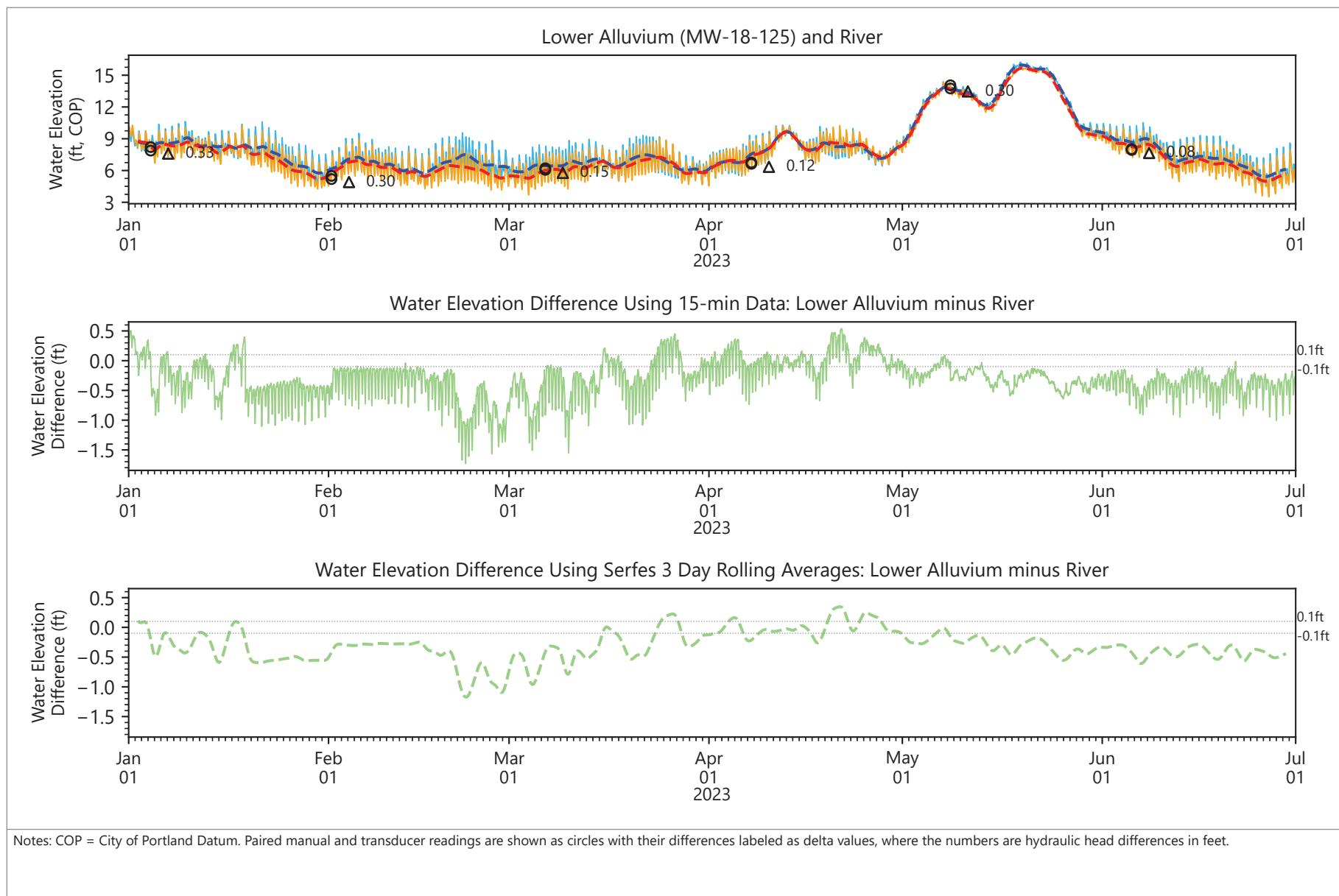


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- Lower Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
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- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.46
Groundwater Elevation Differences
NW Natural Gasco Site

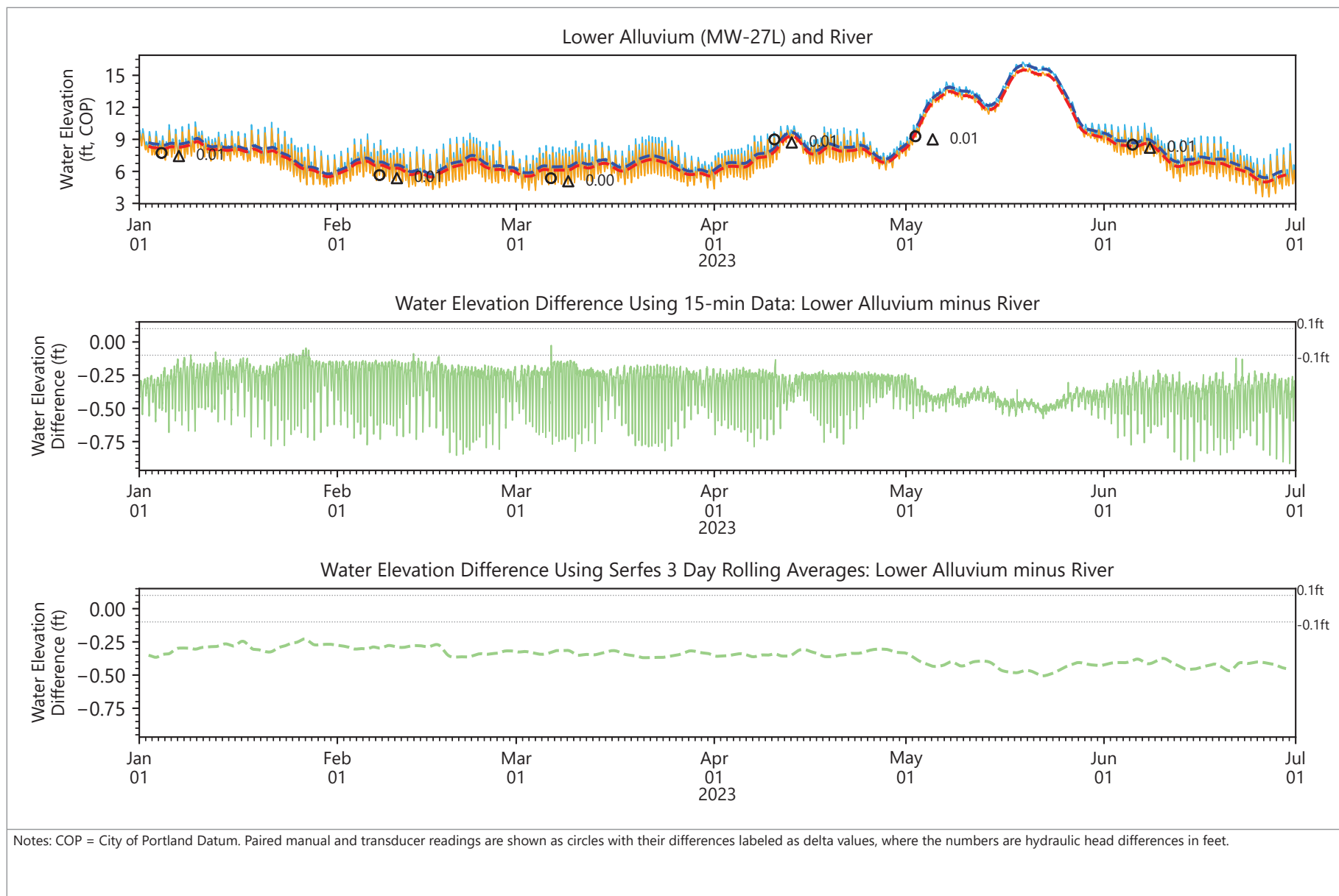


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- Lower Alluvium: 15-min Data
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- River: Serfes Averages
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- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.47
Groundwater Elevation Differences
 NW Natural Gasco Site

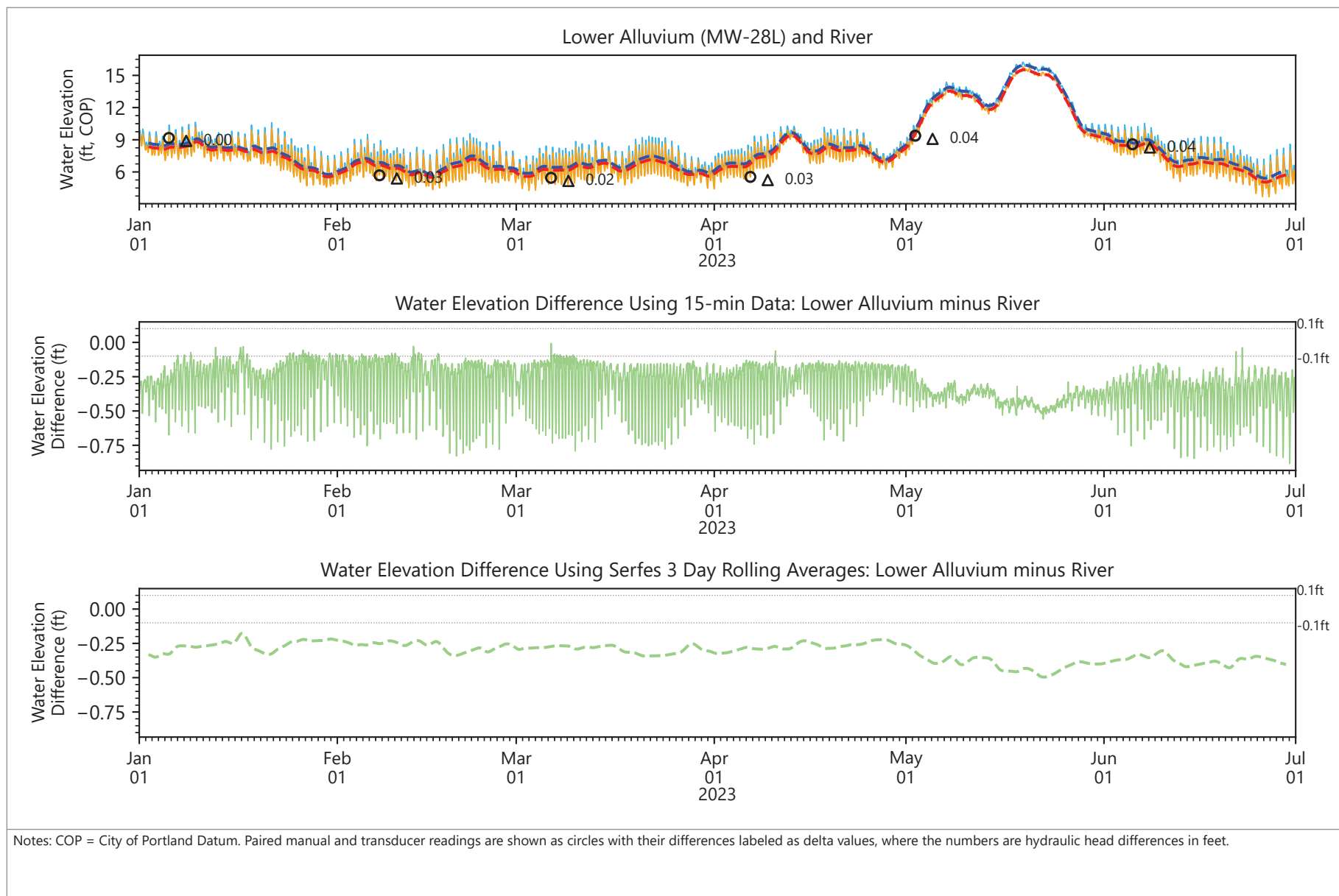


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.48
Groundwater Elevation Differences
 NW Natural Gasco Site



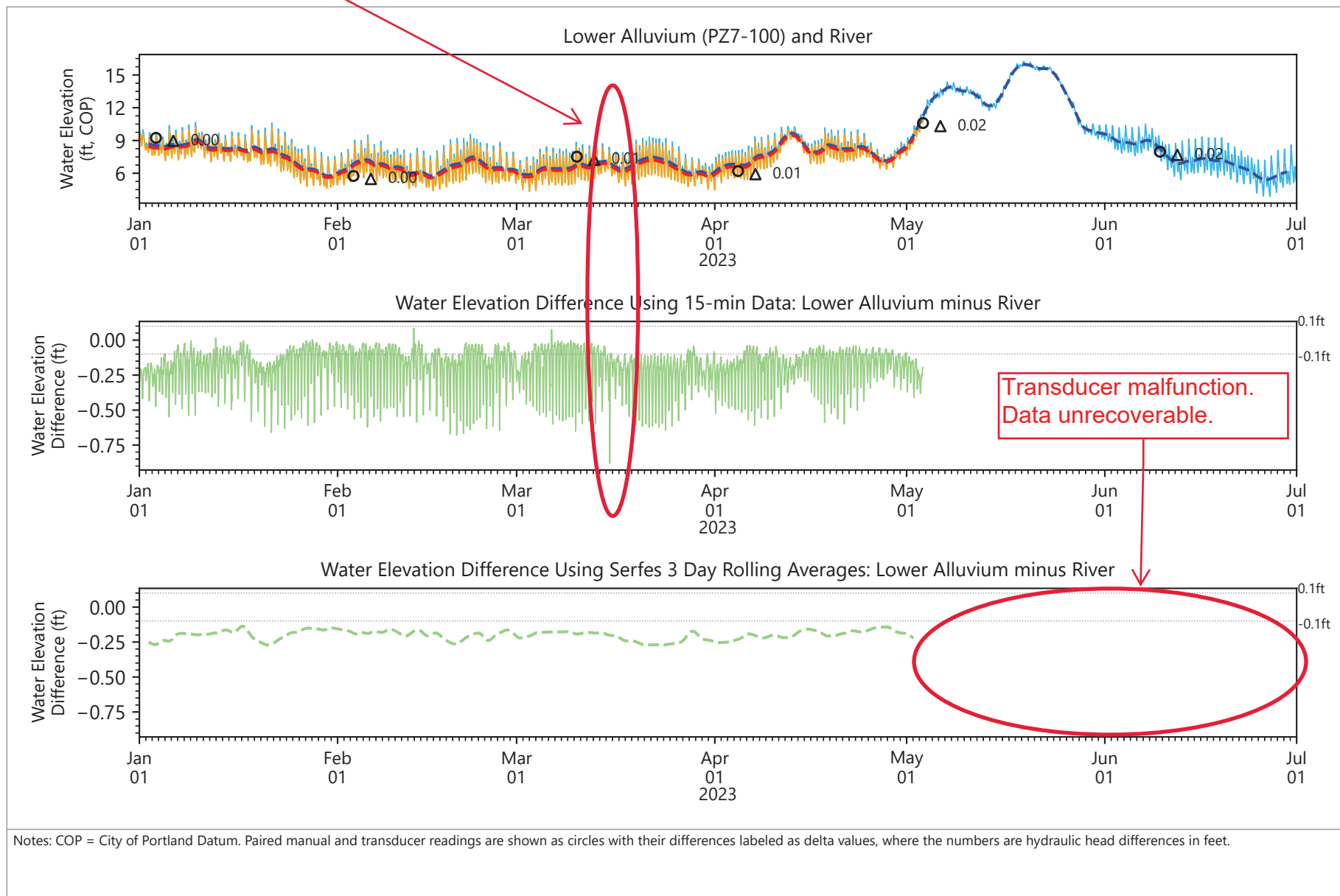
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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.49
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

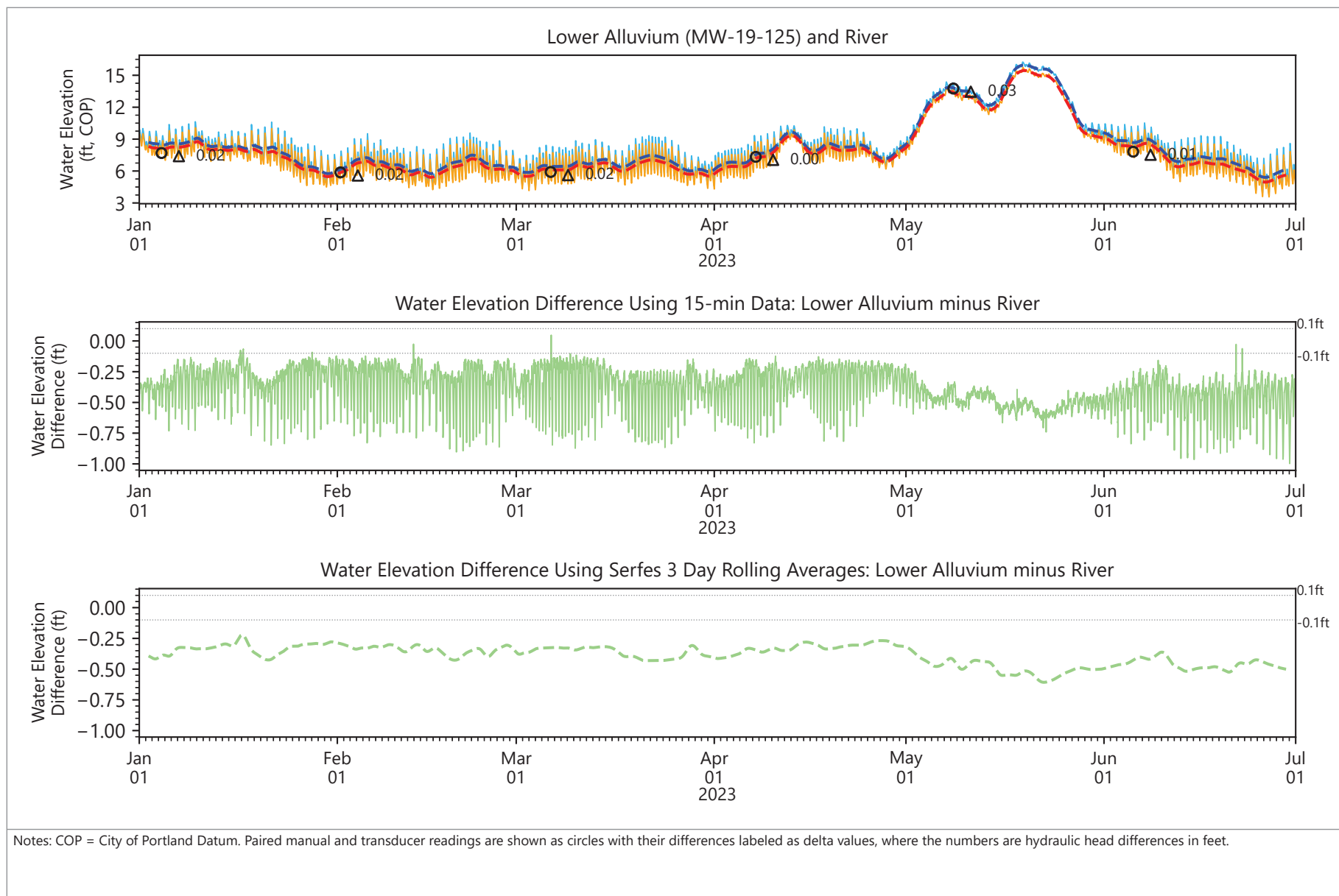


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.50
Groundwater Elevation Differences
 NW Natural Gasco Site

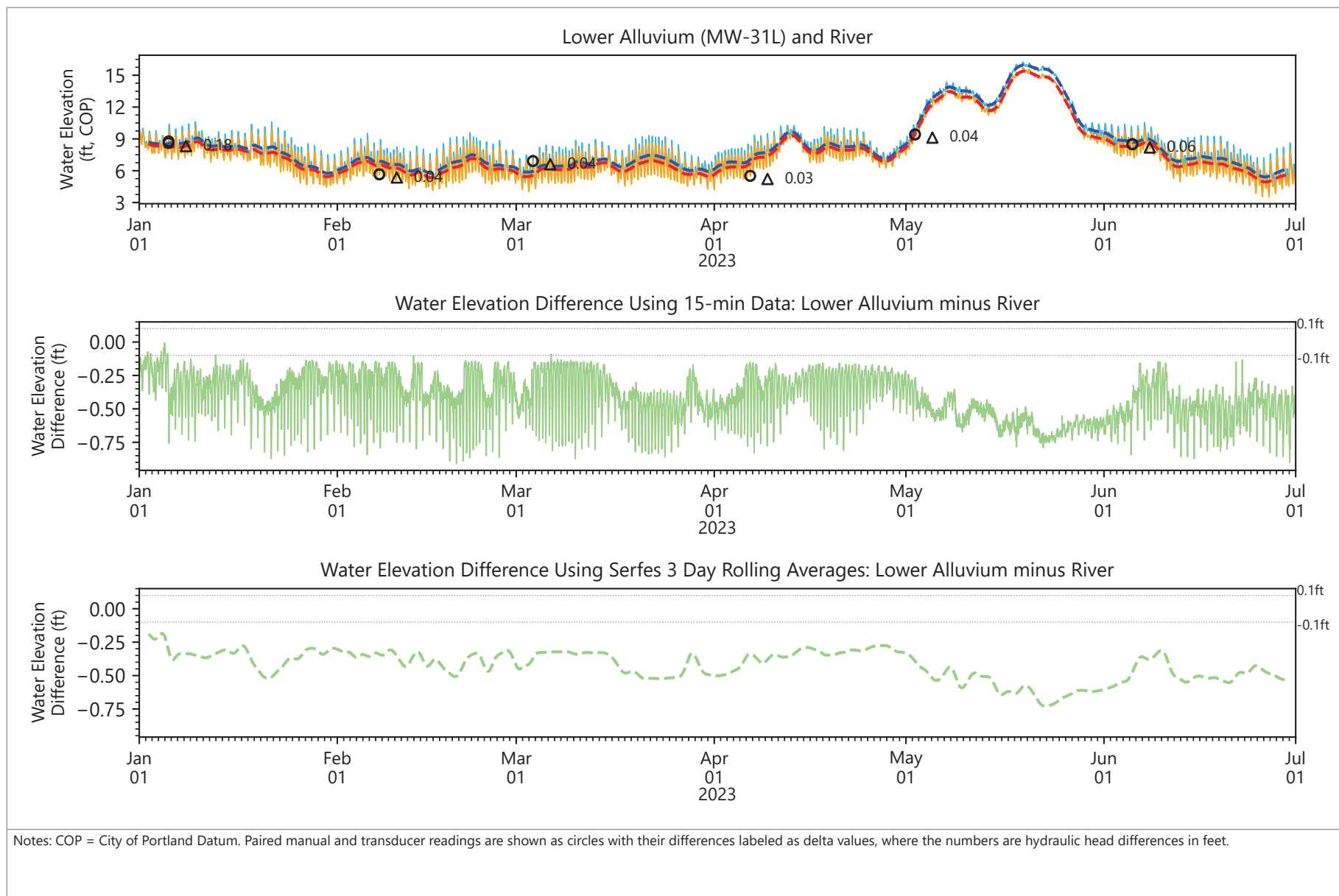


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.51
Groundwater Elevation Differences
 NW Natural Gasco Site



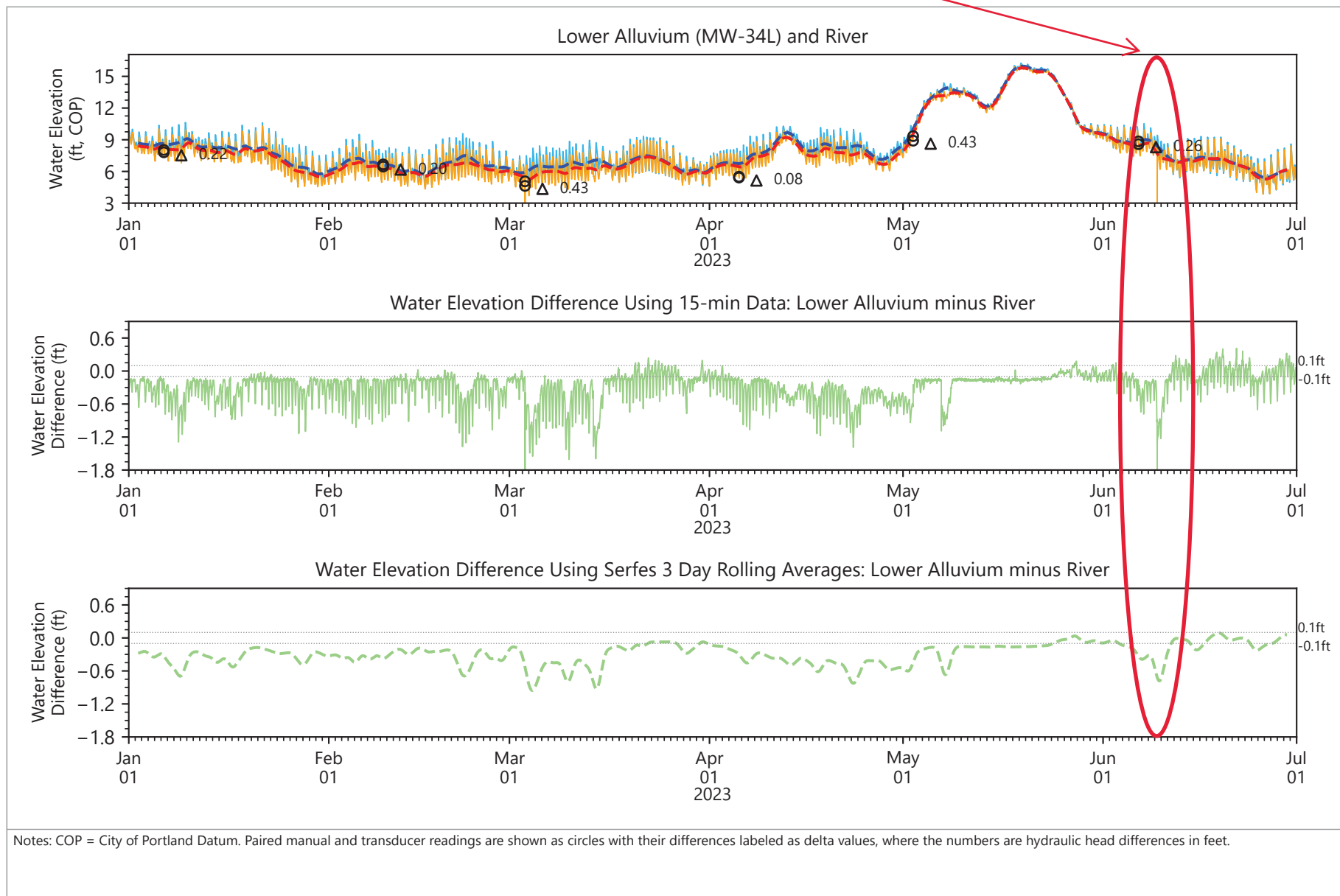
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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.52
Groundwater Elevation Differences
 NW Natural Gasco Site

Transducer Maintenance.



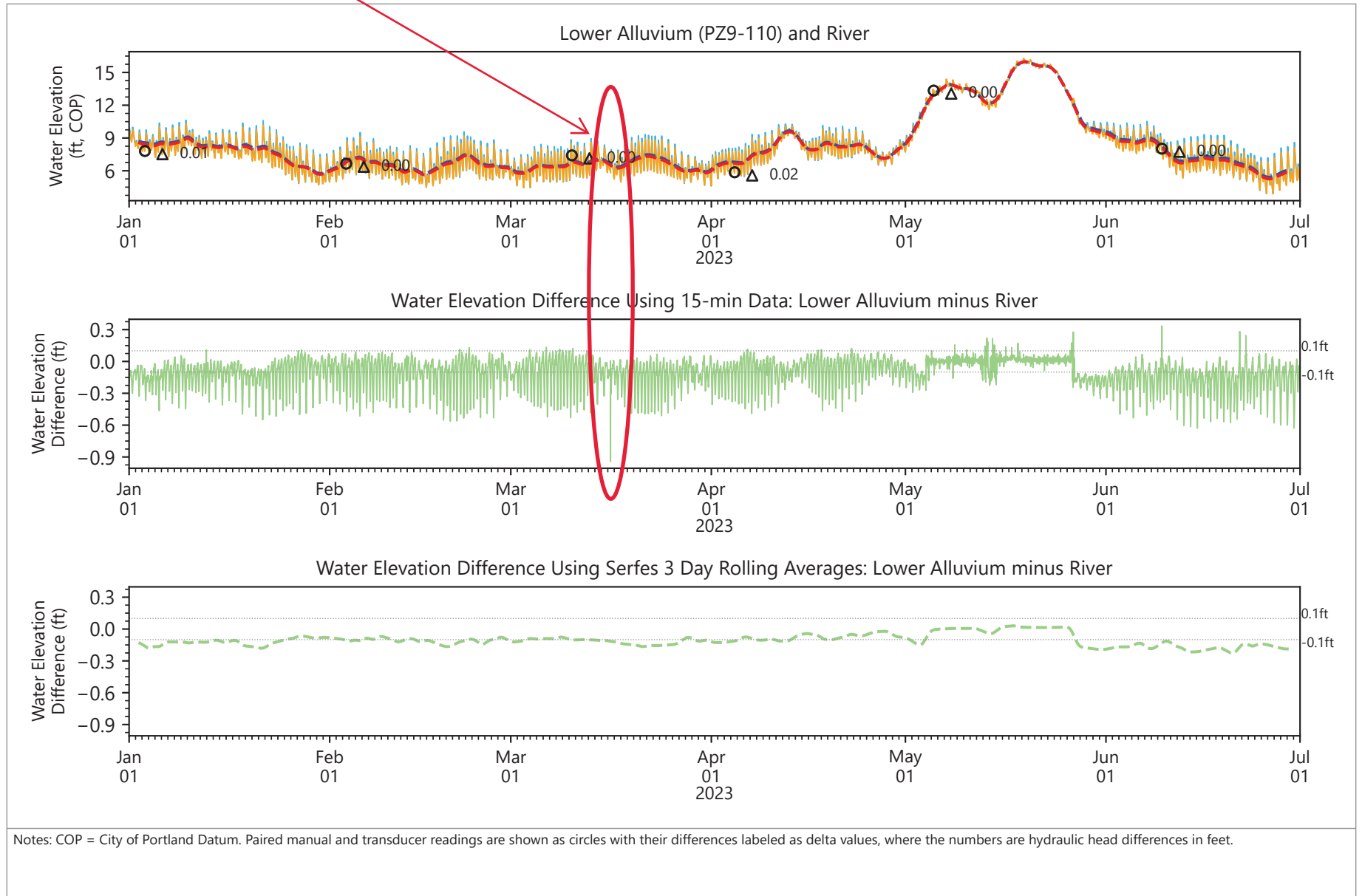
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- Lower Alluvium: 15-min Data
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- River: Serfes Averages
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- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.53
Groundwater Elevation Differences
NW Natural Gasco Site

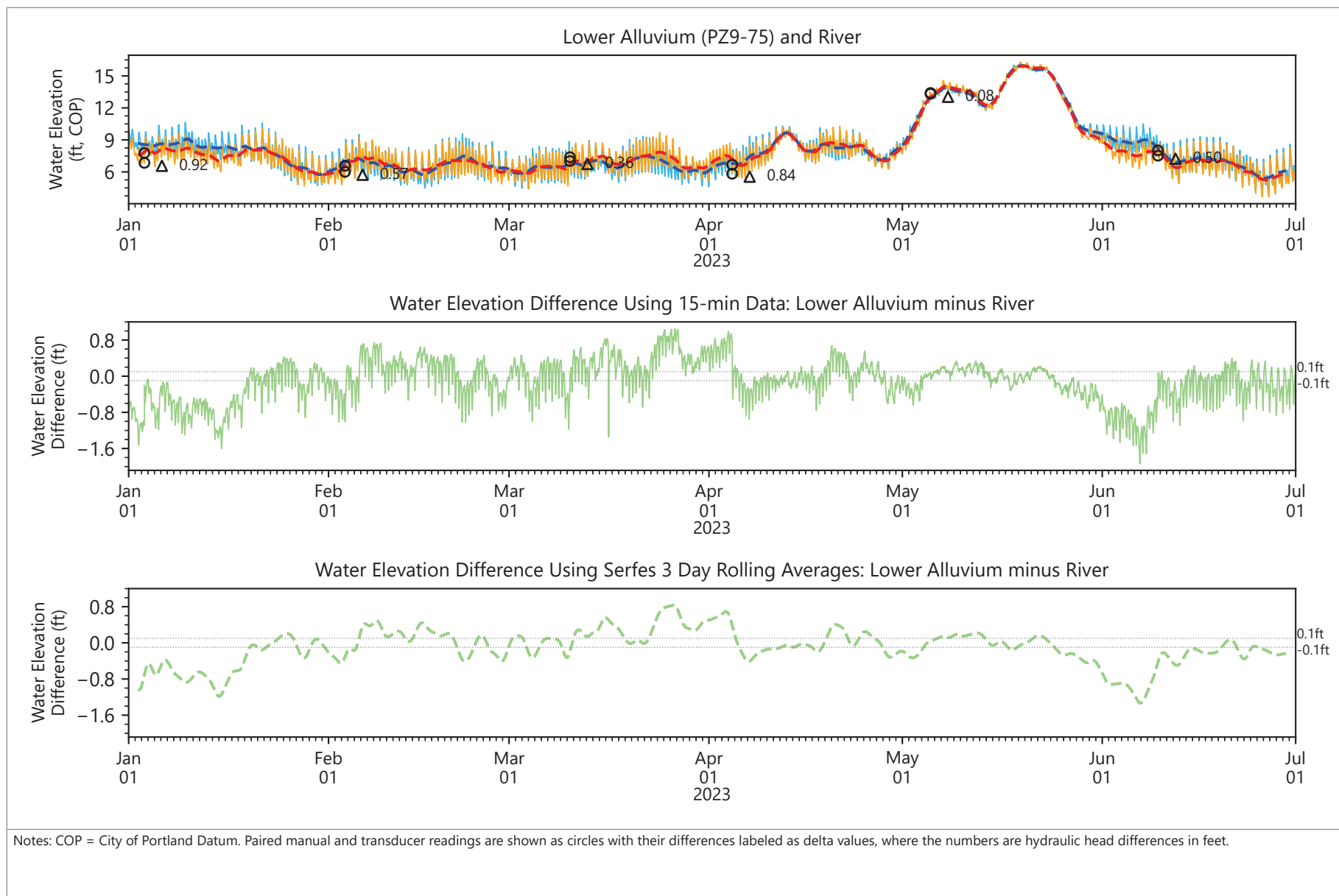
1Q Groundwater Sampling



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Figure 4.54
Groundwater Elevation Differences
 NW Natural Gasco Site

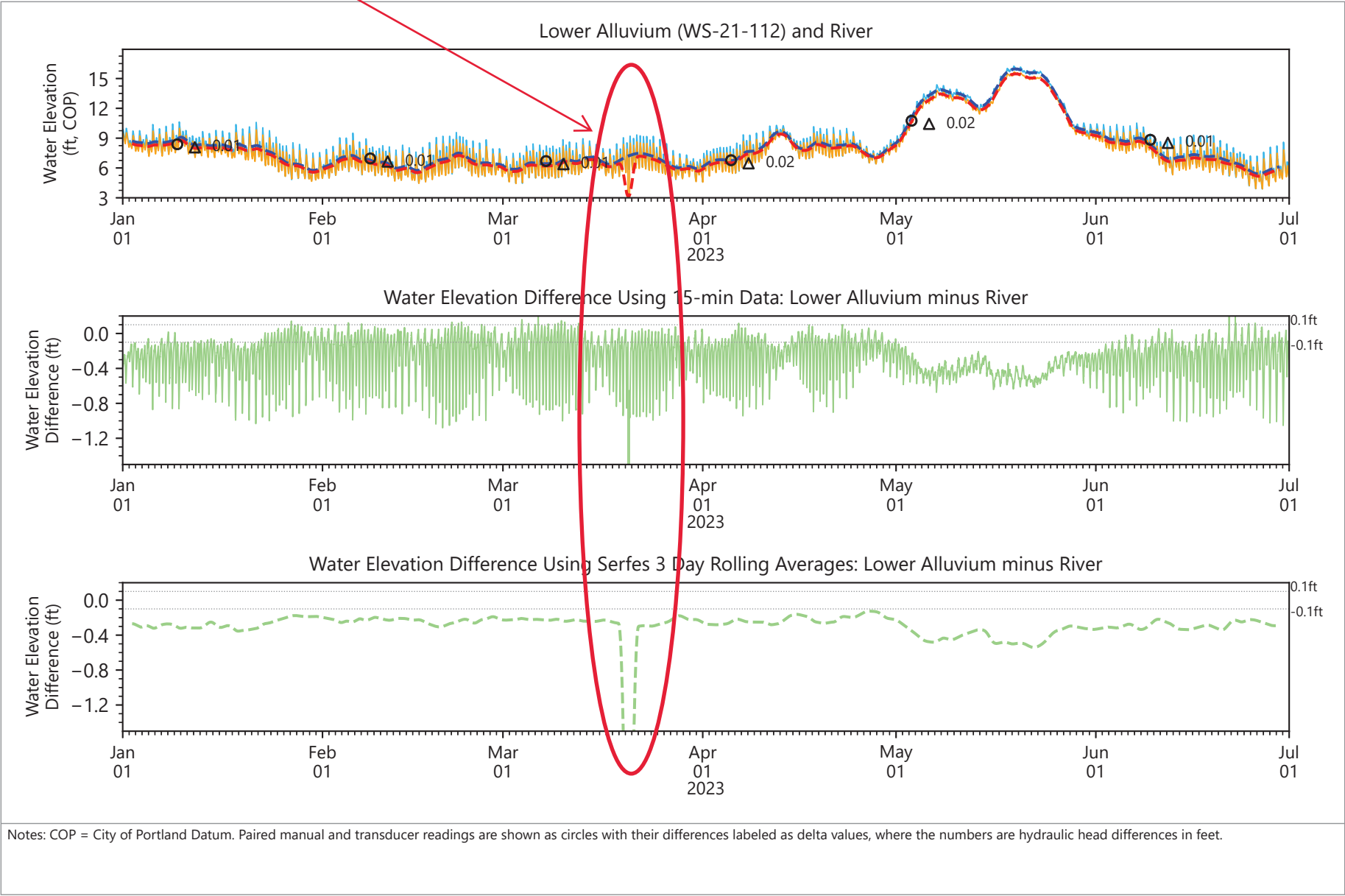


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- Lower Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Lower Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.55
Groundwater Elevation Differences
 NW Natural Gasco Site

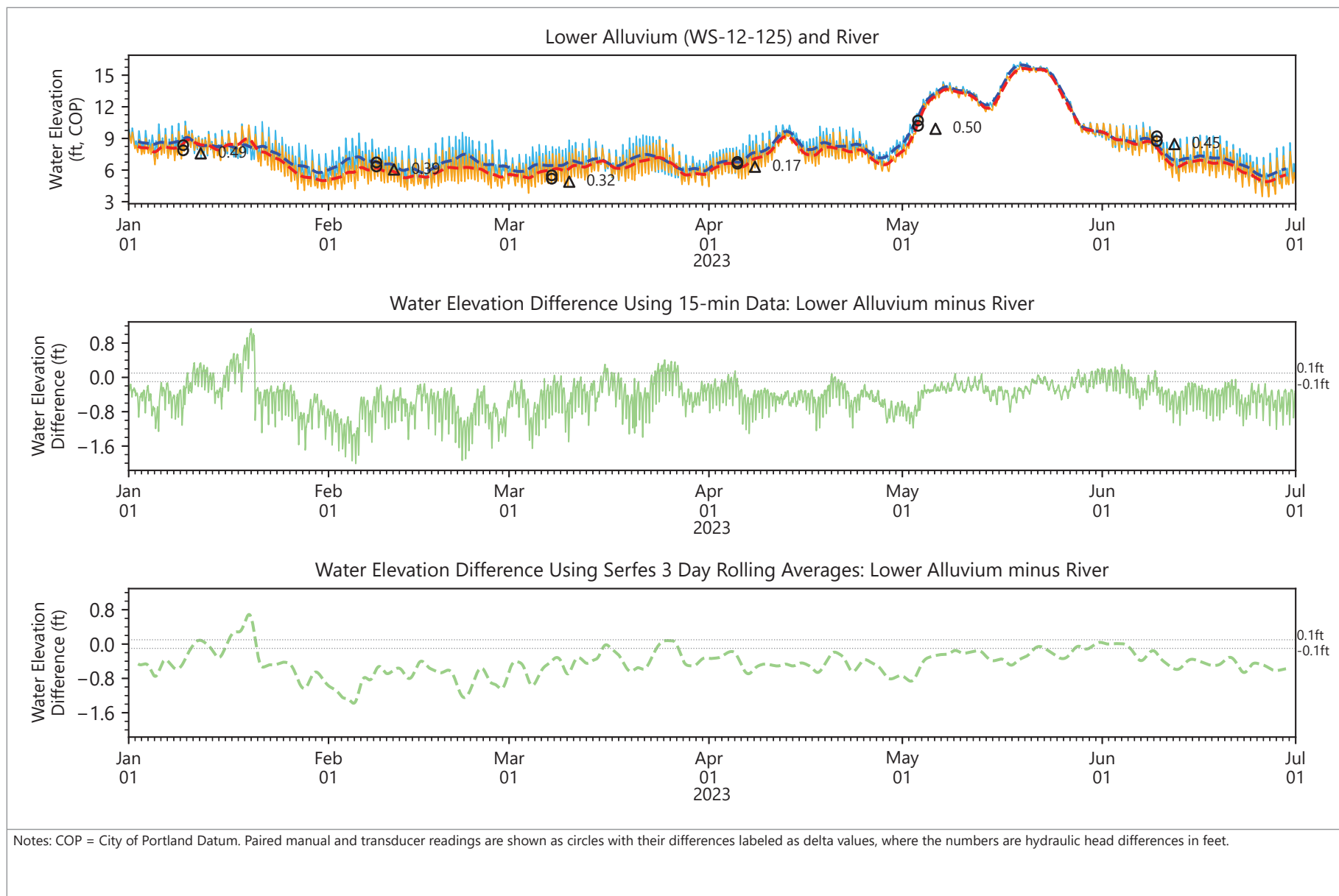


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.56
Groundwater Elevation Differences
NW Natural Gasco Site

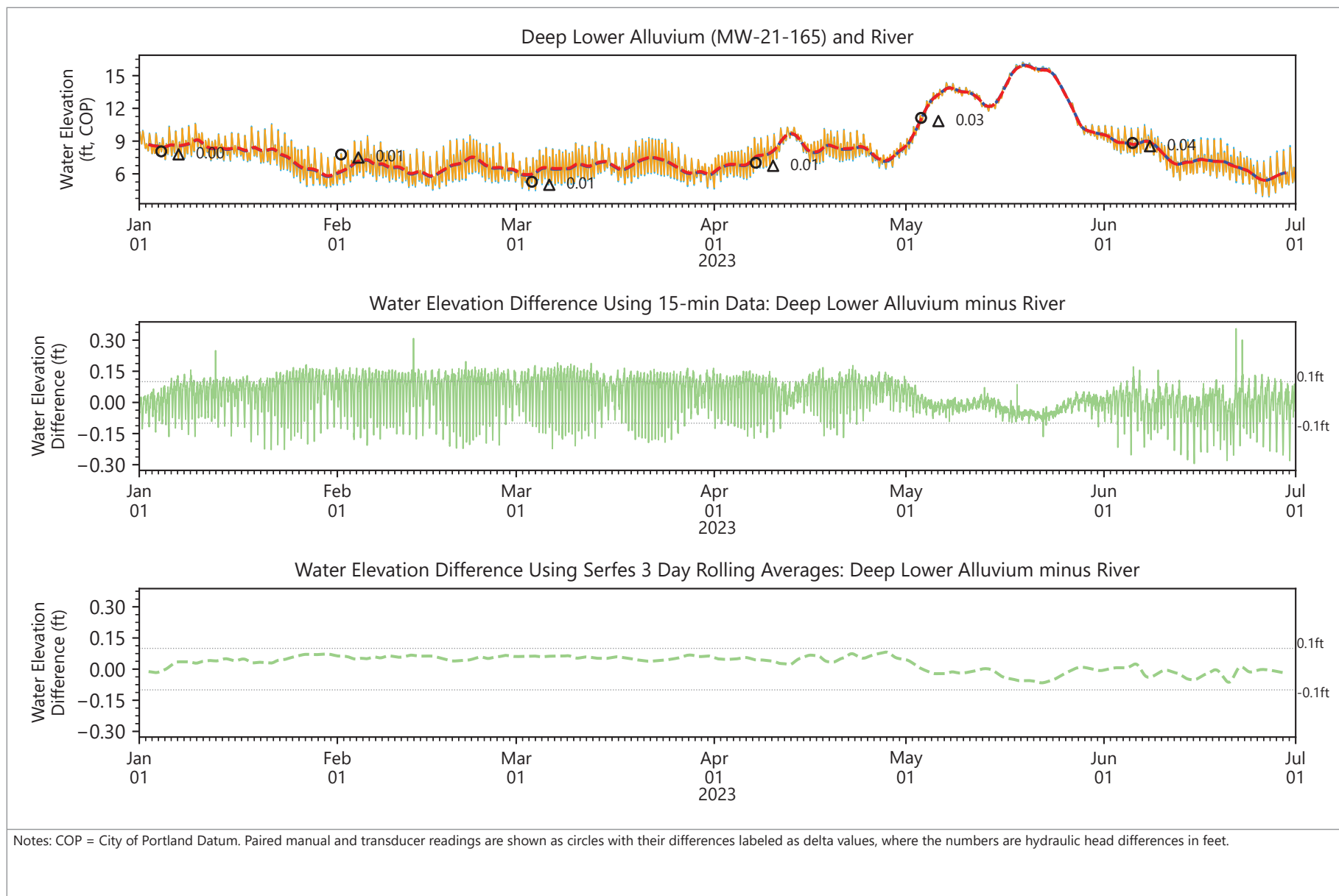


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- Lower Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.57
Groundwater Elevation Differences
 NW Natural Gasco Site



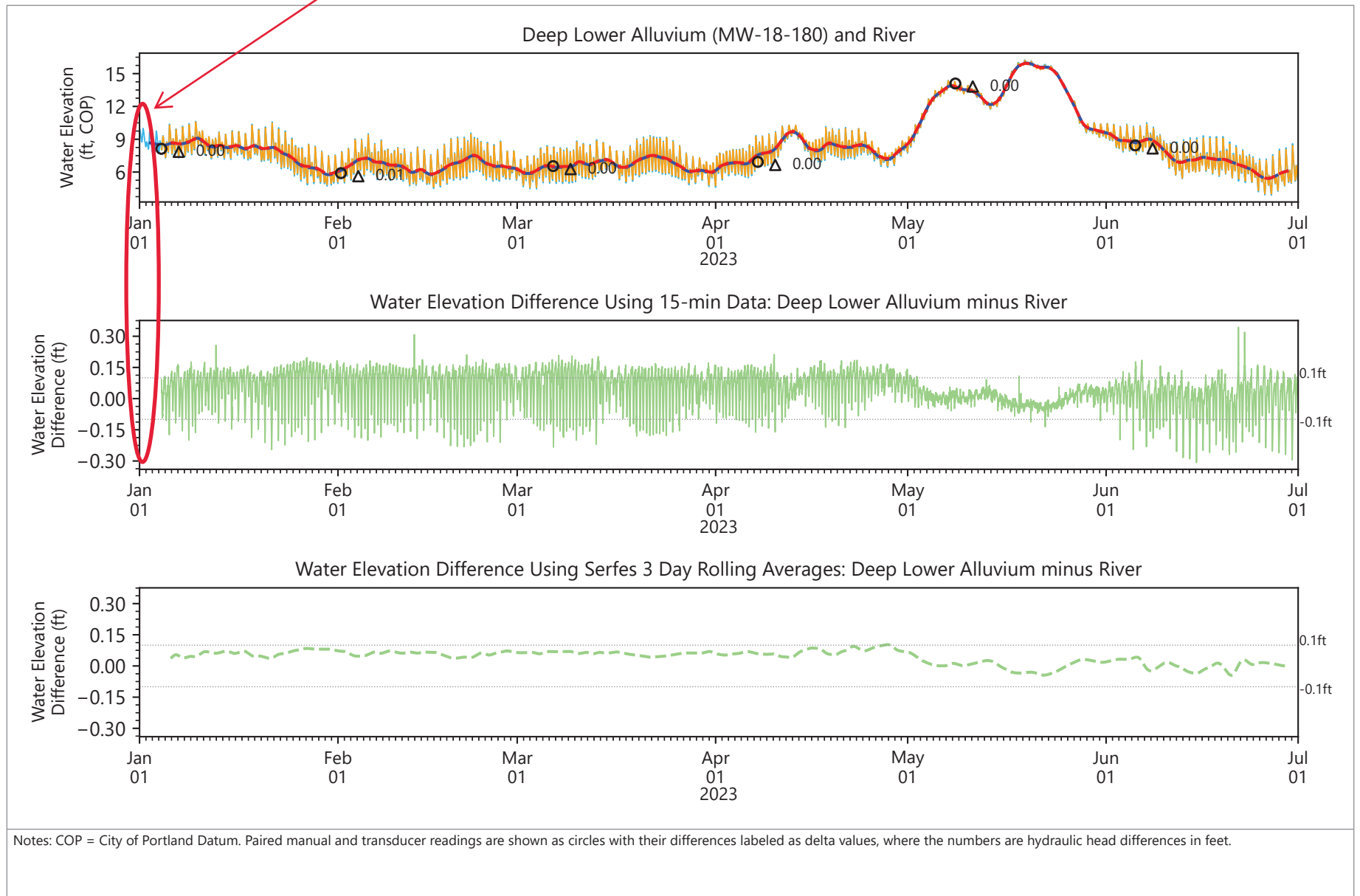
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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.58
Groundwater Elevation Differences
 NW Natural Gasco Site

Transducer malfunction.
Data unrecoverable.

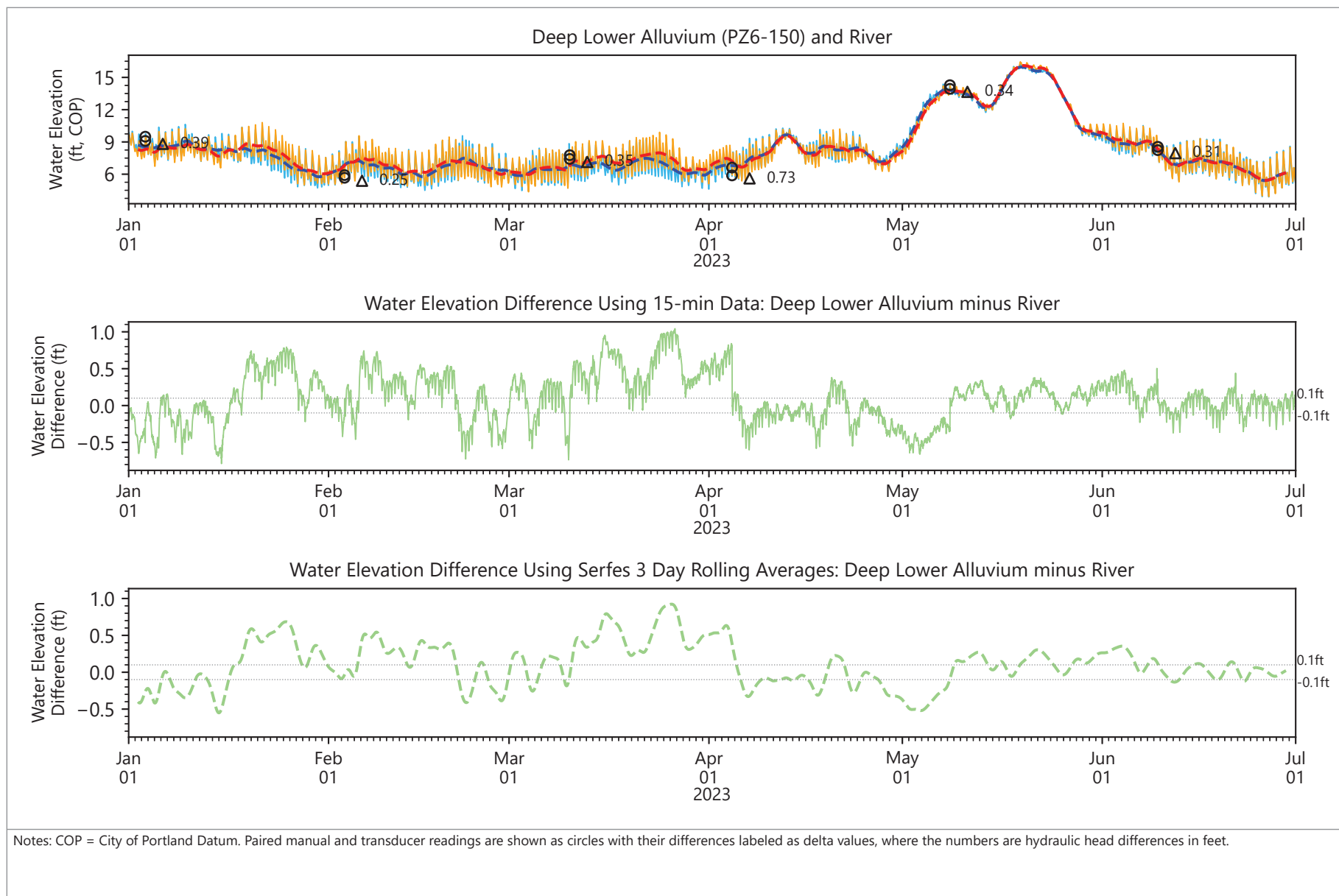


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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.59
Groundwater Elevation Differences
 NW Natural Gasco Site

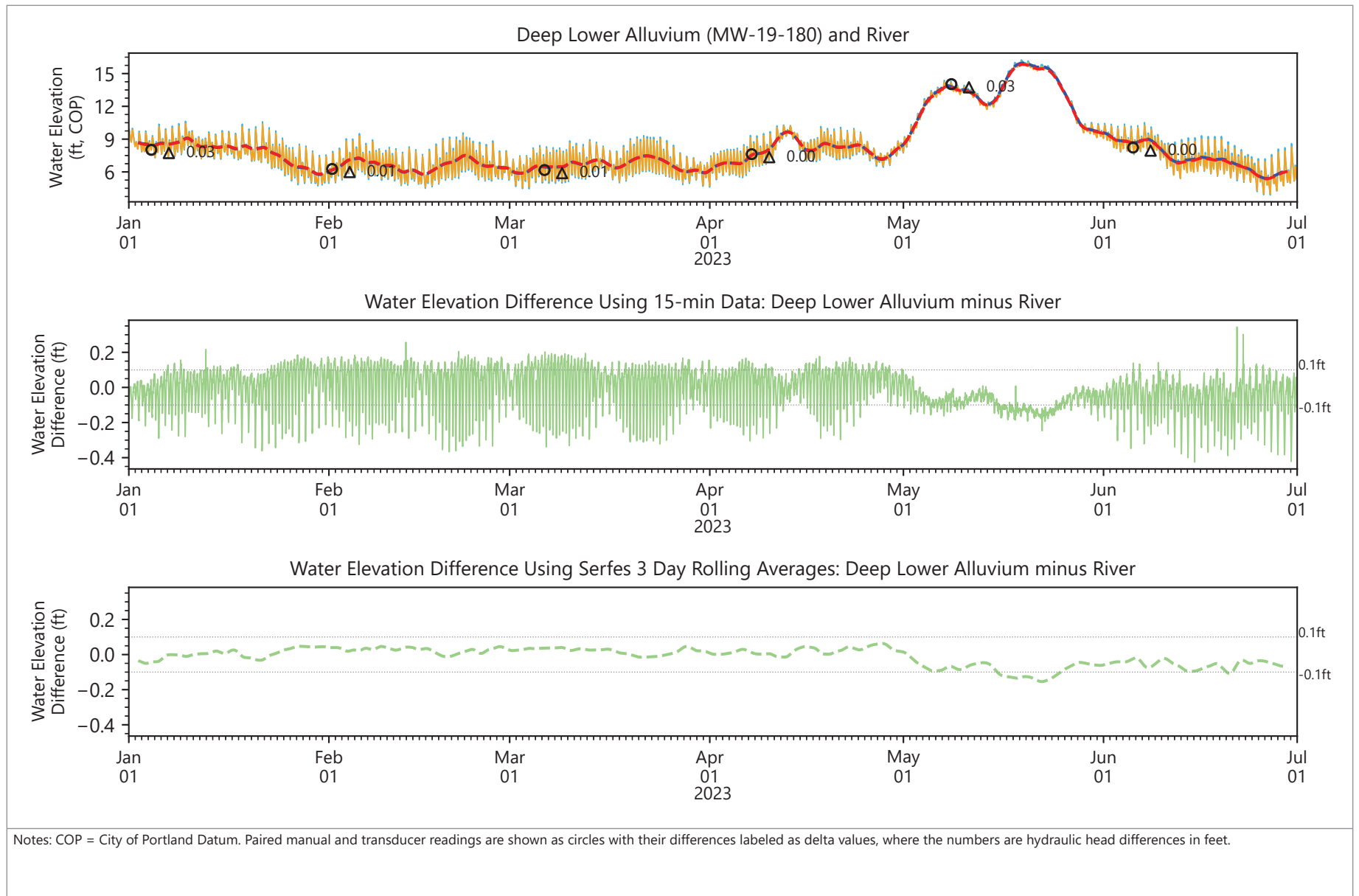


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- Deep Lower Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Deep Lower Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.60
Groundwater Elevation Differences
 NW Natural Gasco Site



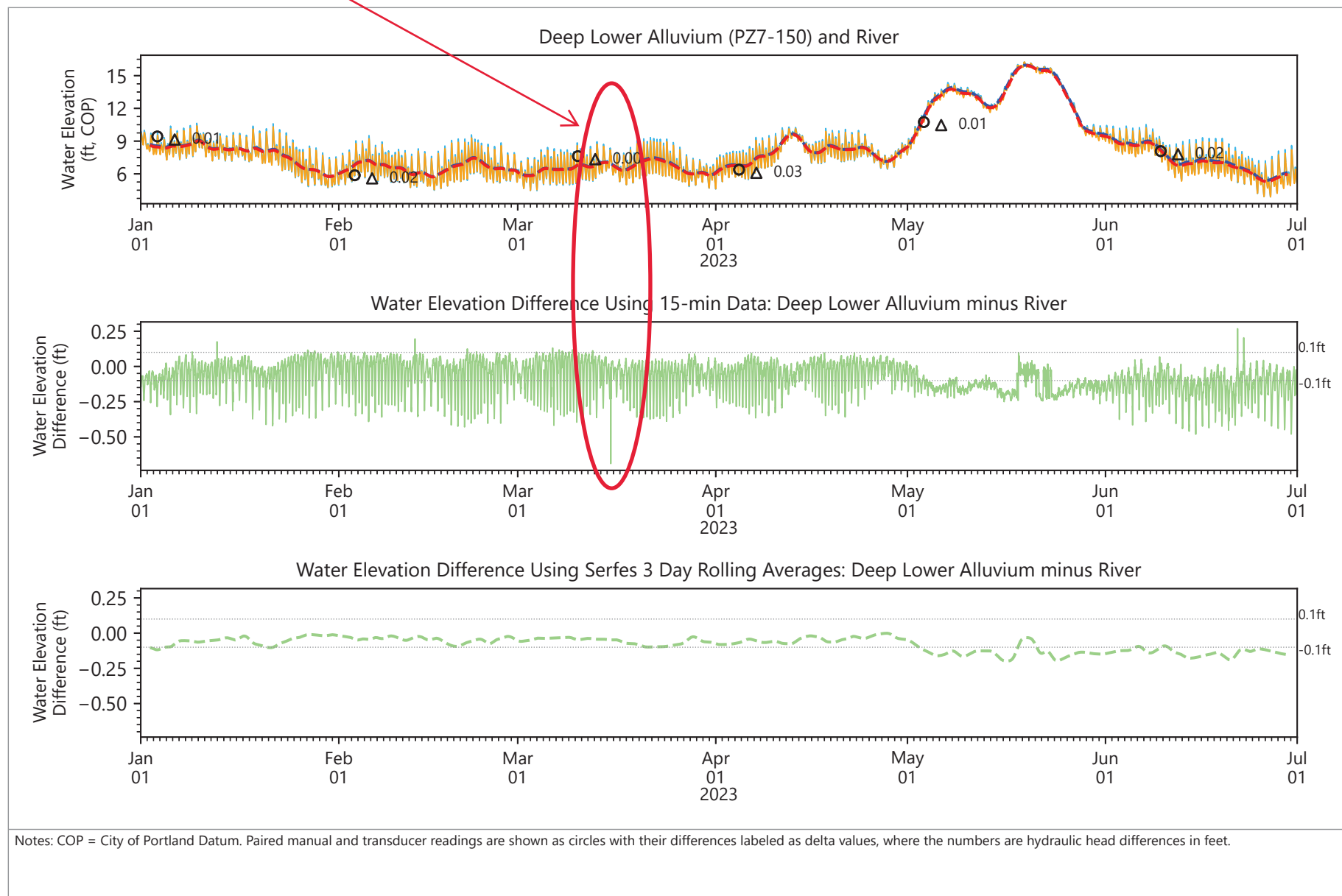
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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.61
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

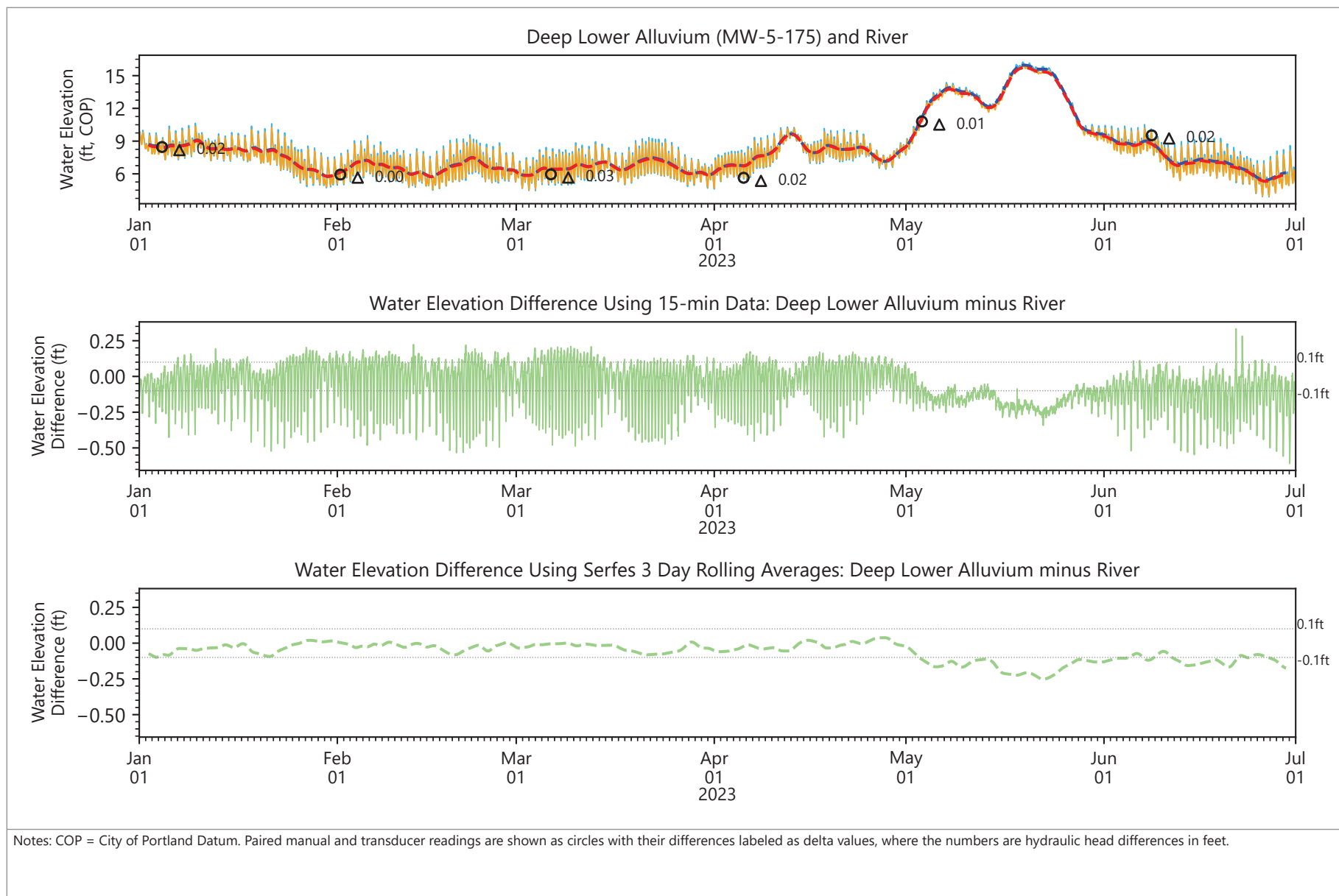


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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.62
Groundwater Elevation Differences
NW Natural Gasco Site



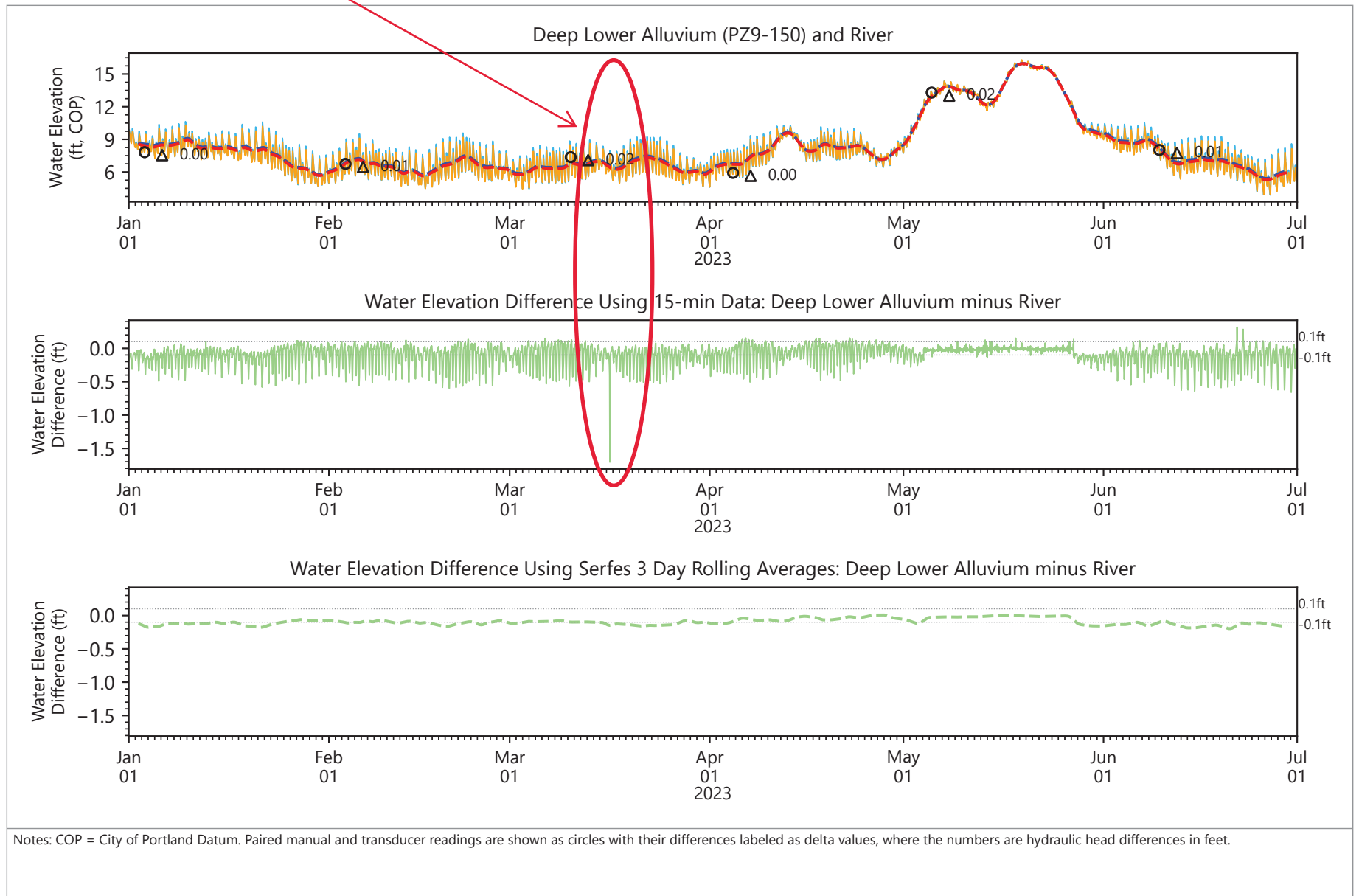
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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.63
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling

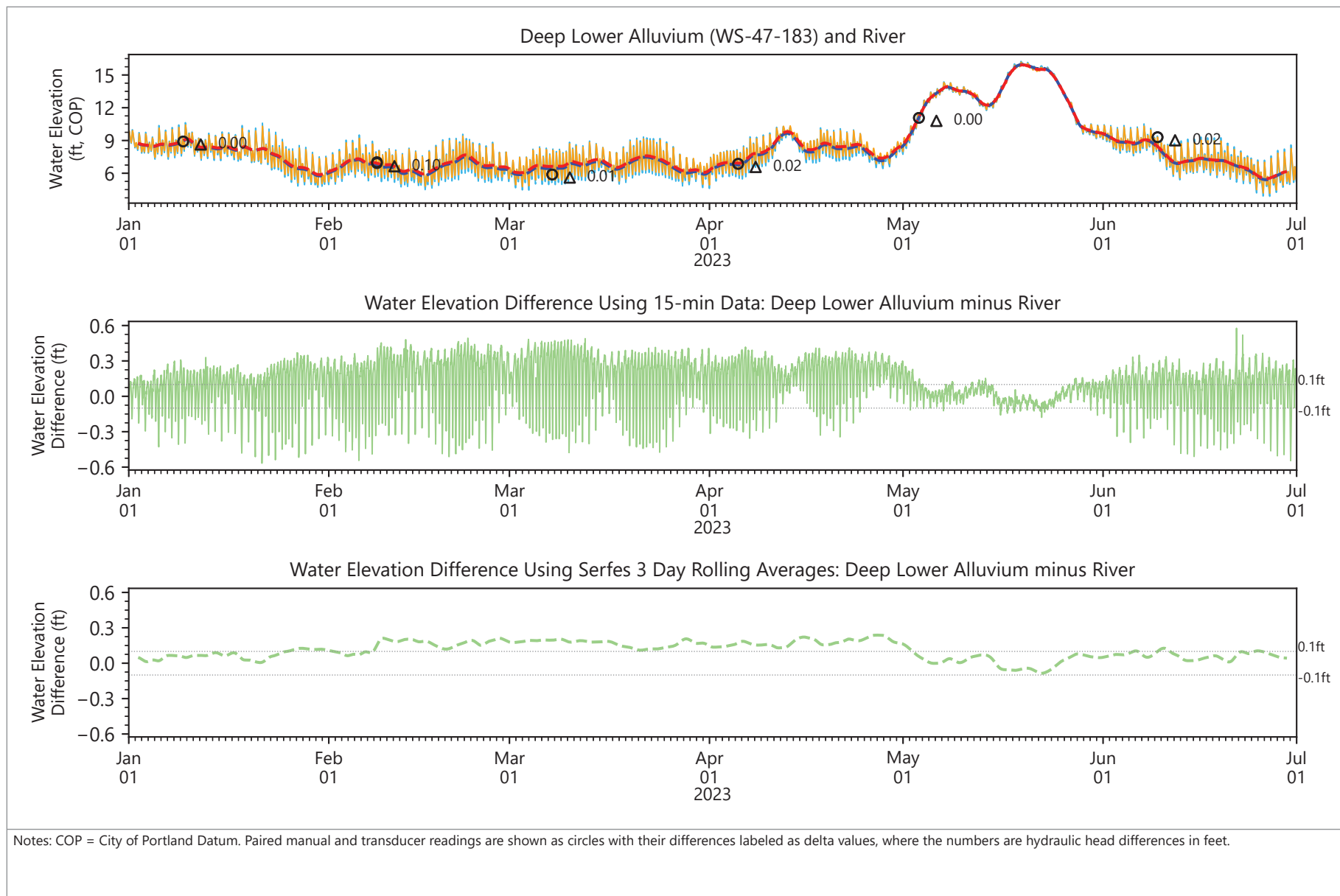


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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.64
Groundwater Elevation Differences
 NW Natural Gasco Site

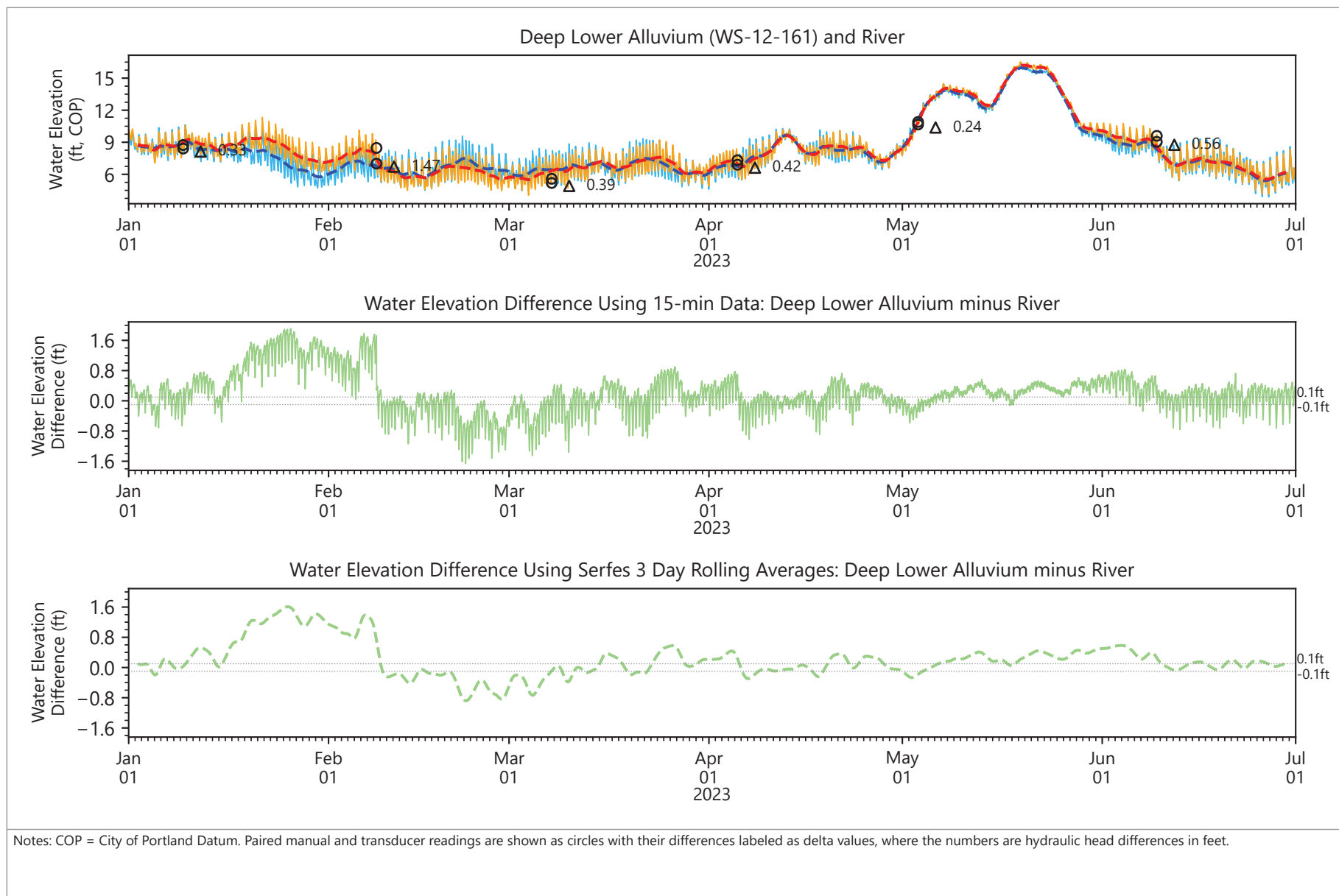


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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.65
Groundwater Elevation Differences
 NW Natural Gasco Site

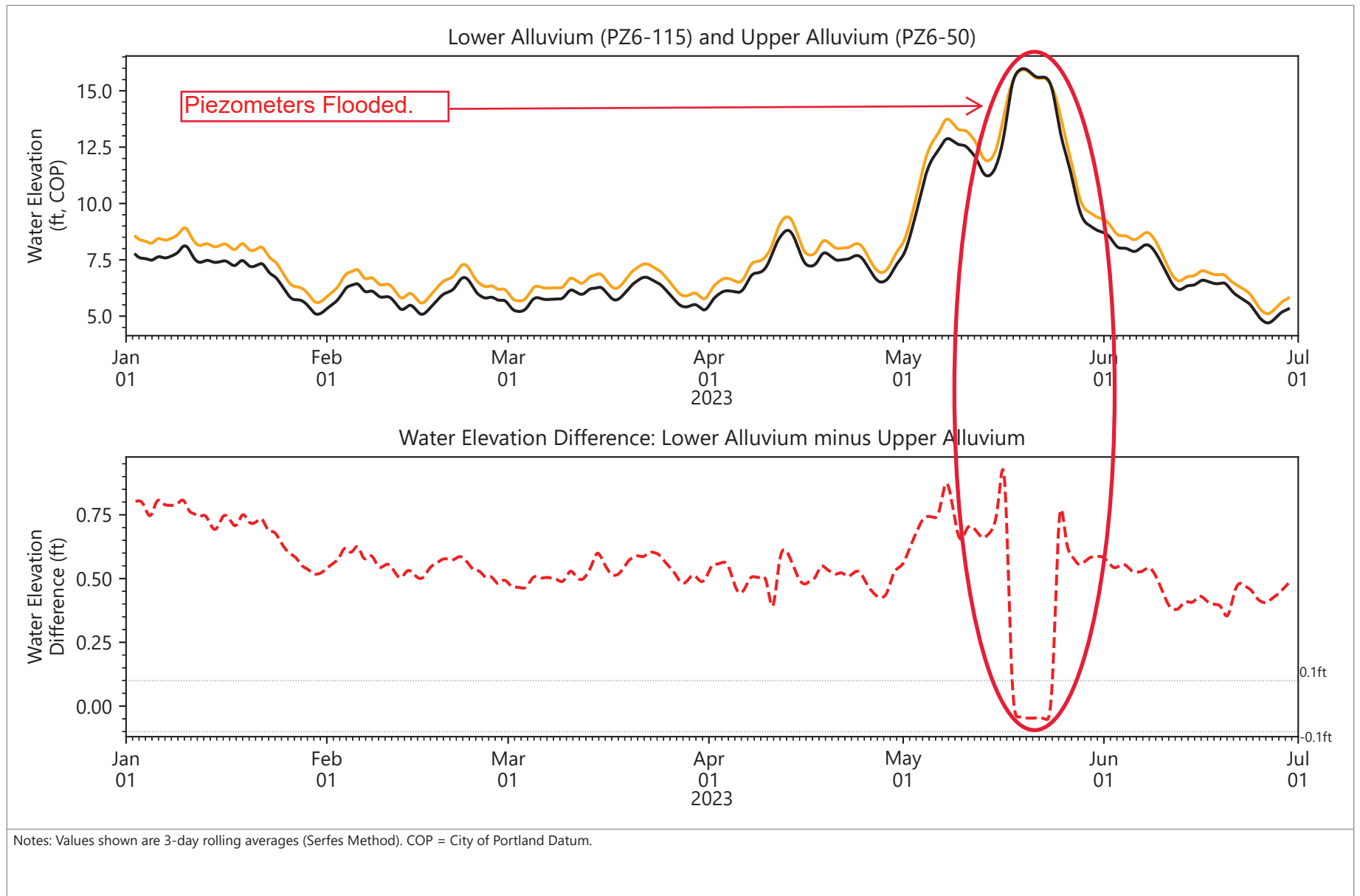


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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.66
Groundwater Elevation Differences
 NW Natural Gasco Site



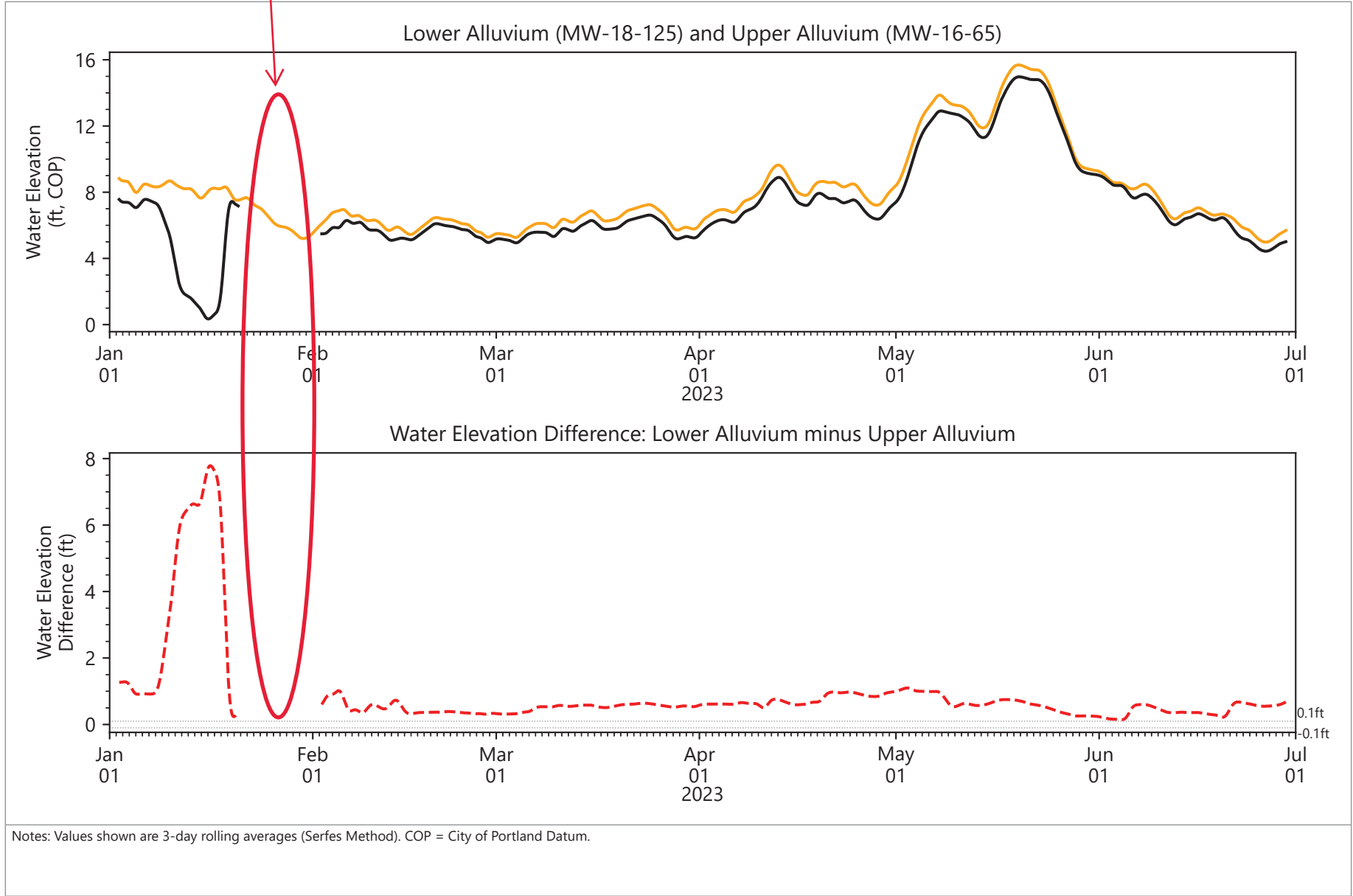
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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.1
Groundwater Elevation Differences
 NW Natural Gasco Site

MW-16-65 Transducer malfunction. Data unrecoverable.

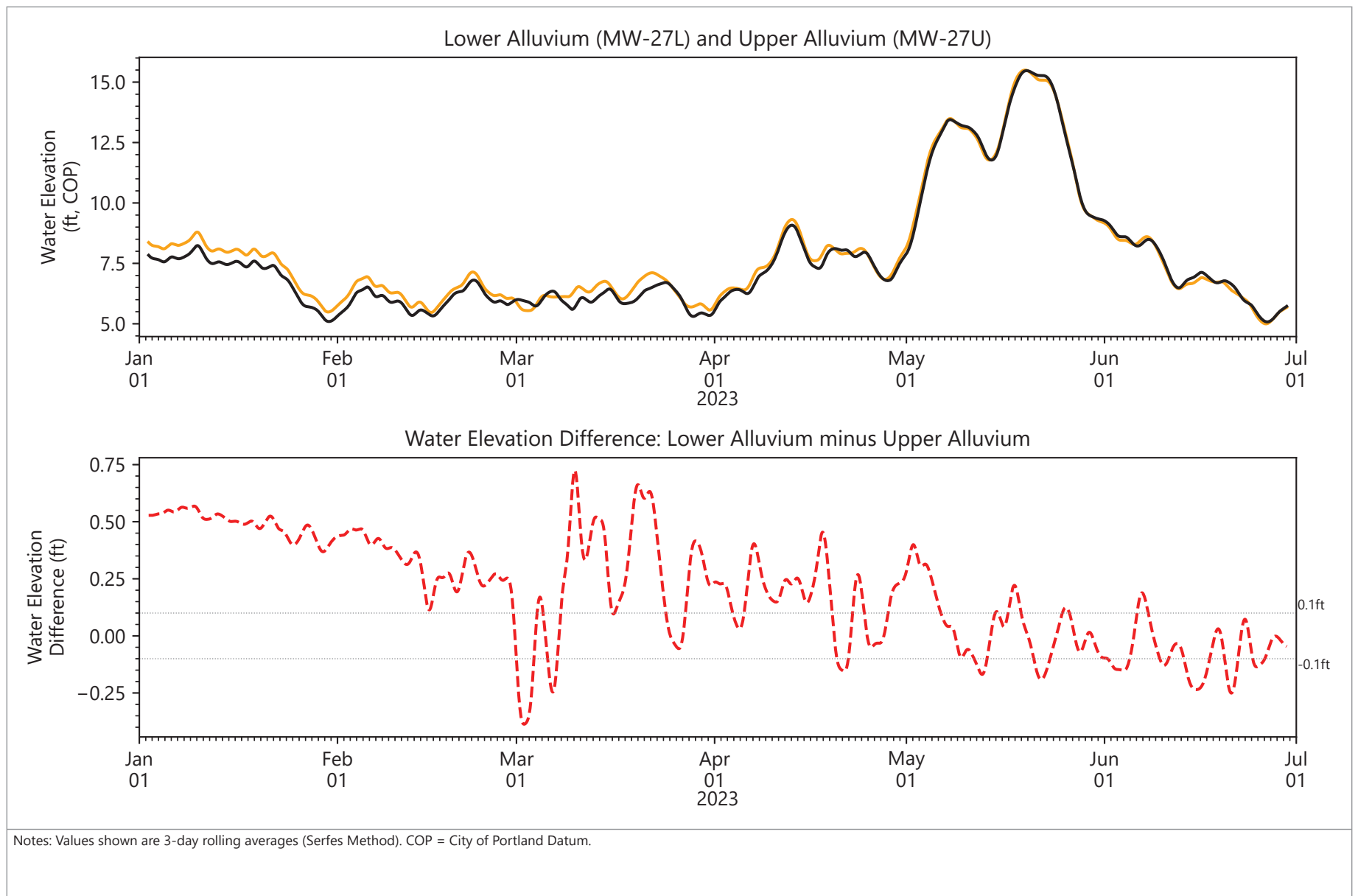


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- Lower Alluvium
- Upper Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.2
Groundwater Elevation Differences
NW Natural Gasco Site



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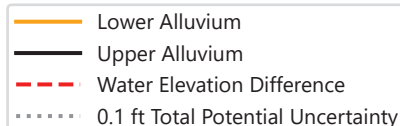
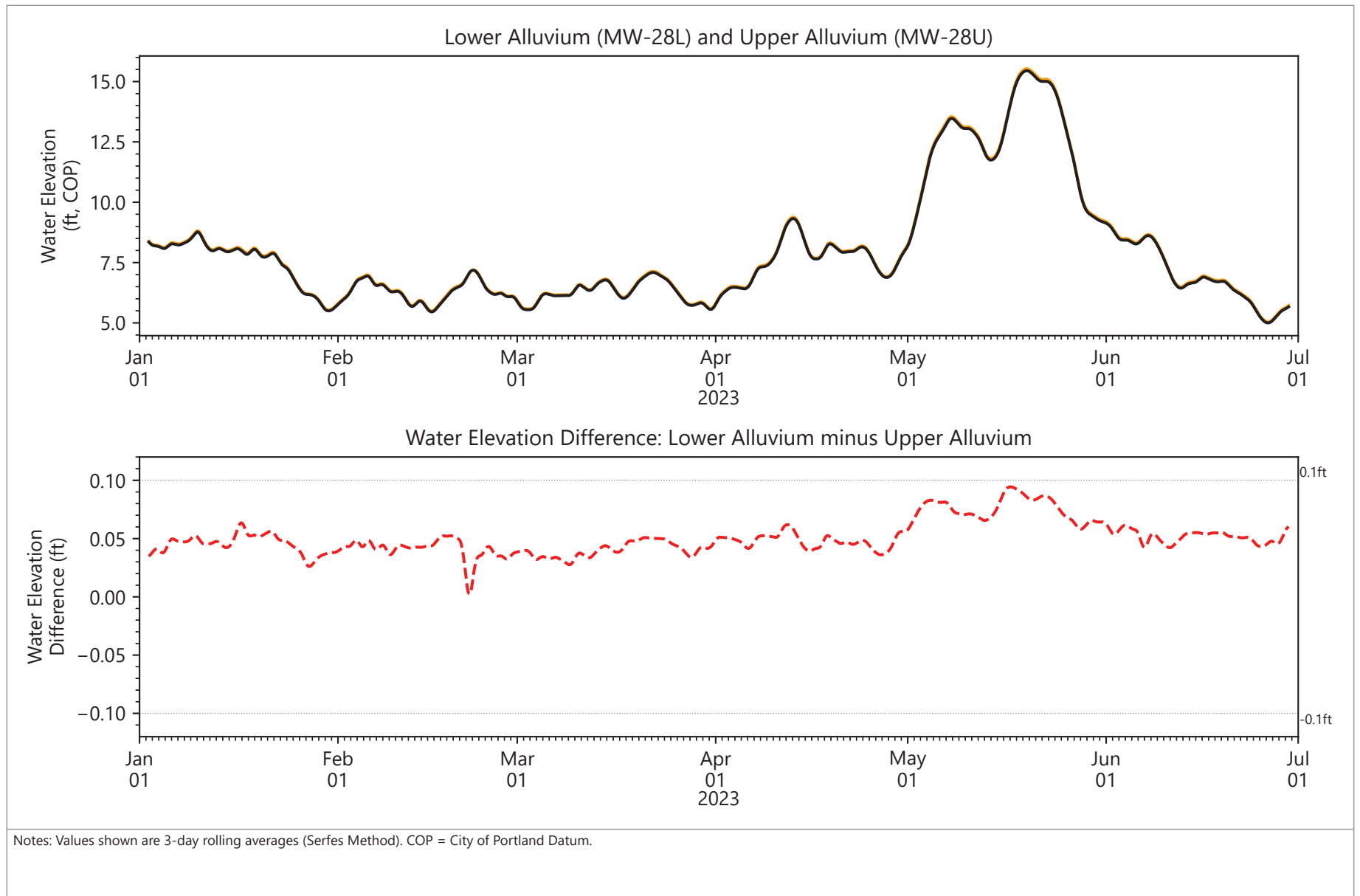


Figure 5.3
Groundwater Elevation Differences
NW Natural Gasco Site

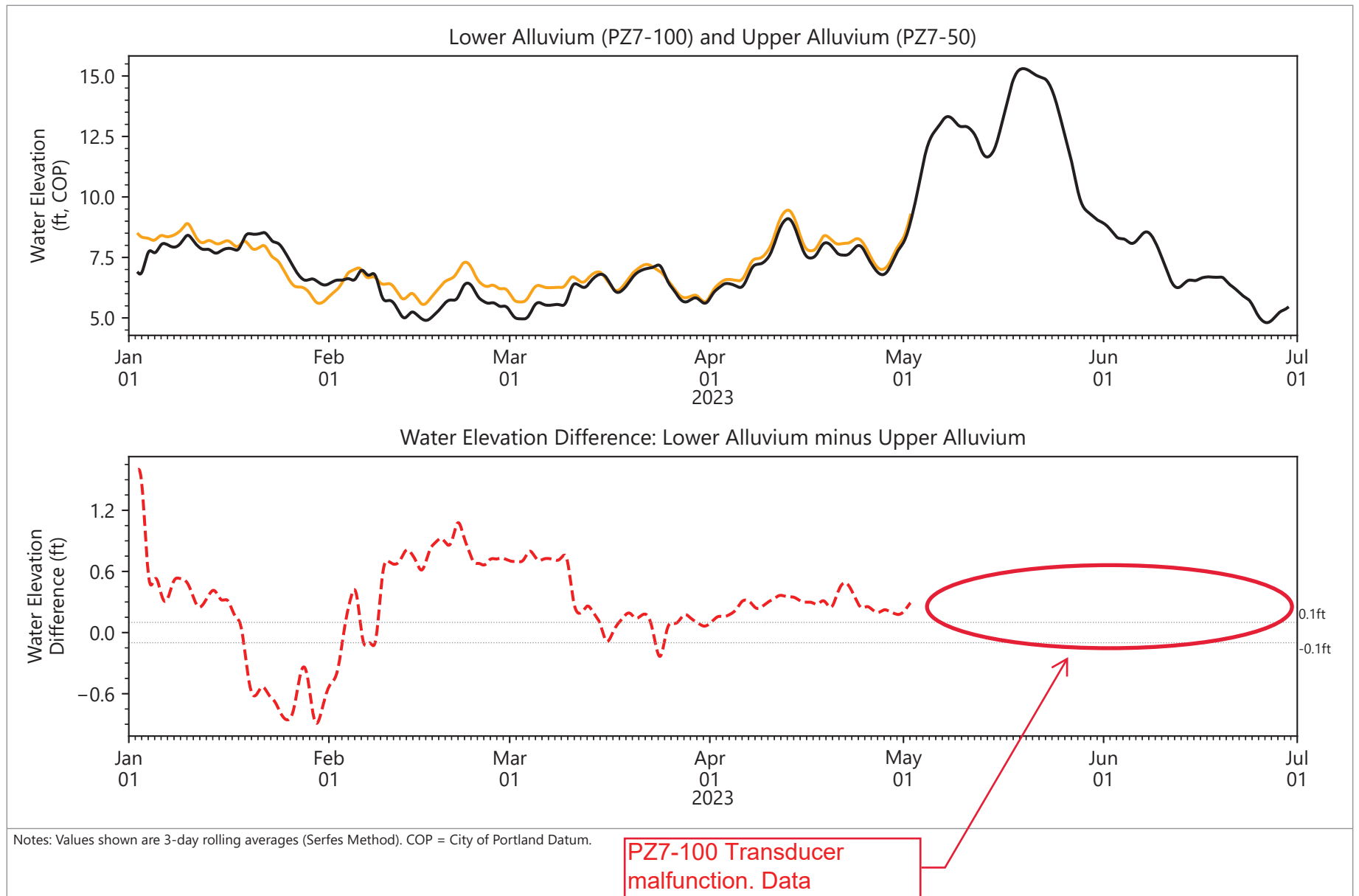


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.4
Groundwater Elevation Differences
 NW Natural Gasco Site

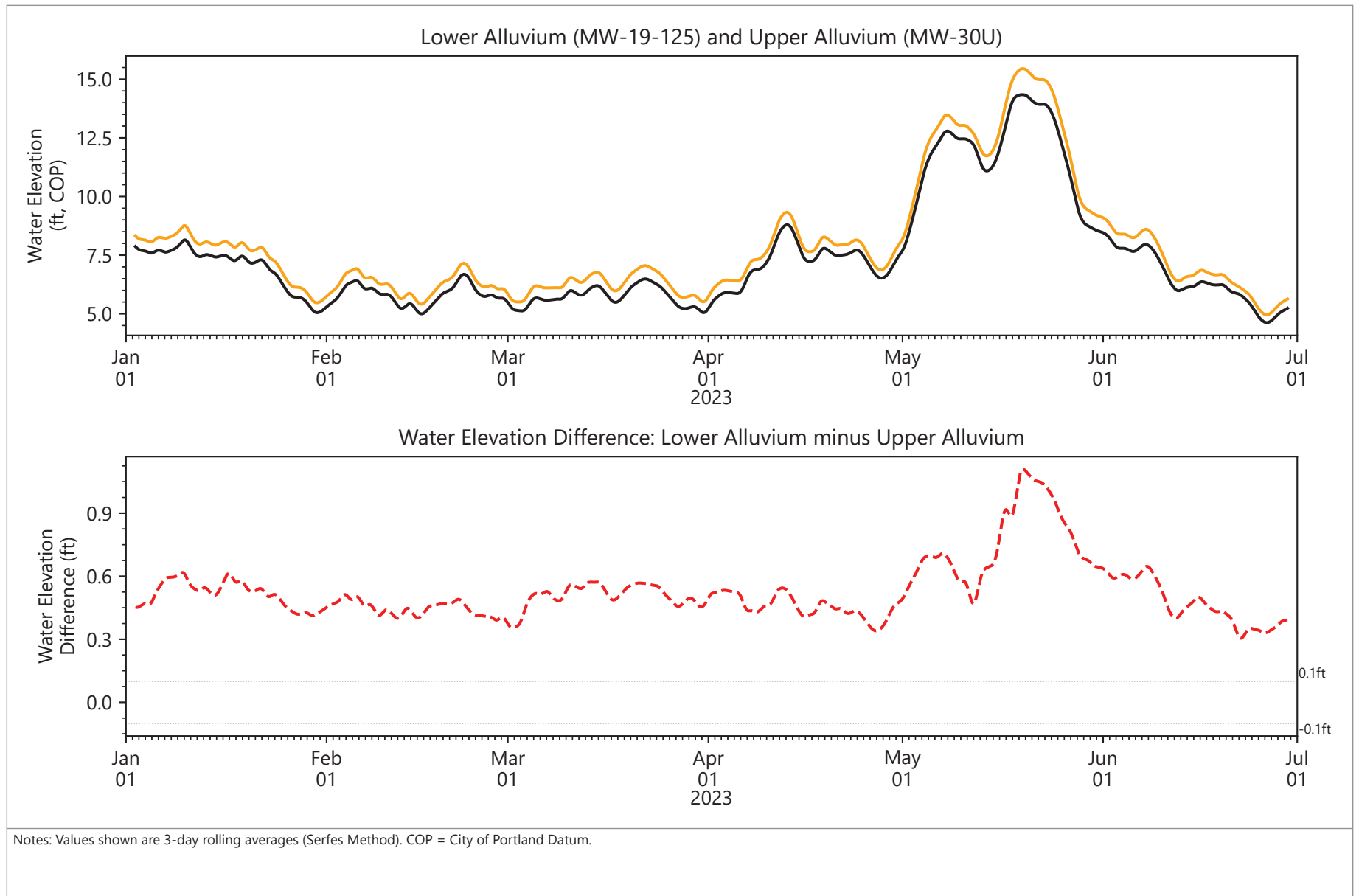


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- Lower Alluvium
- Upper Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.5
Groundwater Elevation Differences
NW Natural Gasco Site

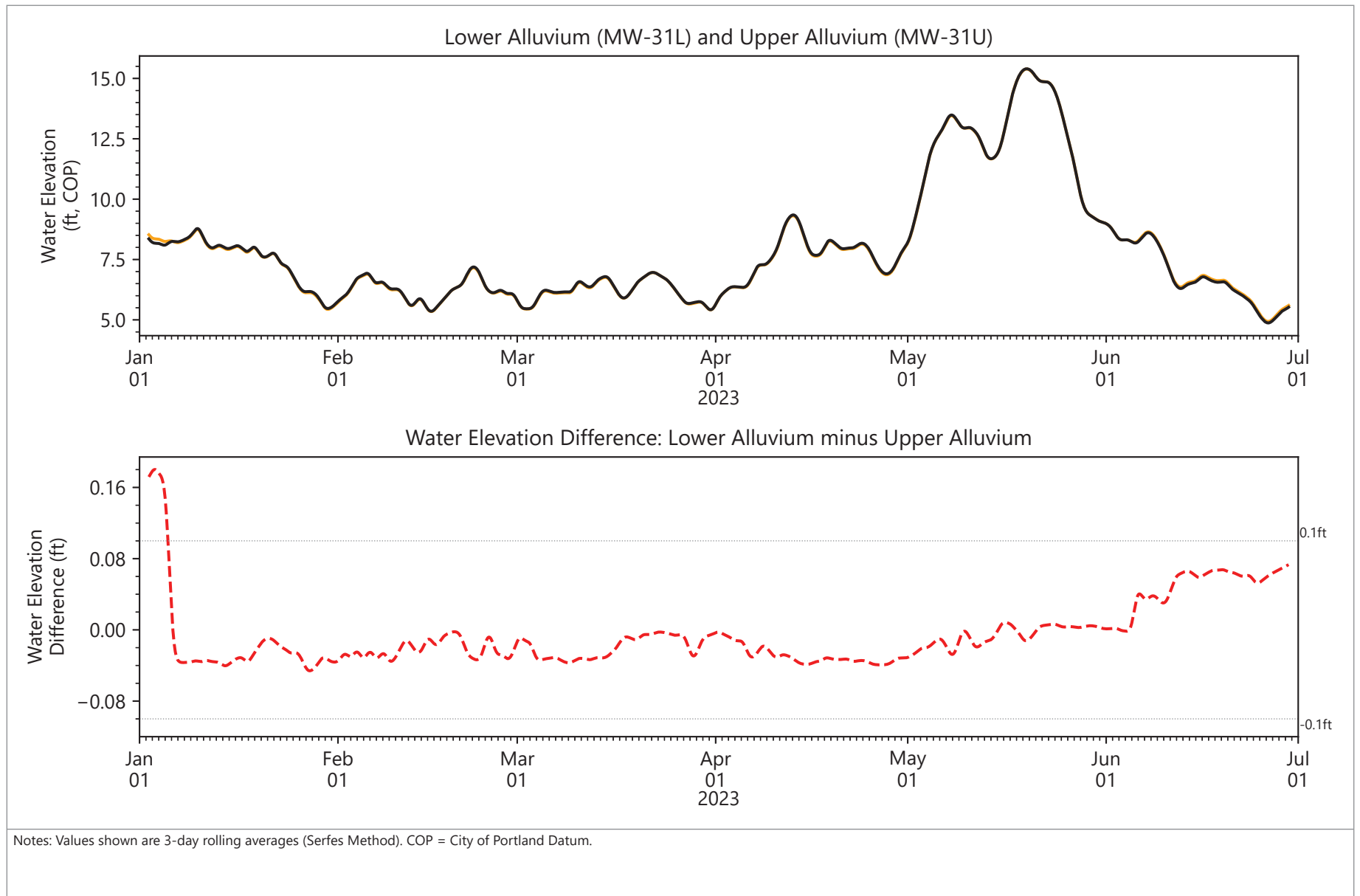


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.6
Groundwater Elevation Differences
NW Natural Gasco Site

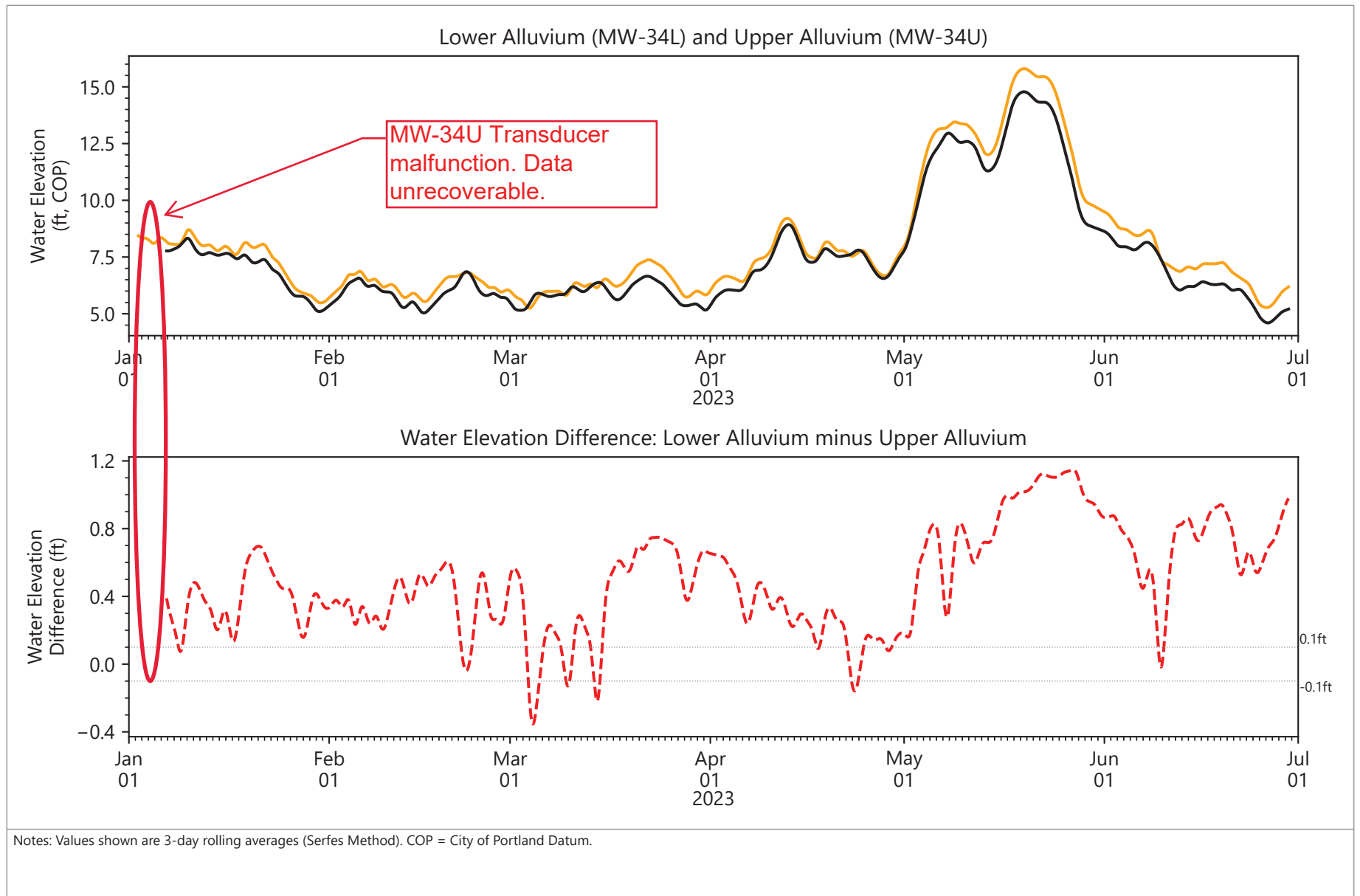


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.7
Groundwater Elevation Differences
 NW Natural Gasco Site

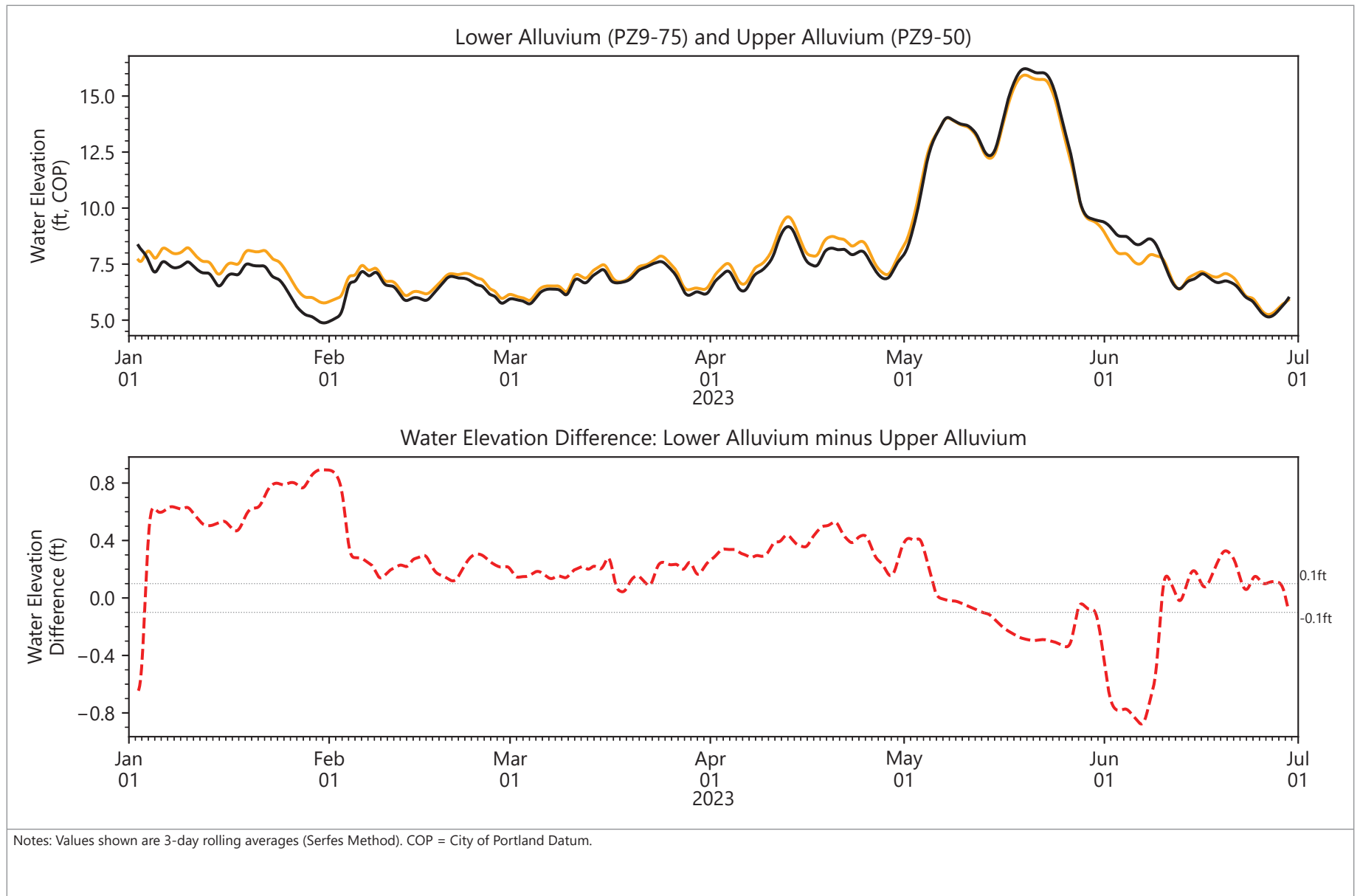


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.8
Groundwater Elevation Differences
 NW Natural Gasco Site



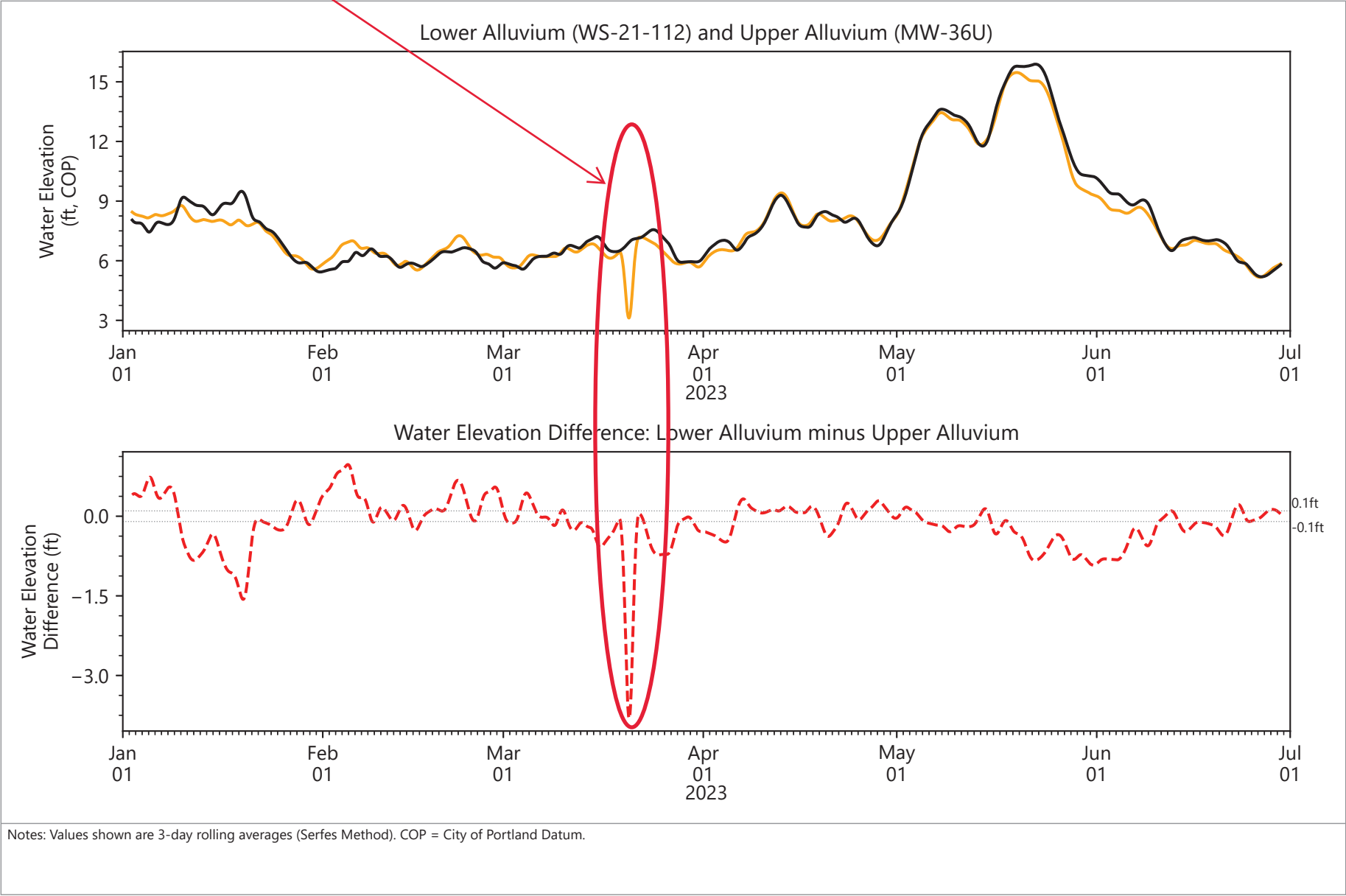
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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.9
Groundwater Elevation Differences
 NW Natural Gasco Site

1Q Groundwater Sampling
of WS-21-112

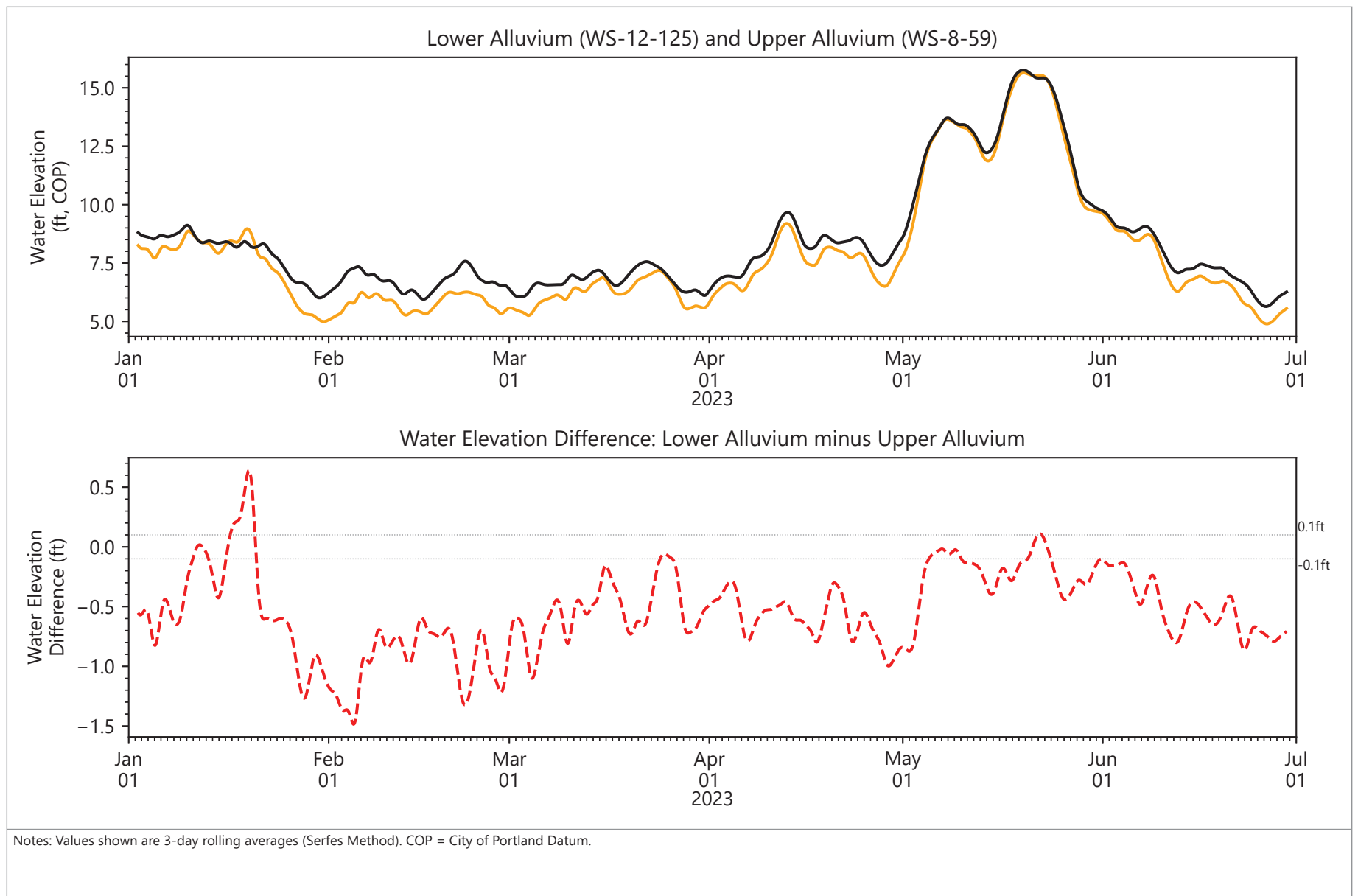


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- Lower Alluvium
- Upper Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.10
 Groundwater Elevation Differences
 NW Natural Gasco Site



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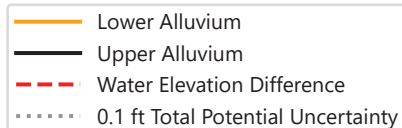
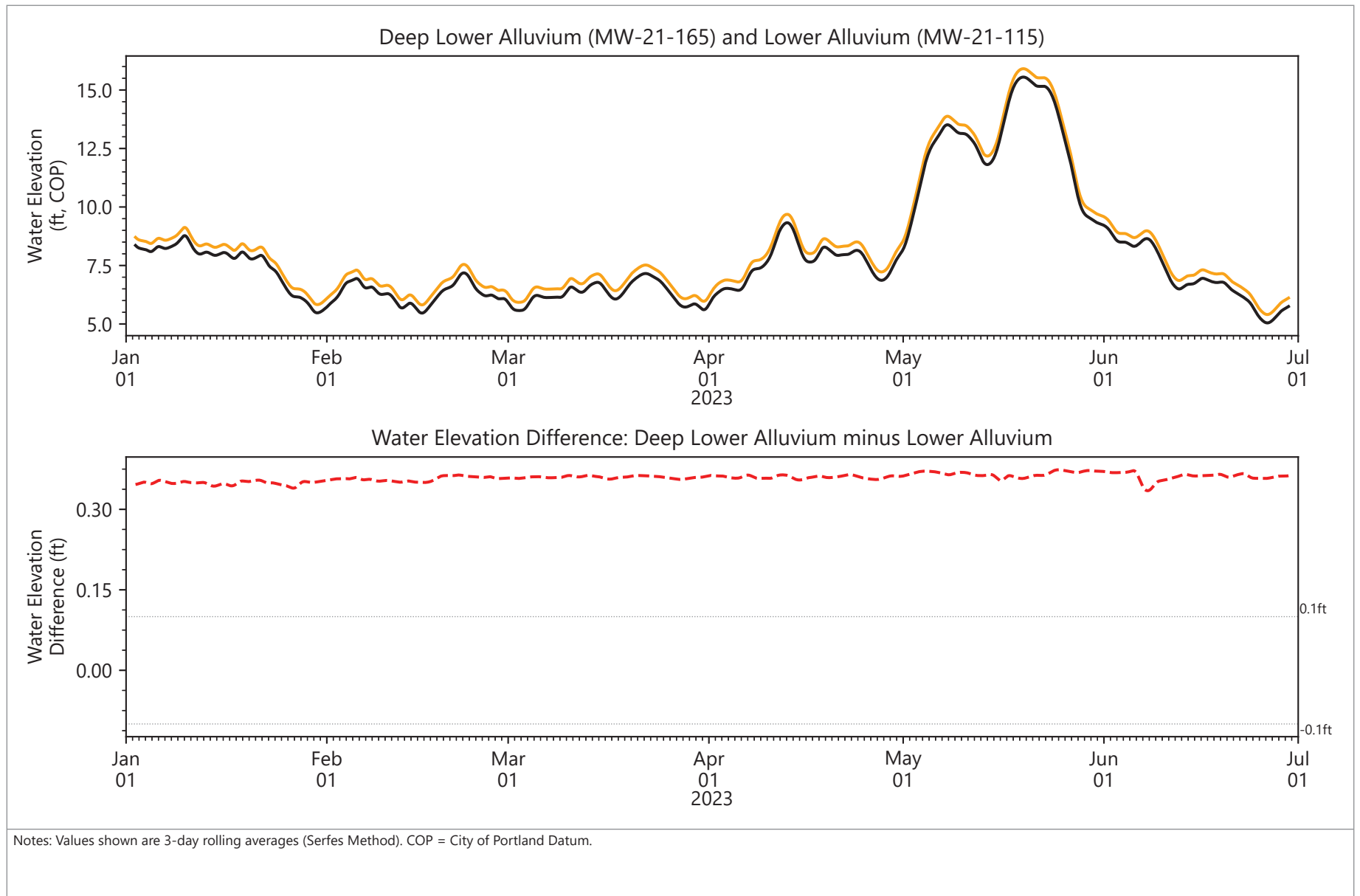


Figure 5.11
Groundwater Elevation Differences
 NW Natural Gasco Site

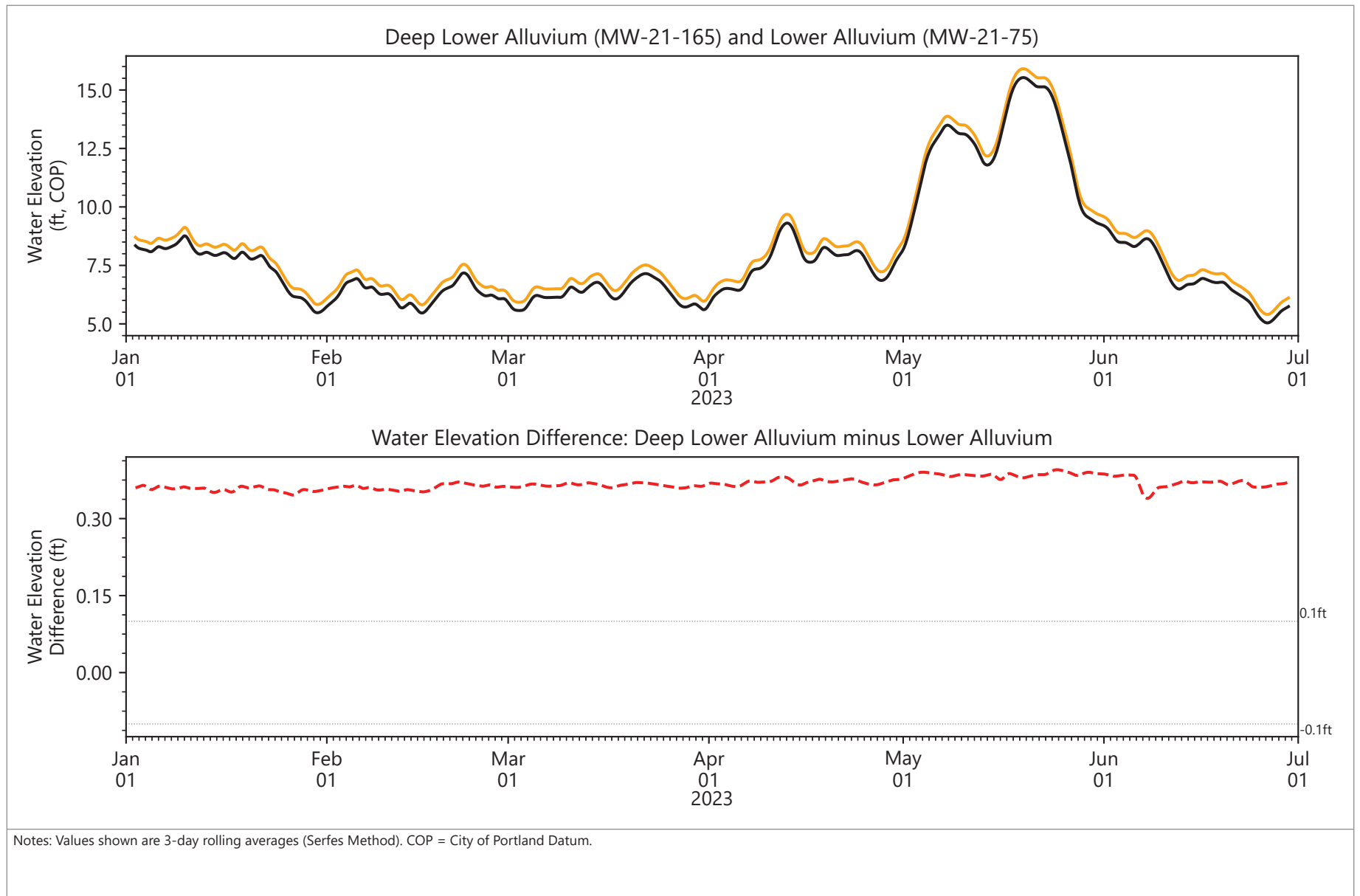


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.12
Groundwater Elevation Differences
 NW Natural Gasco Site



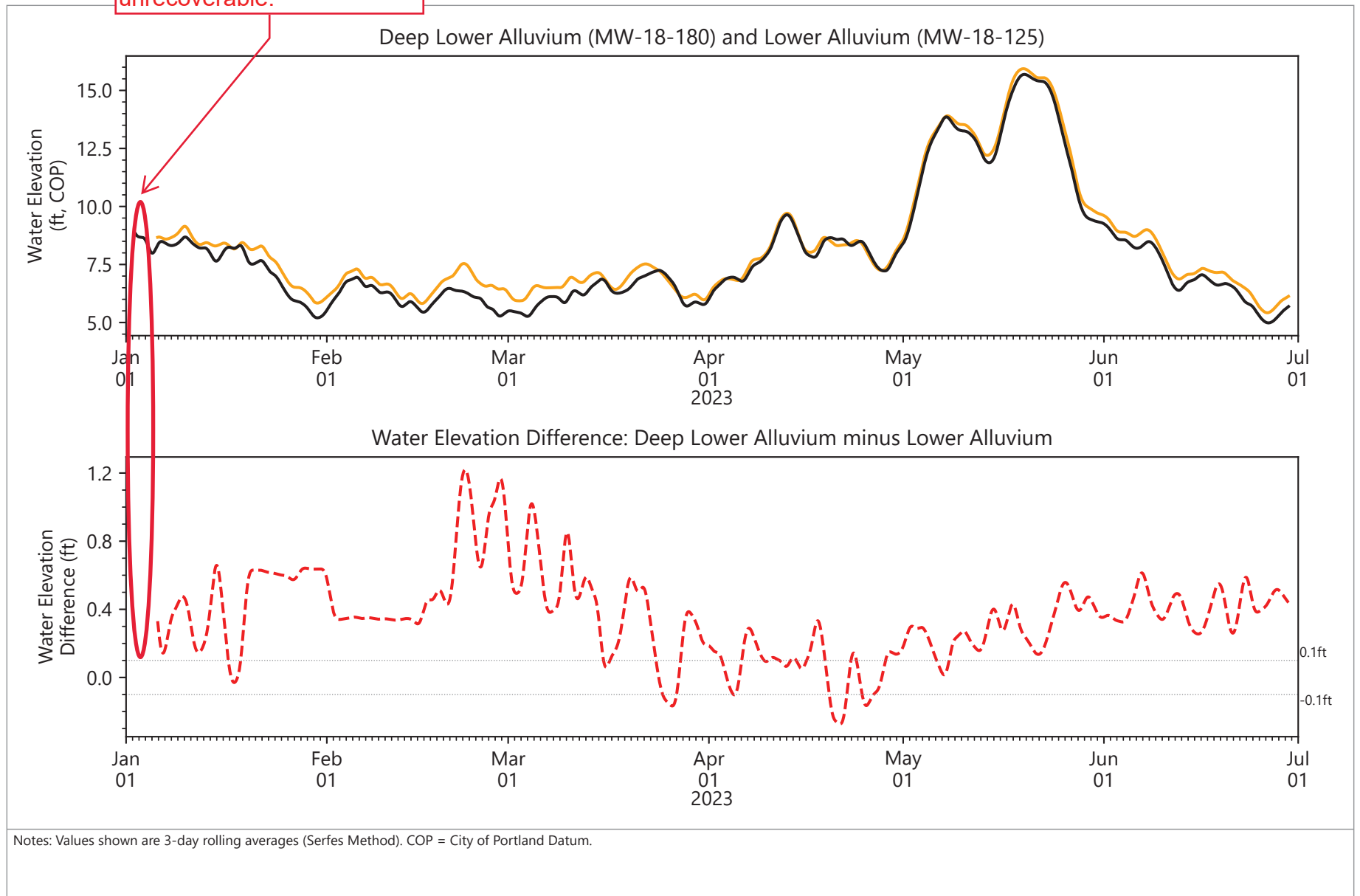
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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.13
Groundwater Elevation Differences
 NW Natural Gasco Site

MW-18-180 Transducer malfunction. Data unrecoverable.



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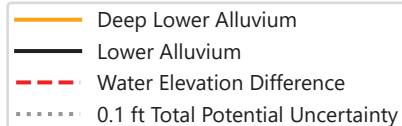
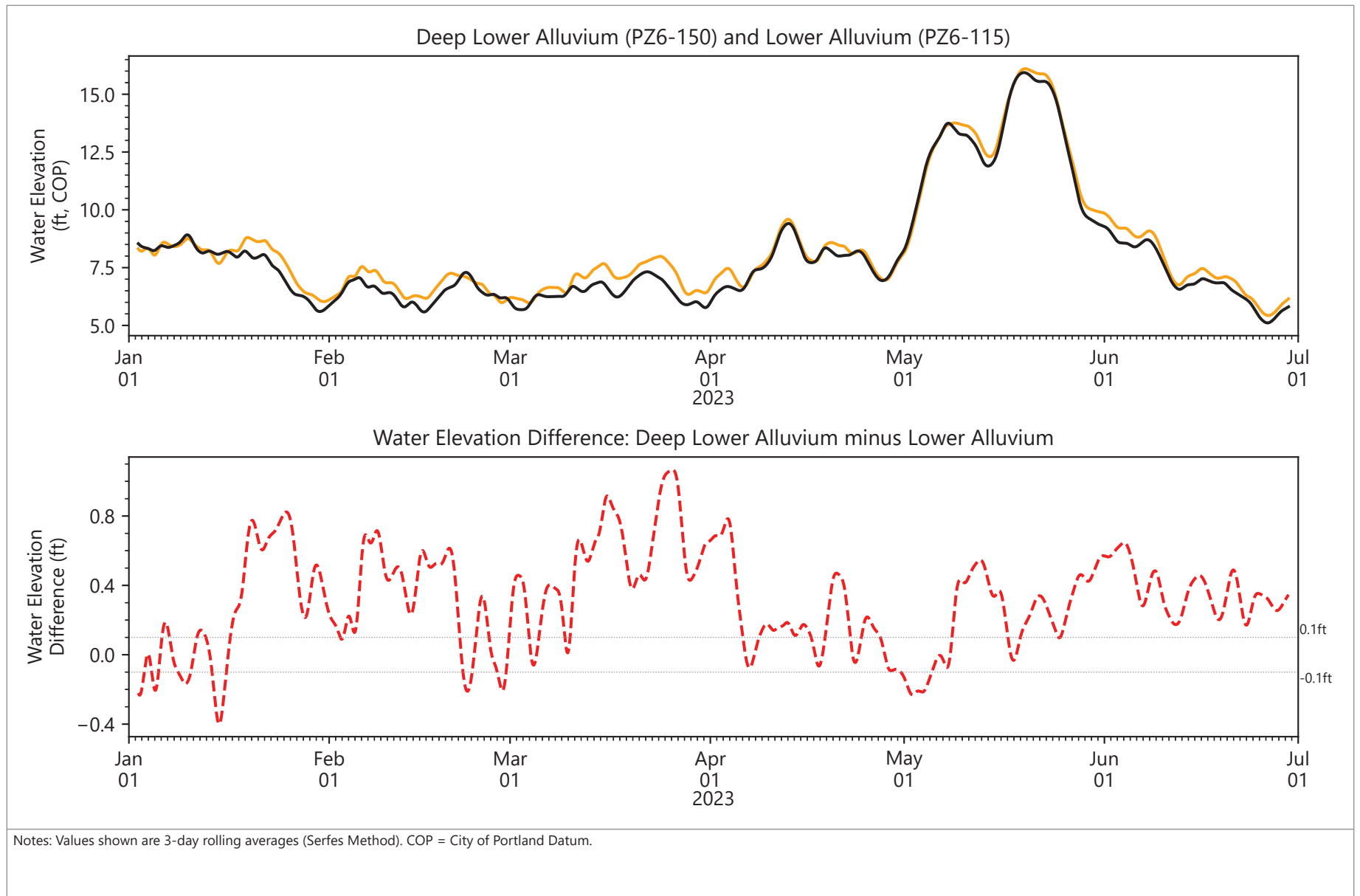


Figure 5.14
Groundwater Elevation Differences
NW Natural Gasco Site

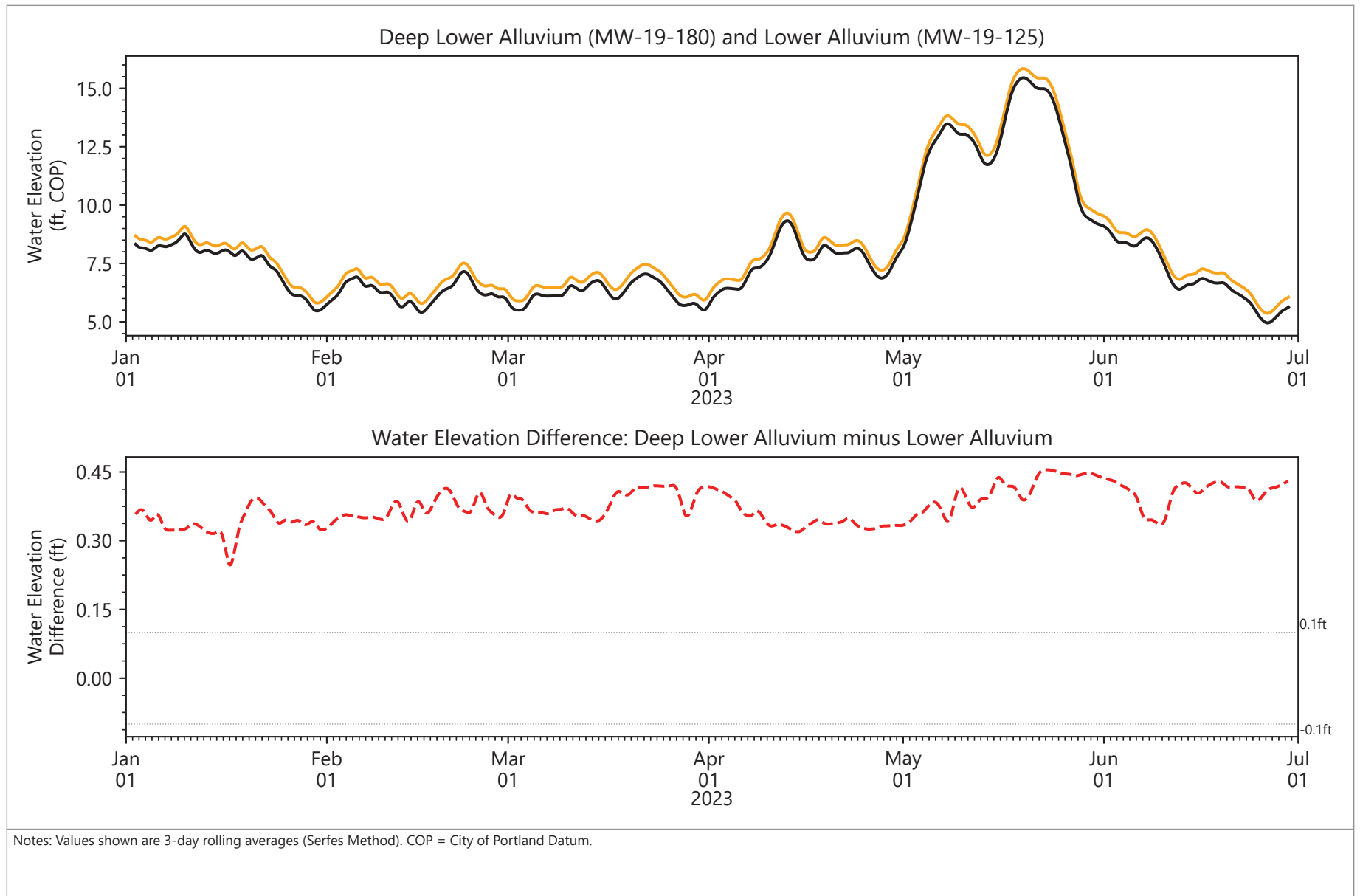


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.15
Groundwater Elevation Differences
 NW Natural Gasco Site

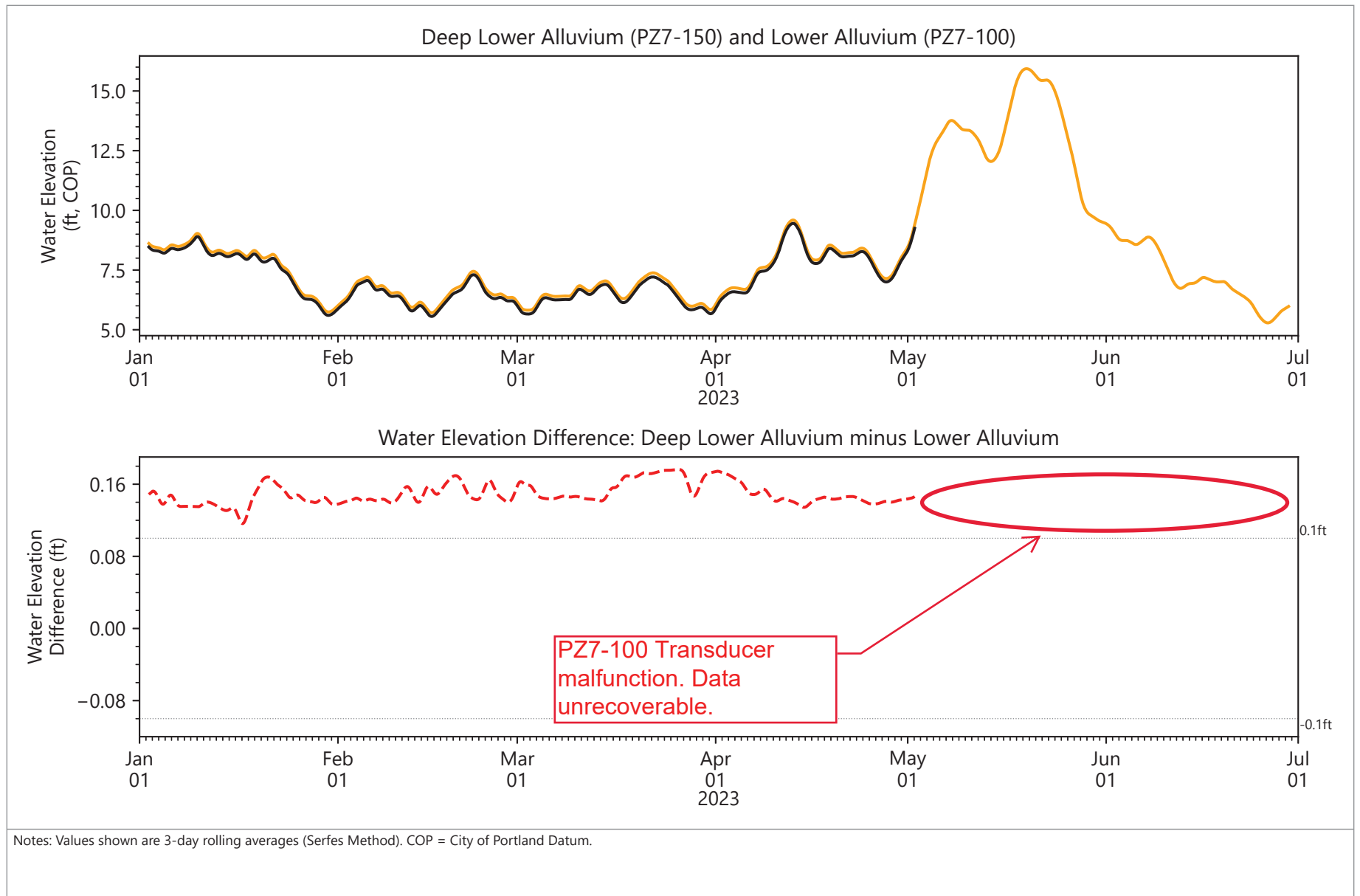


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.16
Groundwater Elevation Differences
NW Natural Gasco Site

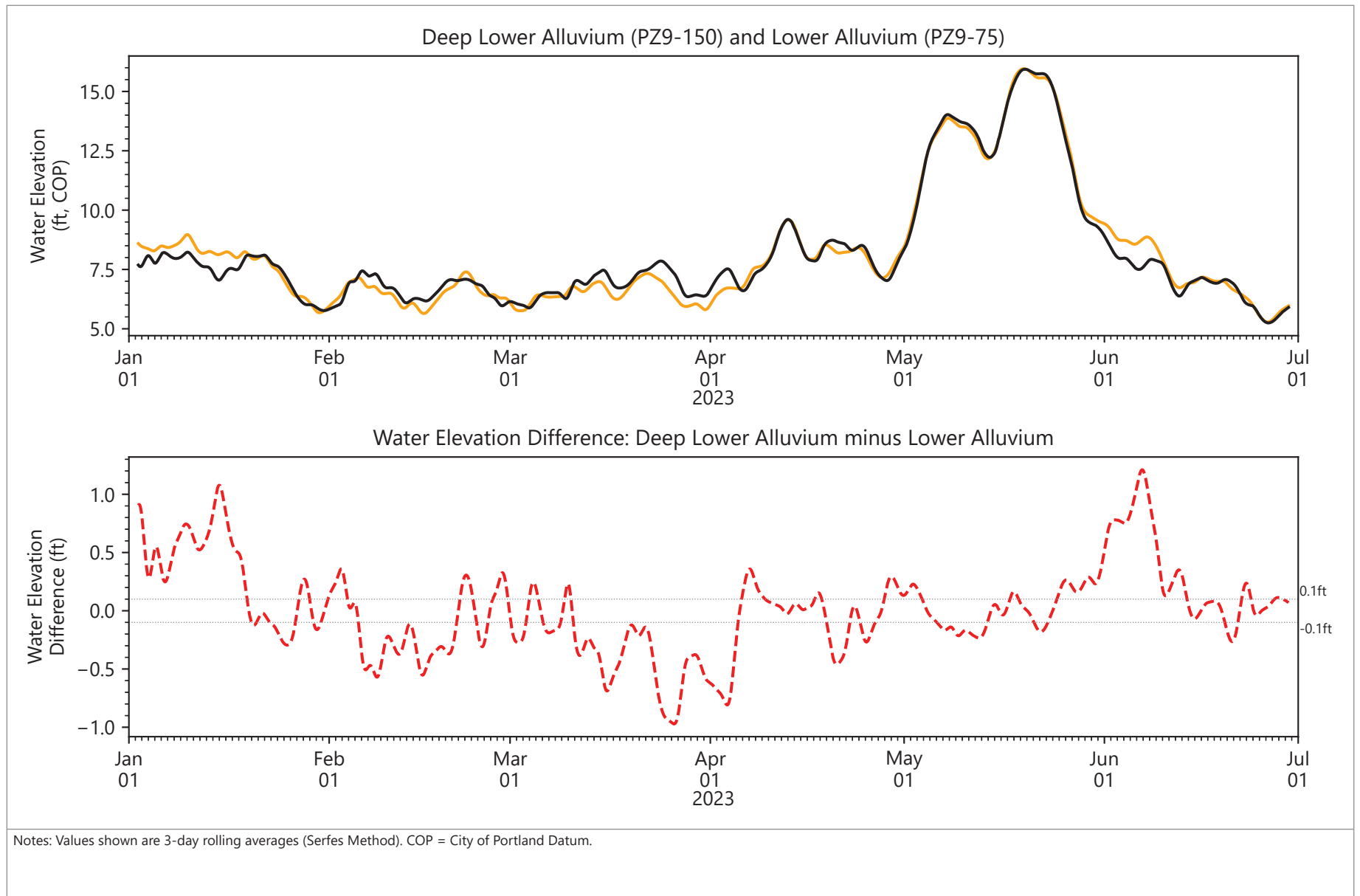


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.17
Groundwater Elevation Differences
NW Natural Gasco Site

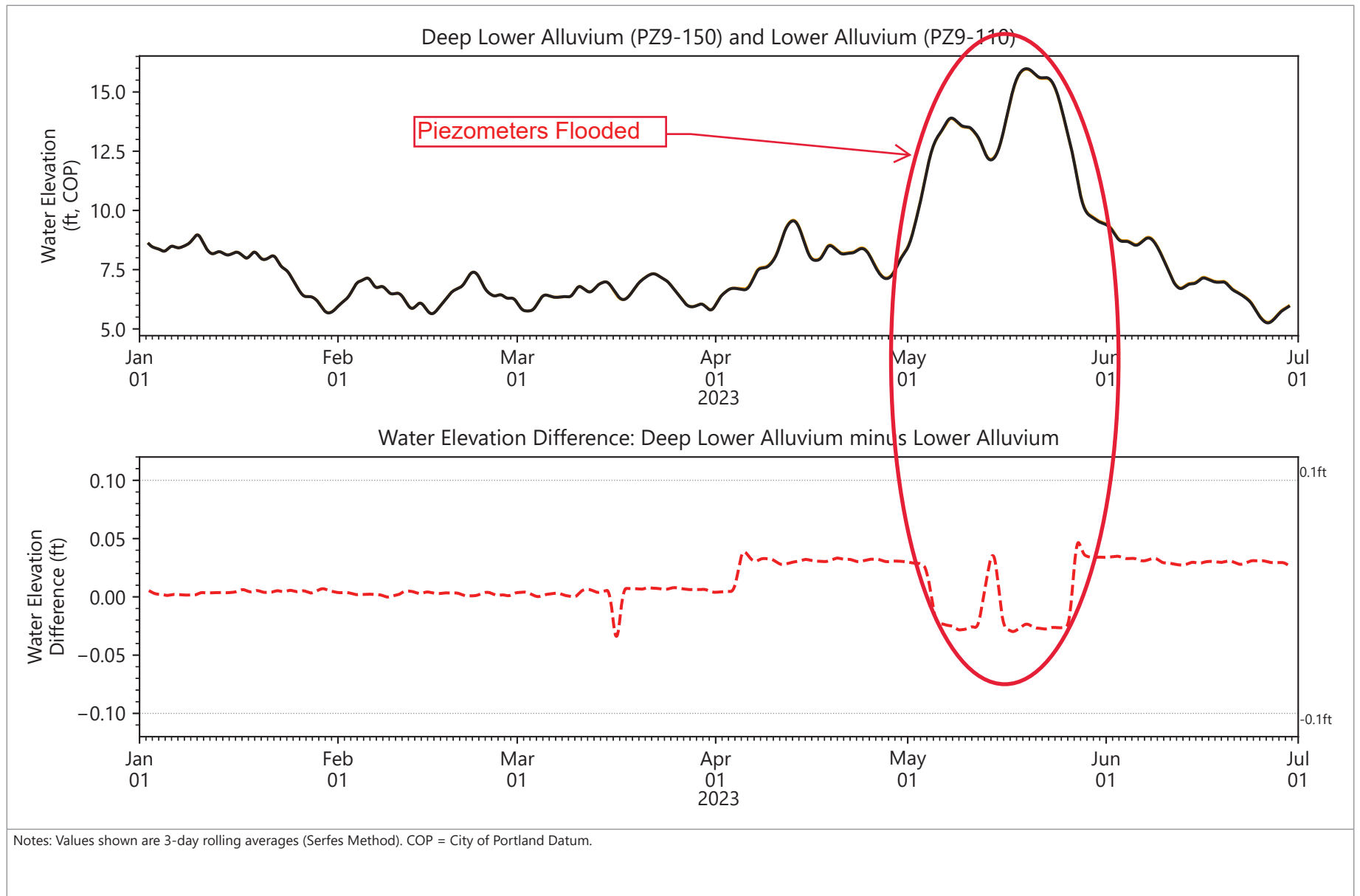


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.18
Groundwater Elevation Differences
 NW Natural Gasco Site

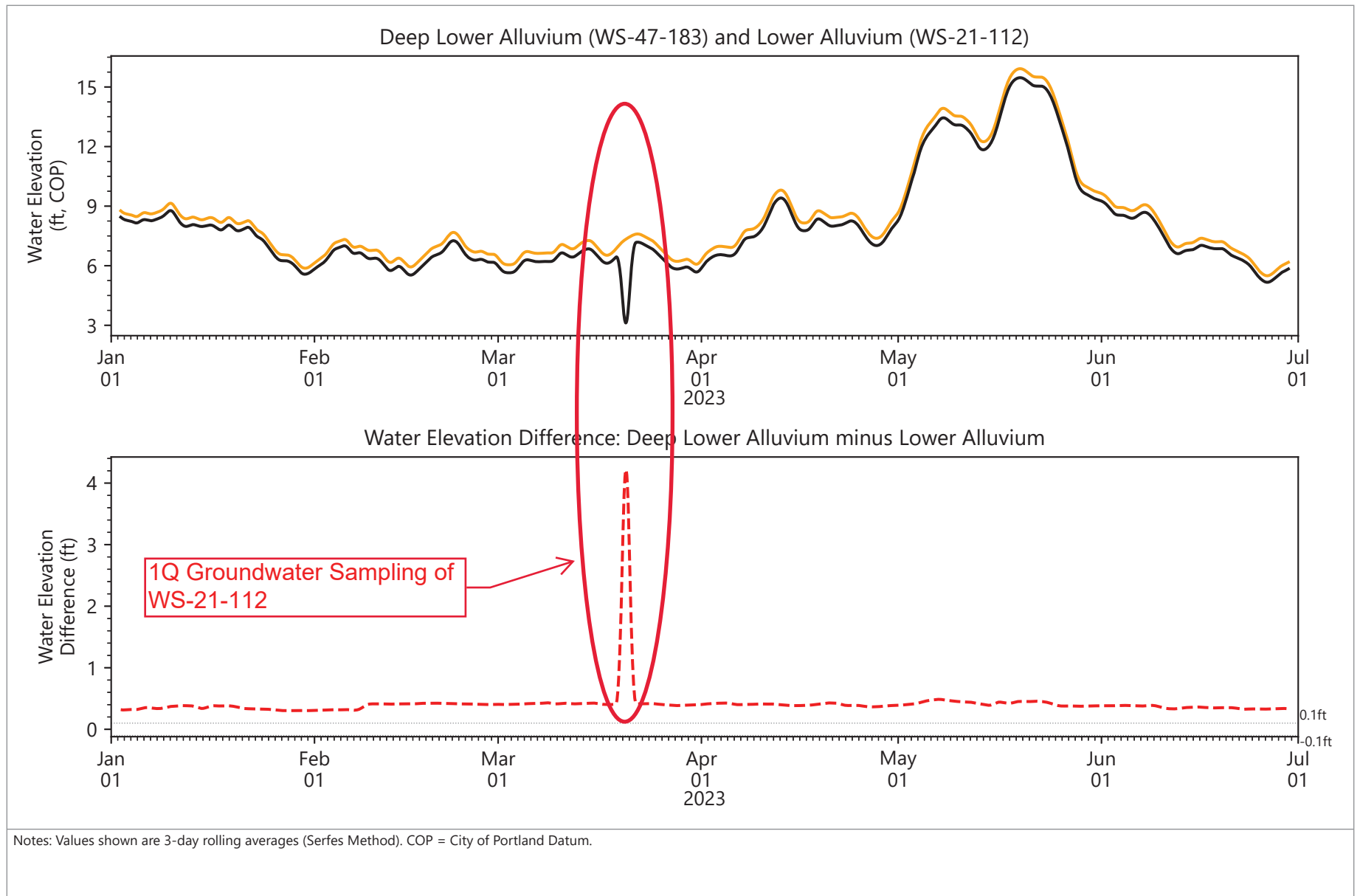


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.19
Groundwater Elevation Differences
 NW Natural Gasco Site

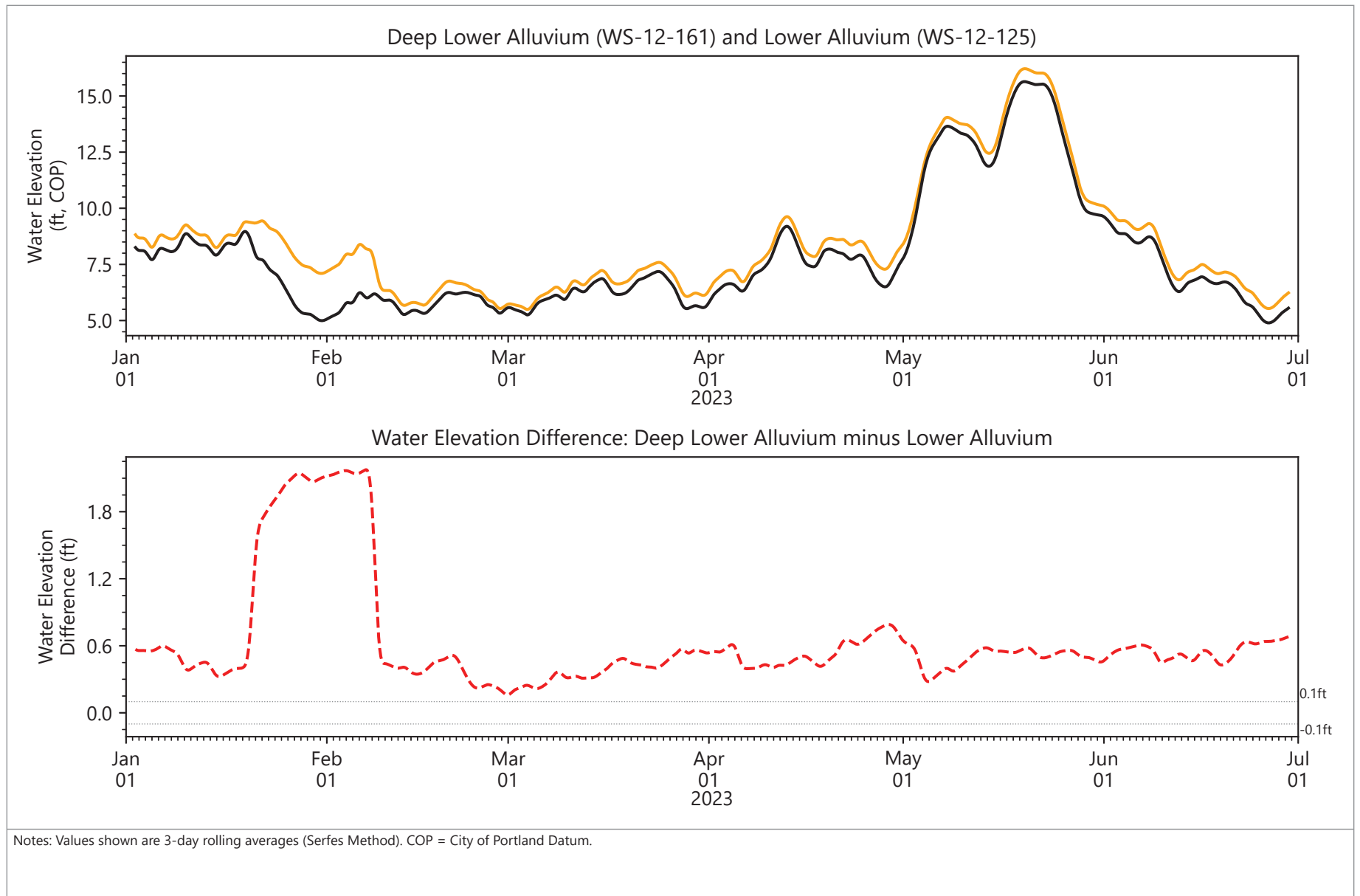


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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.20
Groundwater Elevation Differences
NW Natural Gasco Site

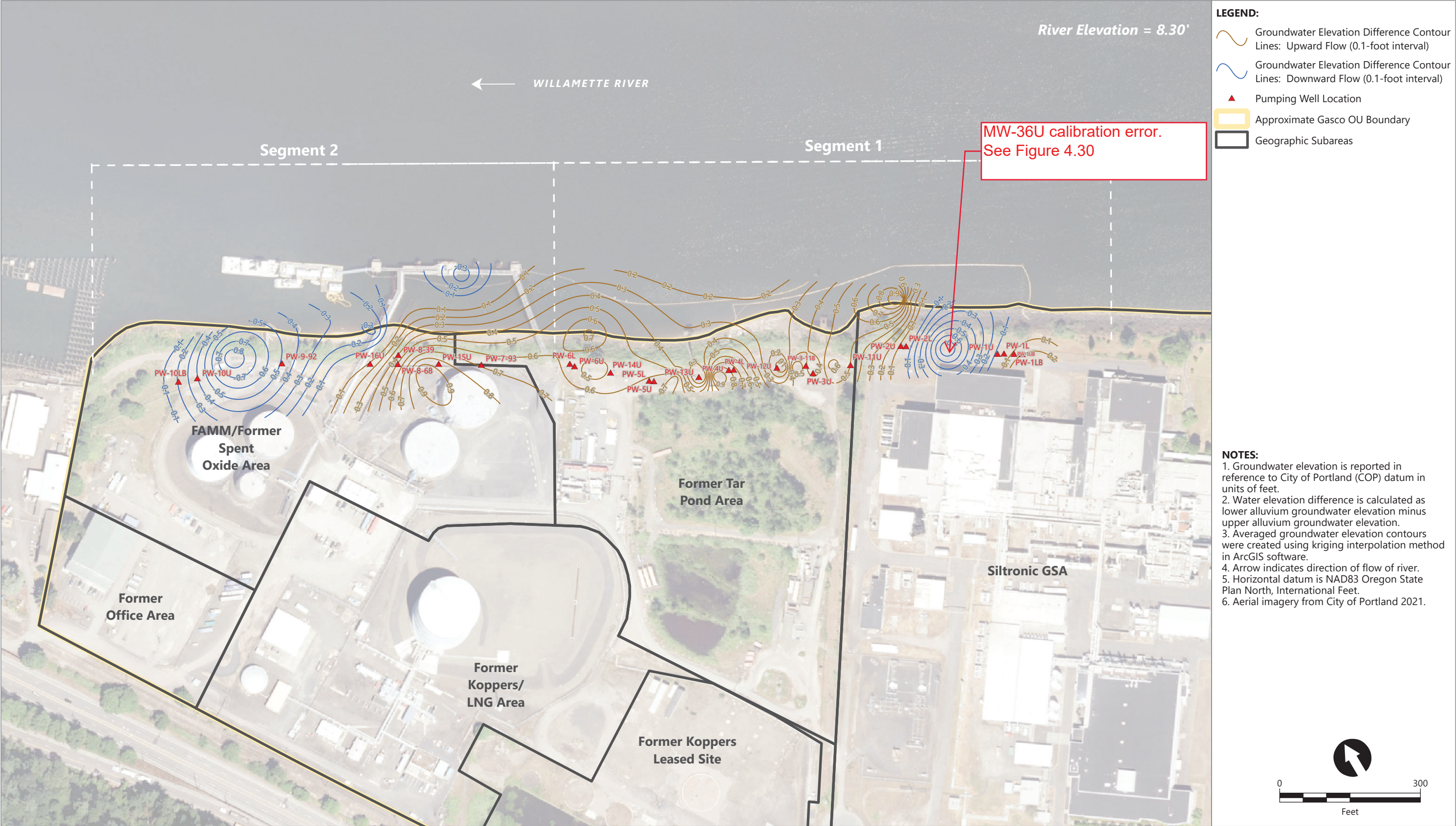


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.21
Groundwater Elevation Differences
 NW Natural Gasco Site



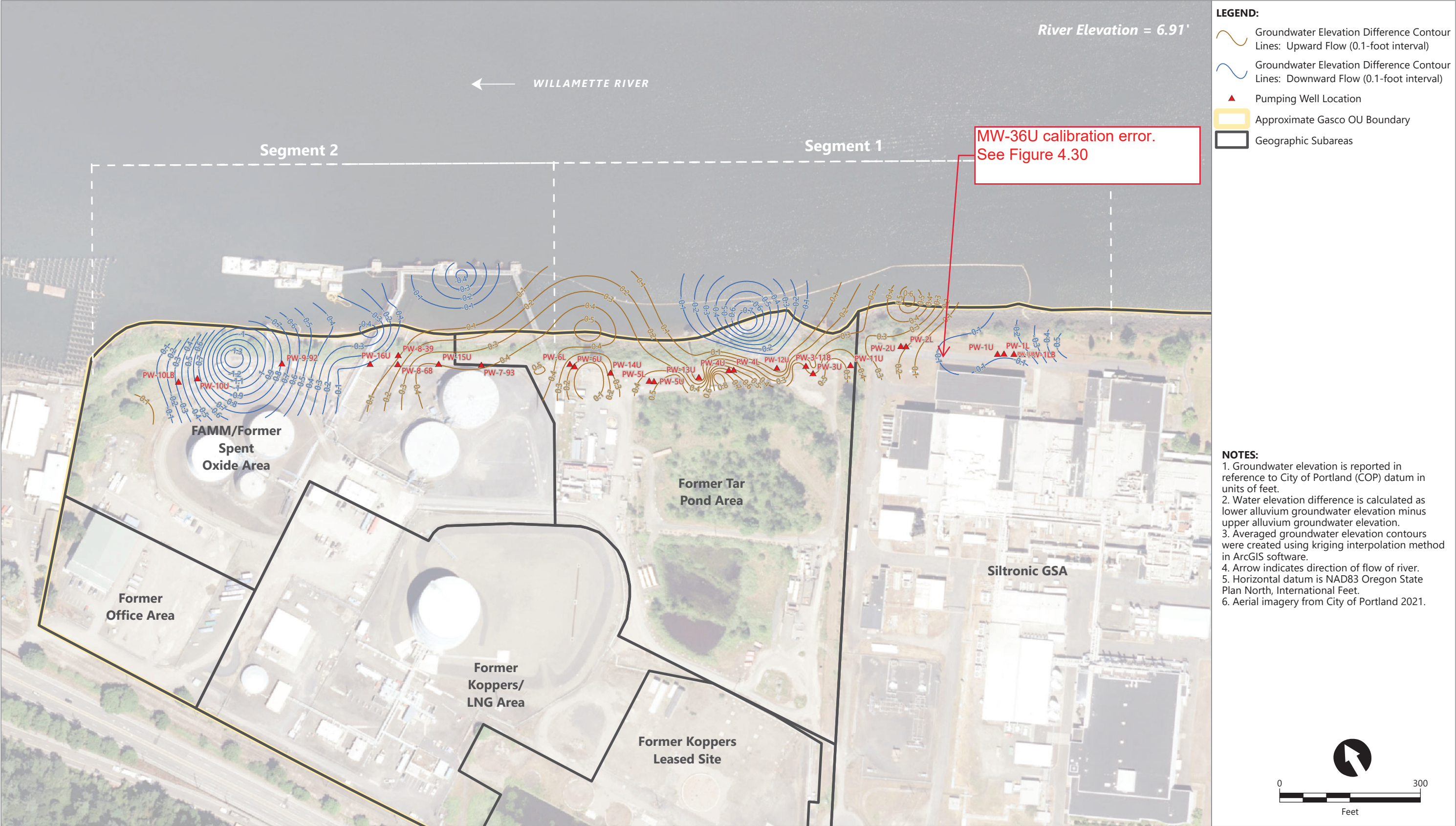
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Figure 6.1

Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 1/11/2023-1/13/2023

NWN Gasco Site
Portland, Oregon



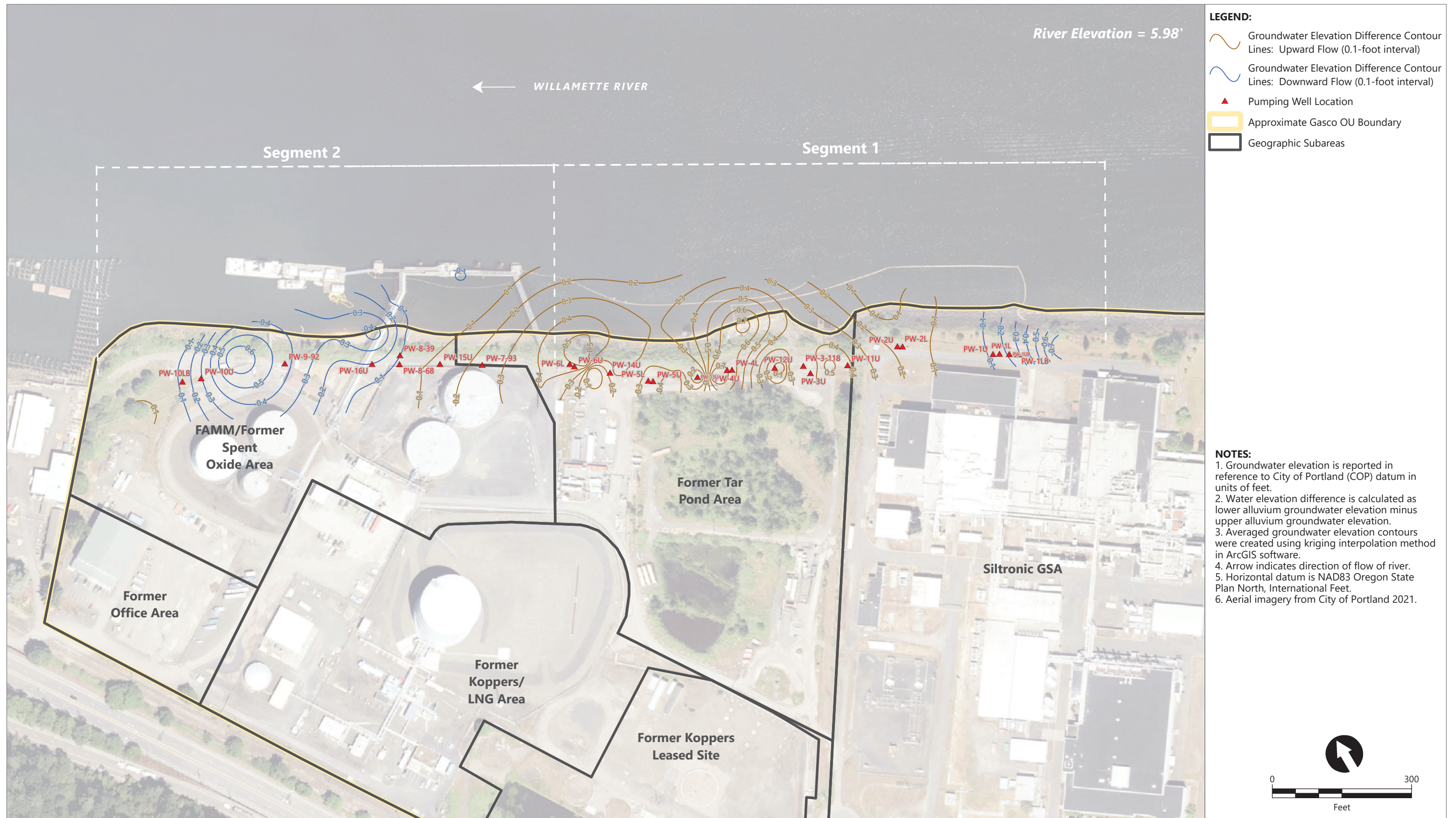
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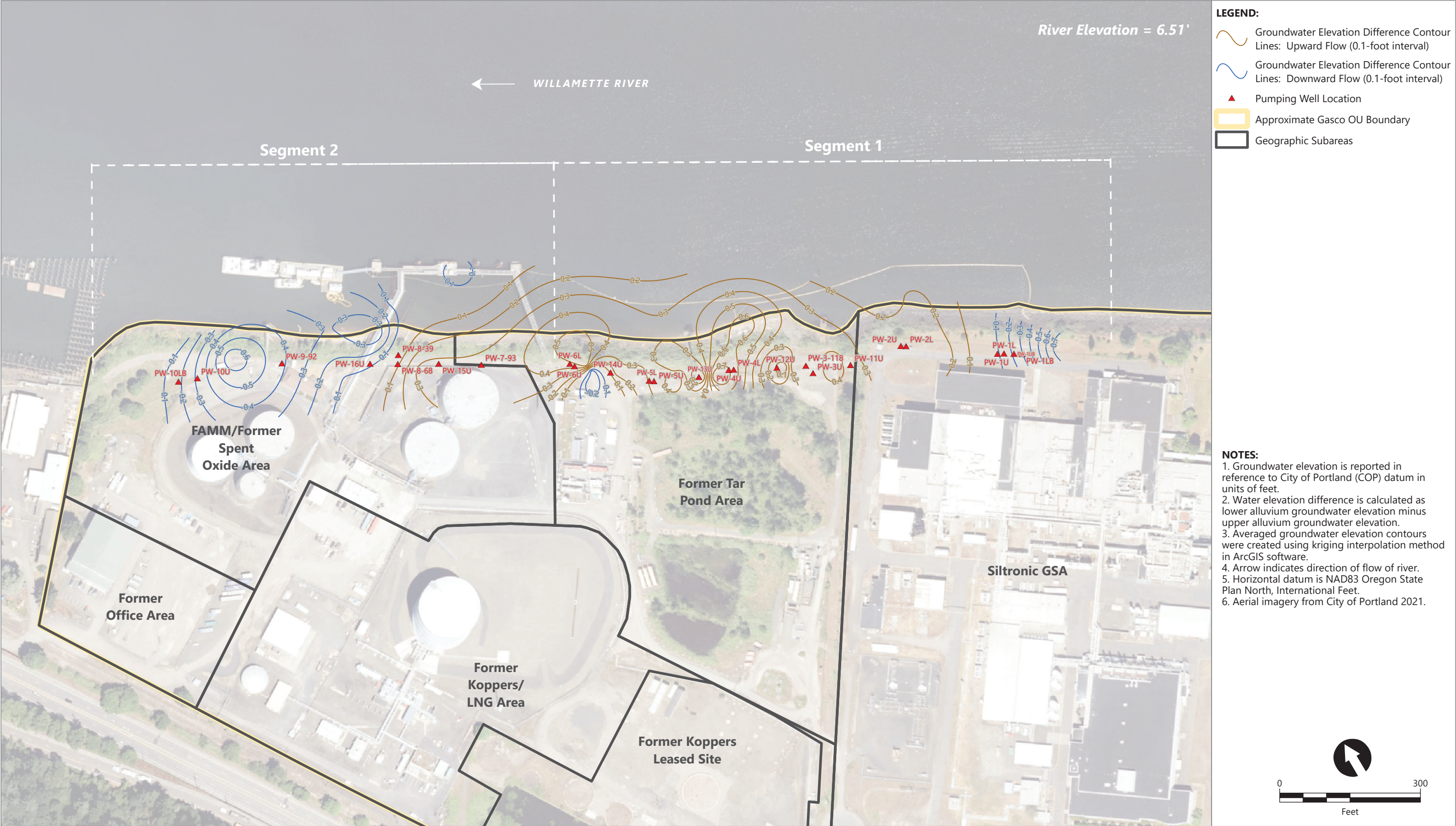


Figure 6.2

Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 1/24/2023-1/26/2023

NWN Gasco Site
Portland, Oregon



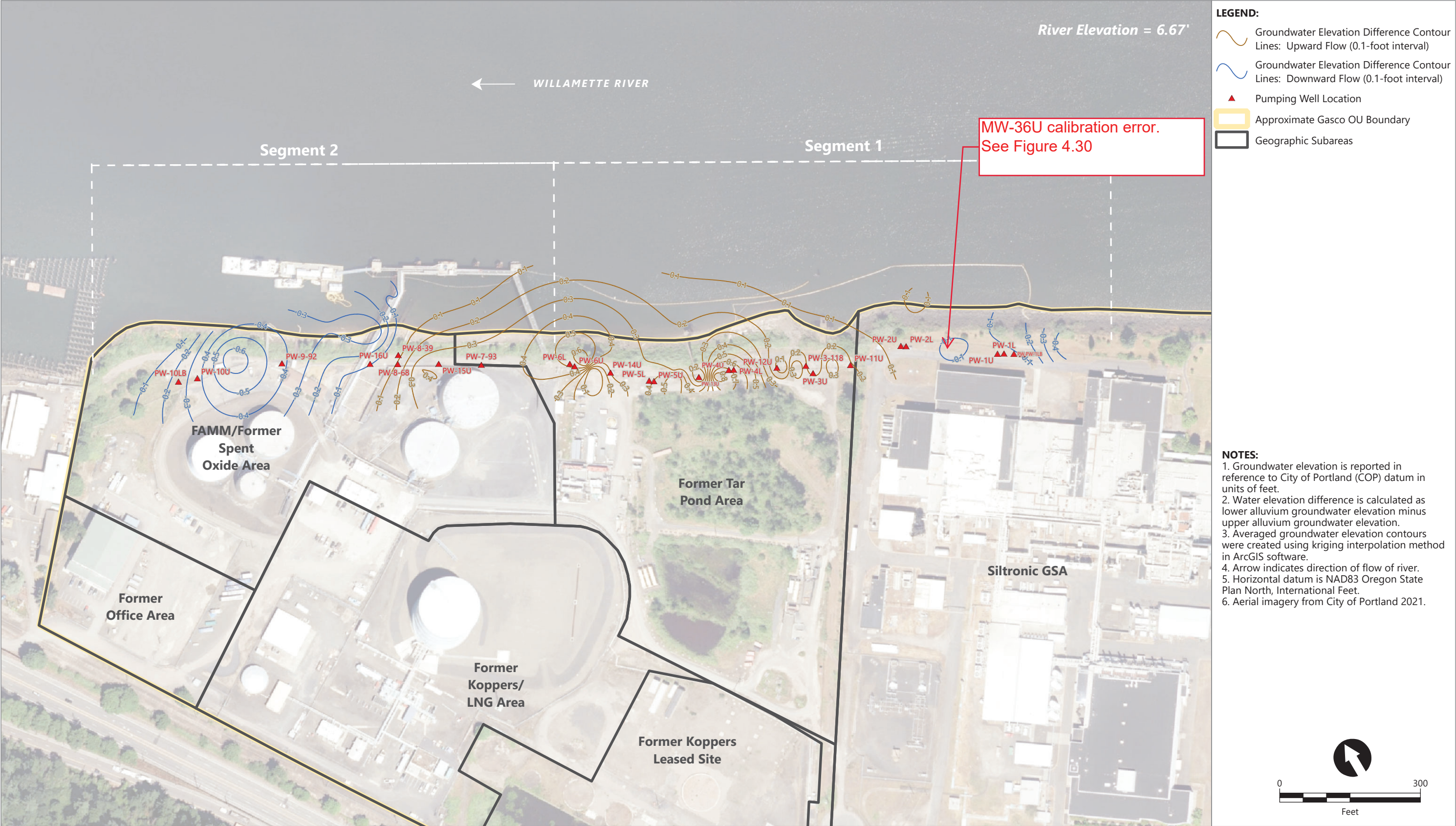


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Figure 6.4
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 2/24/2023-2/26/2023

NWN Gasco Site
Portland, Oregon



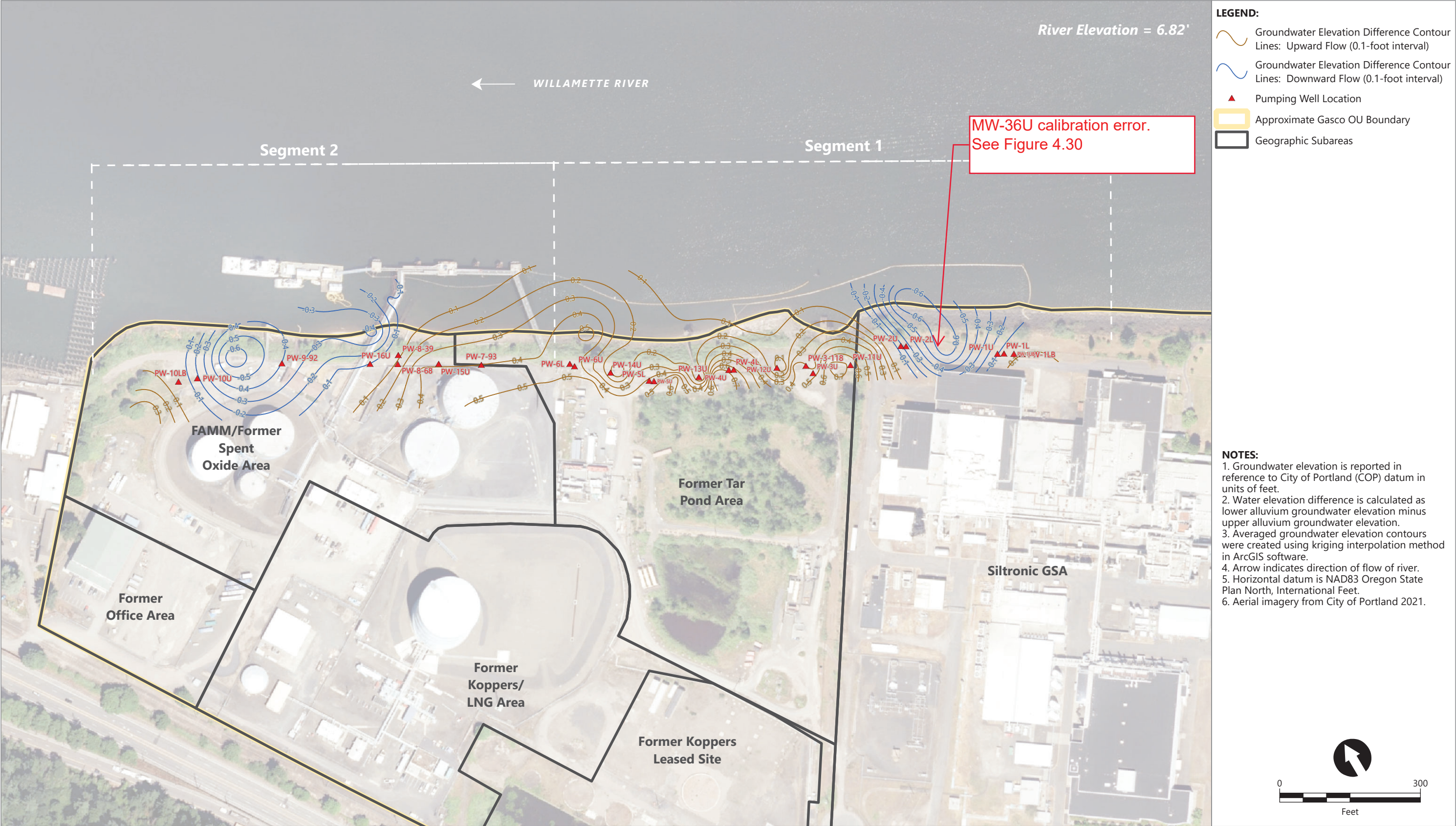
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Figure 6.5

Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 3/11/2023-3/13/2023

NWN Gasco Site
Portland, Oregon



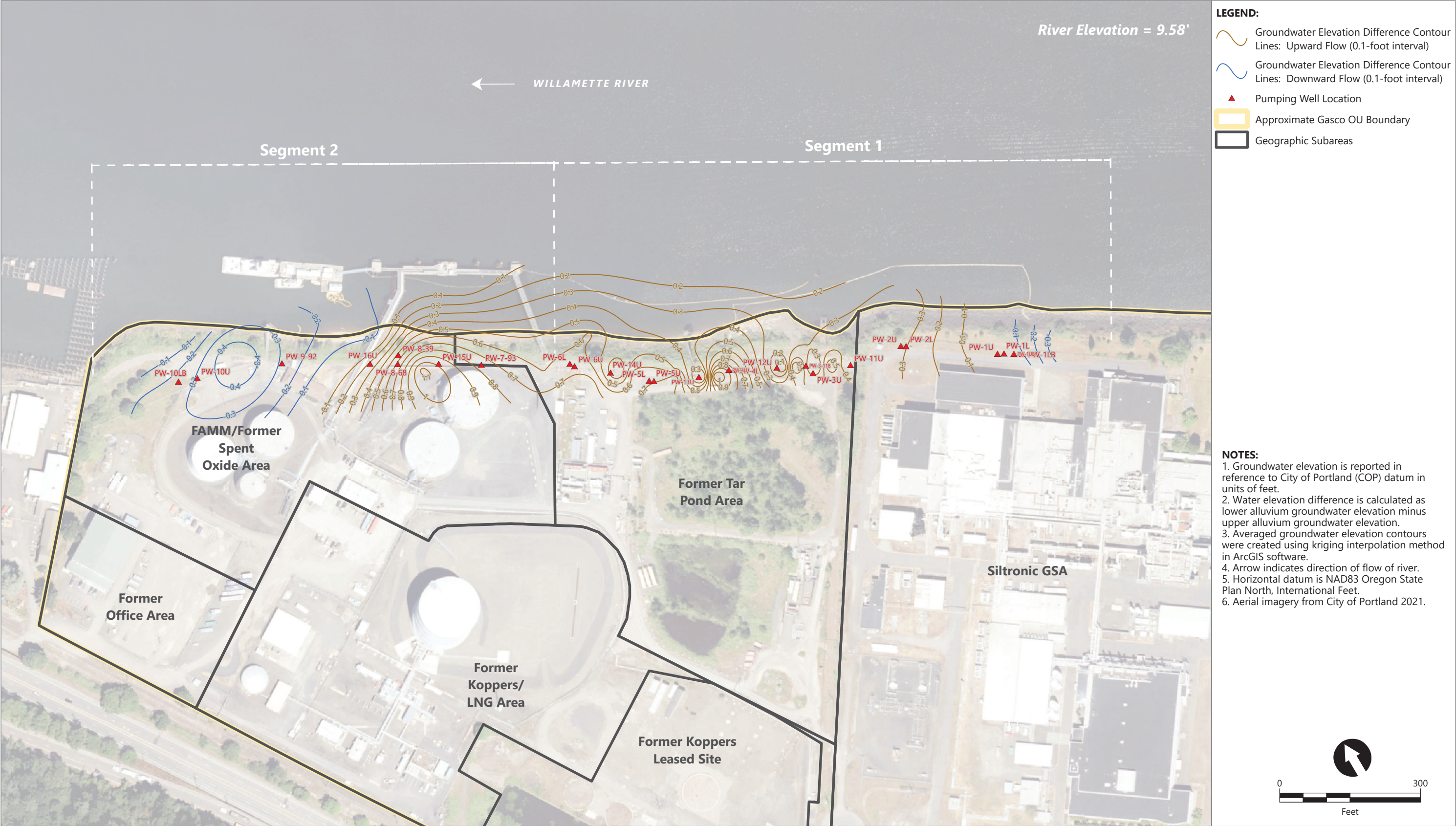
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Figure 6.6

Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 3/24/2023-3/26/2023

NWN Gasco Site
Portland, Oregon



Publish Date: 2023/08/07, 1:37 PM | User: cgardner
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Figure 6.7
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 4/11/2023-4/13/2023

NWN Gasco Site
Portland, Oregon



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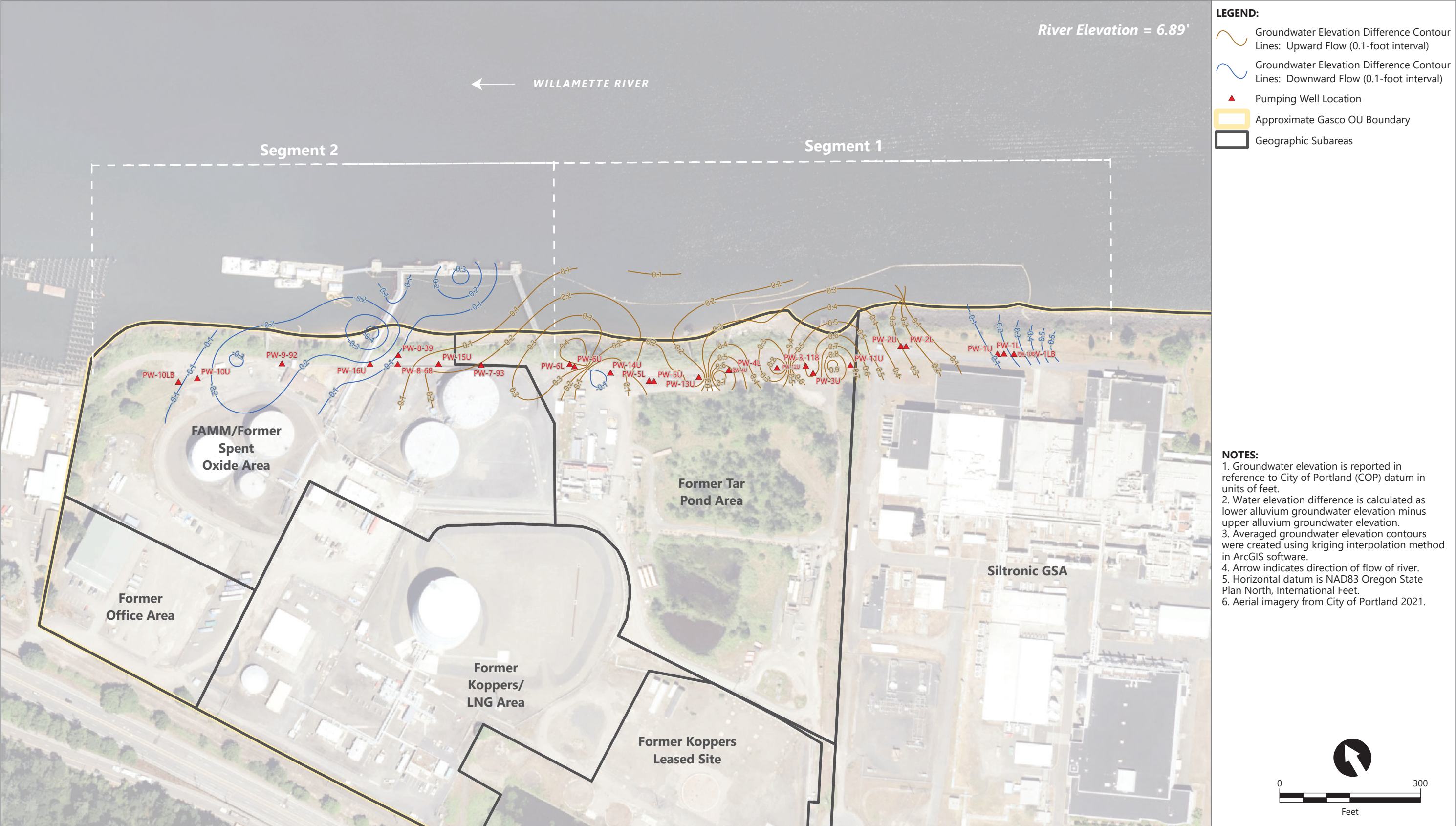
Figure 6.9
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 5/11/2023-5/13/2023

NWN Gasco Site
Portland, Oregon



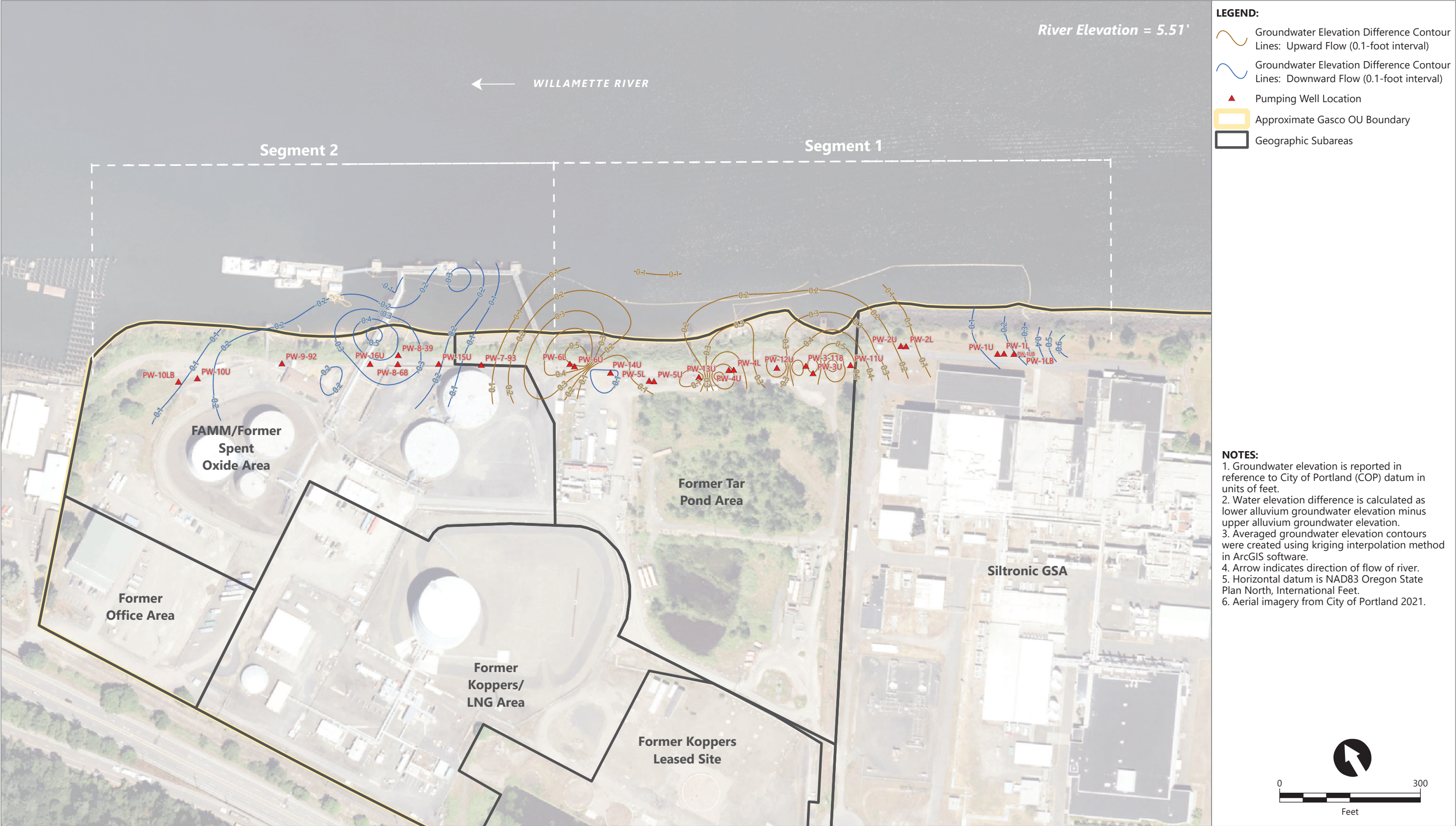
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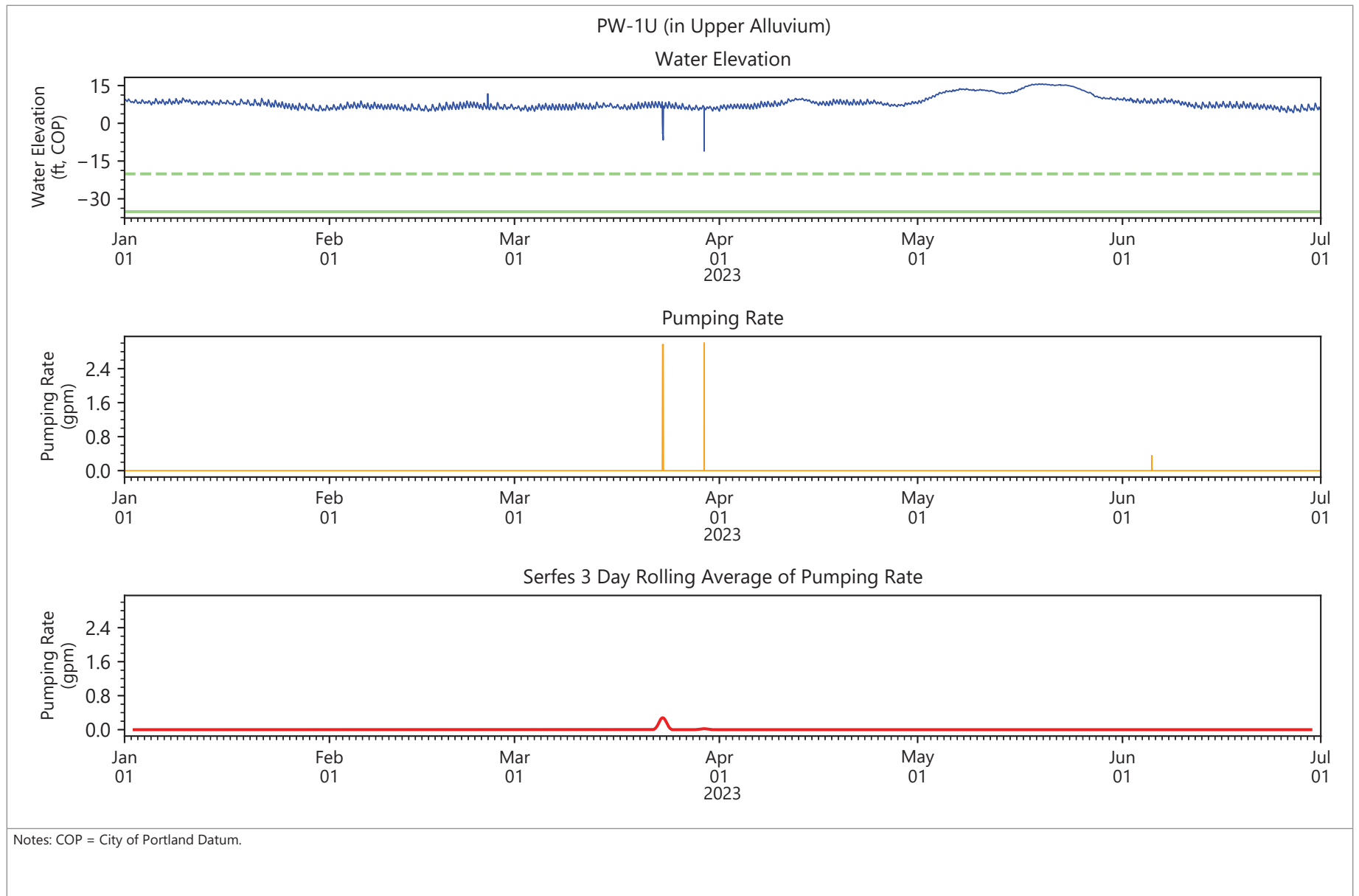


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Figure 6.12
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 6/24/2023-6/26/2023

NWN Gasco Site
Portland, Oregon

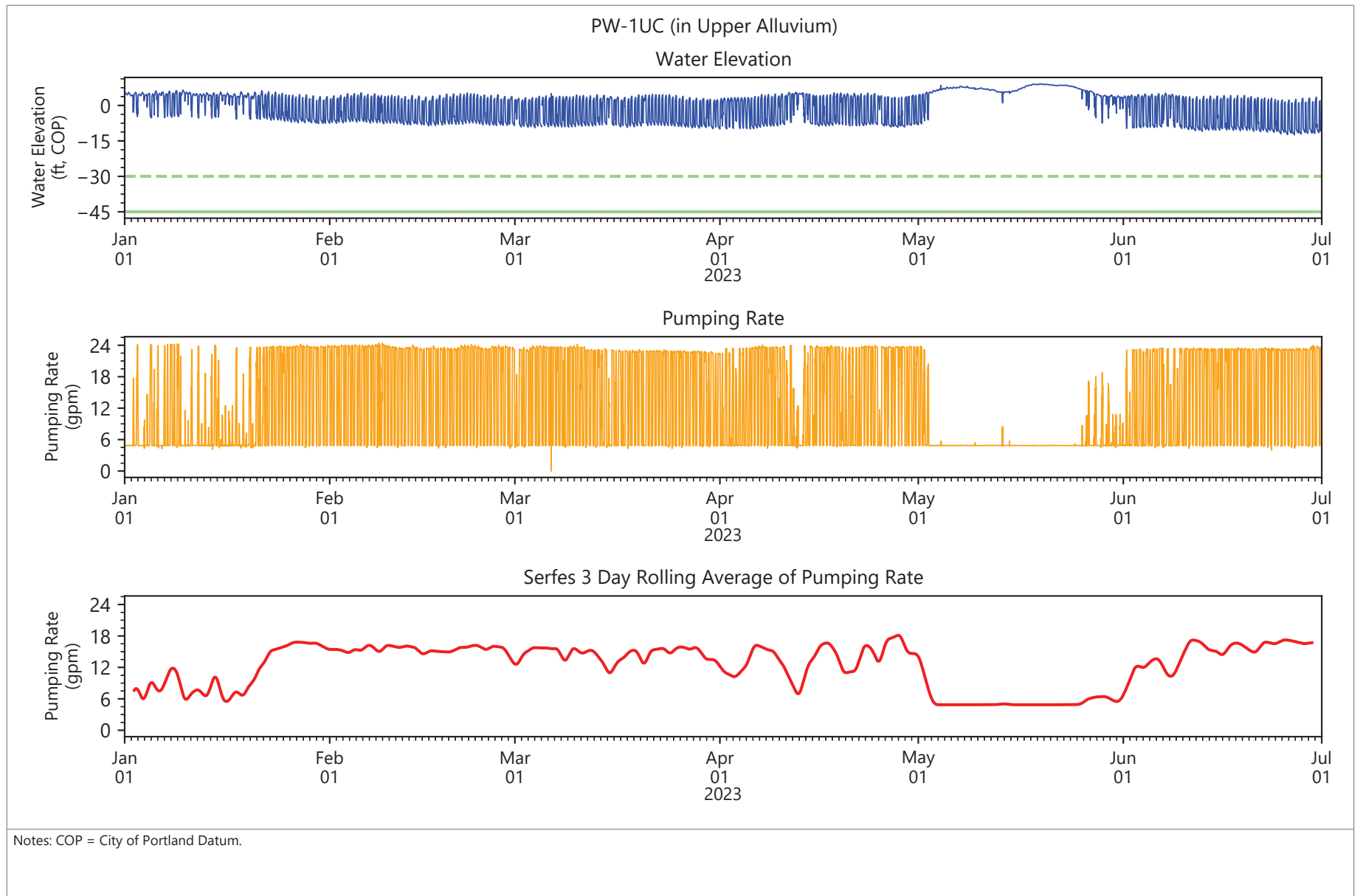


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.1
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



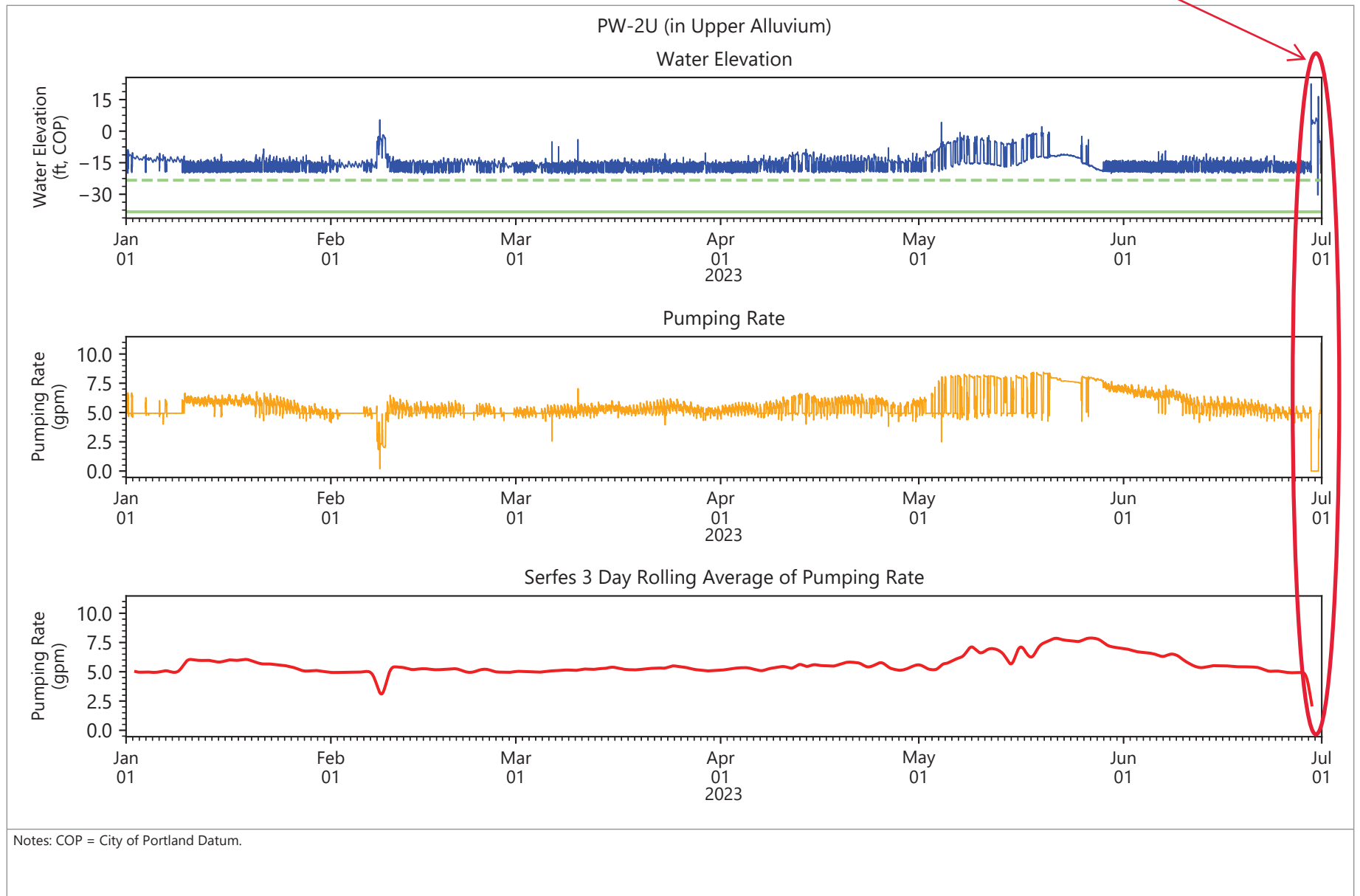
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.2
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 6/29



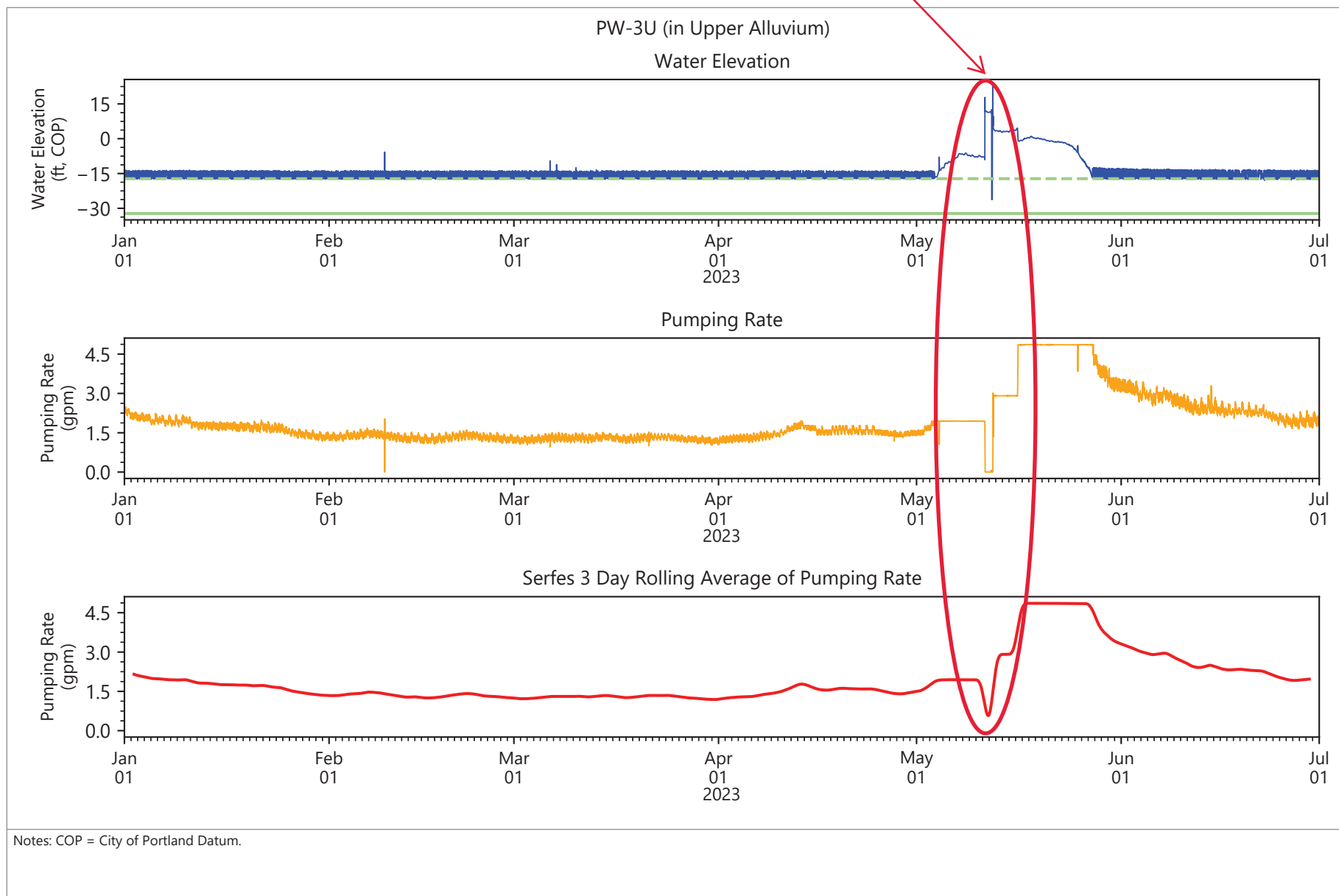
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.3
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 5/11

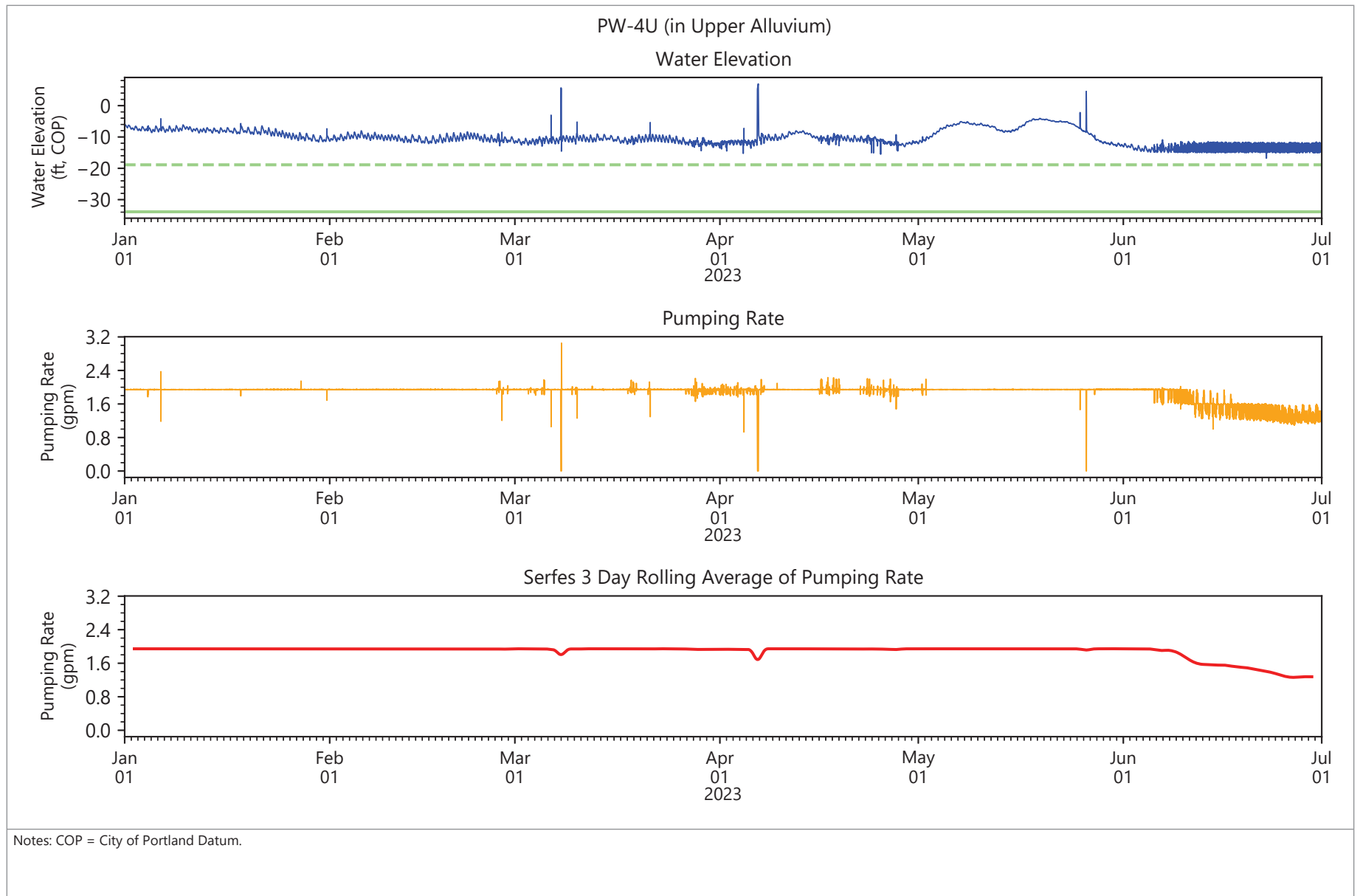


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- Groundwater Elevation
- Top of Screen Elevation
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- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.4
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



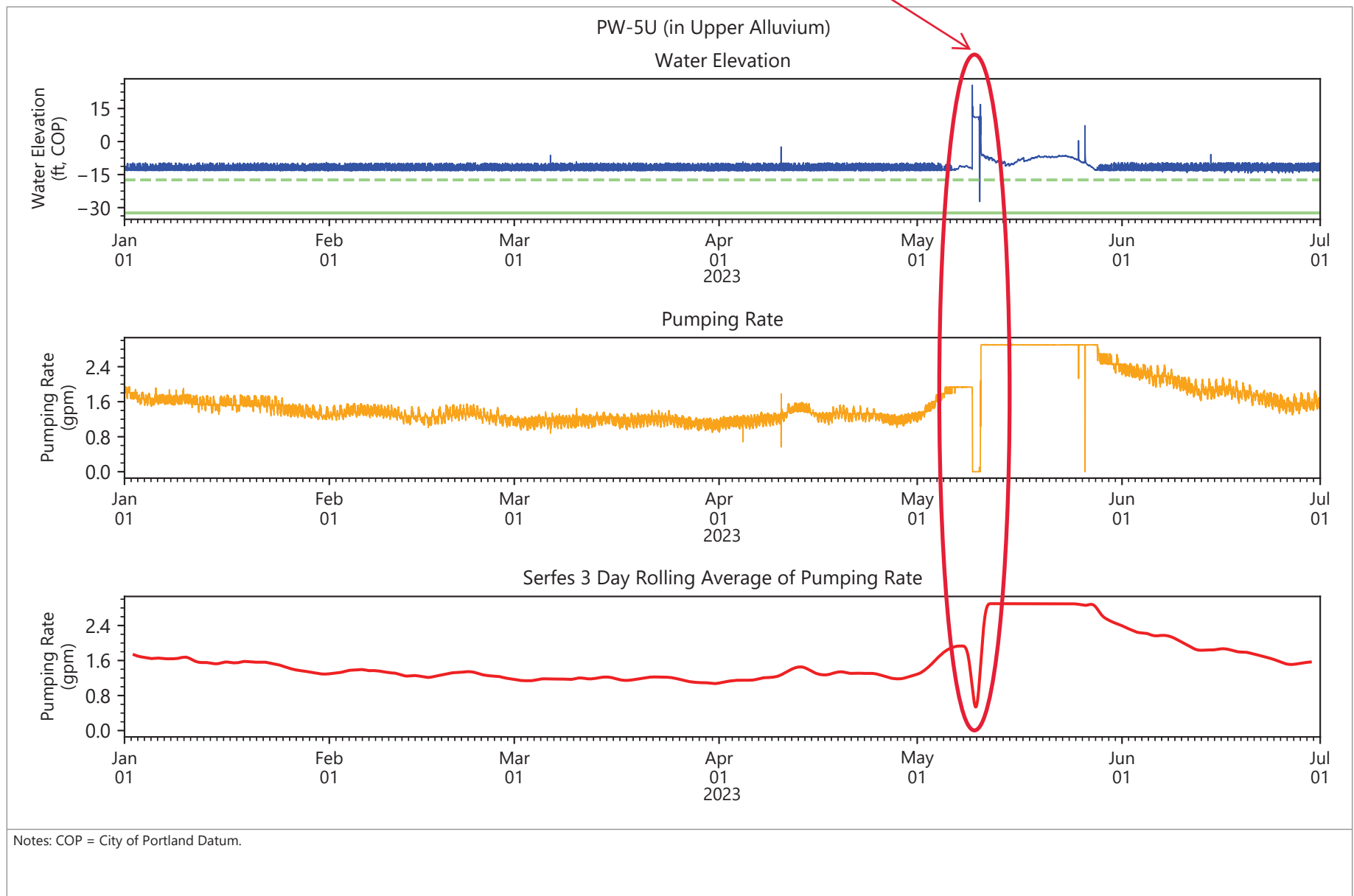
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.5
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 5/9



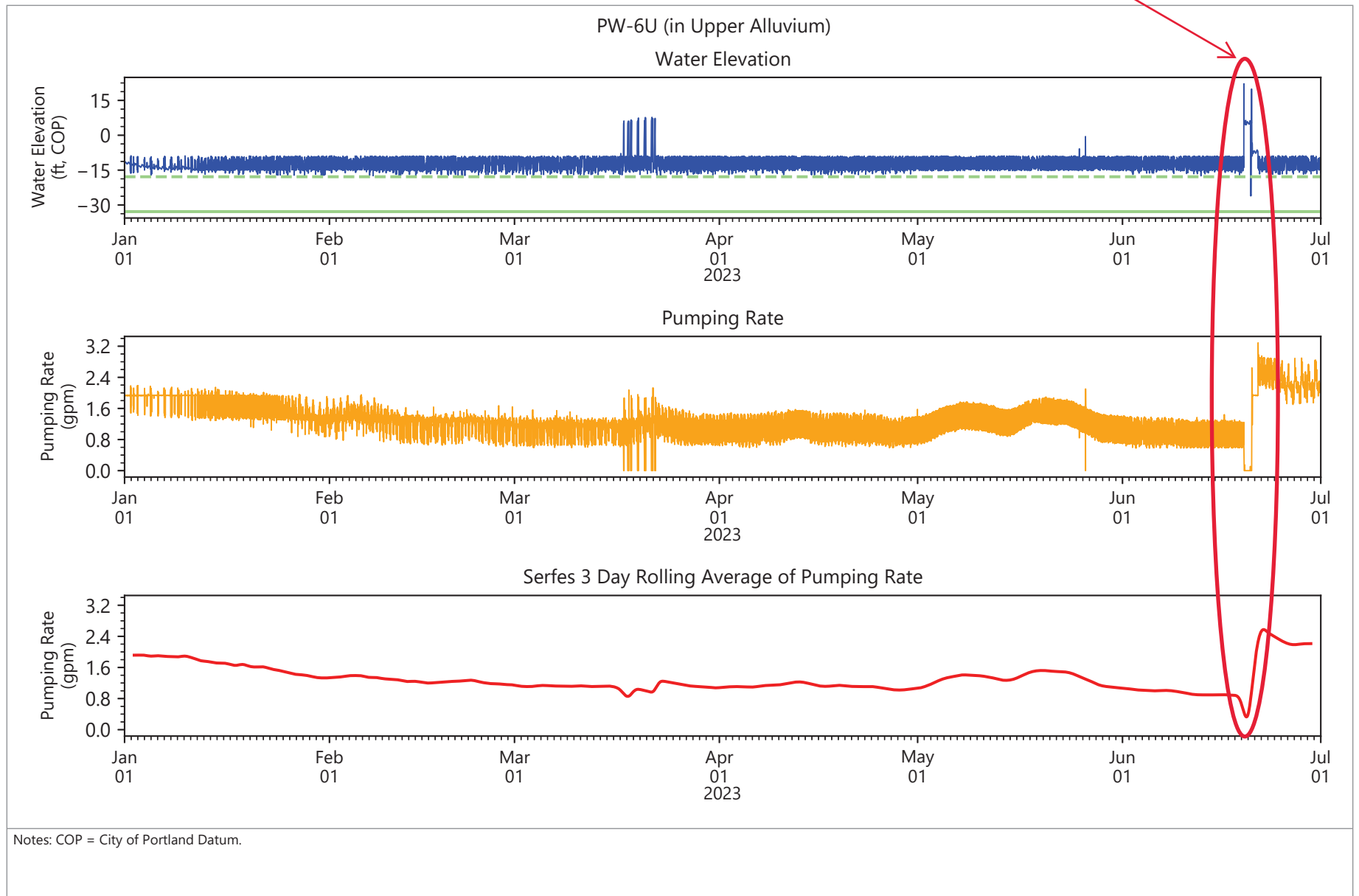
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.6
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 6/21

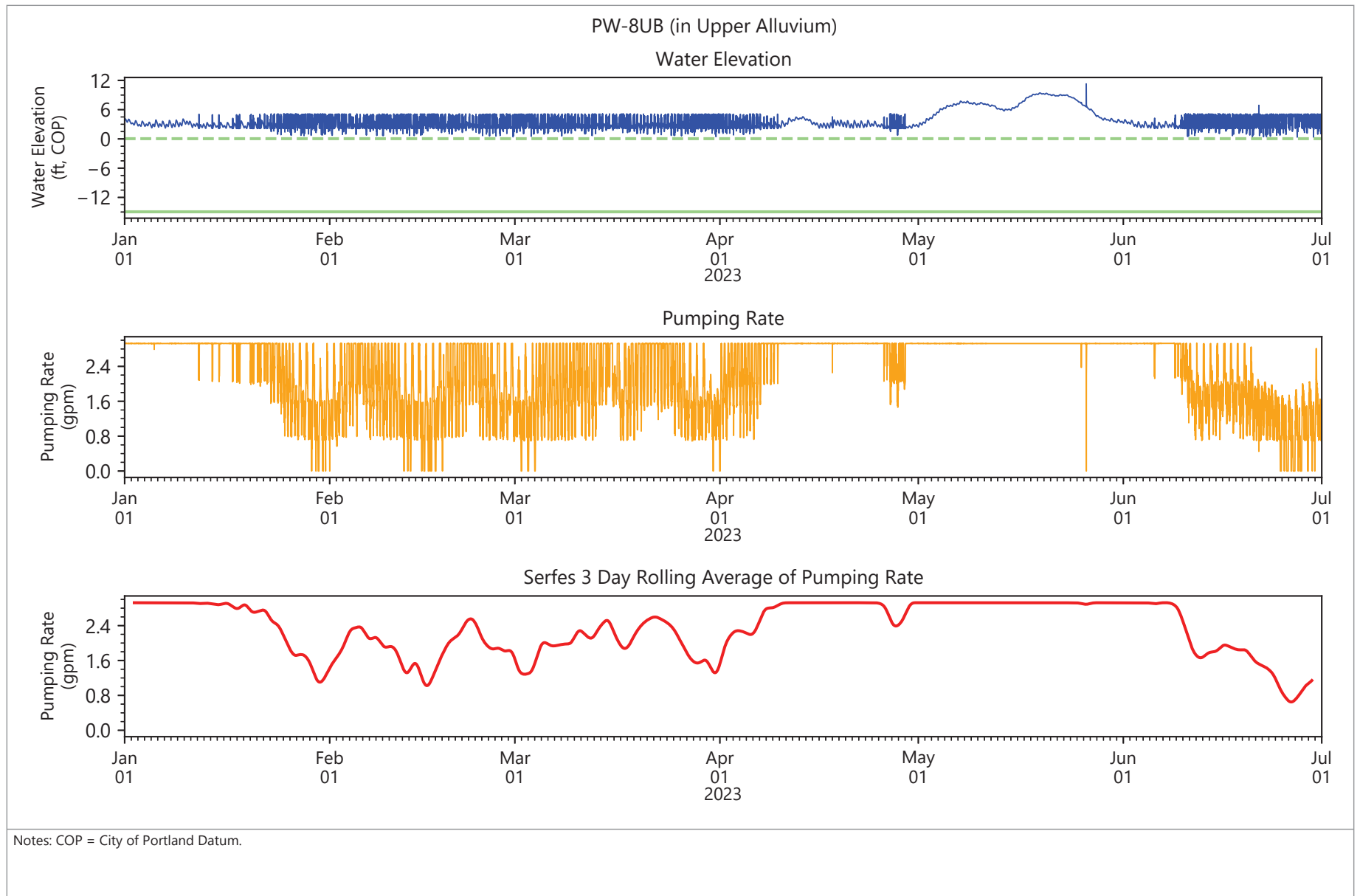


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.7
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



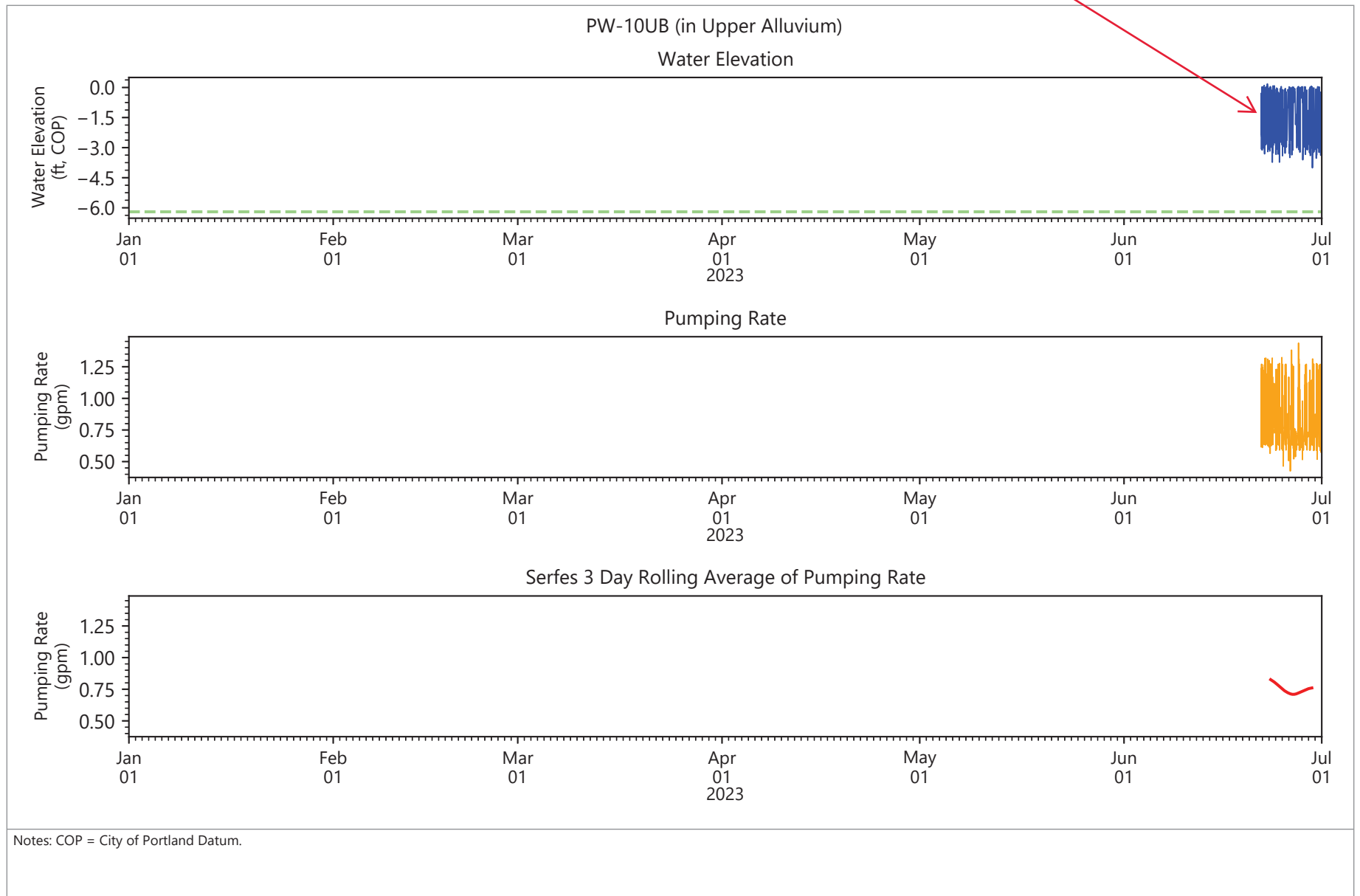
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.8
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

PW-10UB online 6/21

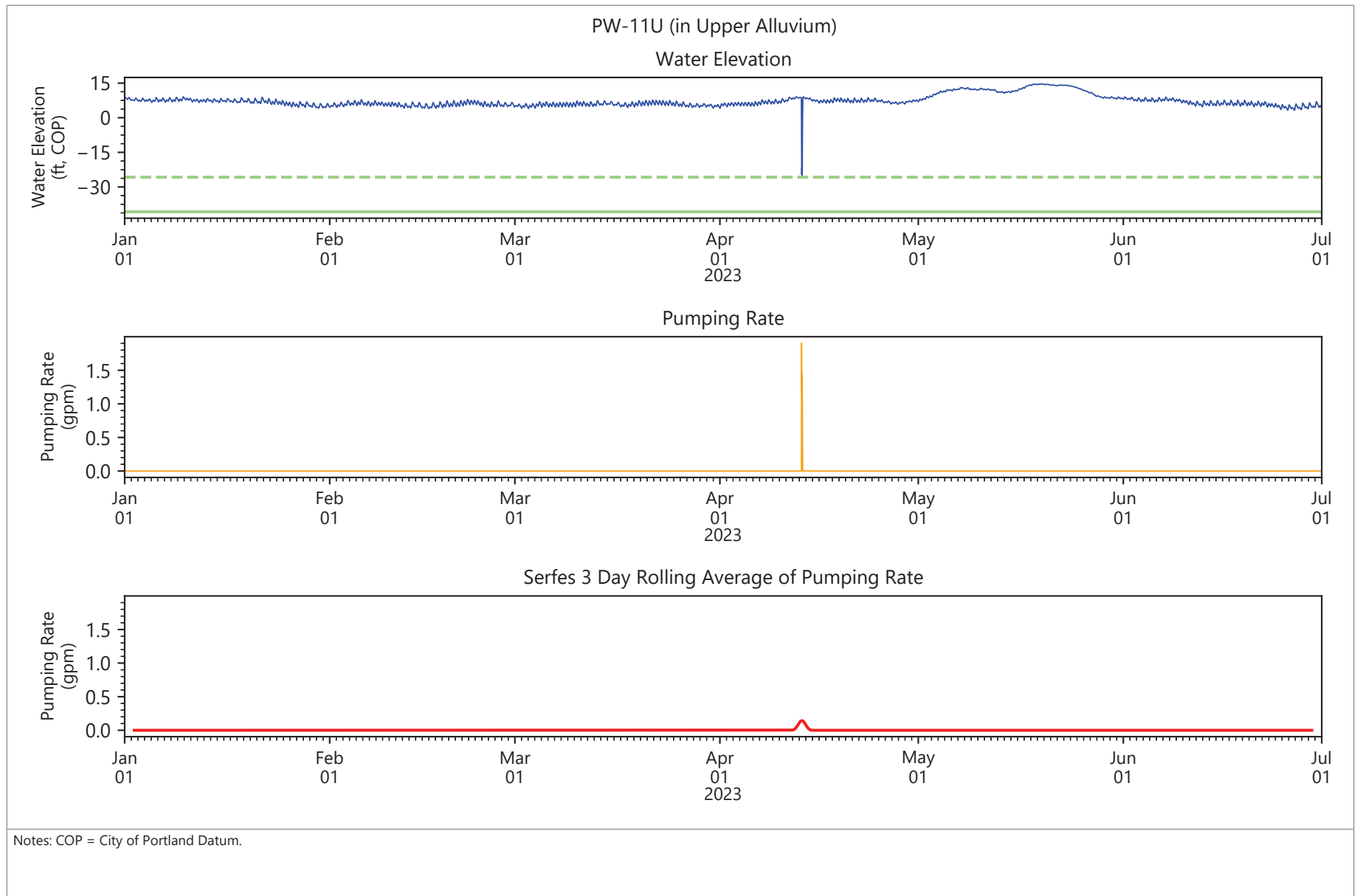


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.9
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



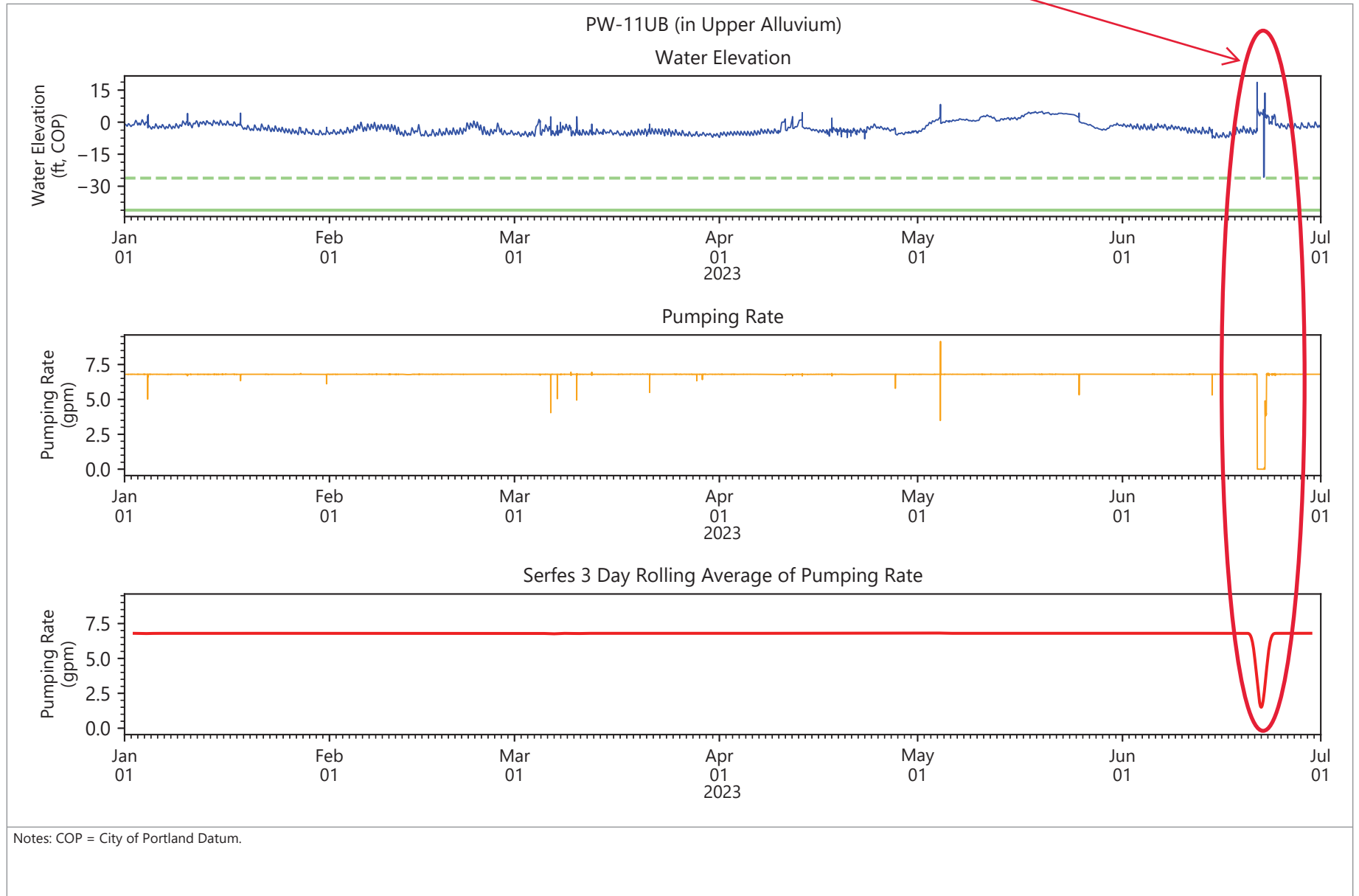
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.10
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 6/21



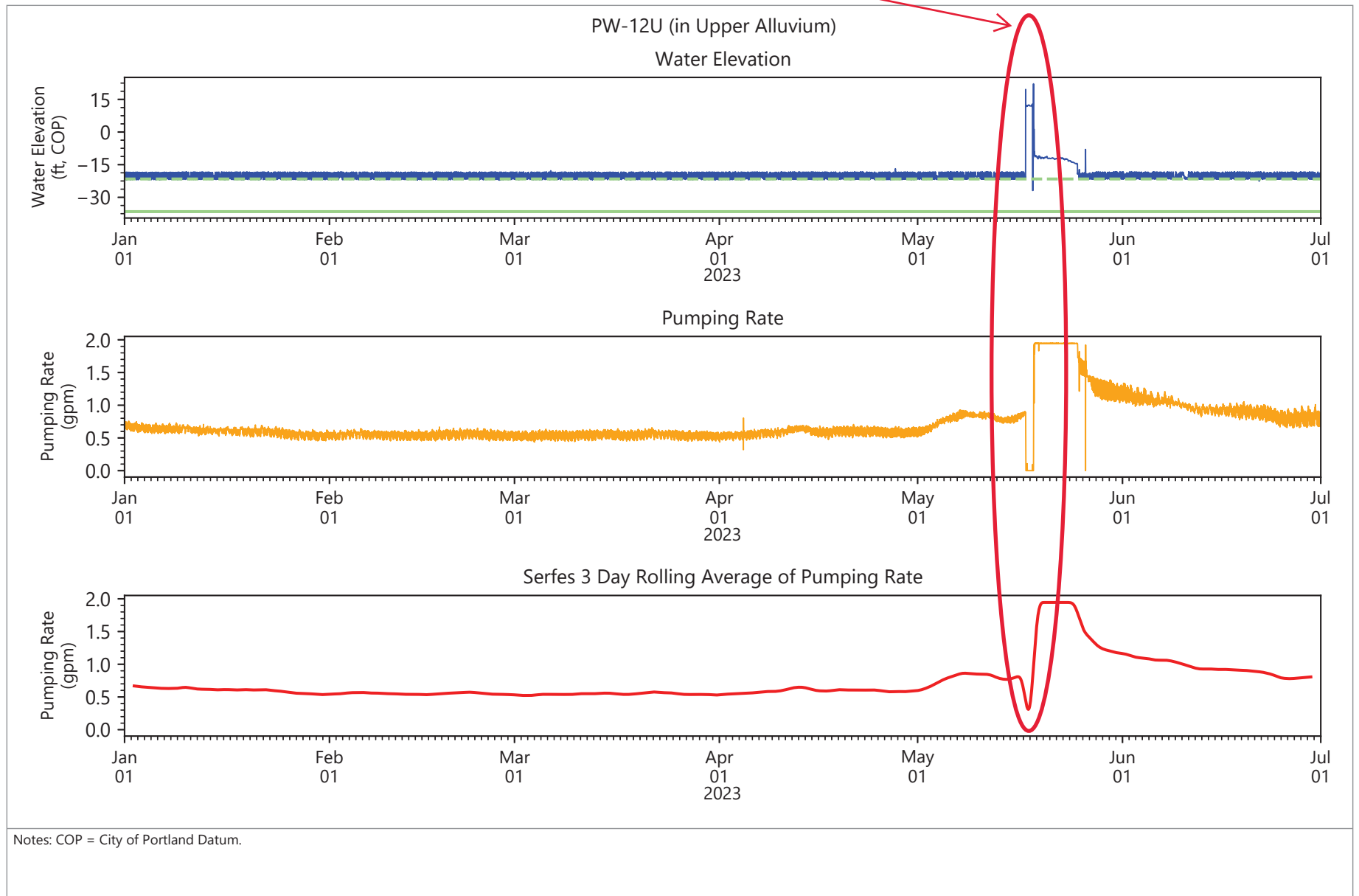
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.11
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 5/17



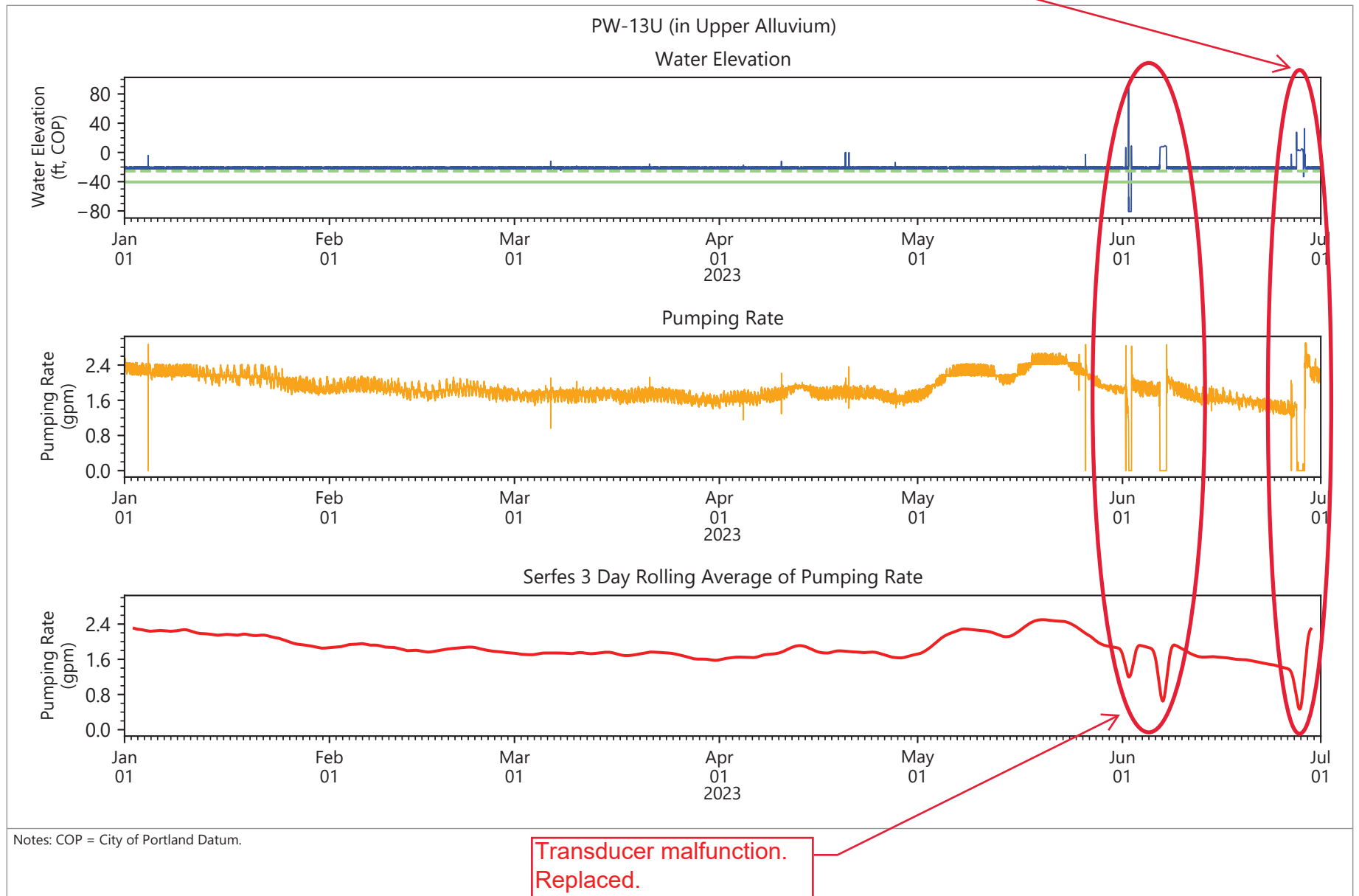
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.12
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 6/27

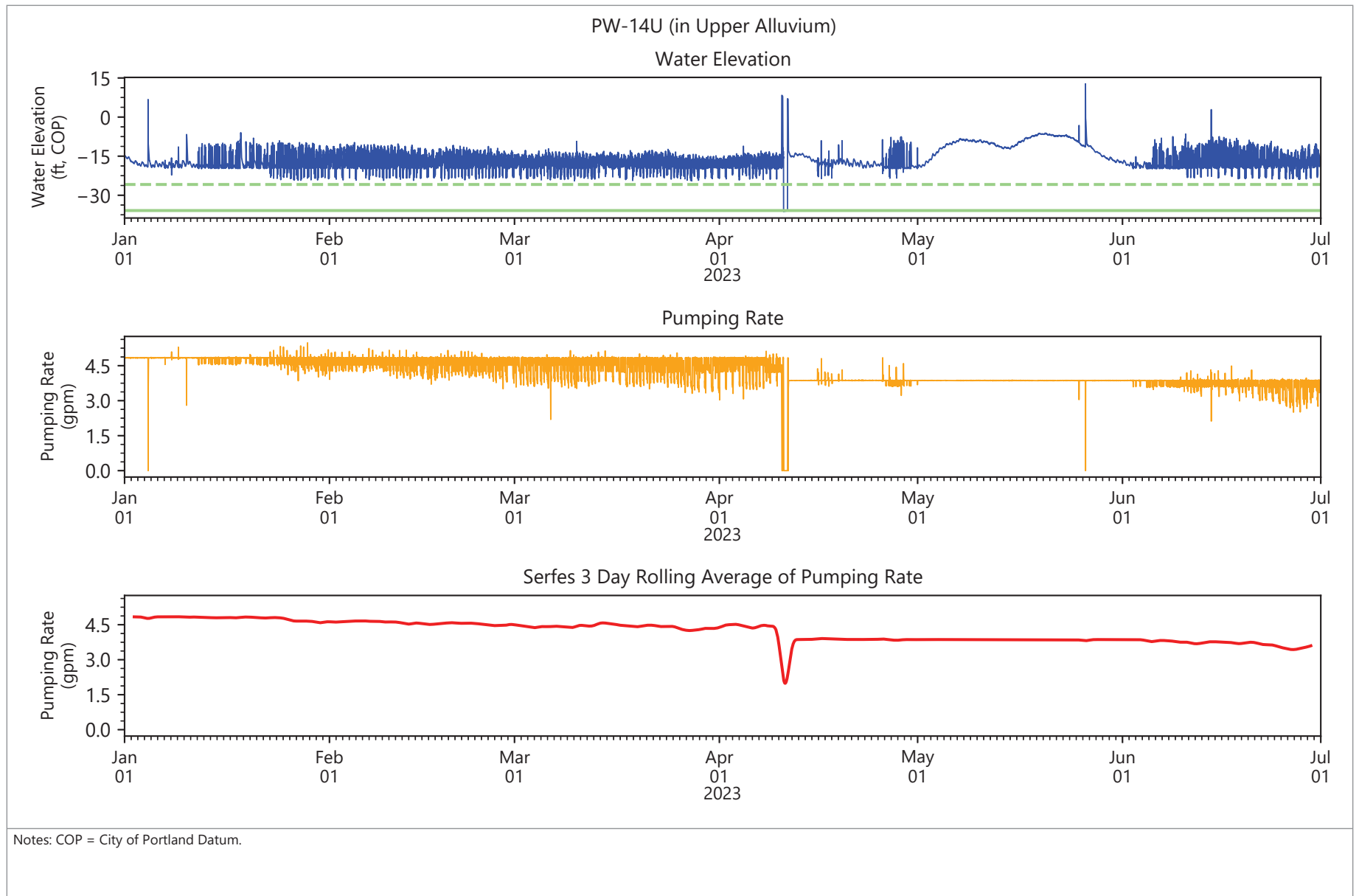


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.13
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

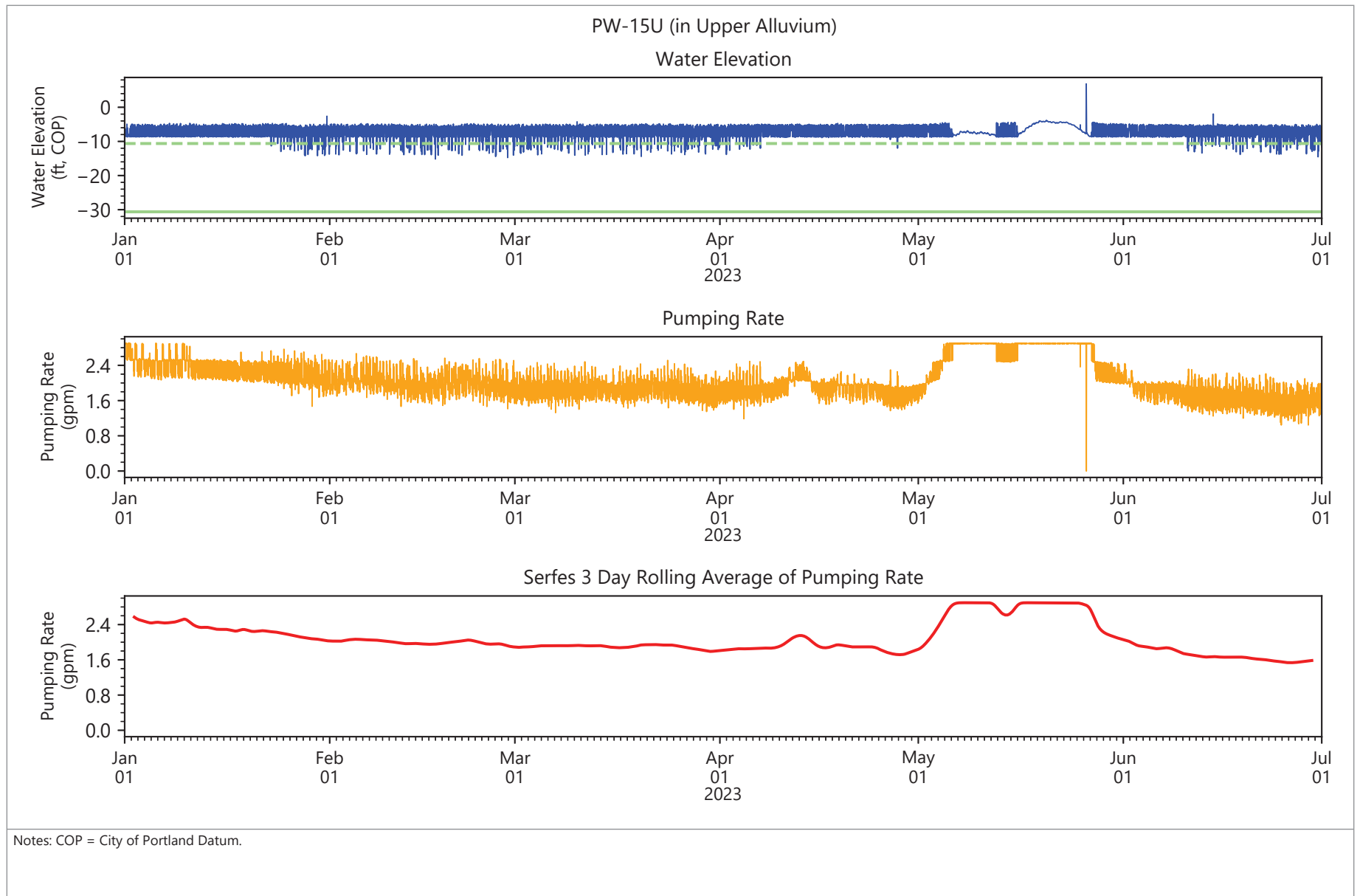


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.14
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



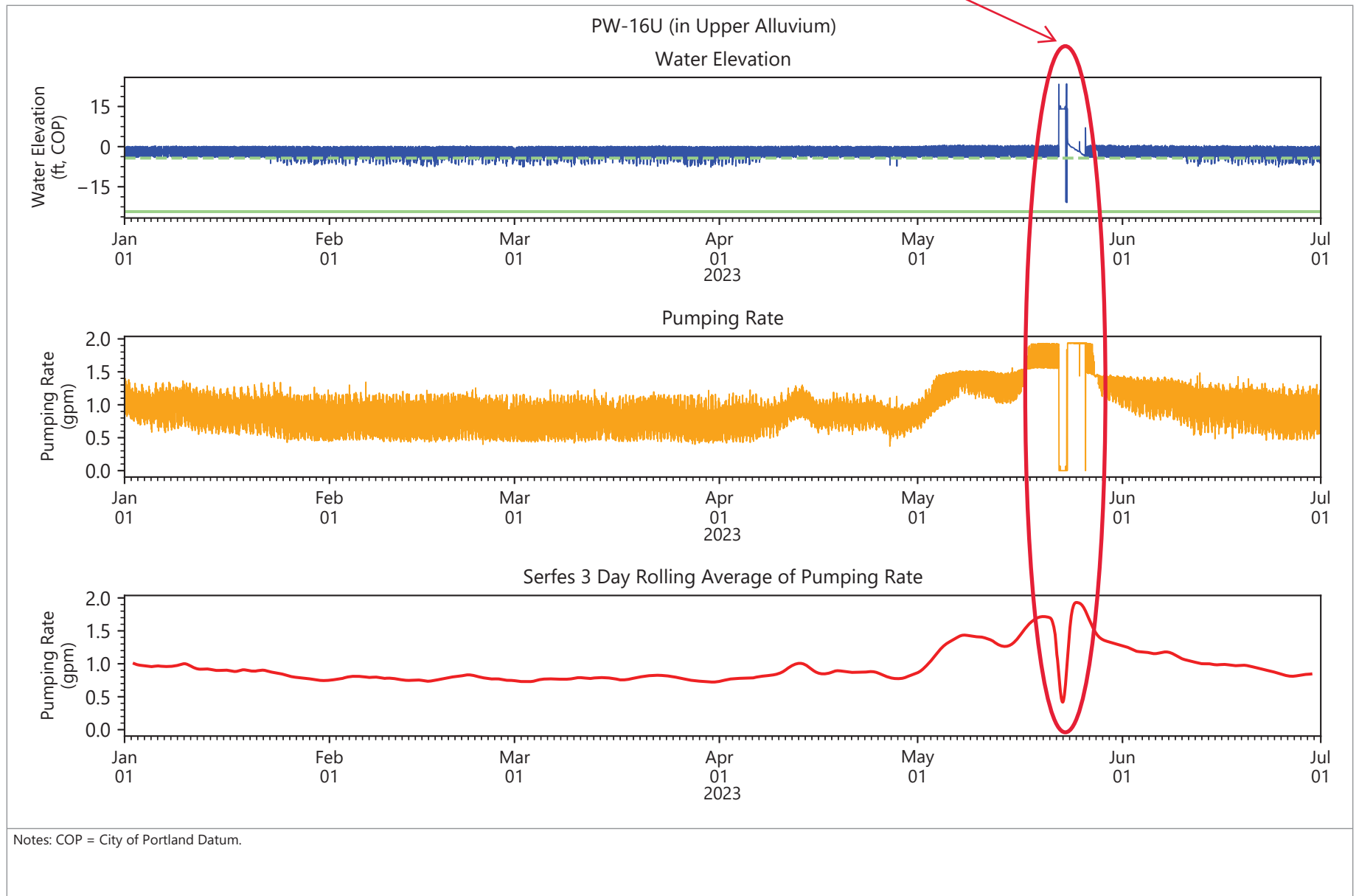
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.15
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 5/22

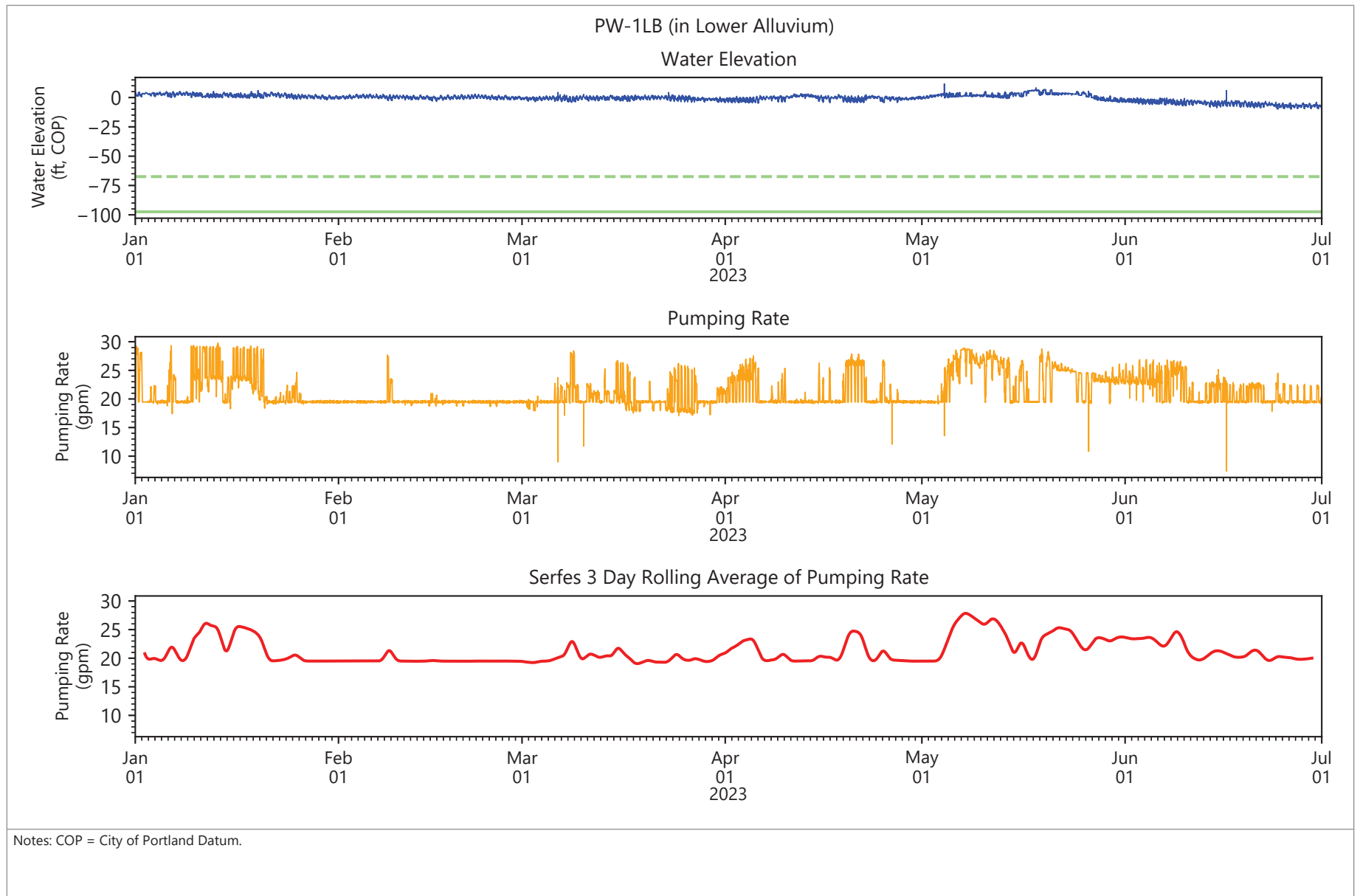


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.16
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



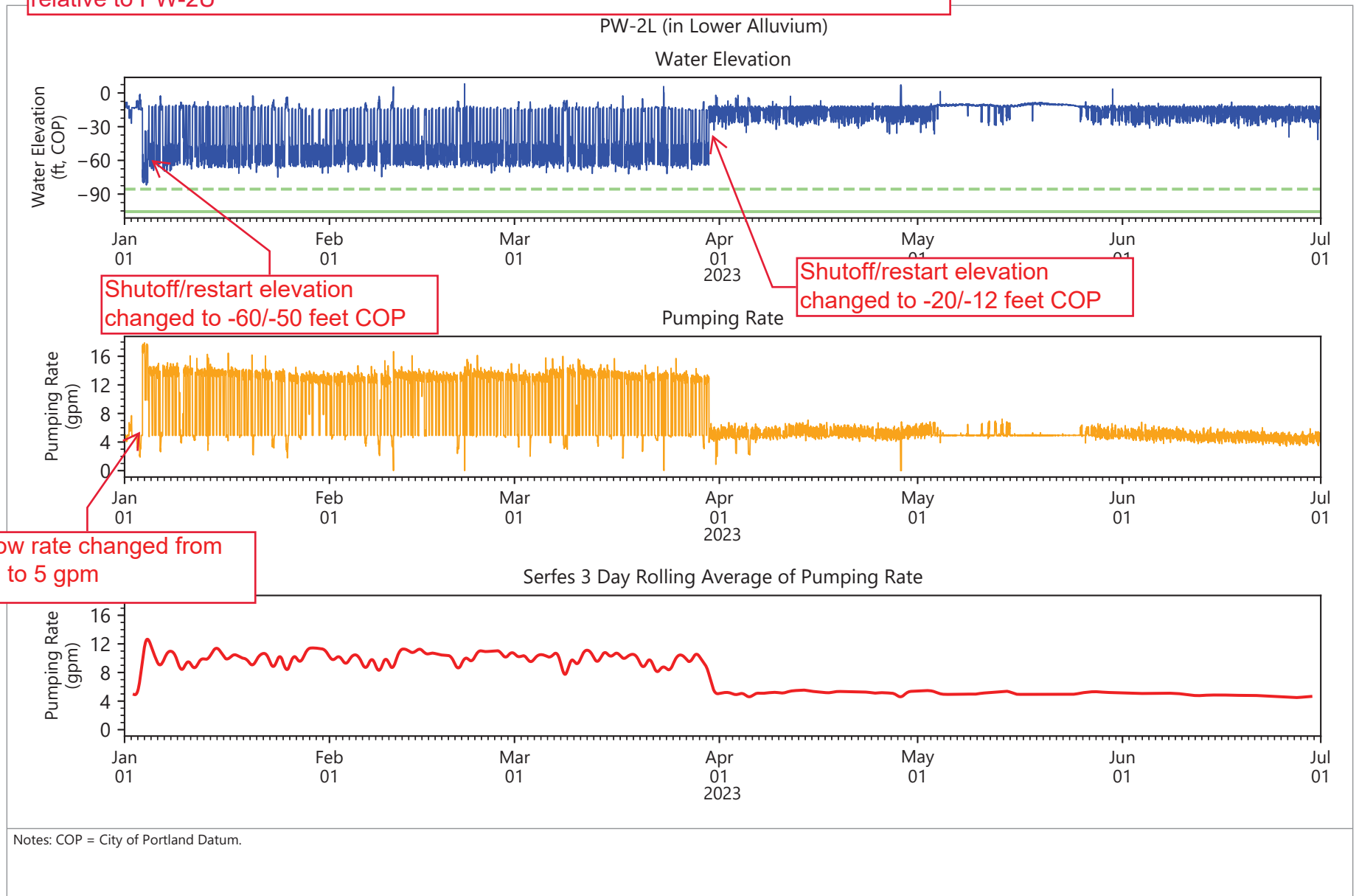
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.17
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Operational changes were made to improve vertical gradients in the area of the PW-2U and PW-2L extraction well pair, effectively decreasing overall pumping from PW-2L relative to PW-2U

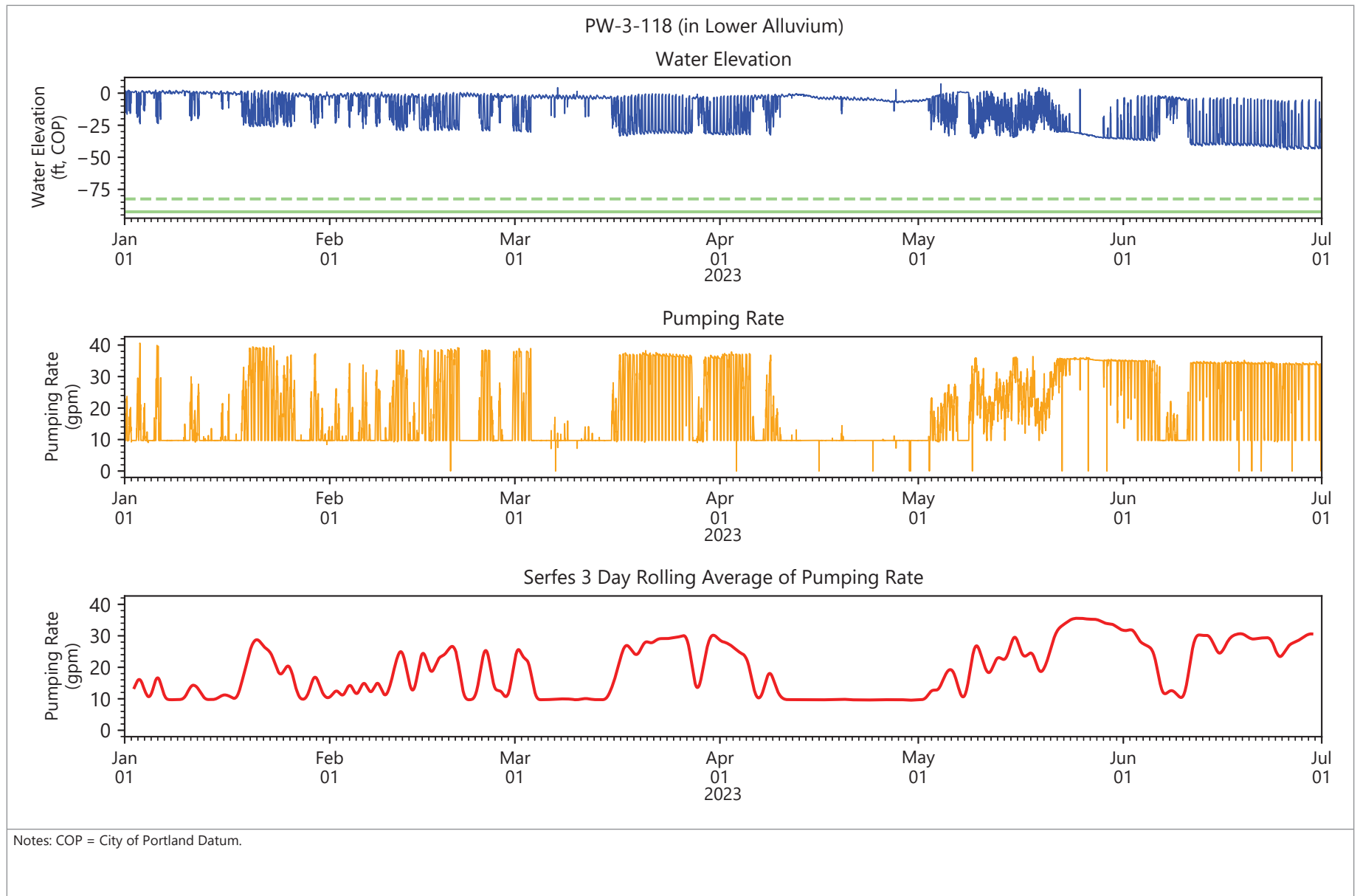


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.18
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



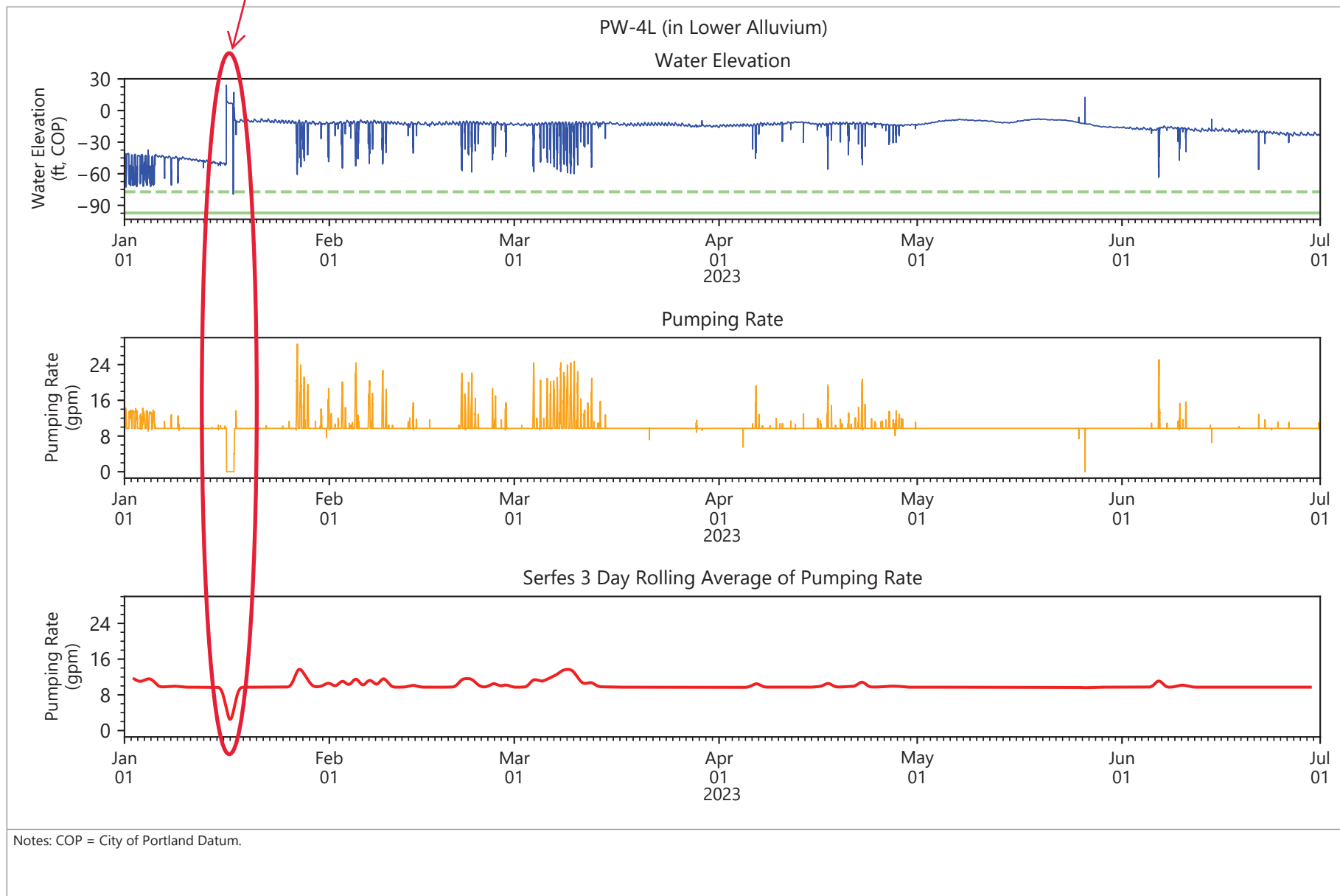
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.19
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 1/16



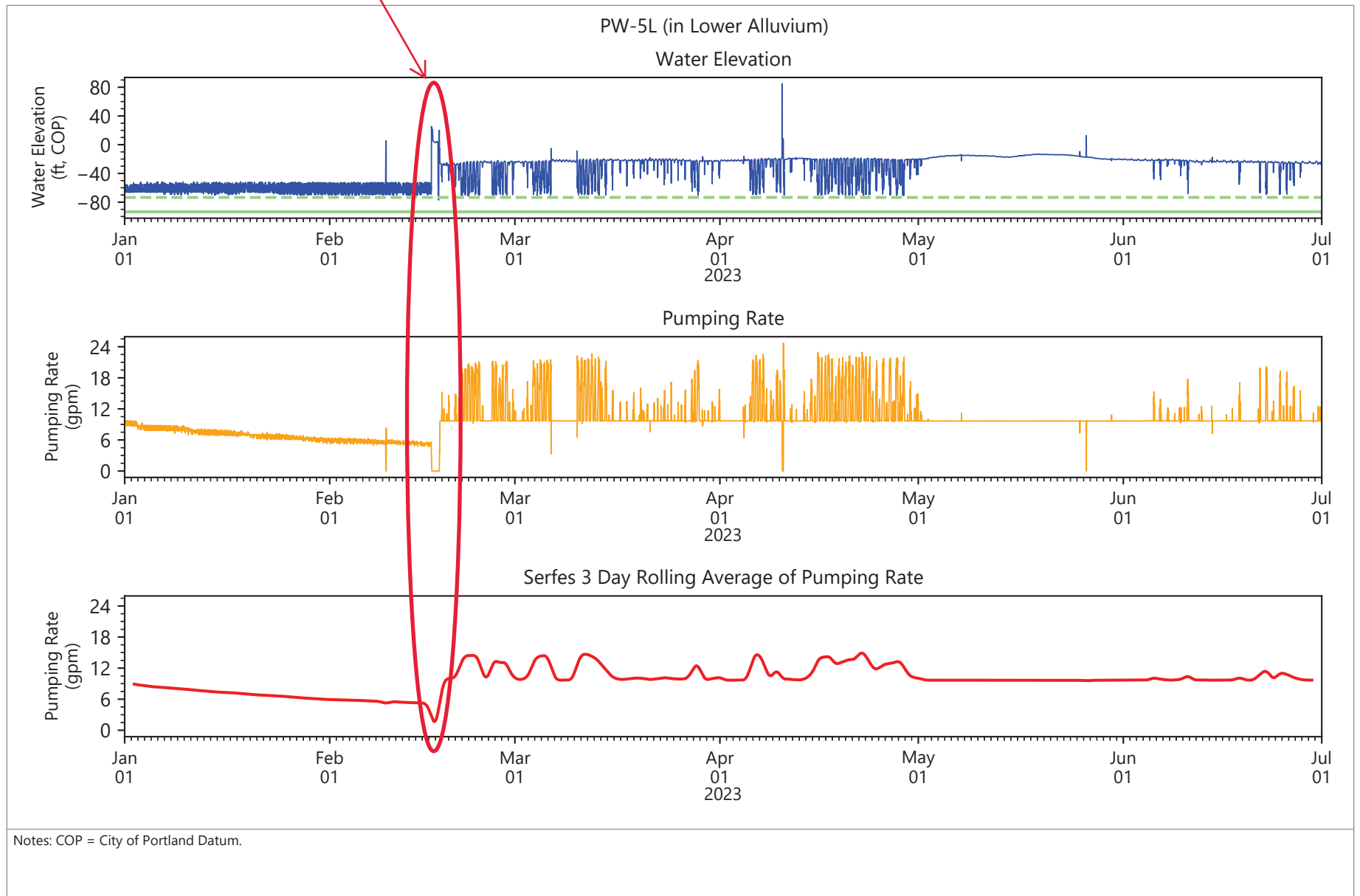
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.20
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 2/16

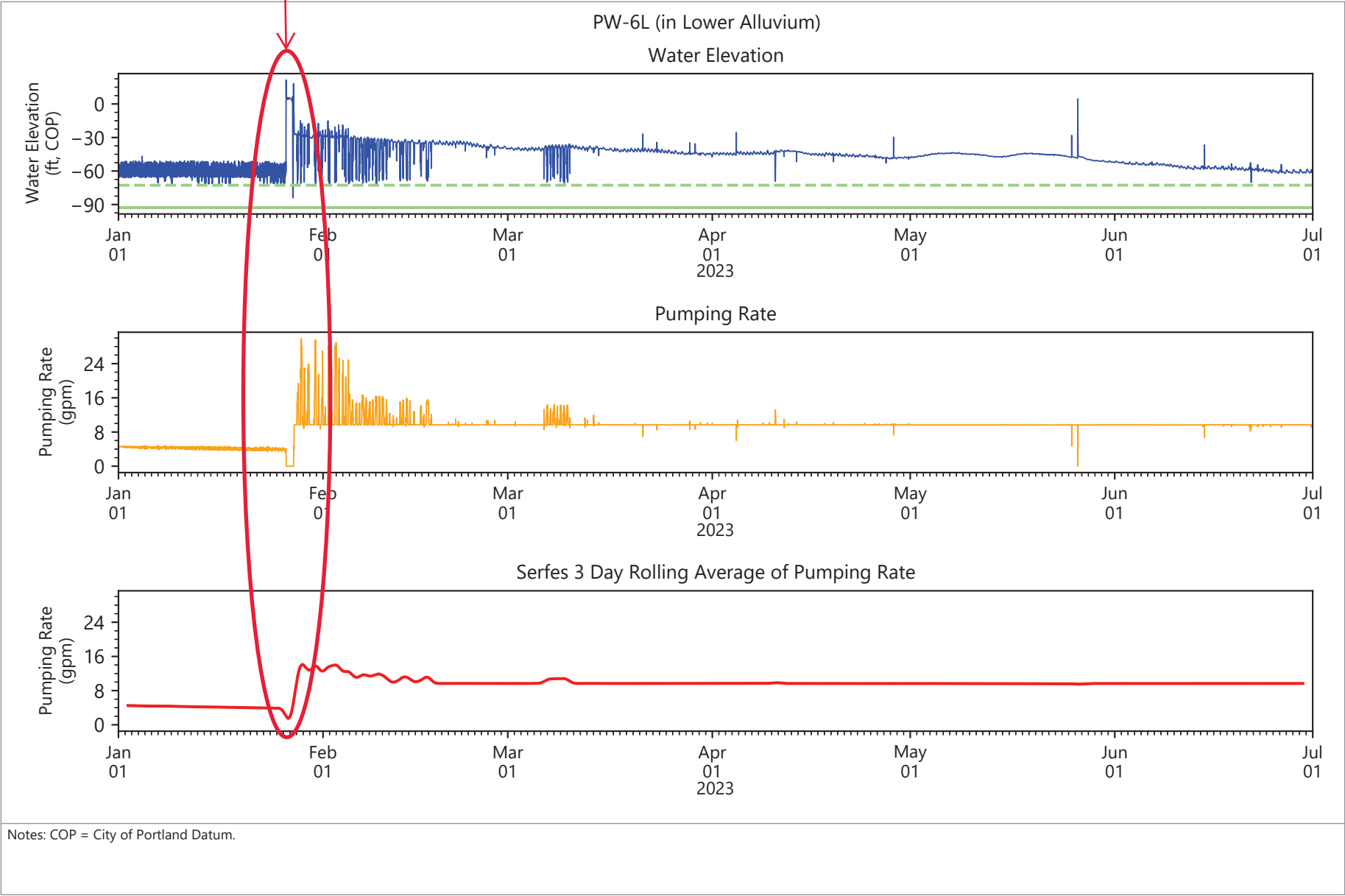


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.21
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



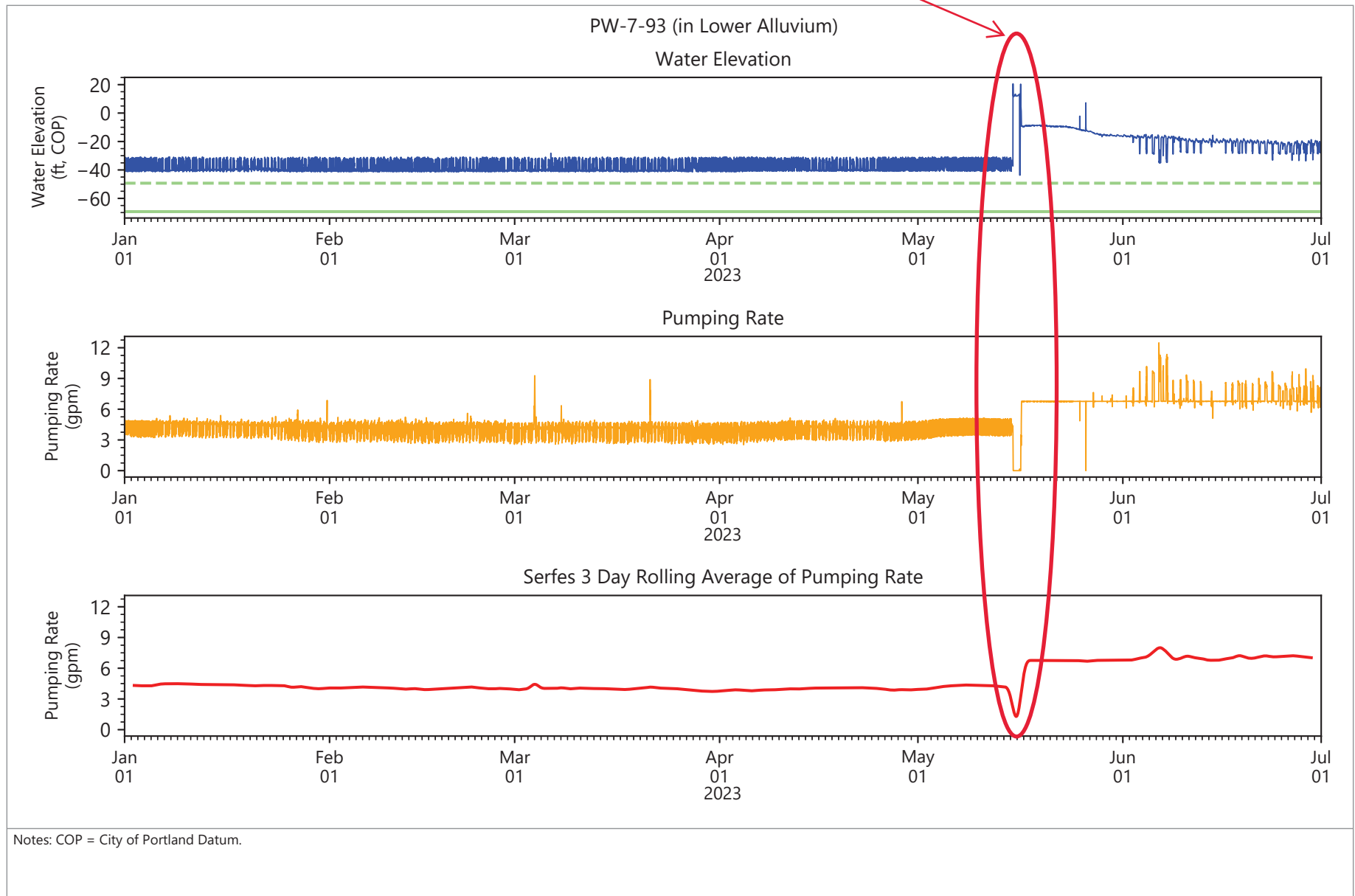
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.22
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well Screen Maintenance 5/15

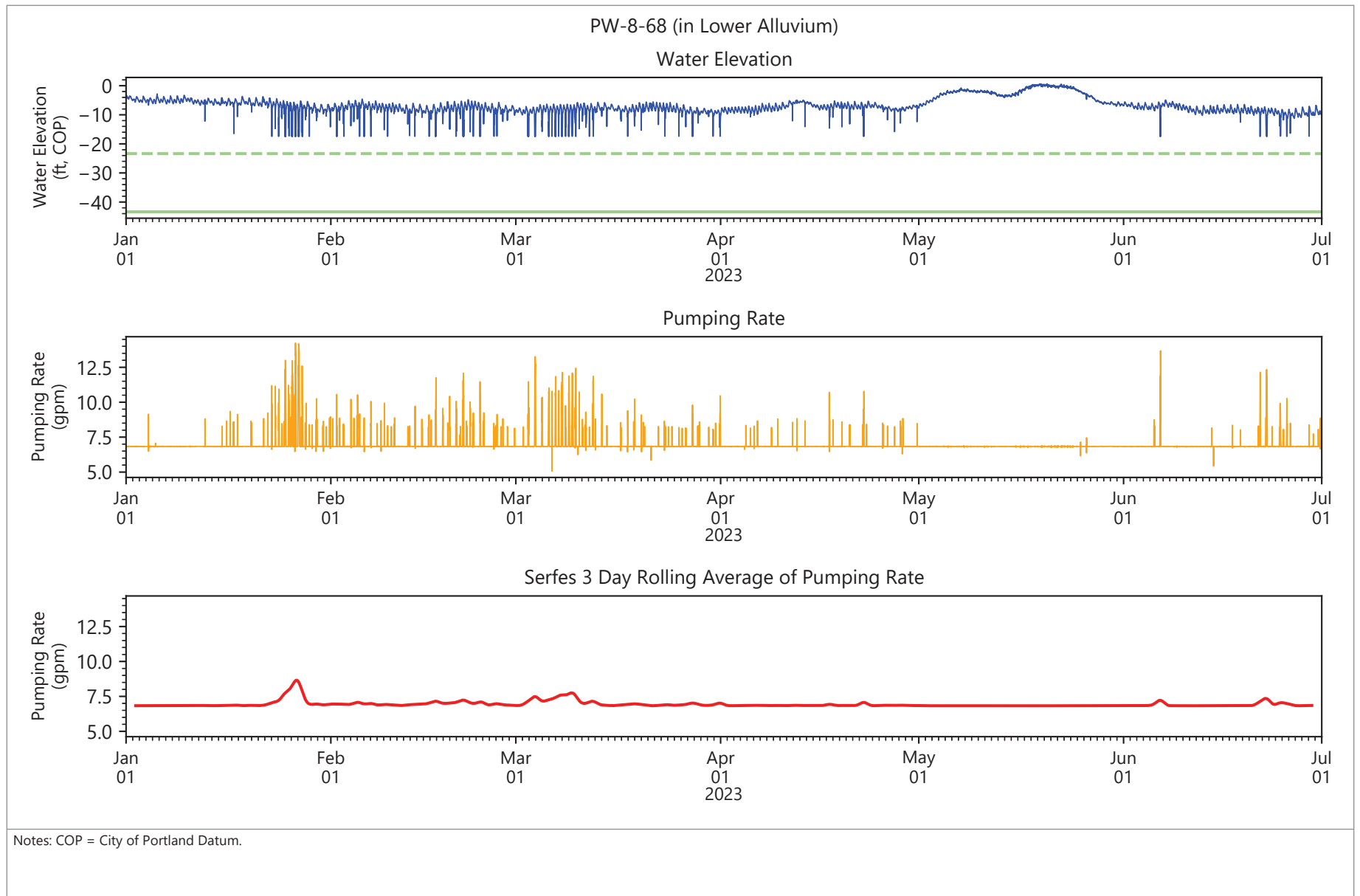


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.23
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

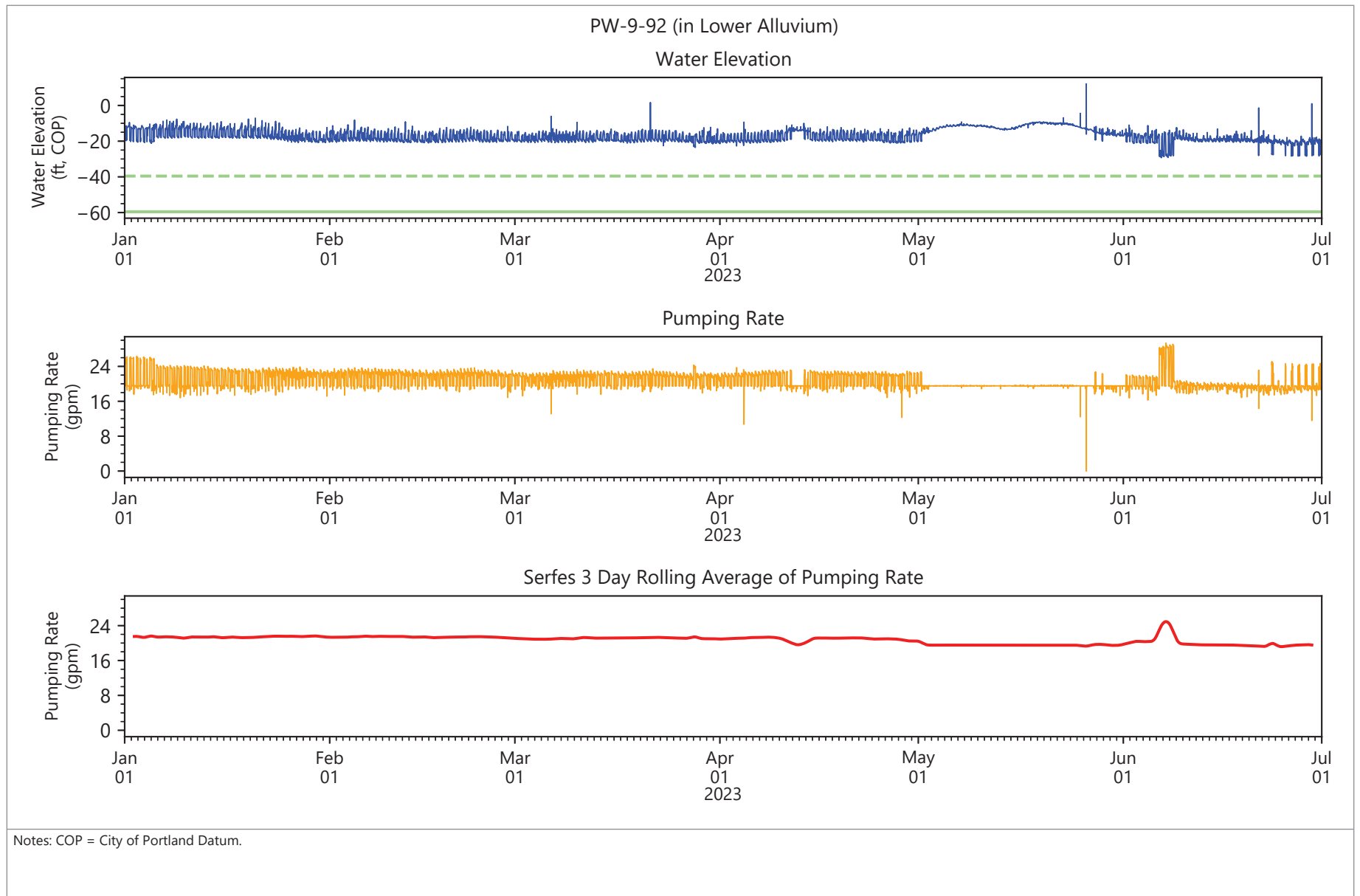


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.24
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



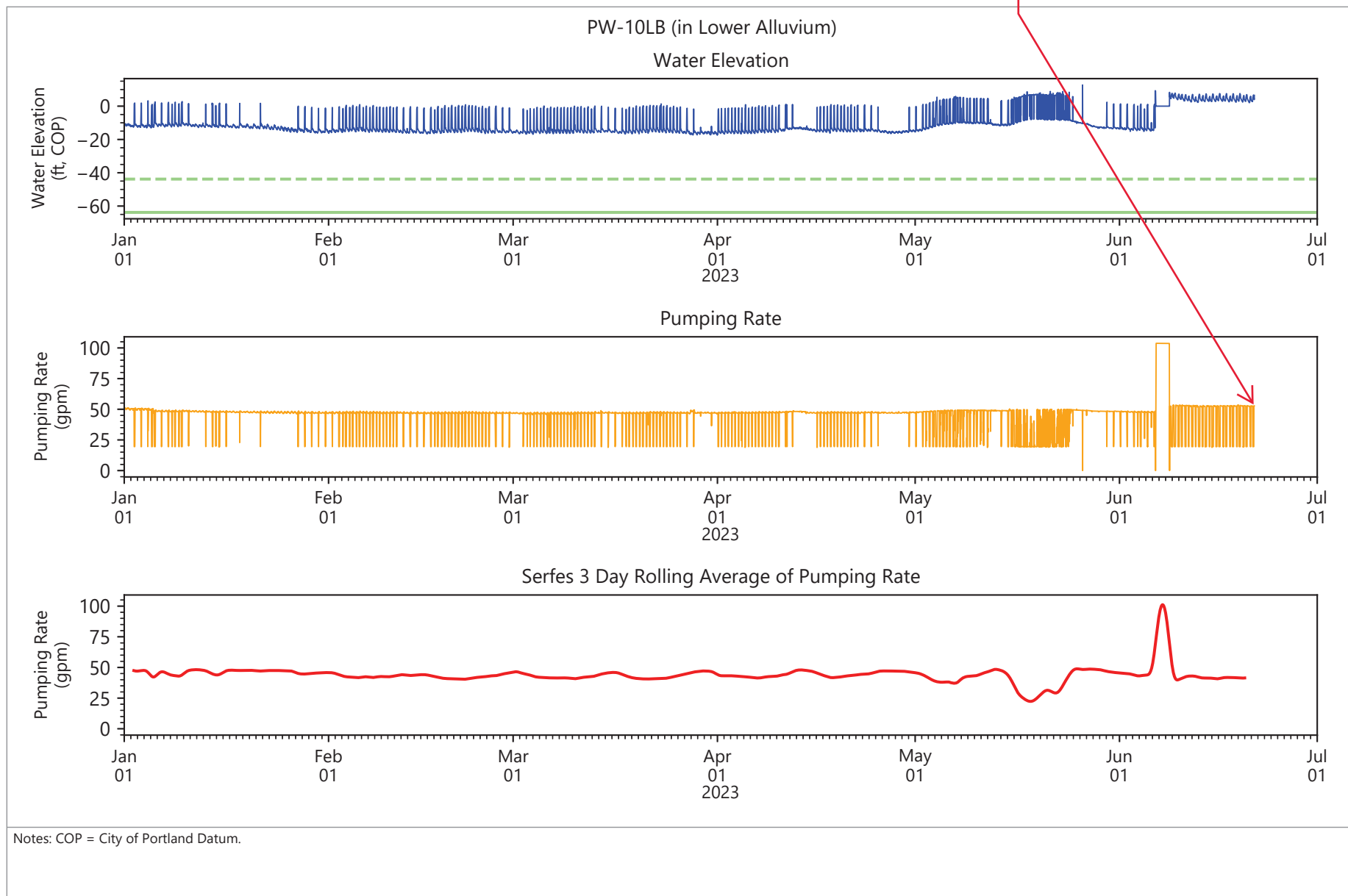
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.25
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

PW-10LB taken out of service, replaced with PW-10Lc



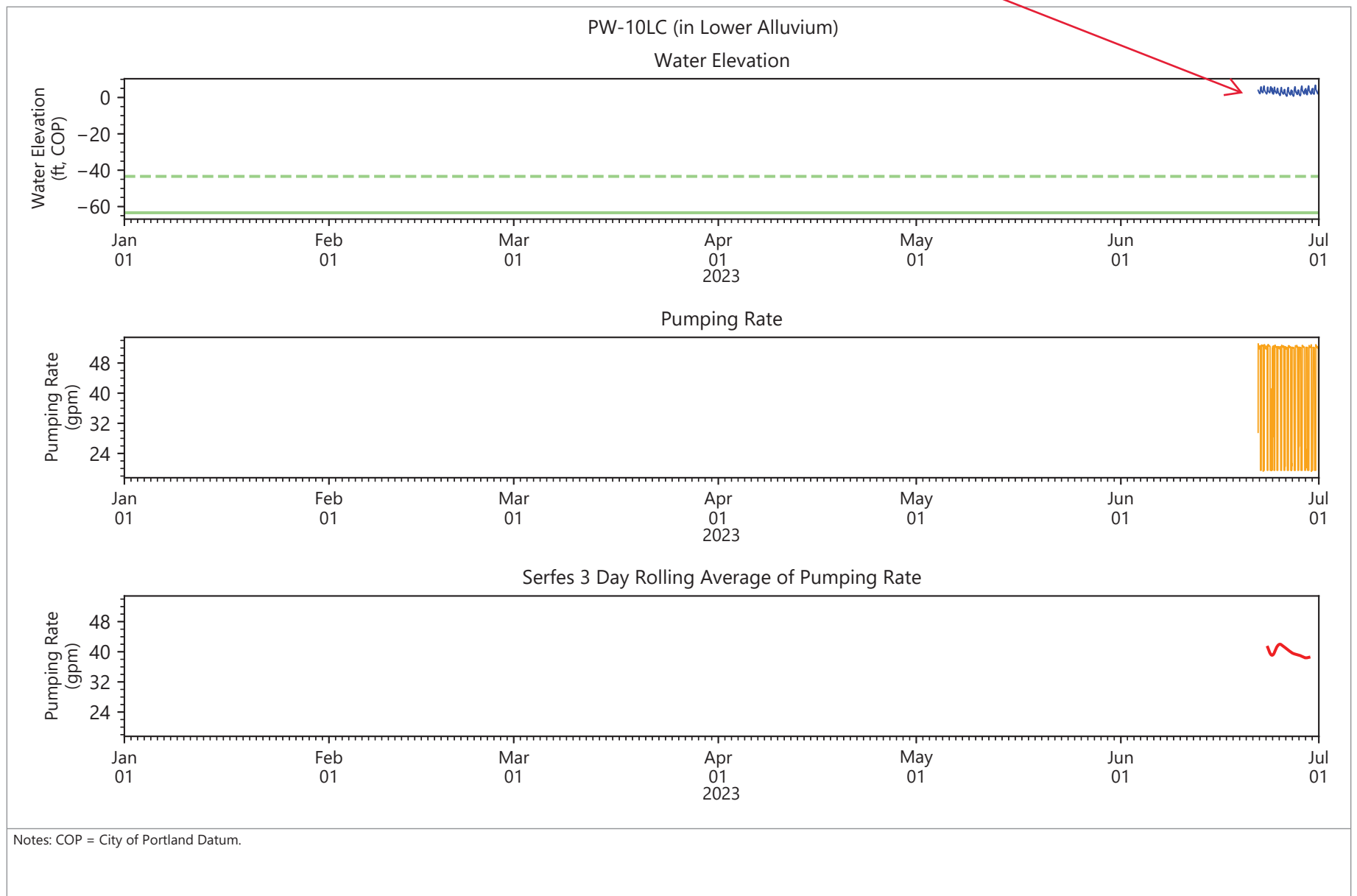
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.26
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

PW-10LC online 6/21

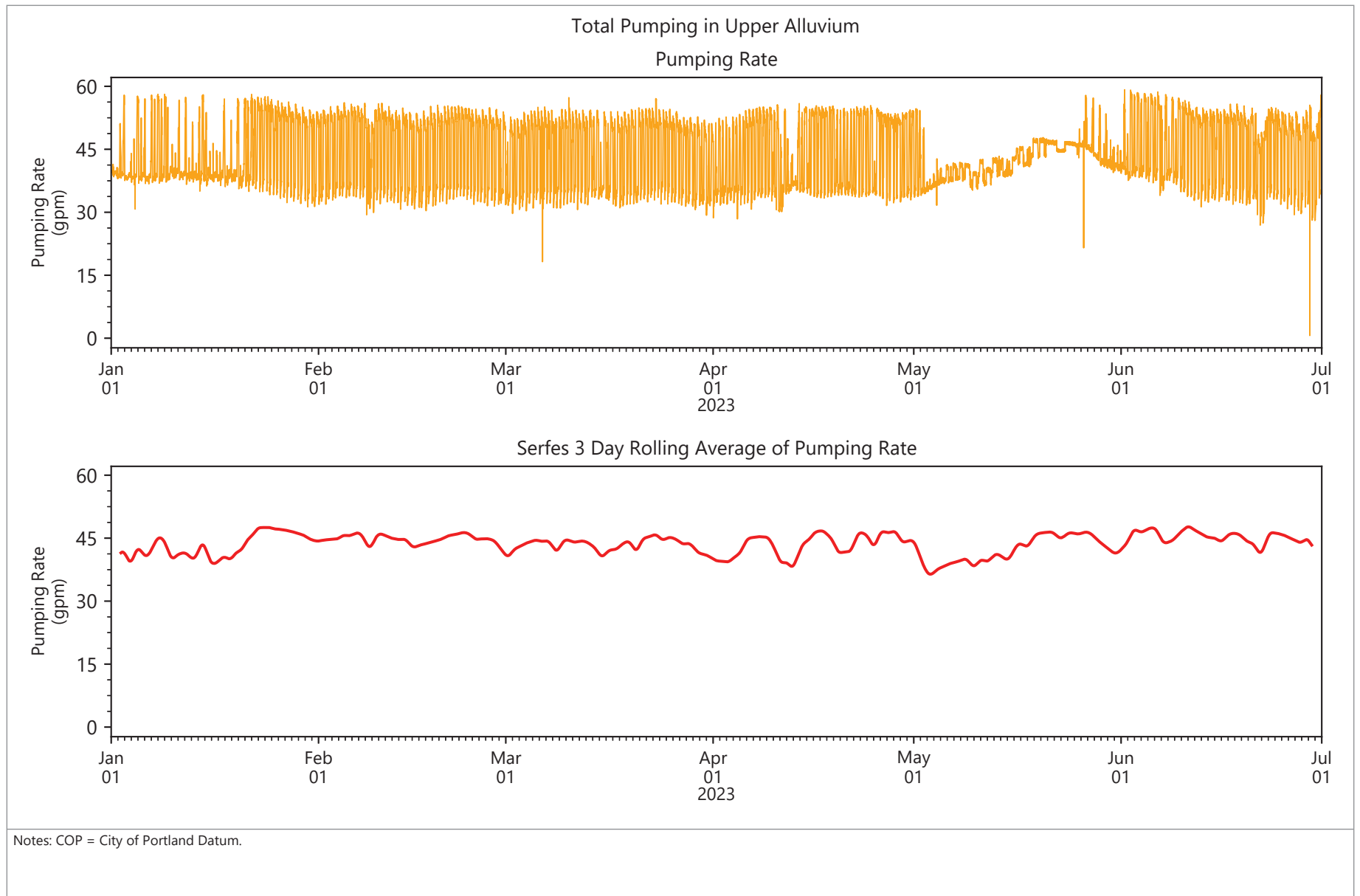


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.27
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

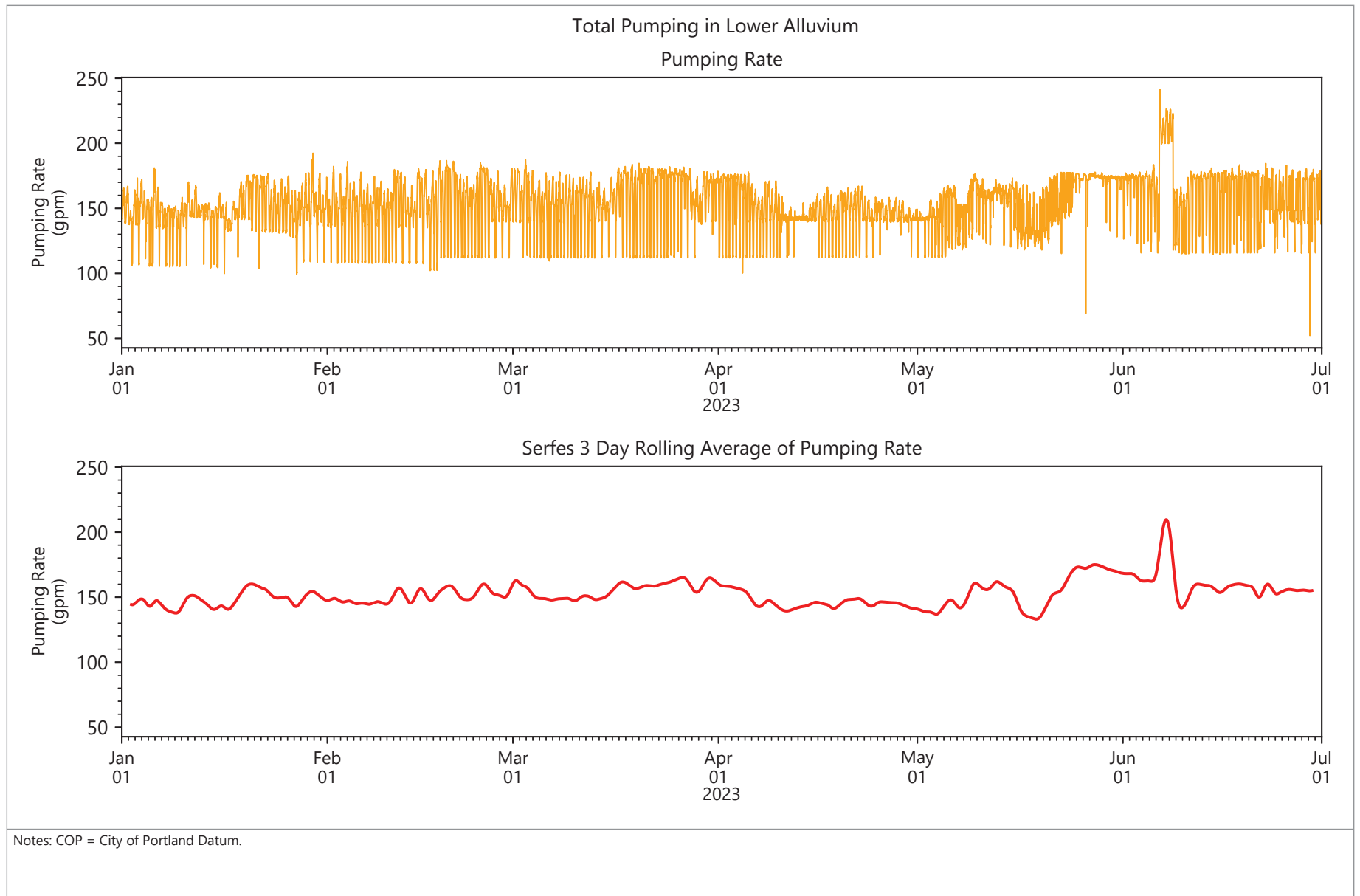


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— Pumping Rate: 15-min Data
— Pumping Rate: Serfes Averages

Figure 7.28
Pumping Rates at Pumping Wells
NW Natural Gasco Site



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— Pumping Rate: 15-min Data
— Pumping Rate: Serfes Averages

Figure 7.29
Pumping Rates at Pumping Wells
NW Natural Gasco Site



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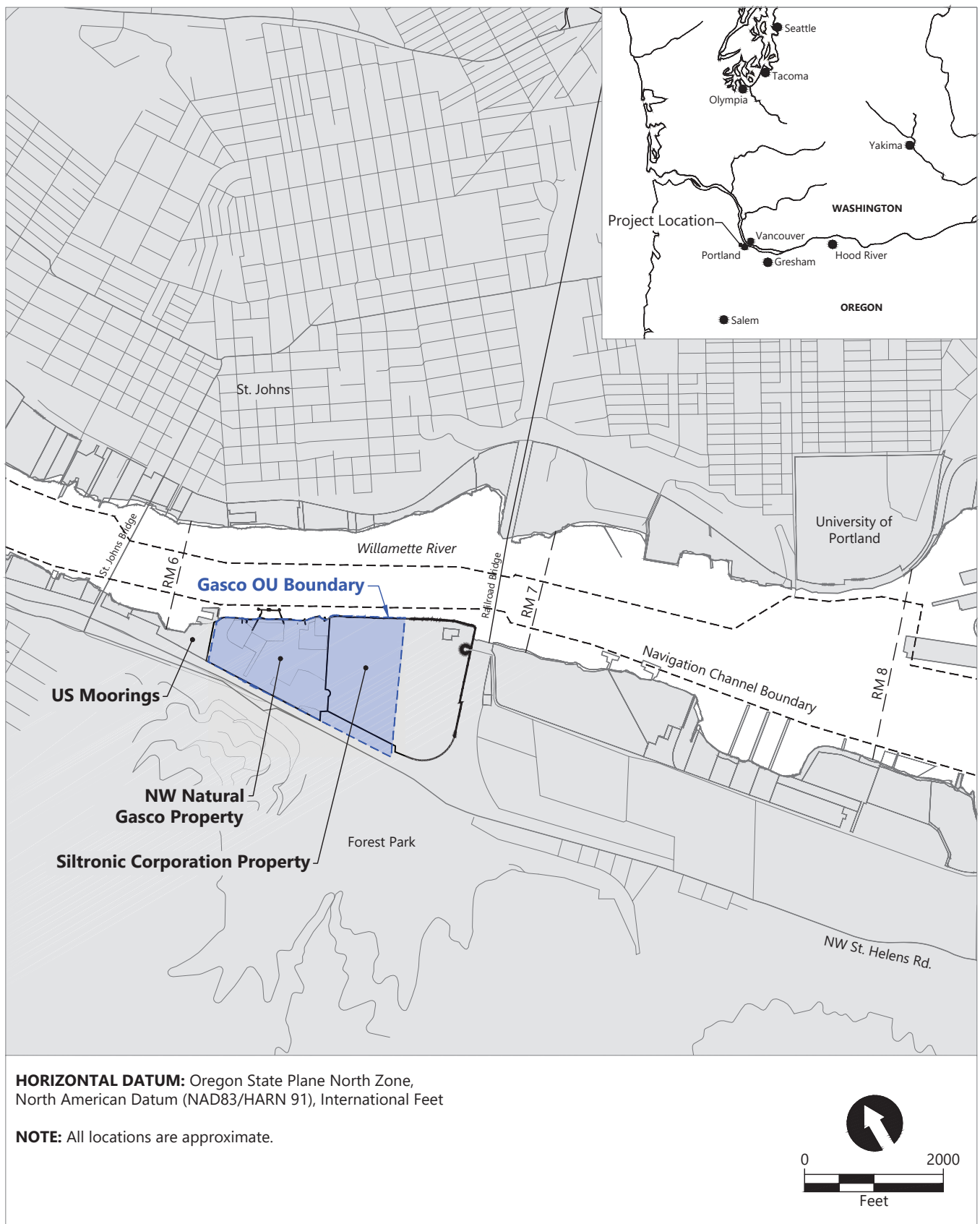


— Pumping Rate: 15-min Data
— Pumping Rate: Serfes Averages

Figure 7.30
Pumping Rates at Pumping Wells
NW Natural Gasco Site

Appendix B2

July Through December 2023

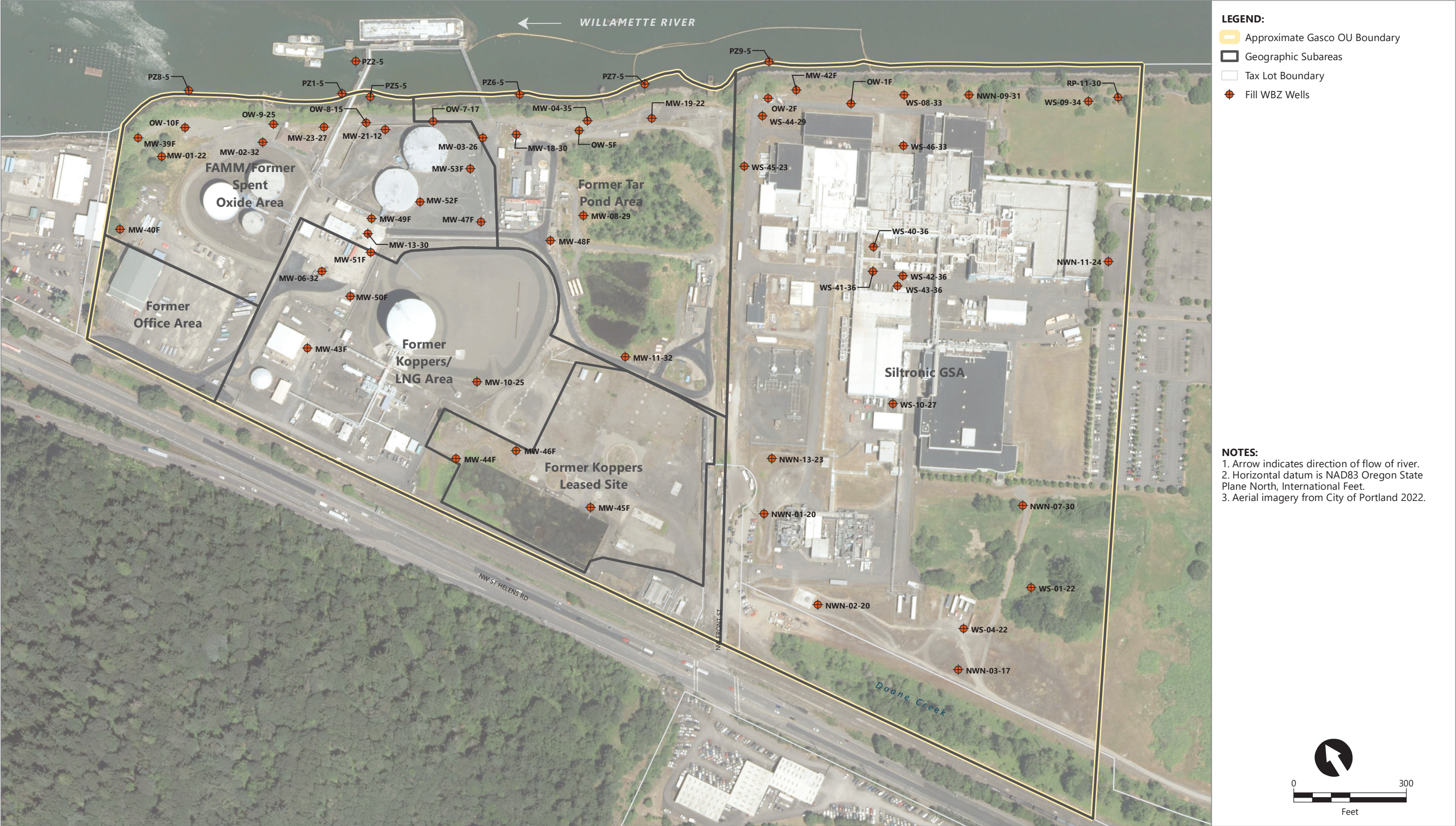


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**Figure 1.1
Vicinity Map**

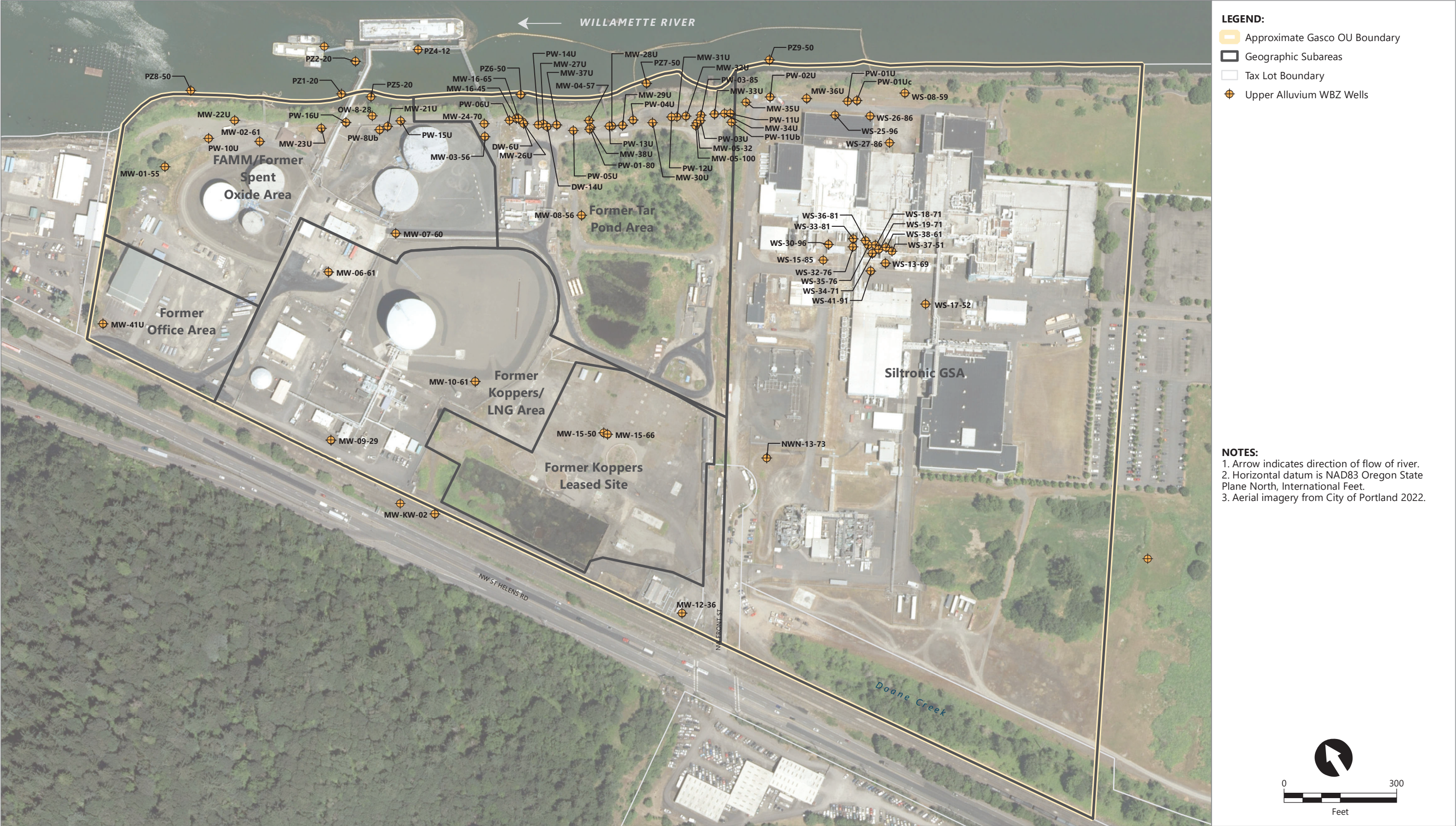
NW Natural Gasco Site



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Figure 2.1
Fill WBZ Wells
NW Natural Gasco Site



Publish Date: 2023/06/22, 10:07 AM | User: alesueur
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Figure 2.2
Upper Alluvium WBZ Wells
NW Natural Gasco Site



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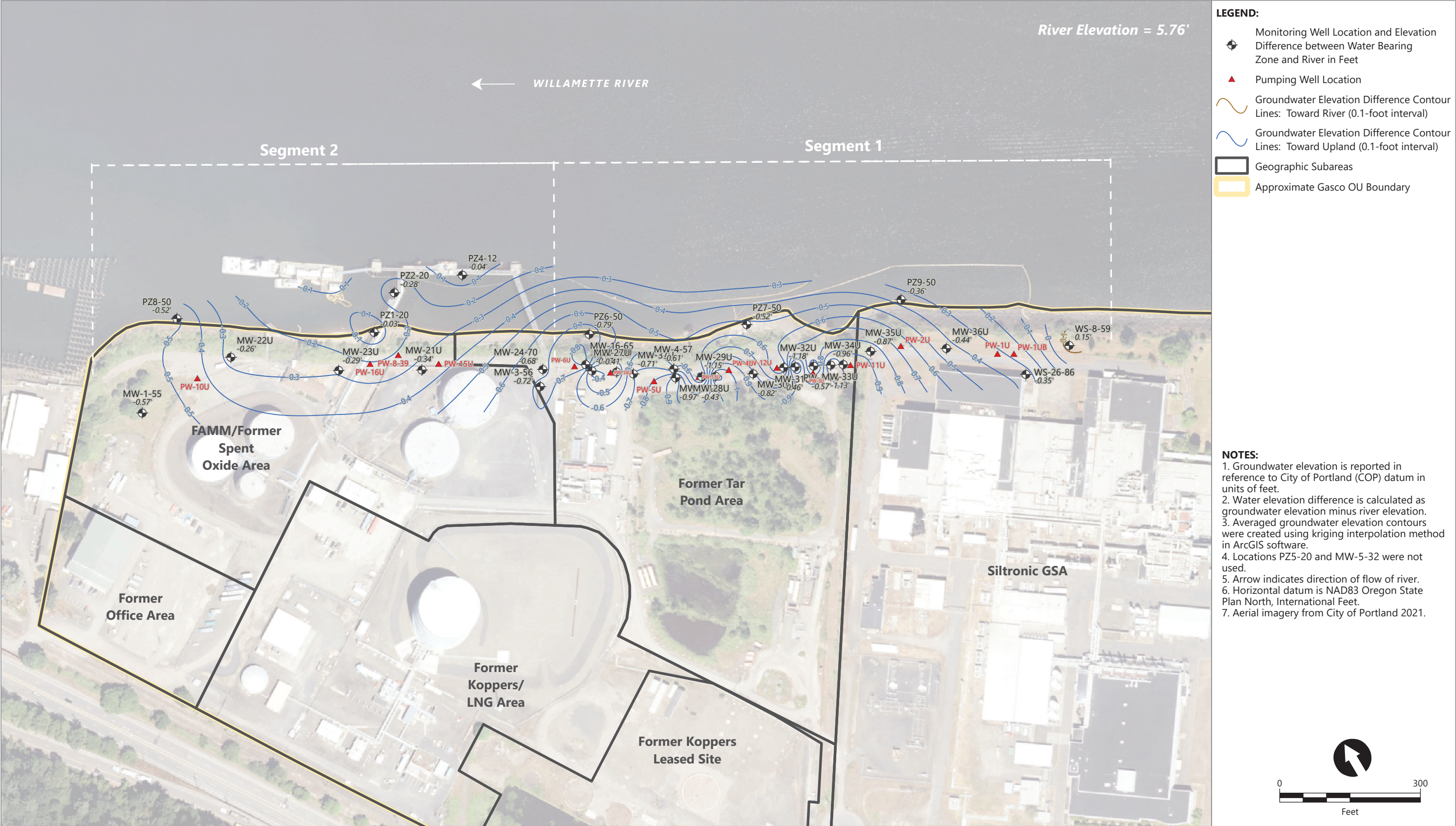
Figure 2.3
Lower Alluvium WBZ Wells
NW Natural Gasco Site



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Figure 2.4
Deep Lower Alluvium WBZ Wells
NW Natural Gasco Site



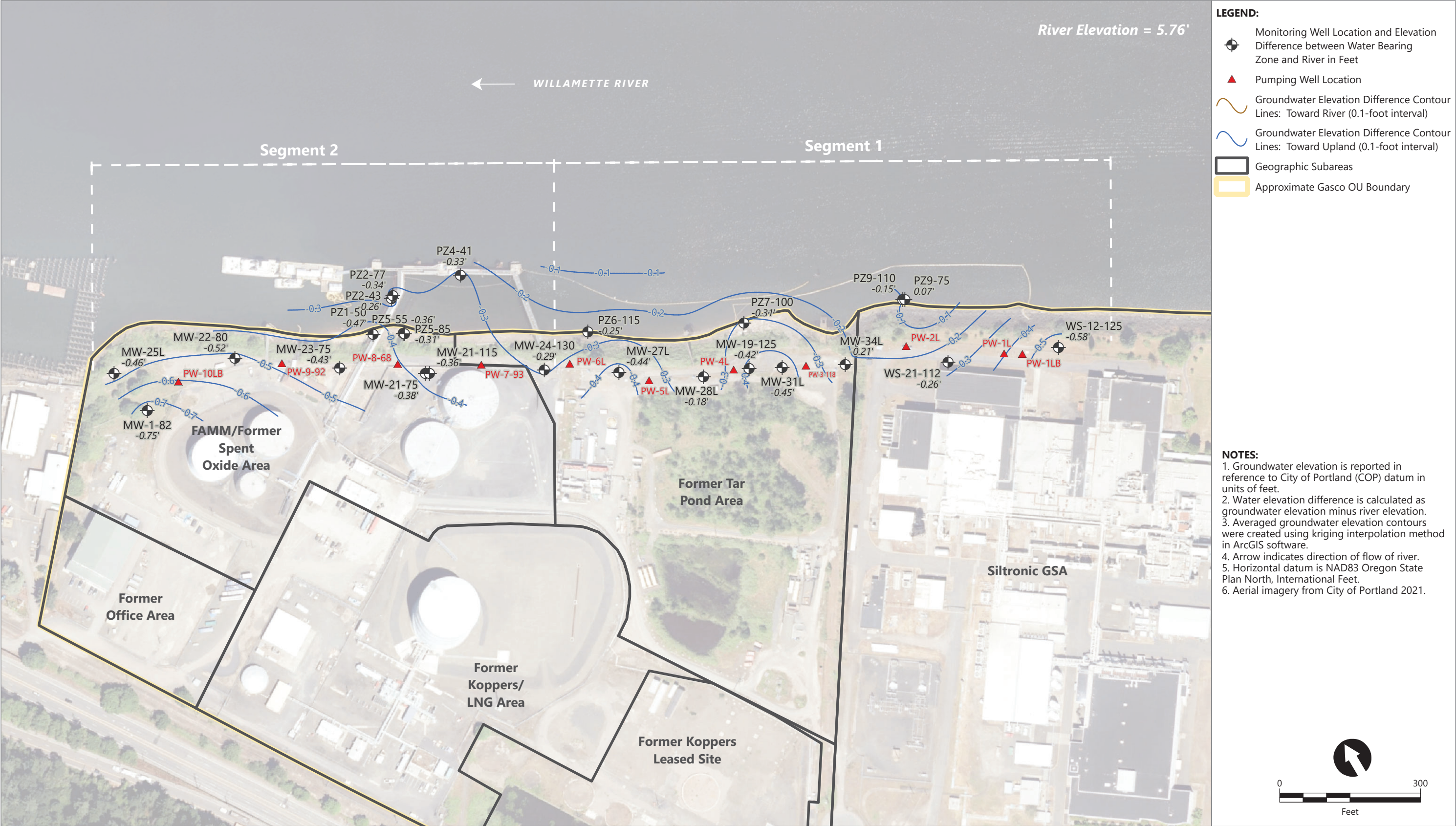
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Figure 3.1a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 7/11/2023-7/13/2023

NWN Gasco Site
Portland, Oregon

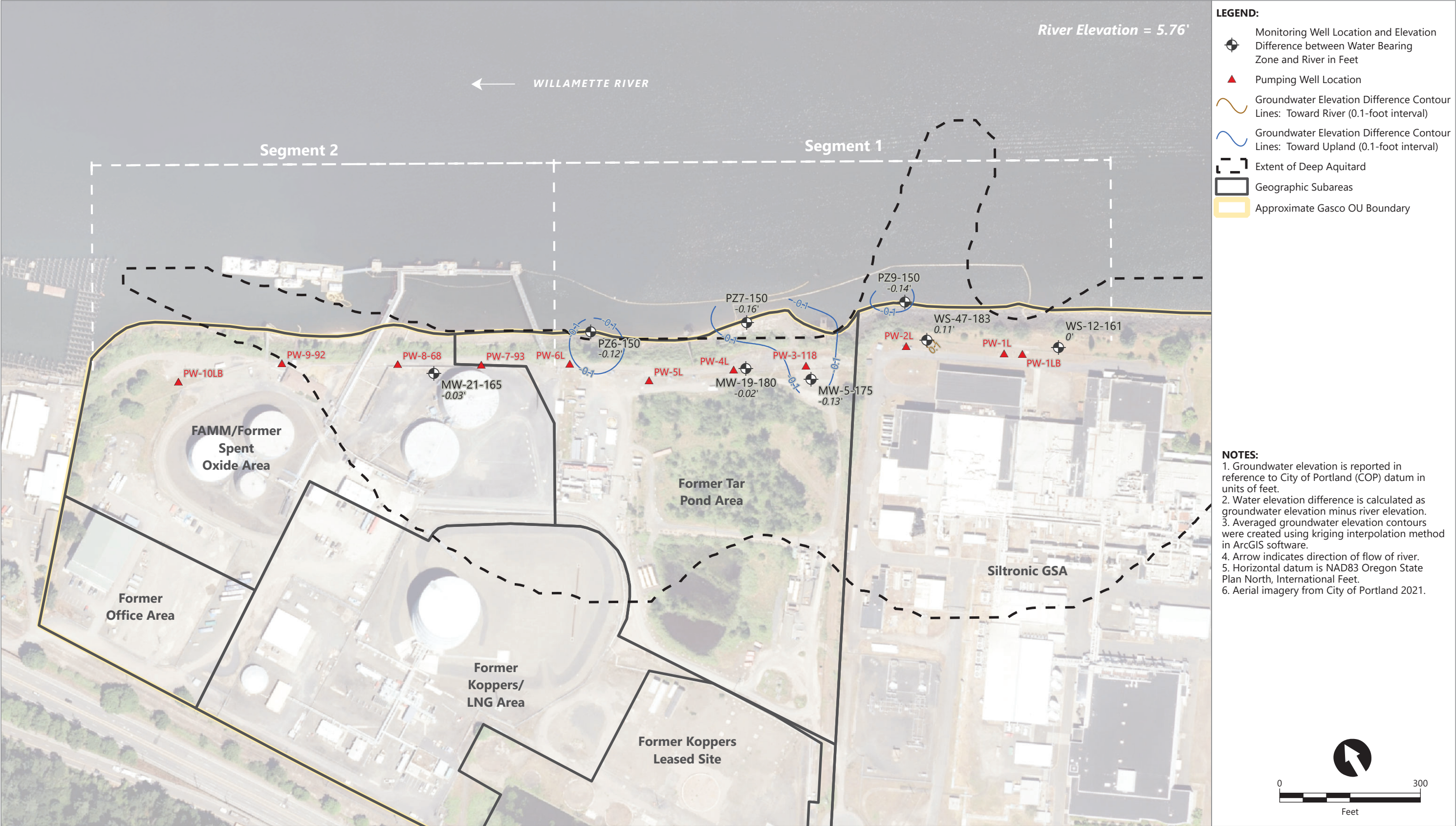


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Figure 3.1b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 7/11/2023-7/13/2023

NWN Gasco Site
Portland, Oregon

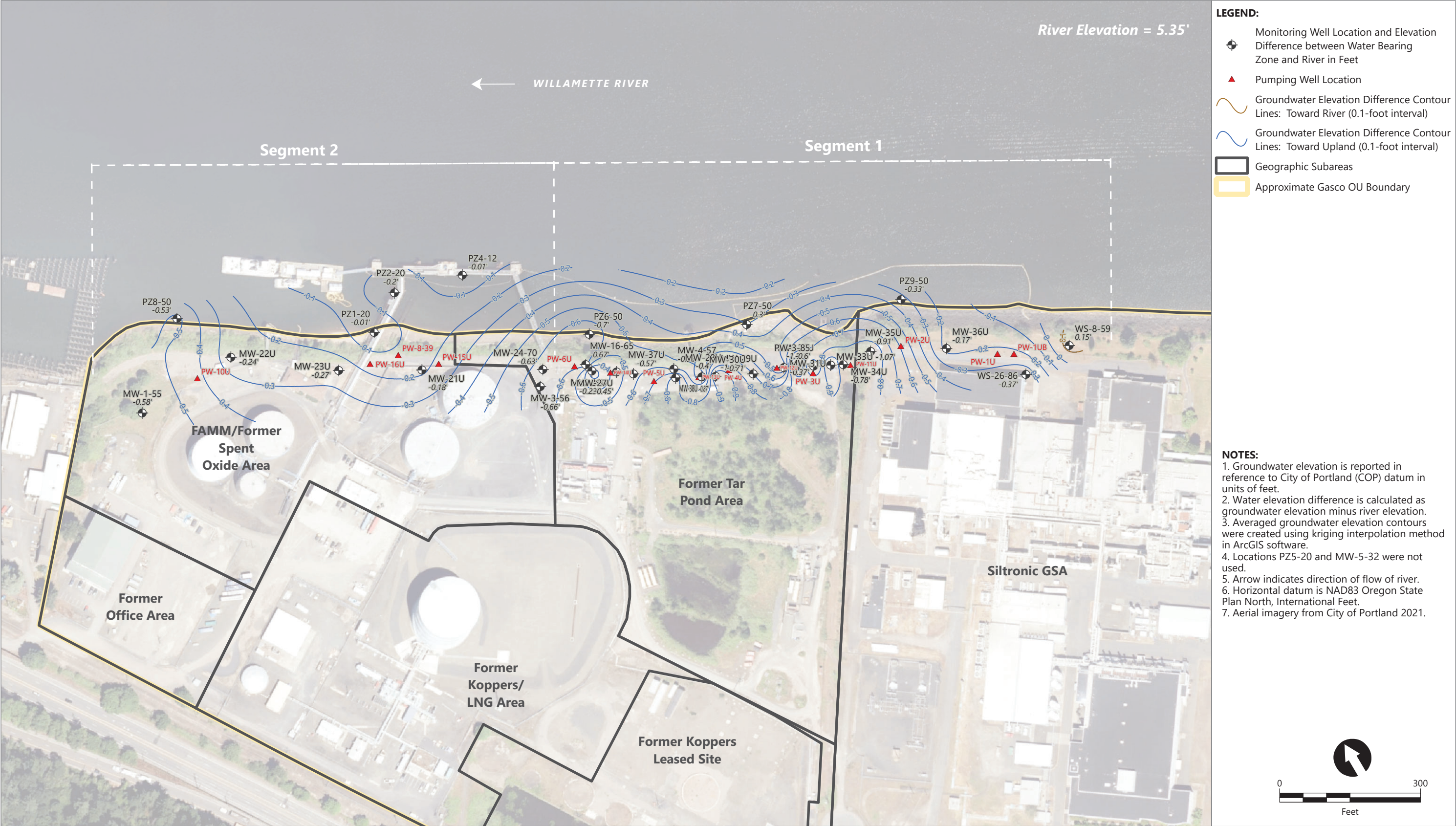


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Figure 3.1c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 7/11/2023-7/13/2023

NWN Gasco Site
Portland, Oregon



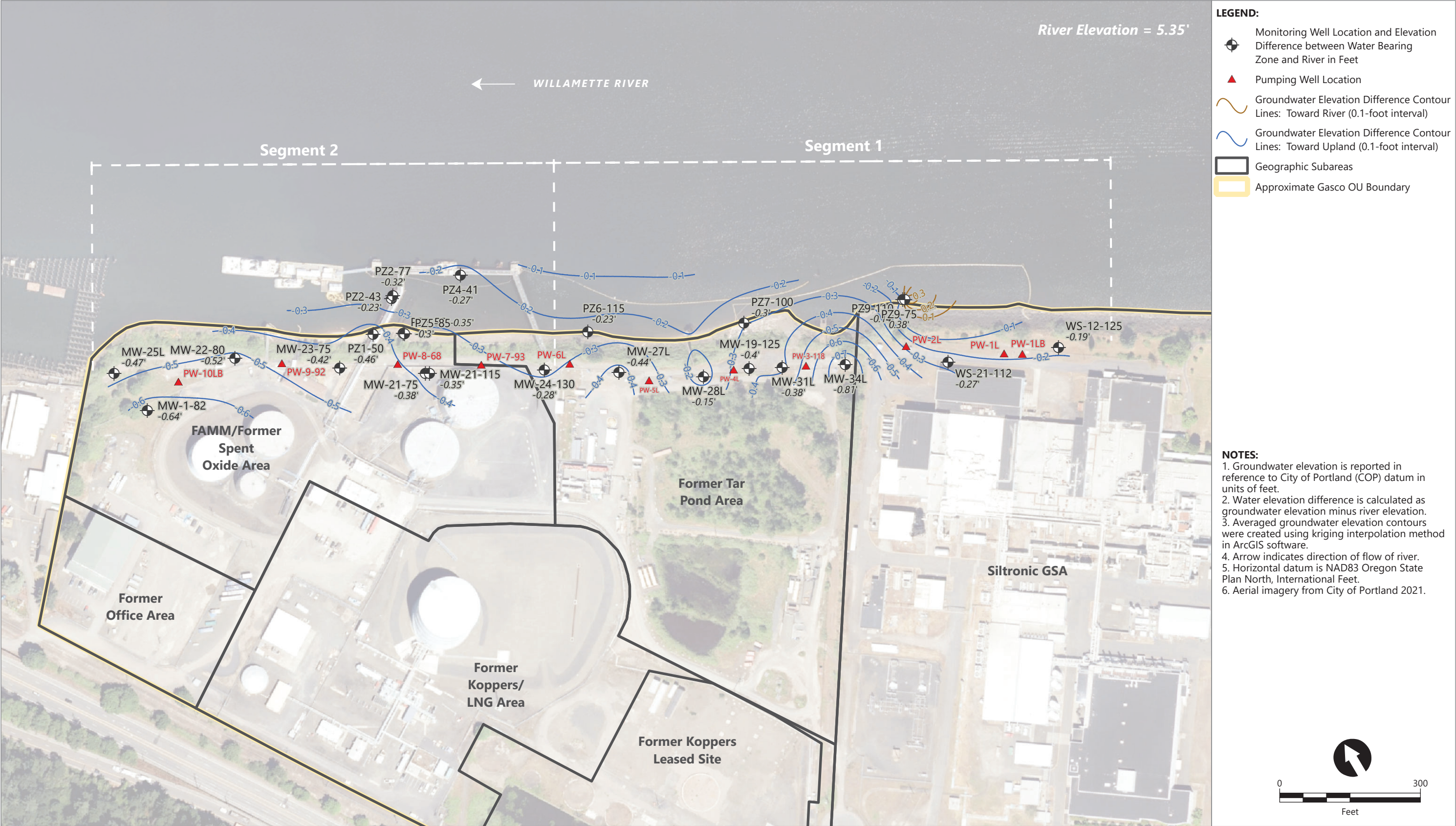
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Figure 3.2a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 7/24/2023-7/26/2023

NWN Gasco Site
Portland, Oregon



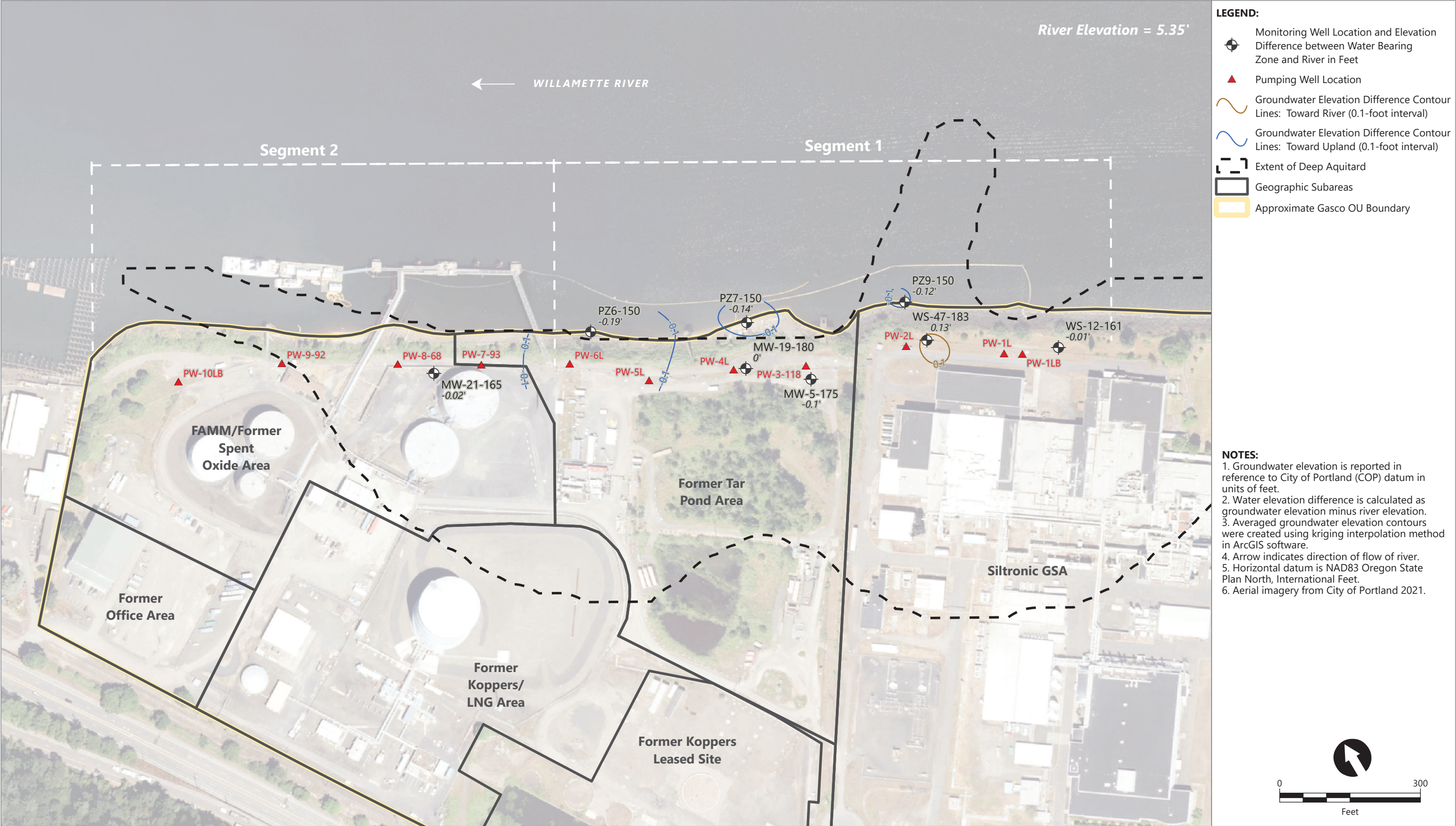
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Figure 3.2b

Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 7/24/2023-7/26/2023

NWN Gasco Site
Portland, Oregon

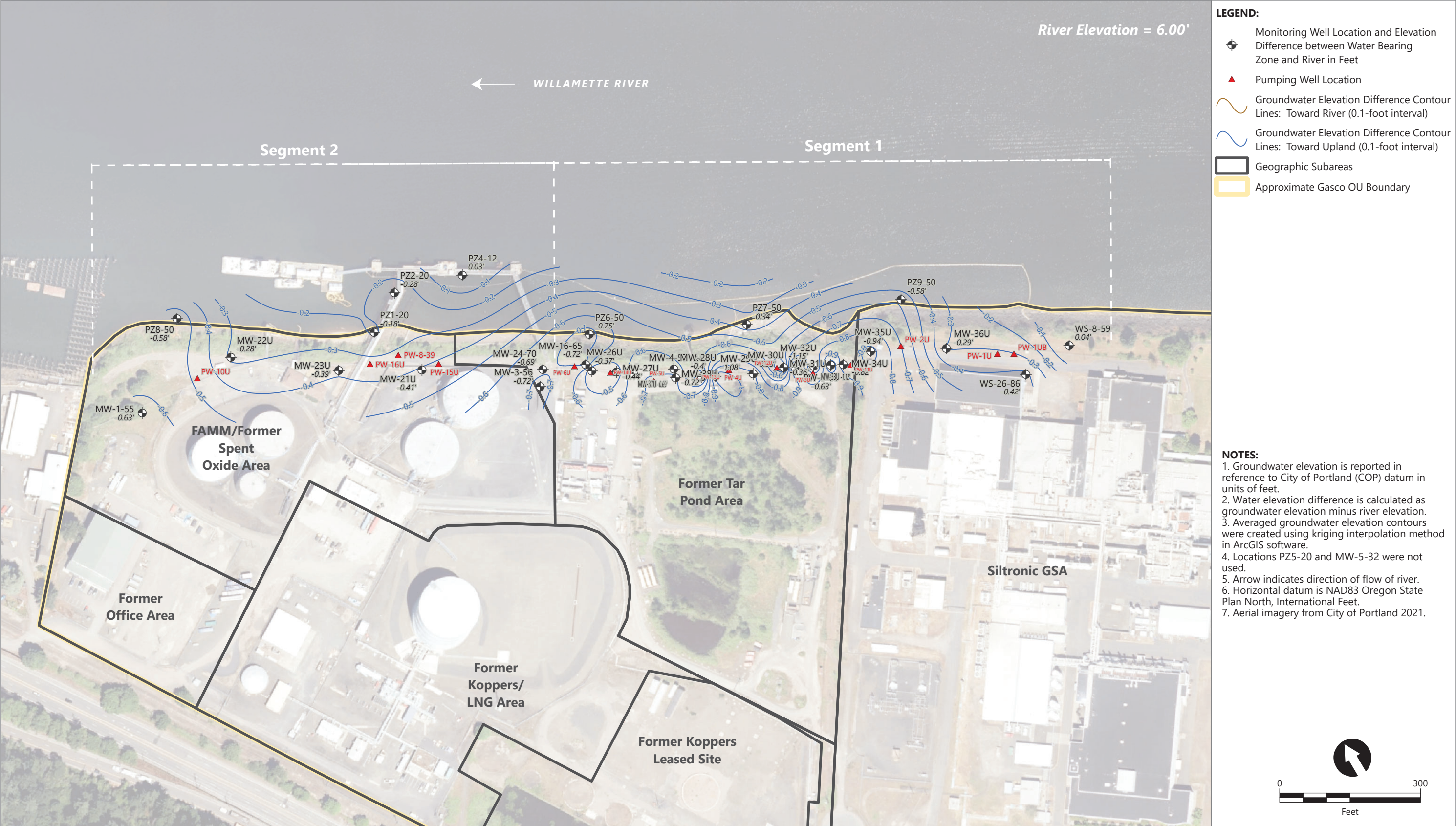


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Figure 3.2c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 7/24/2023-7/26/2023

NWN Gasco Site
Portland, Oregon



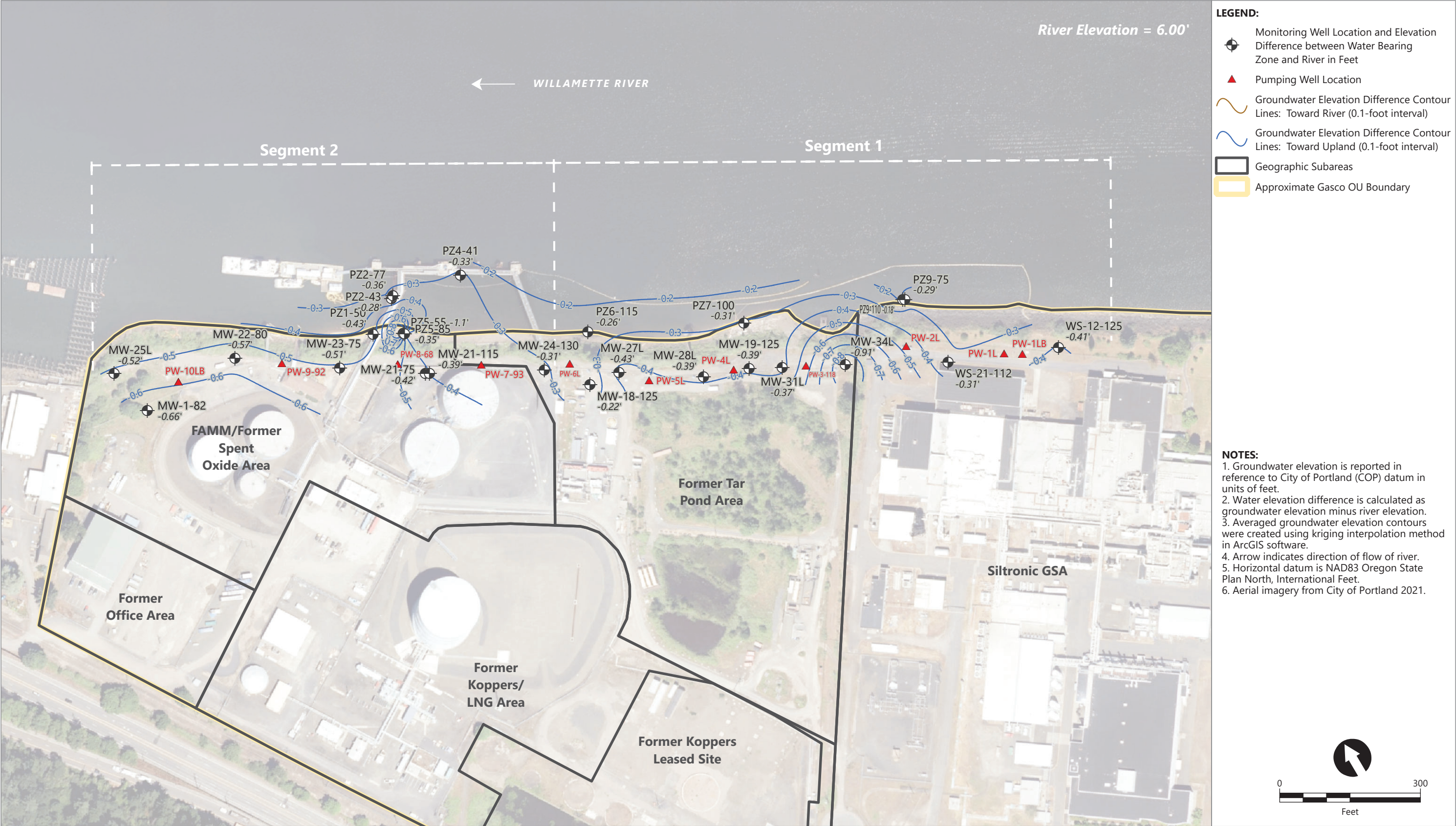
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Figure 3.3a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 8/11/2023-8/13/2023

NWN Gasco Site
Portland, Oregon

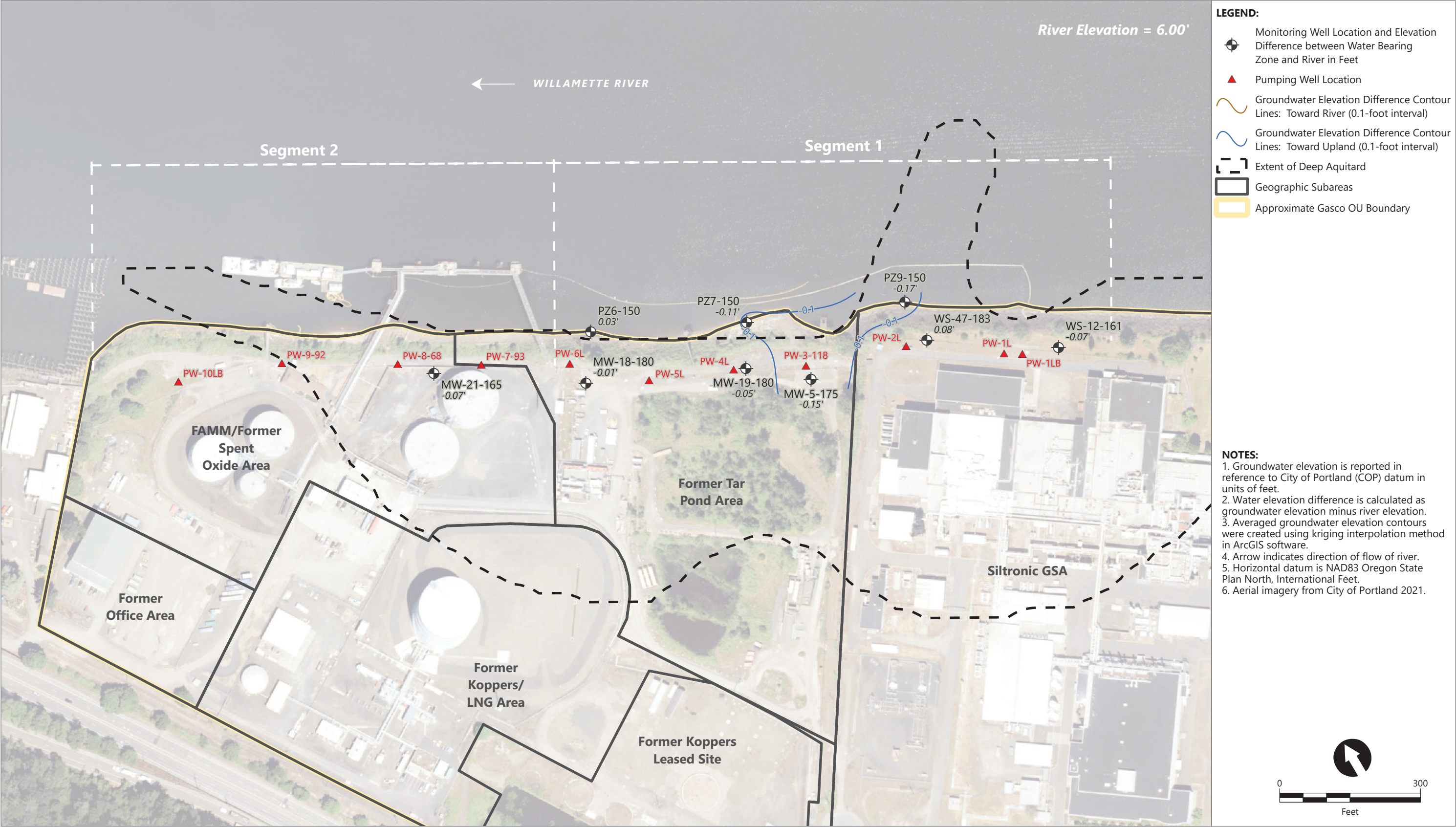


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Figure 3.3b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 8/11/2023-8/13/2023

NWN Gasco Site
Portland, Oregon

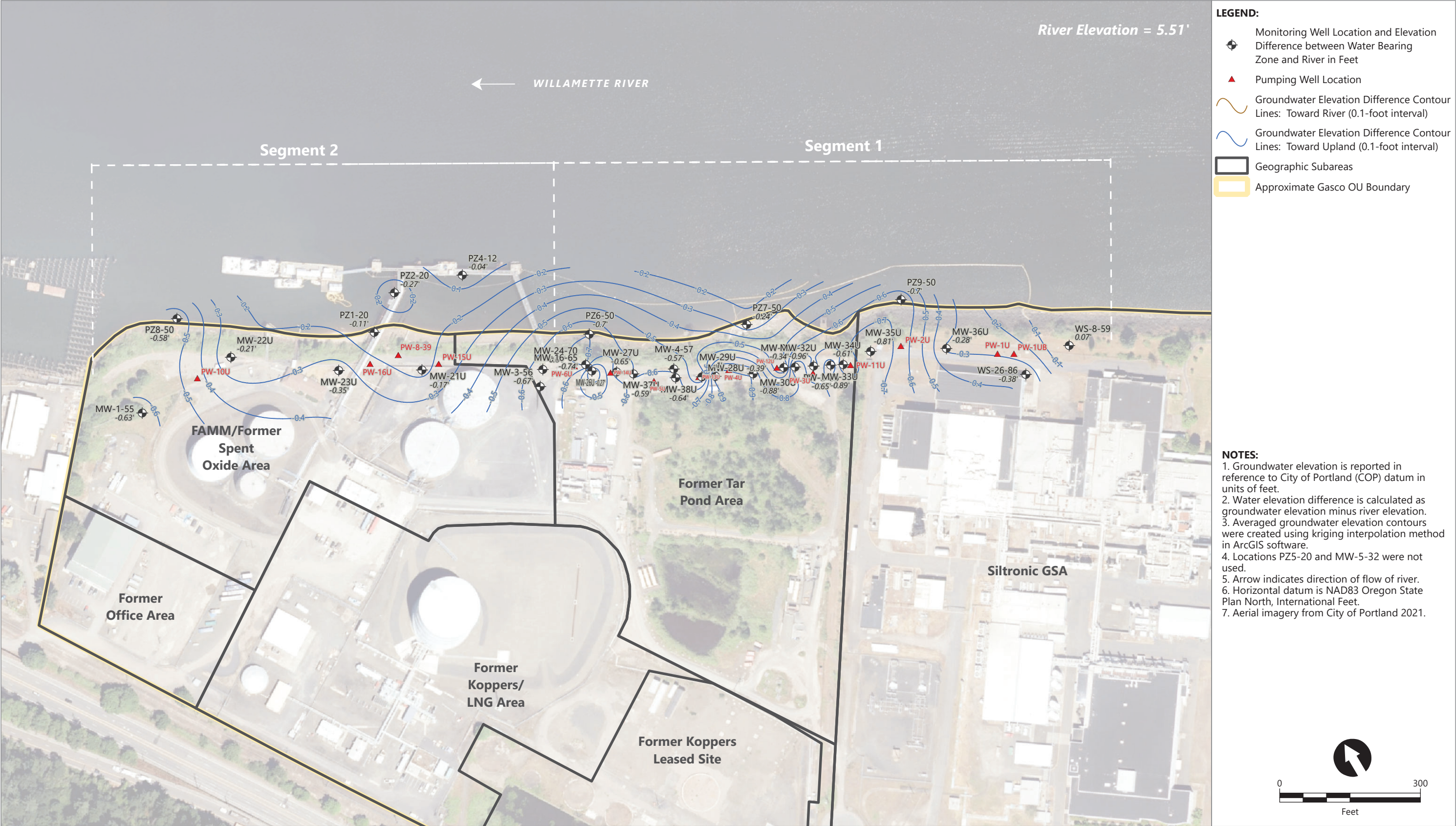


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Figure 3.3c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 8/11/2023-8/13/2023

NWN Gasco Site
Portland, Oregon



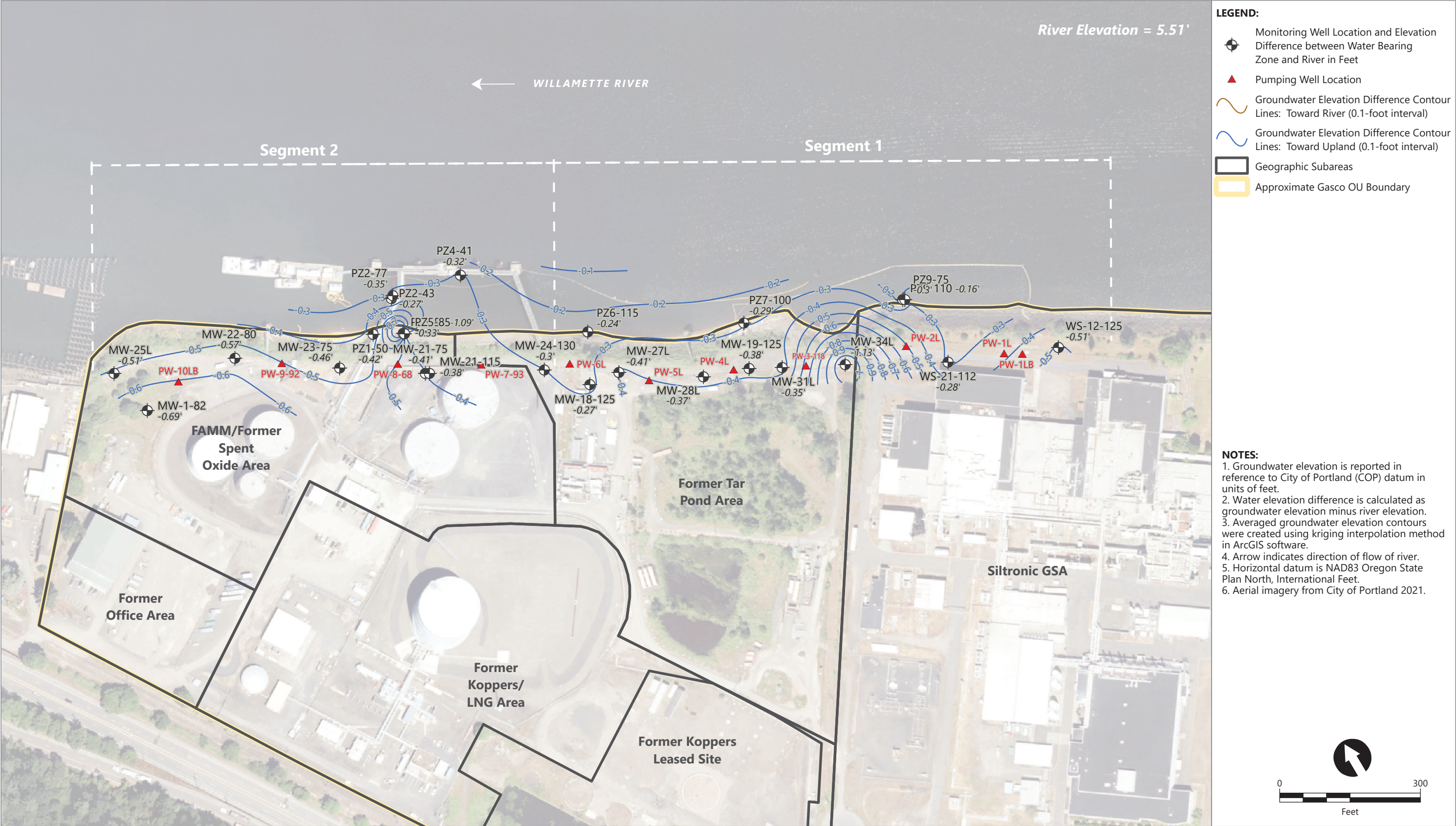
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Figure 3.4a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 8/24/2023-8/26/2023

NWN Gasco Site
Portland, Oregon



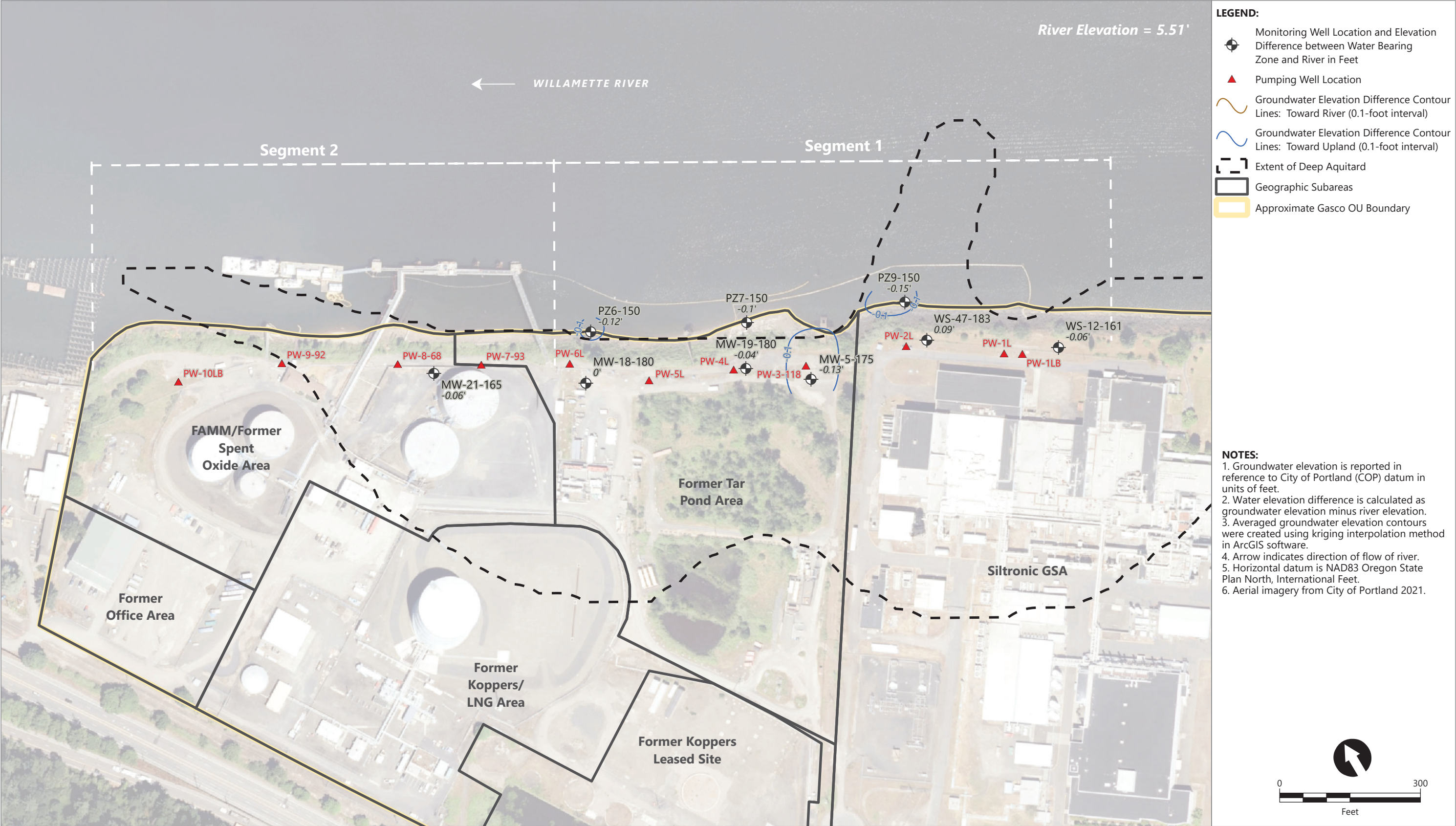
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Figure 3.4b

Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 8/24/2023-8/26/2023

NWN Gasco Site
Portland, Oregon



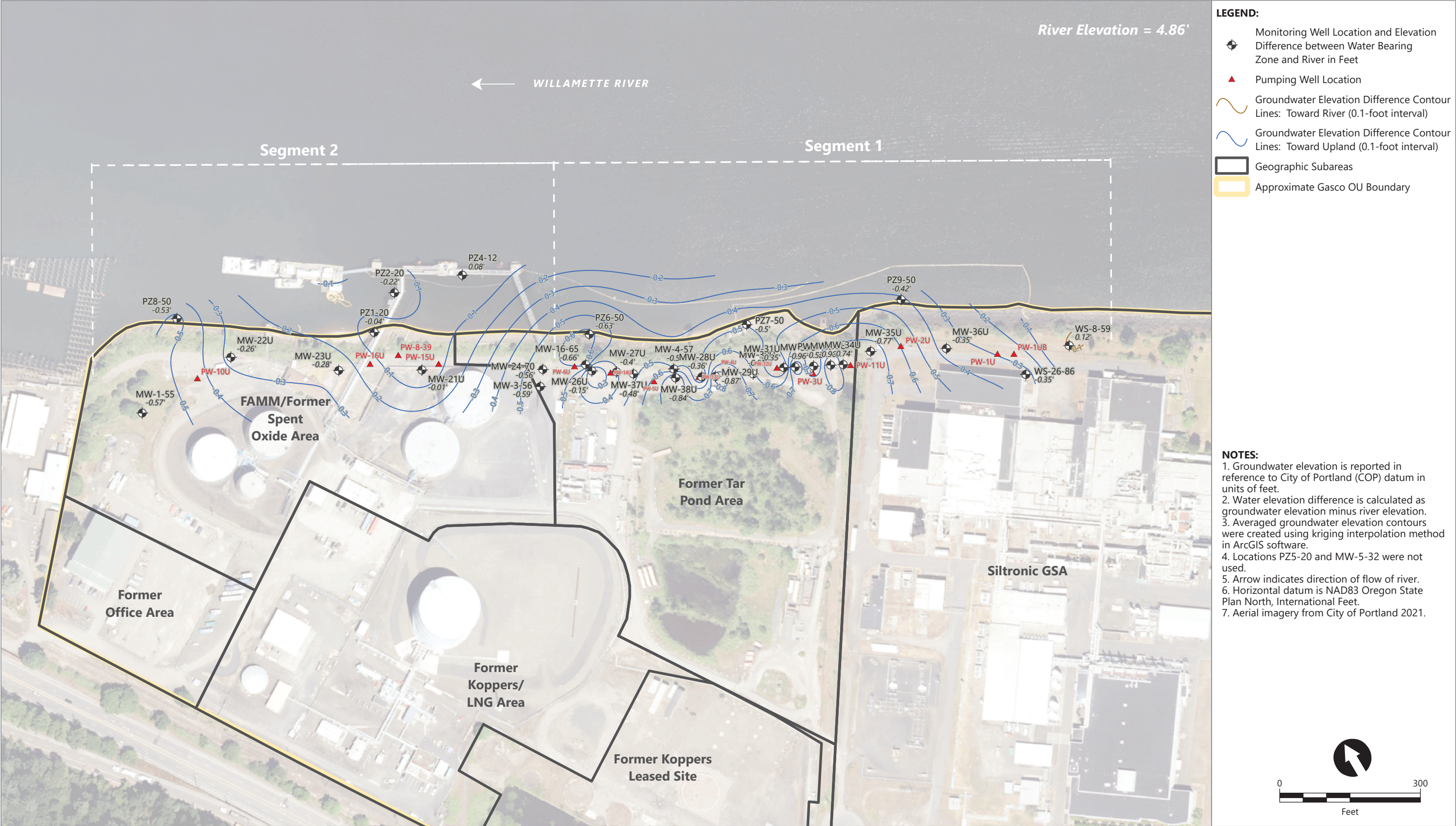
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Figure 3.4c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 8/24/2023-8/26/2023

NWN Gasco Site
Portland, Oregon



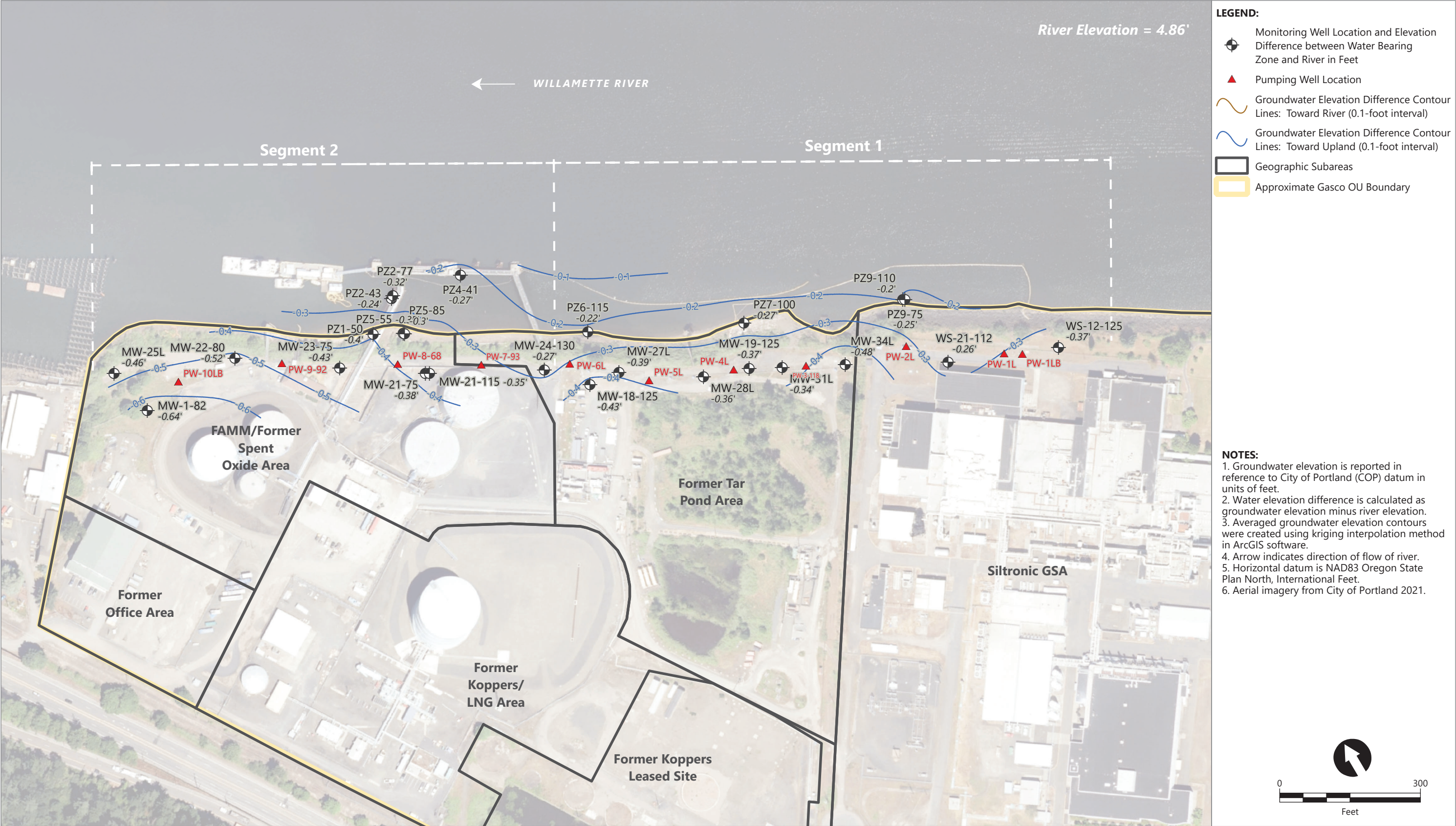
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Figure 3.5a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 9/11/2023-9/13/2023

NWN Gasco Site
Portland, Oregon



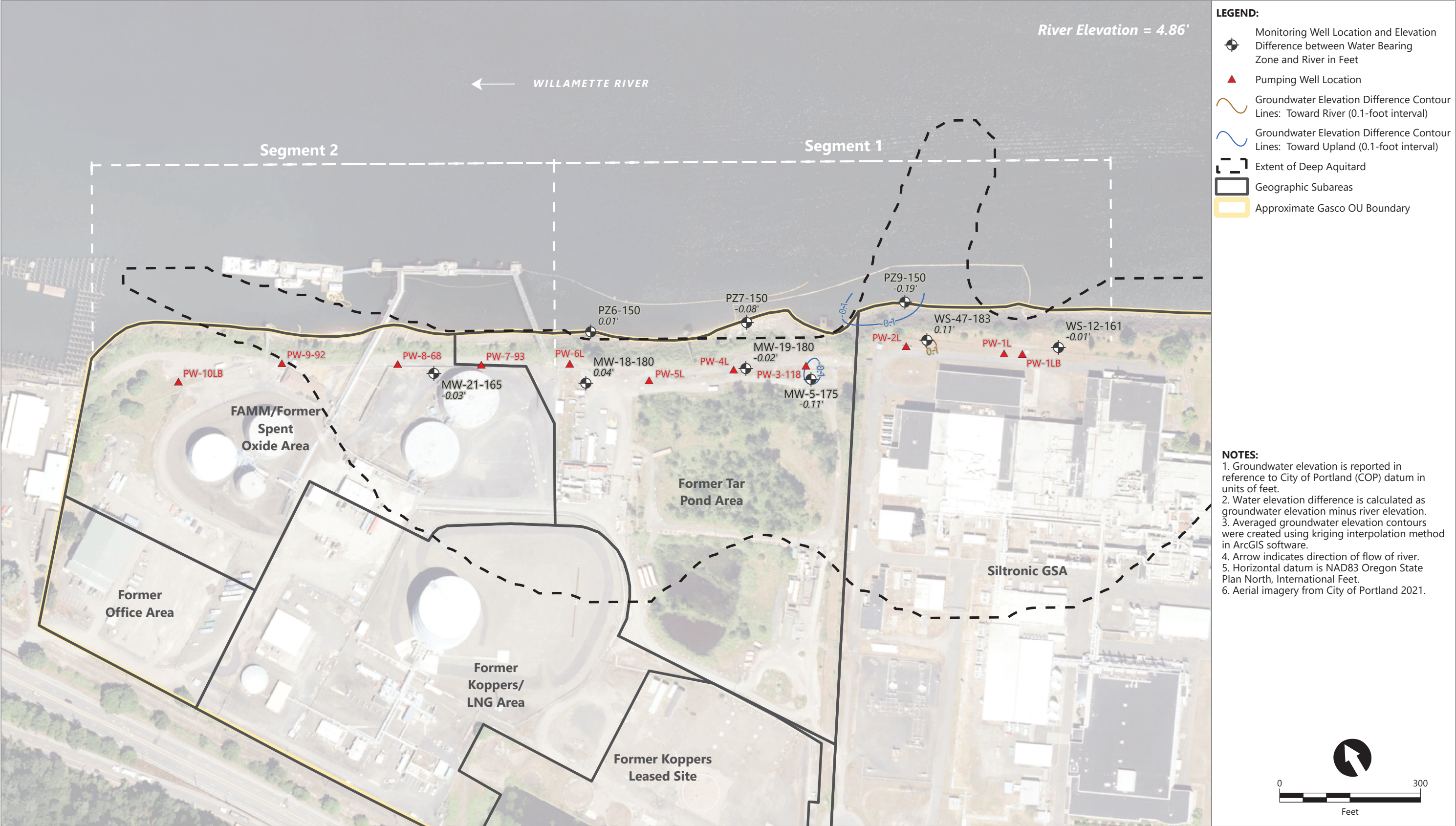
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Figure 3.5b

Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 9/11/2023-9/13/2023

NWN Gasco Site
Portland, Oregon



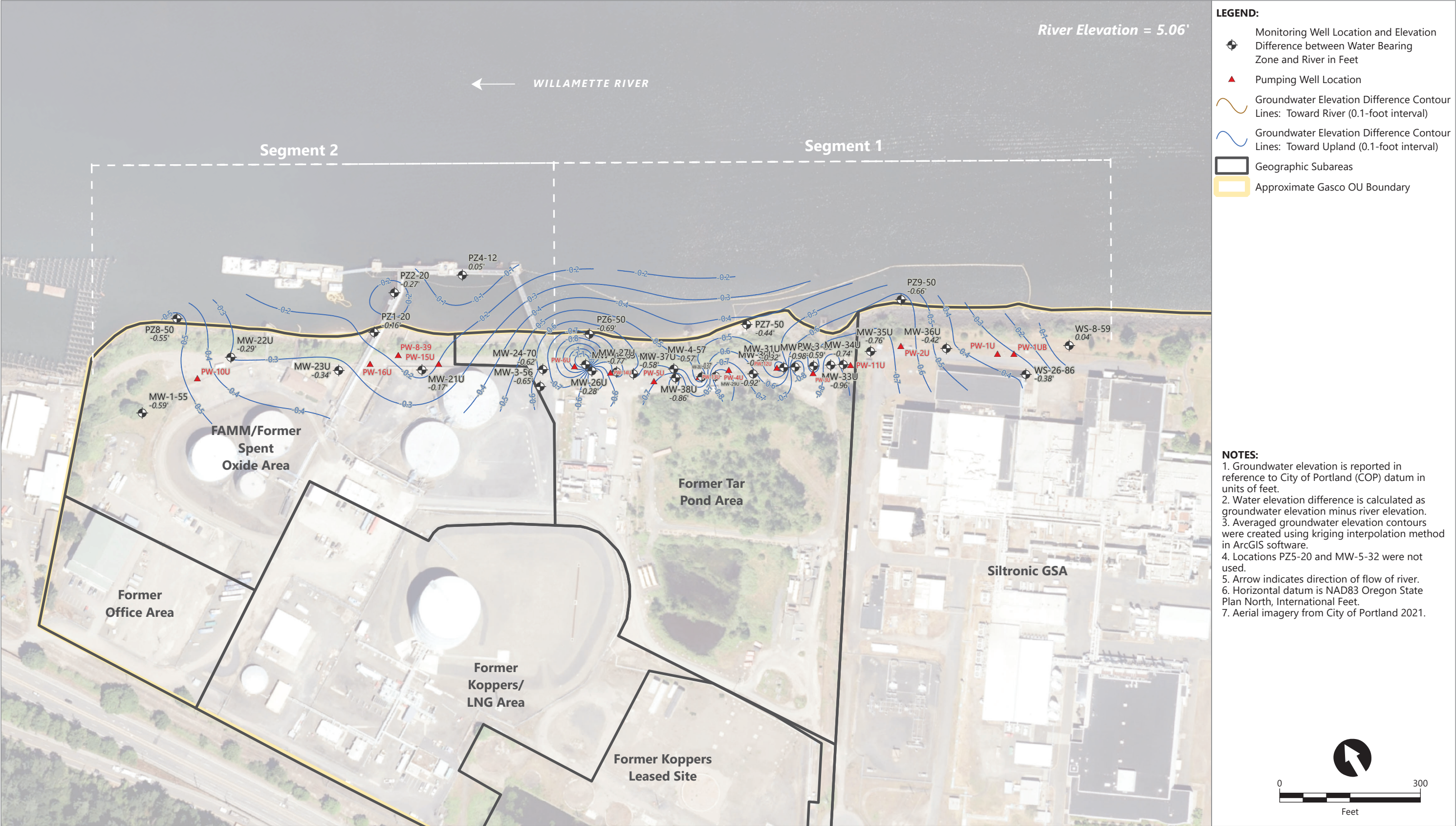
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Figure 3.5c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 9/11/2023-9/13/2023

NWN Gasco Site
Portland, Oregon



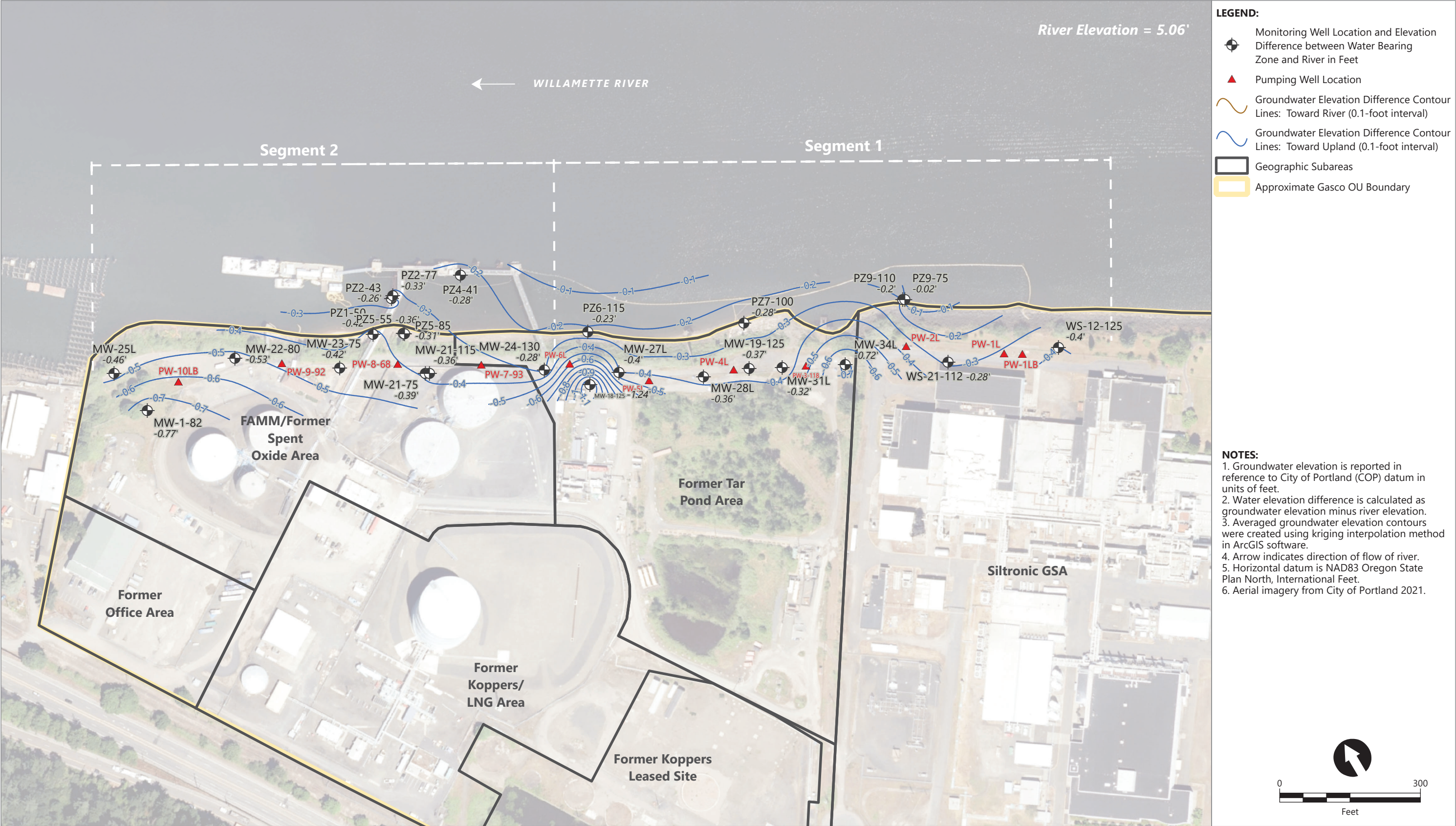
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Figure 3.6a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 9/24/2023-9/26/2023

NWN Gasco Site
Portland, Oregon



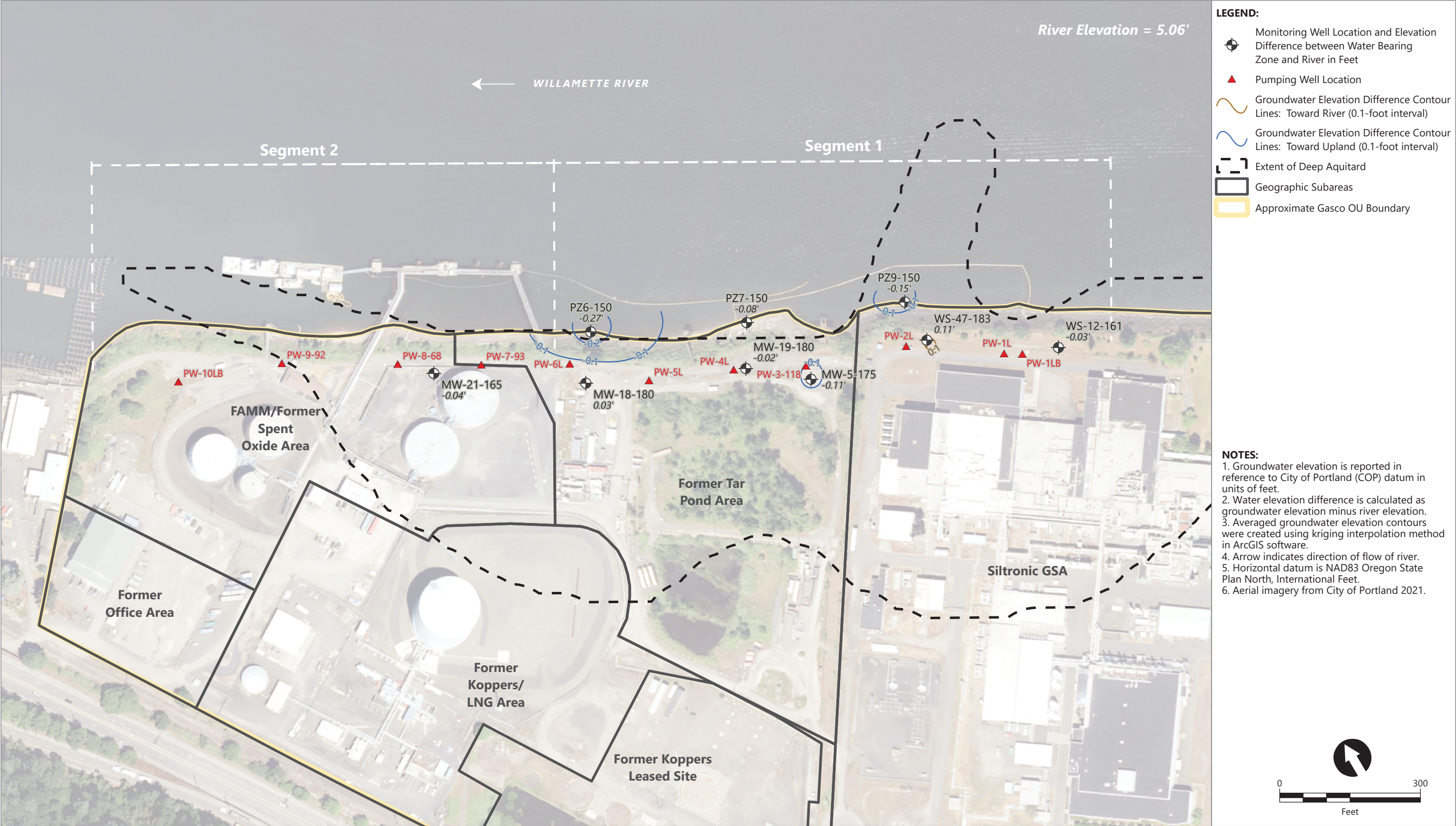
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Figure 3.6b

Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 9/24/2023-9/26/2023

NWN Gasco Site
Portland, Oregon



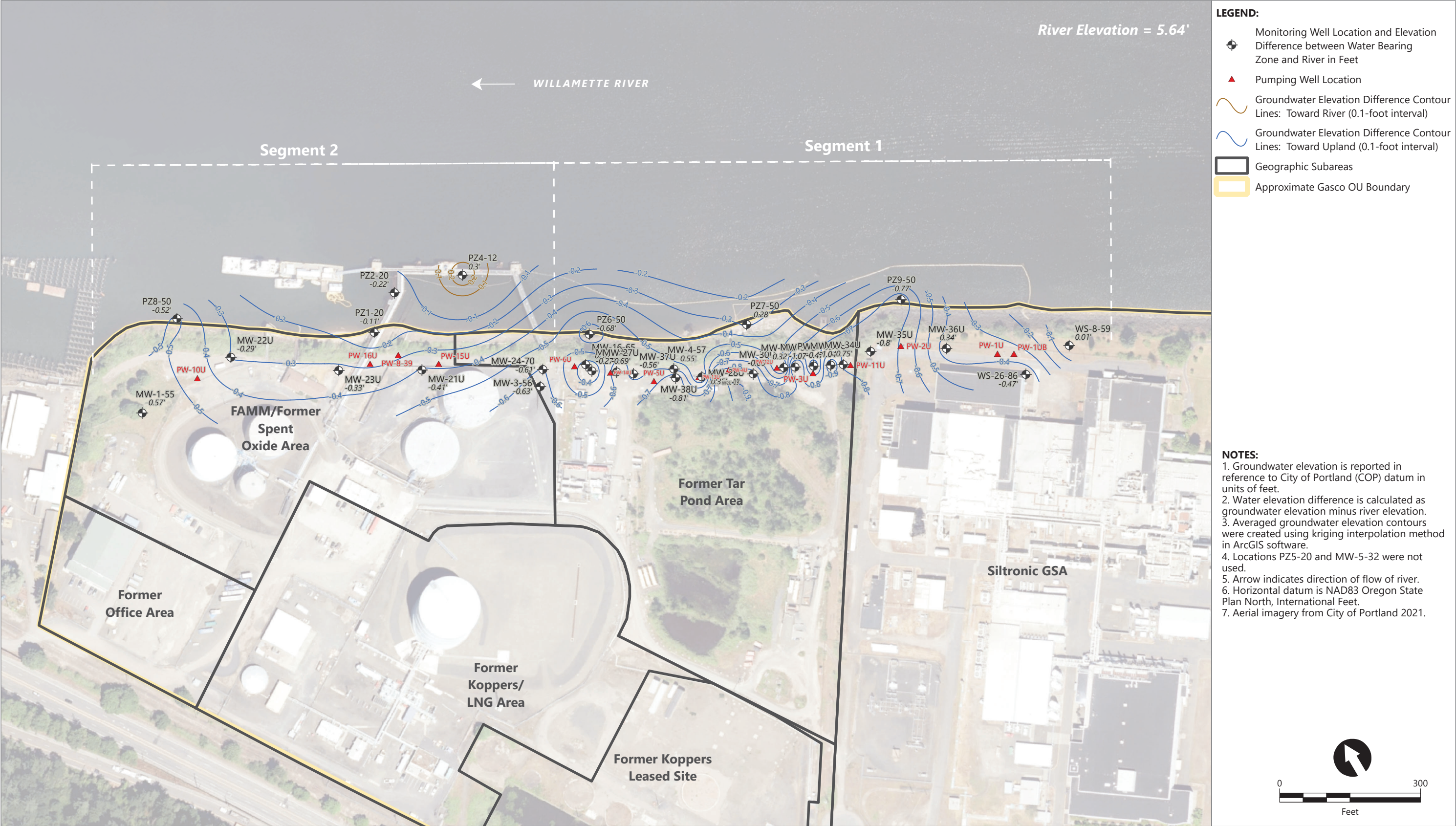
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Figure 3.6c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 9/24/2023-9/26/2023

NWN Gasco Site
Portland, Oregon



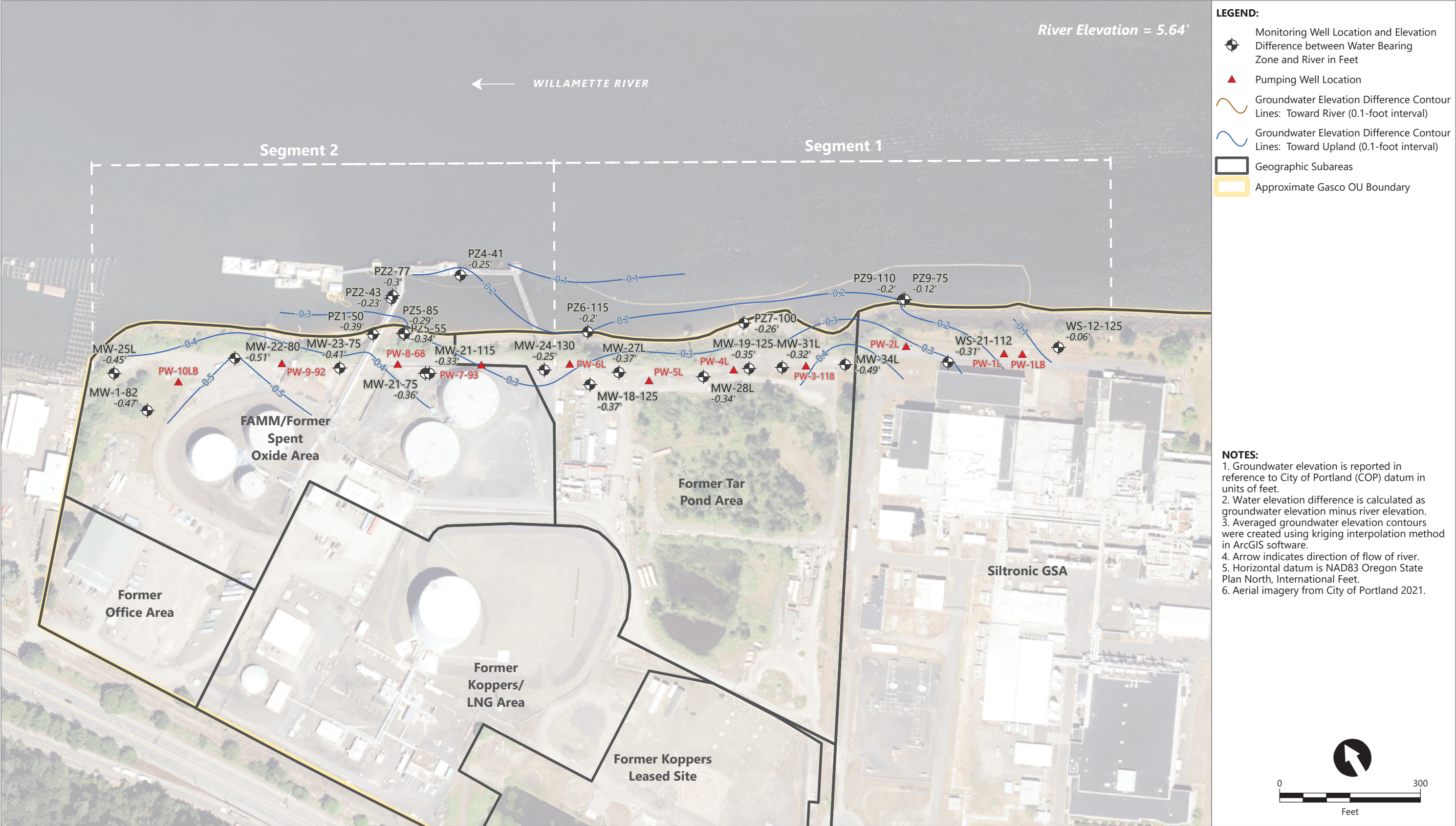
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Figure 3.7a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 10/11/2023-10/13/2023

NWN Gasco Site
Portland, Oregon

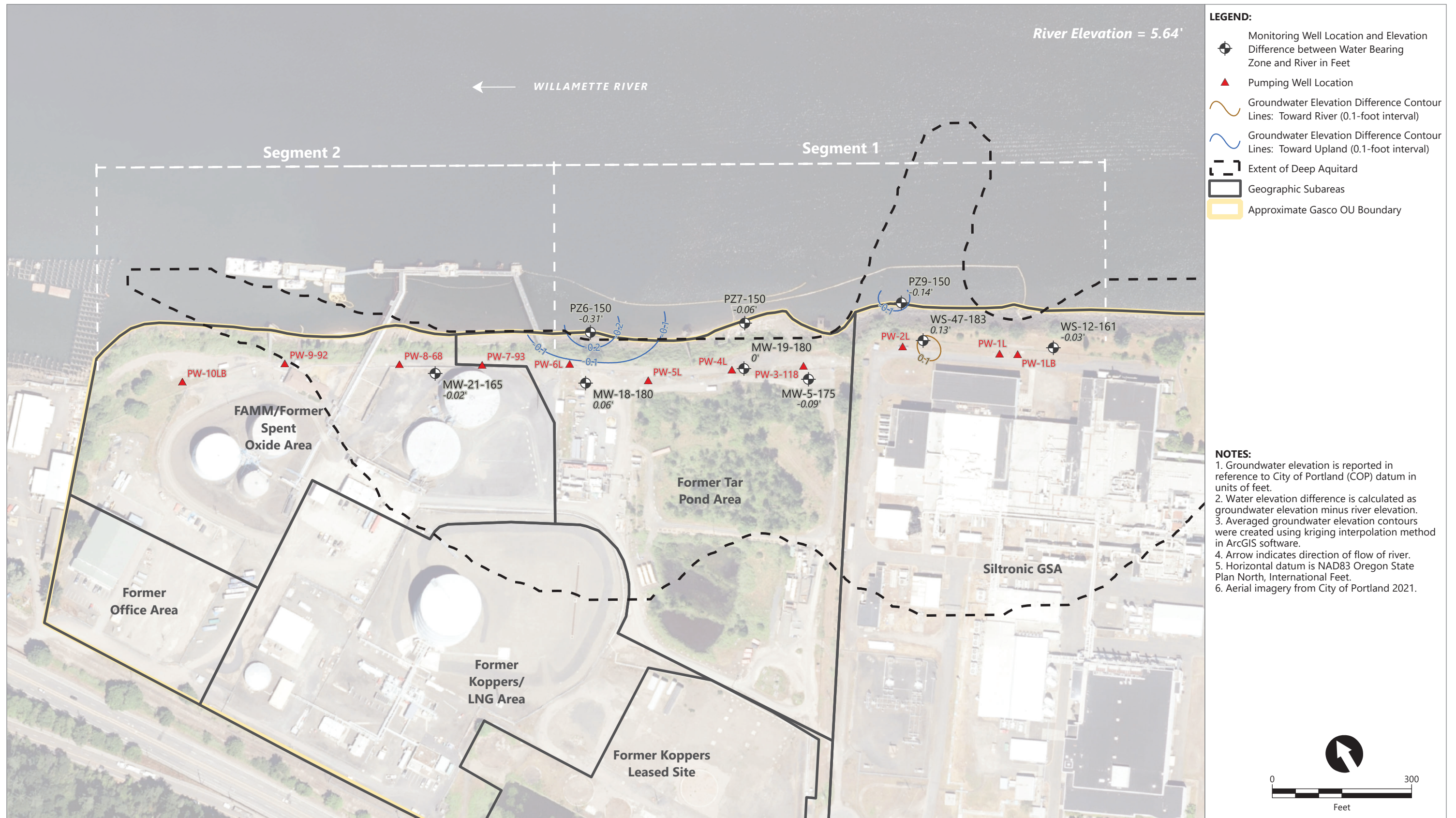


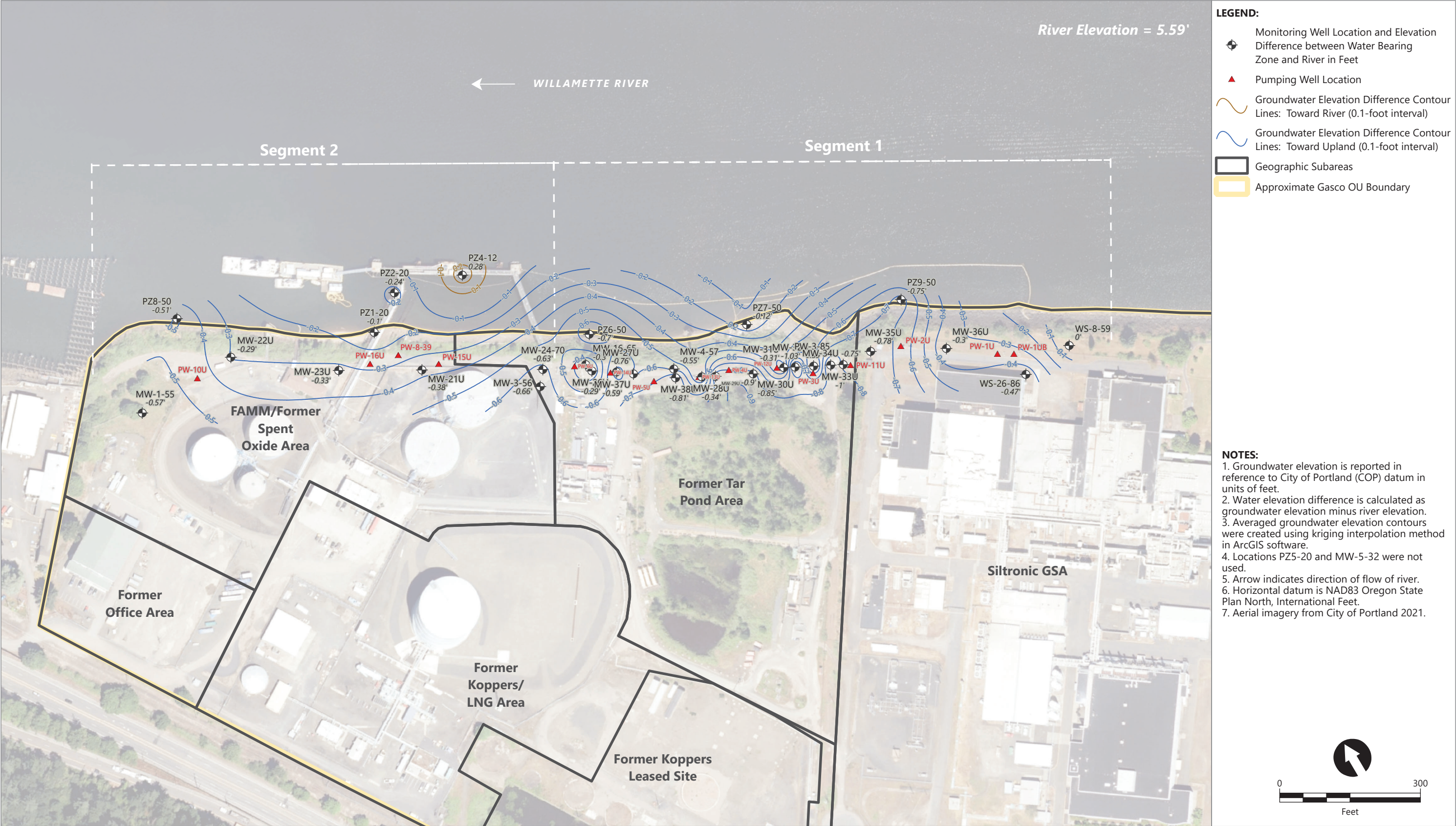
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Figure 3.7b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 10/11/2023-10/13/2023

NWN Gasco Site
Portland, Oregon





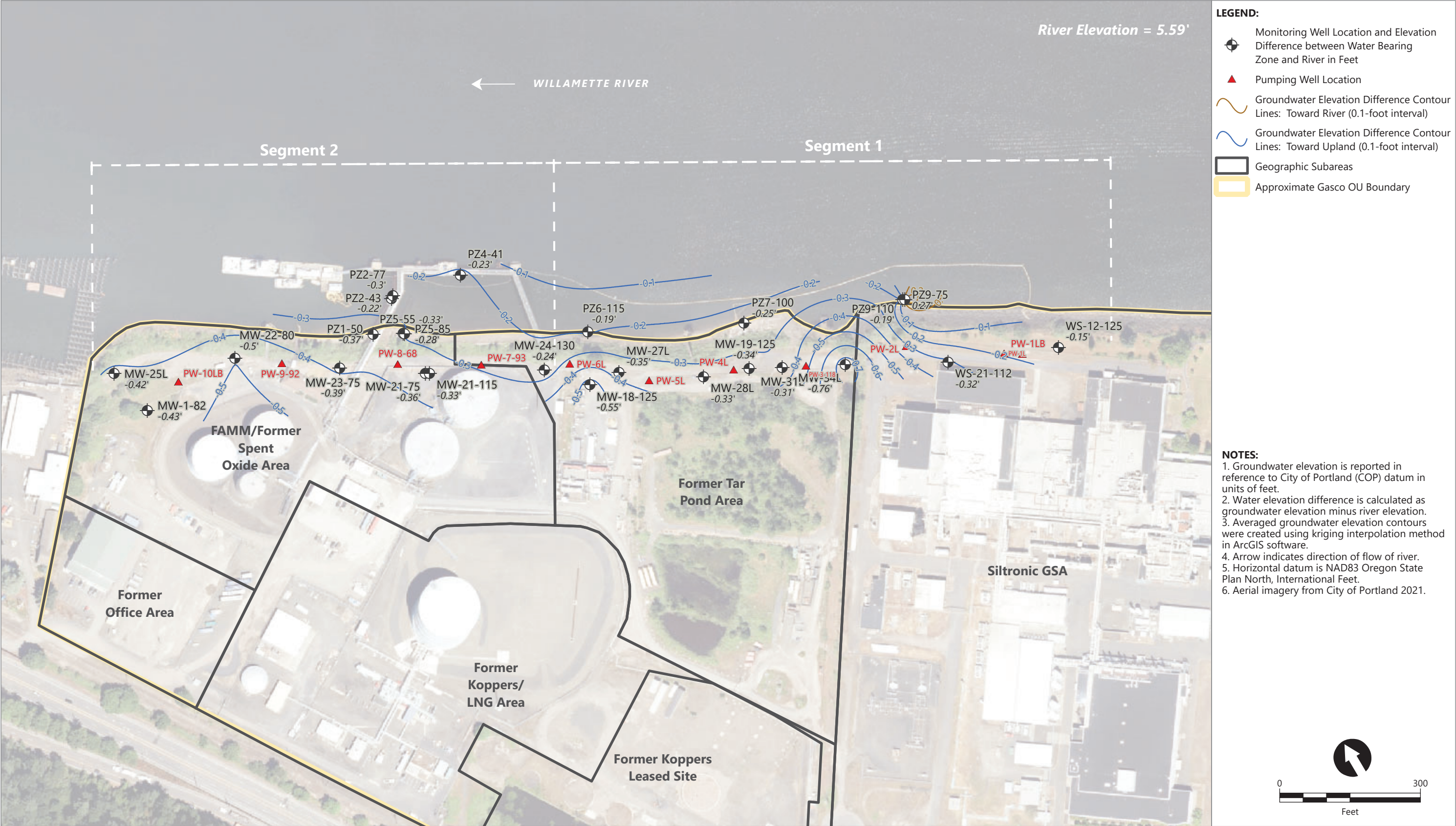
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Figure 3.8a

Contours of Water Elevation Difference Between Upper Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 10/24/2023-10/26/2023

NWN Gasco Site
Portland, Oregon

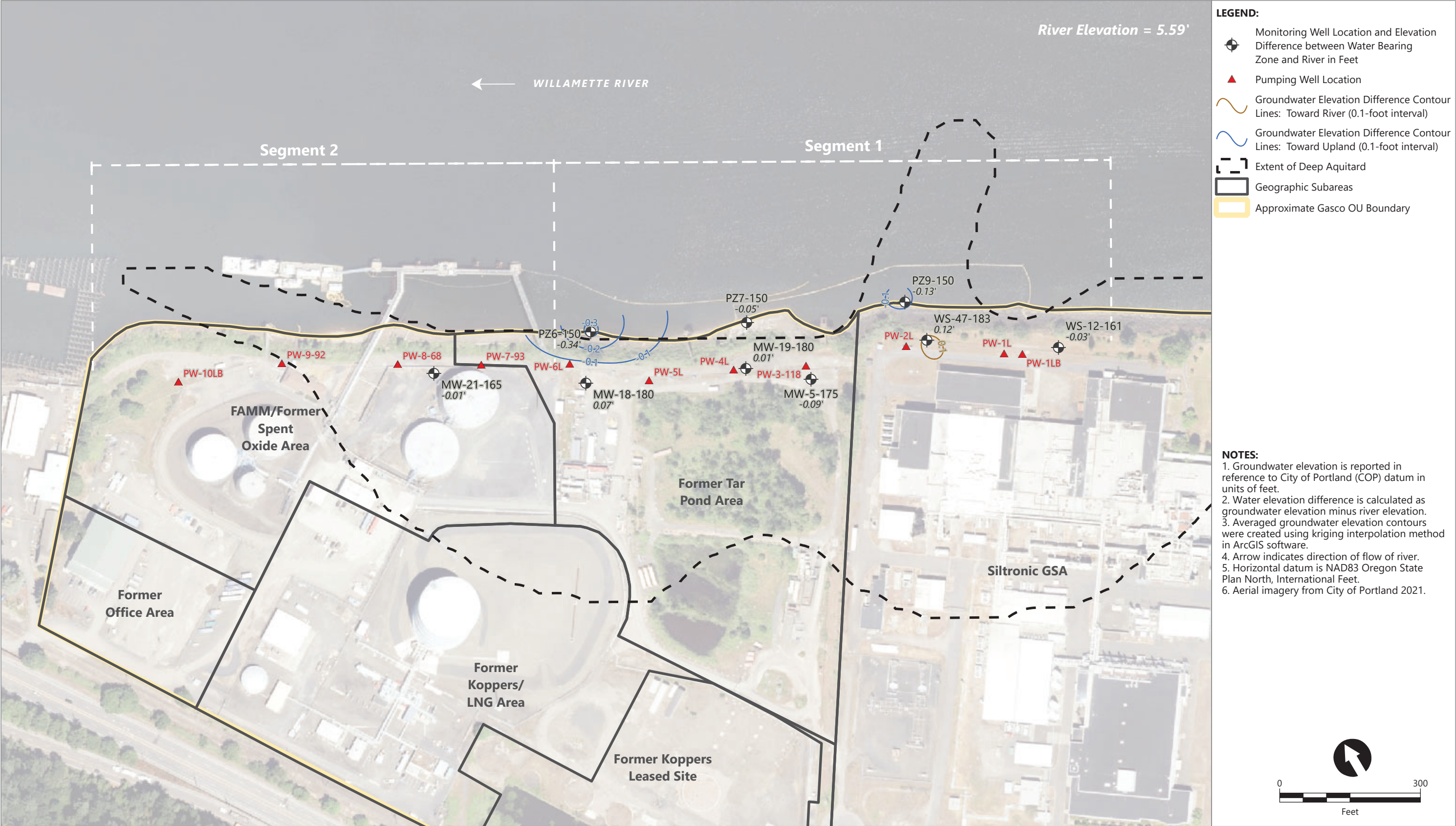


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Figure 3.8b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 10/24/2023-10/26/2023

NWN Gasco Site
Portland, Oregon

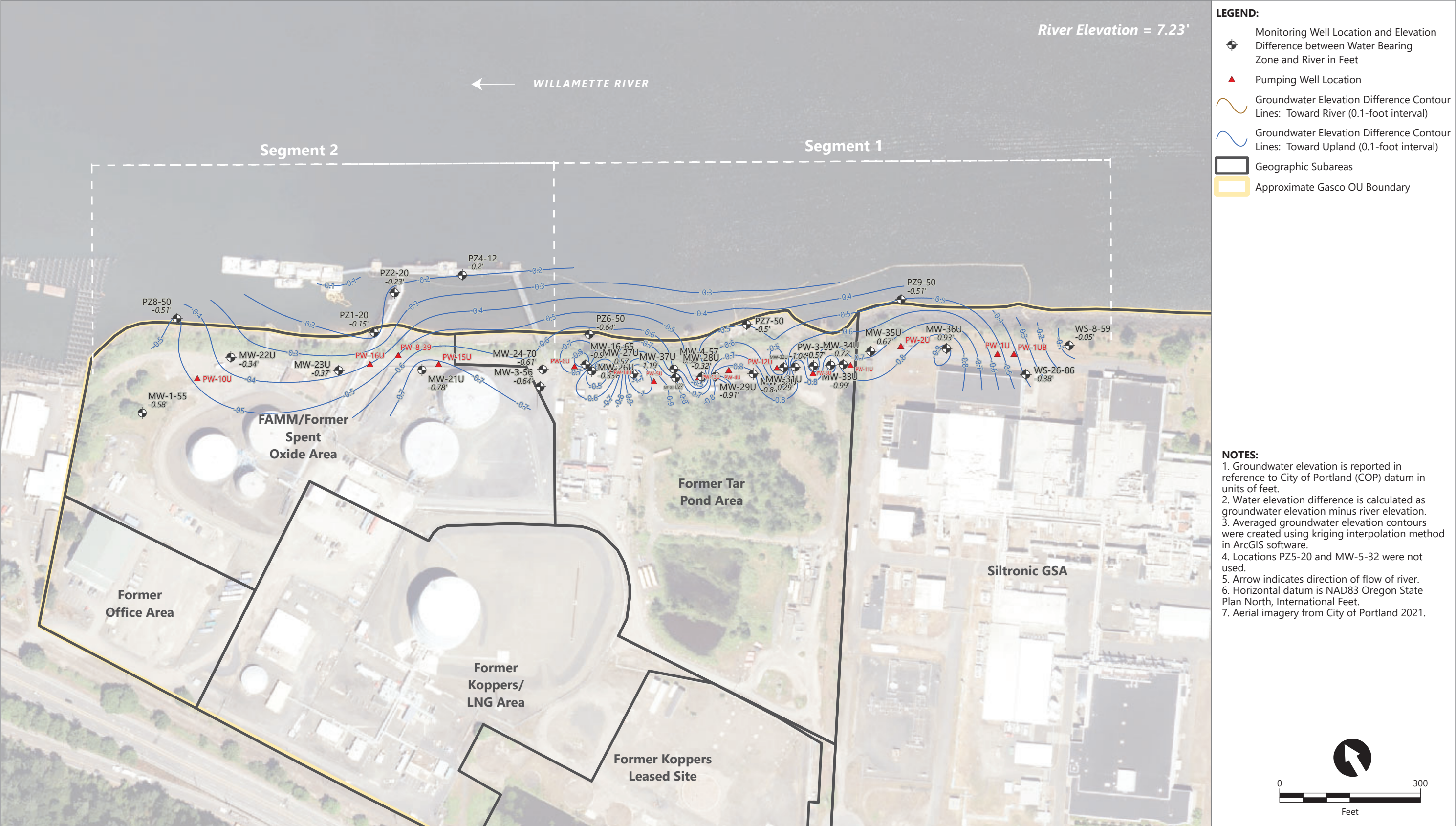


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Figure 3.8c

Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 10/24/2023-10/26/2023

NWN Gasco Site
Portland, Oregon



Publish Date: 2024/01/29, 3:19 PM | User: cgardner
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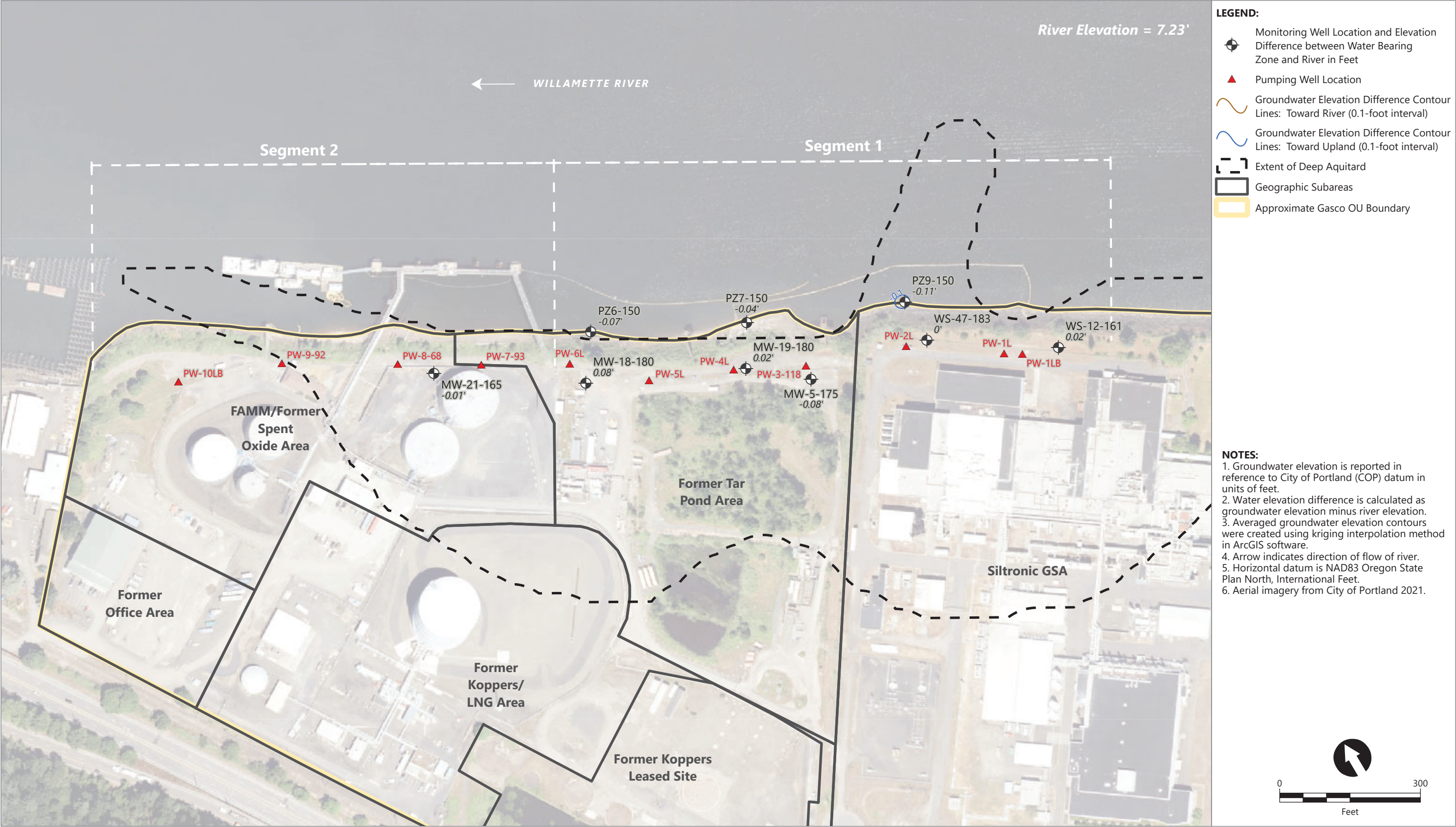
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Figure 3.9b

Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 11/11/2023-11/13/2023

NWN Gasco Site
Portland, Oregon

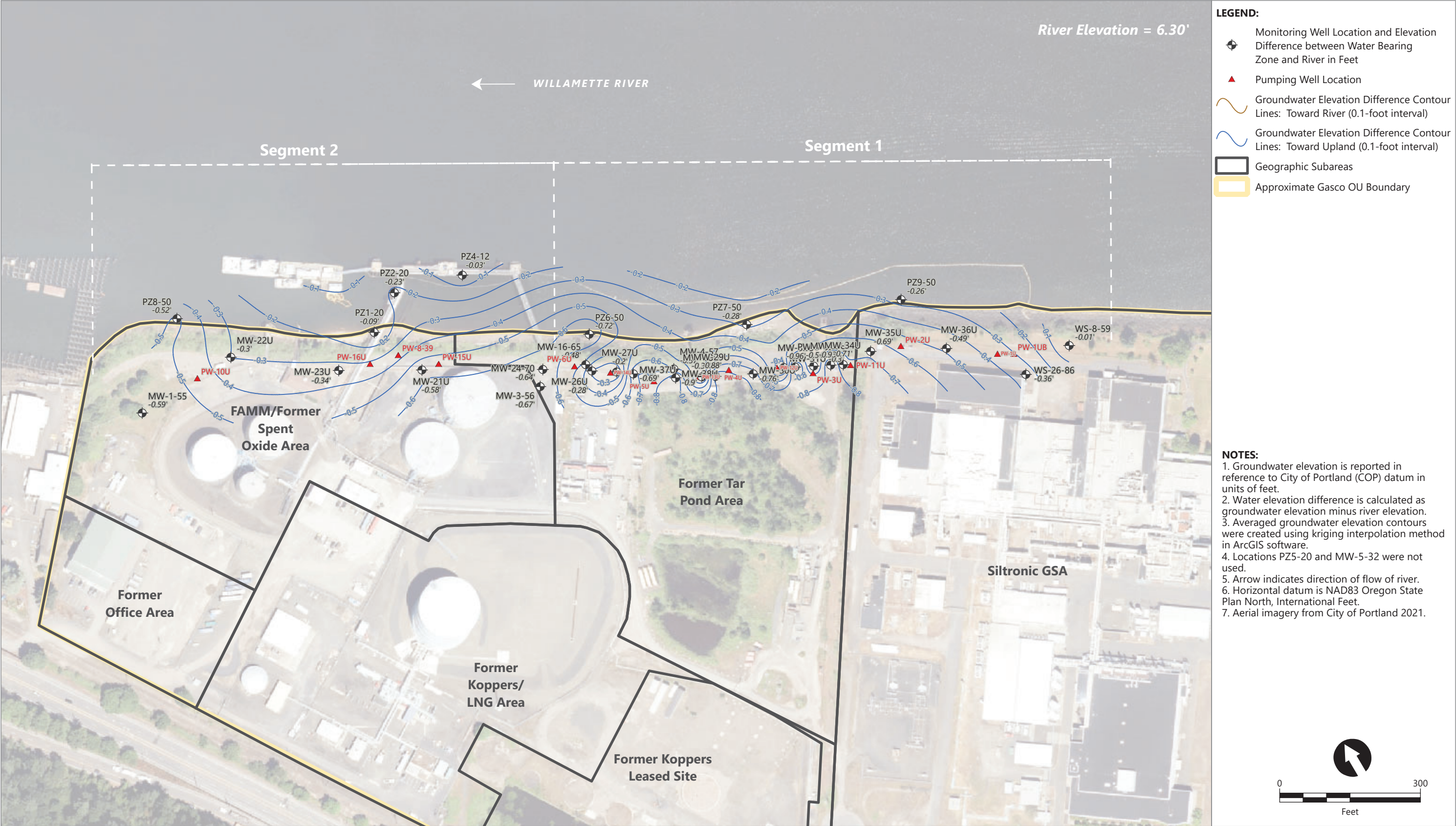


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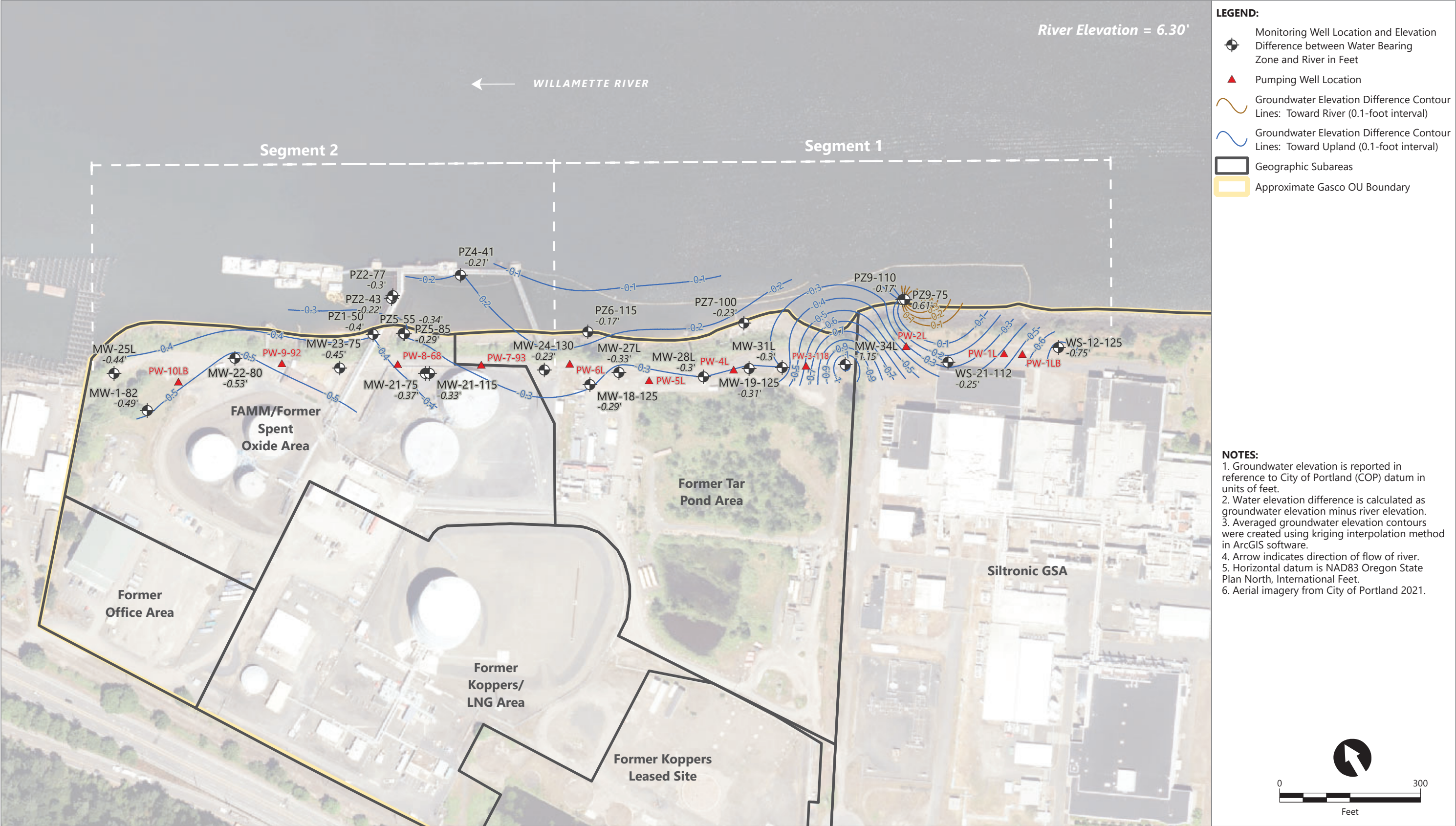
Figure 3.9c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 11/11/2023-11/13/2023

NWN Gasco Site
Portland, Oregon



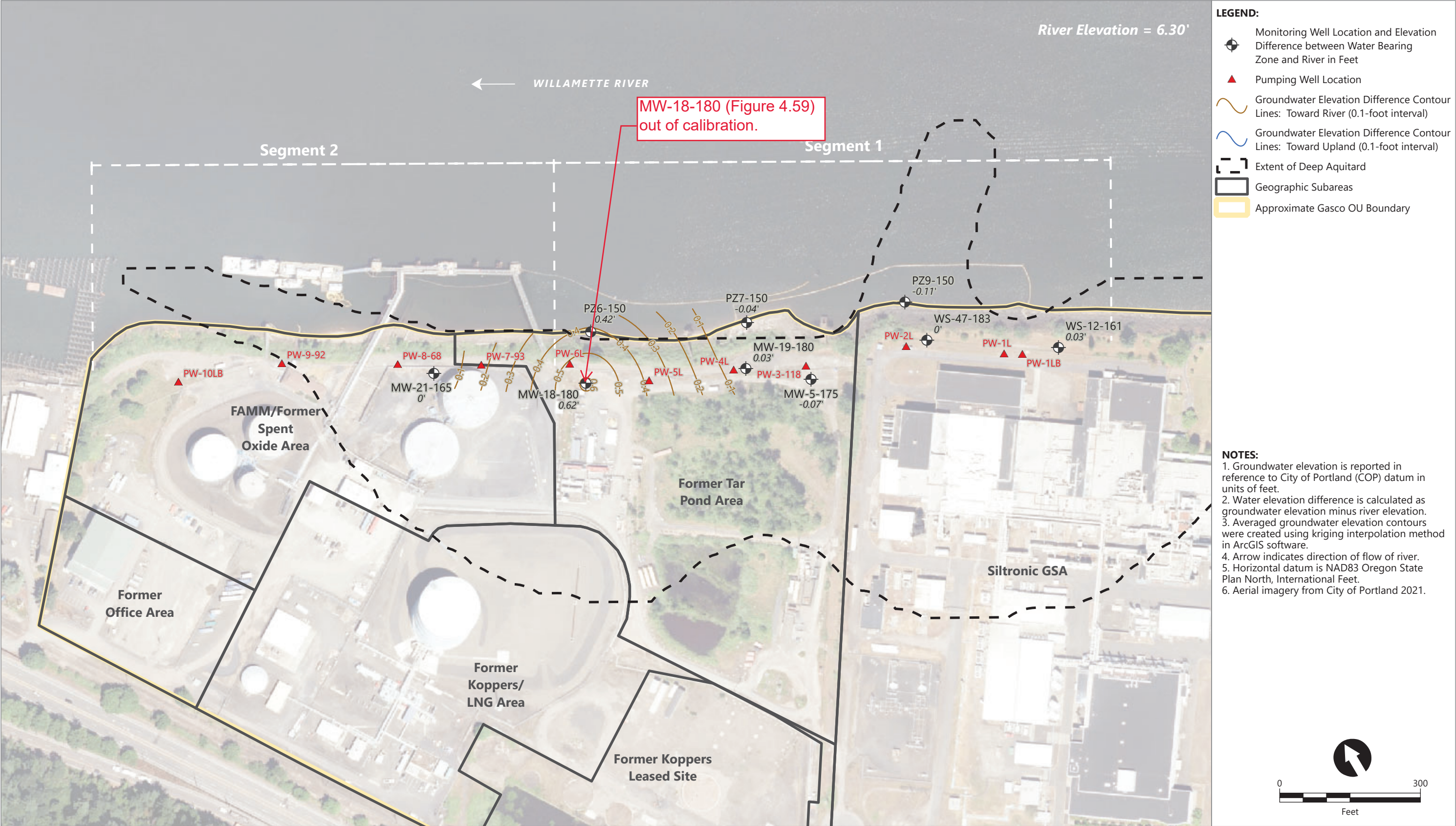
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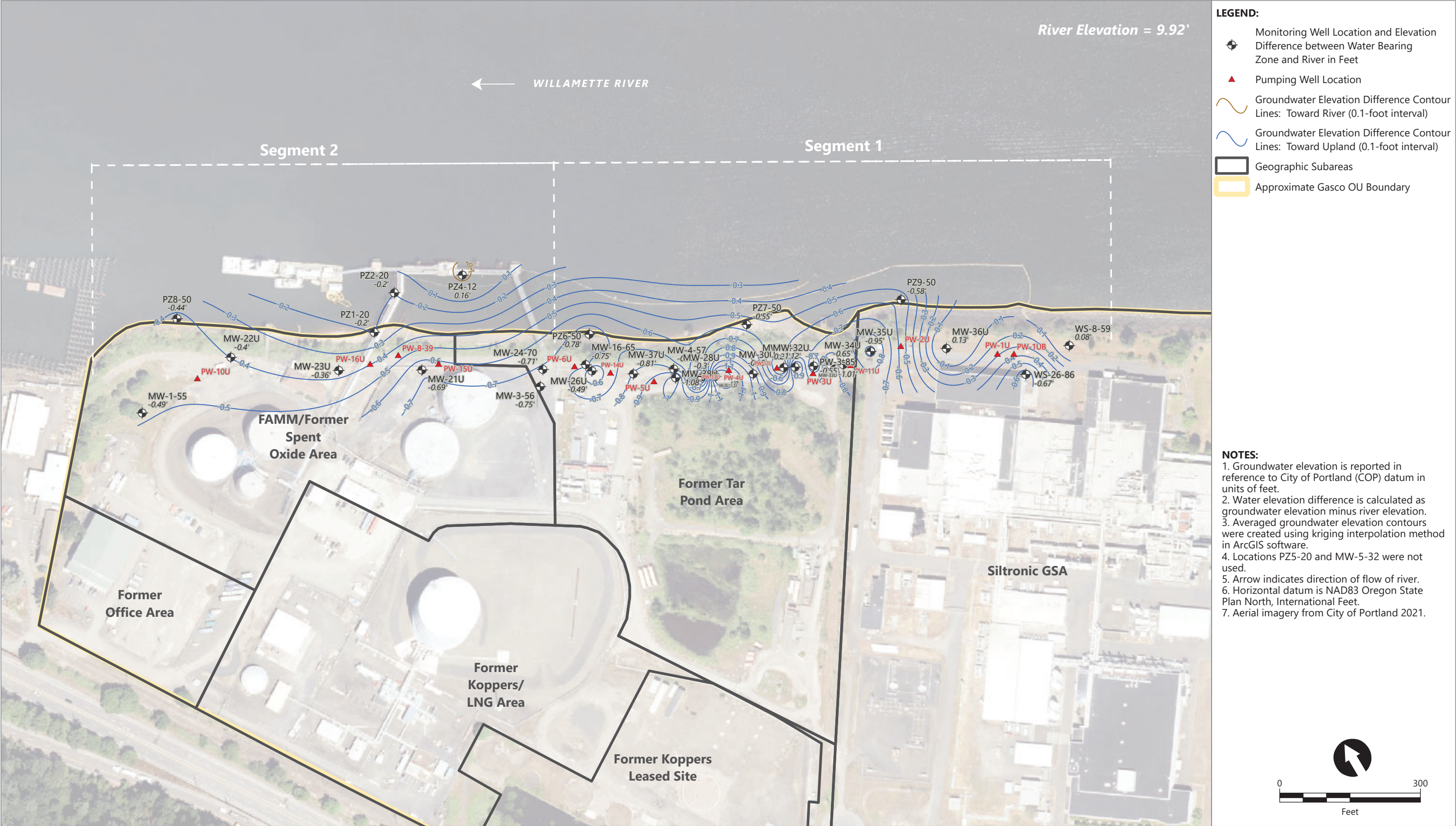
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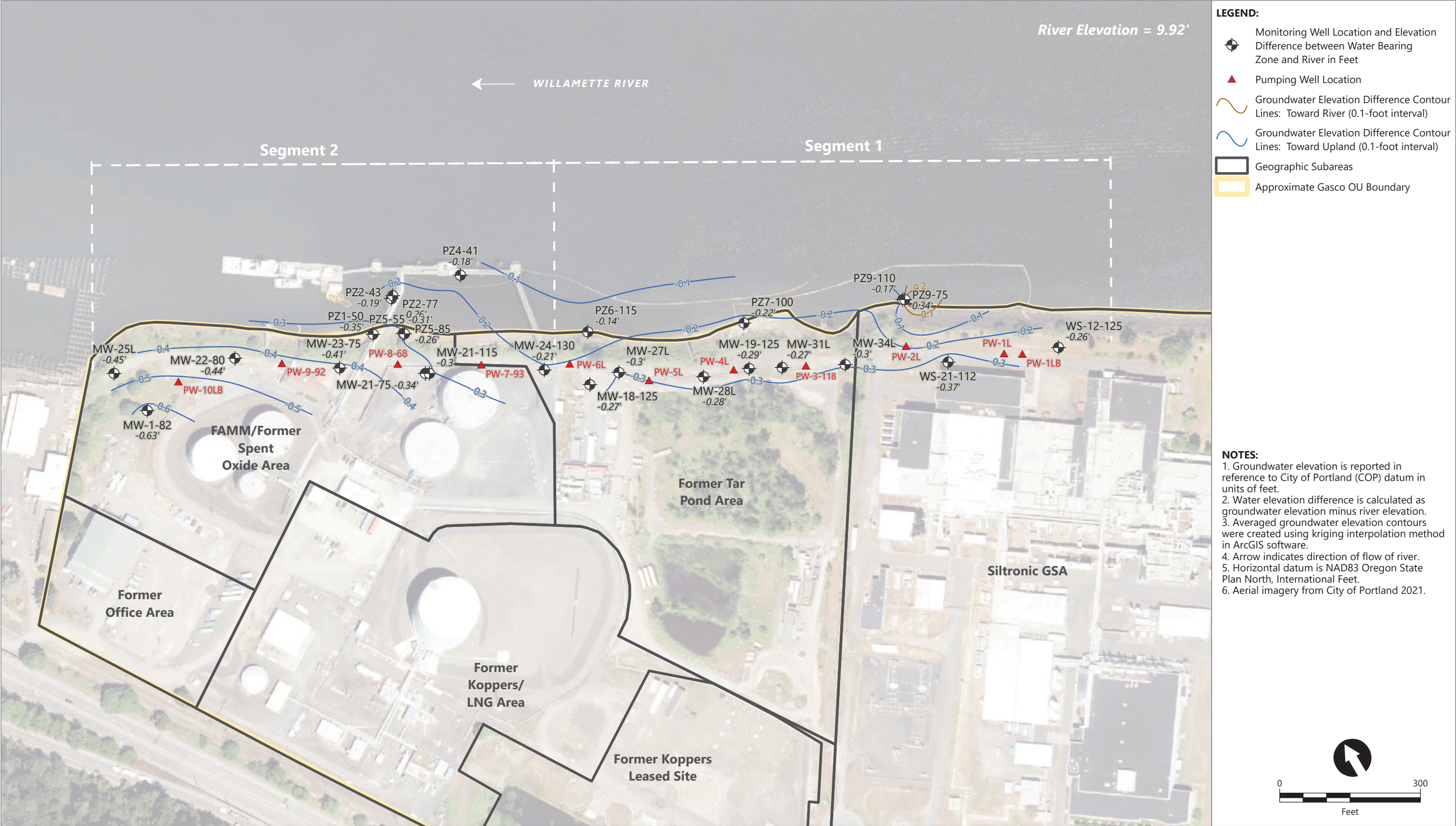
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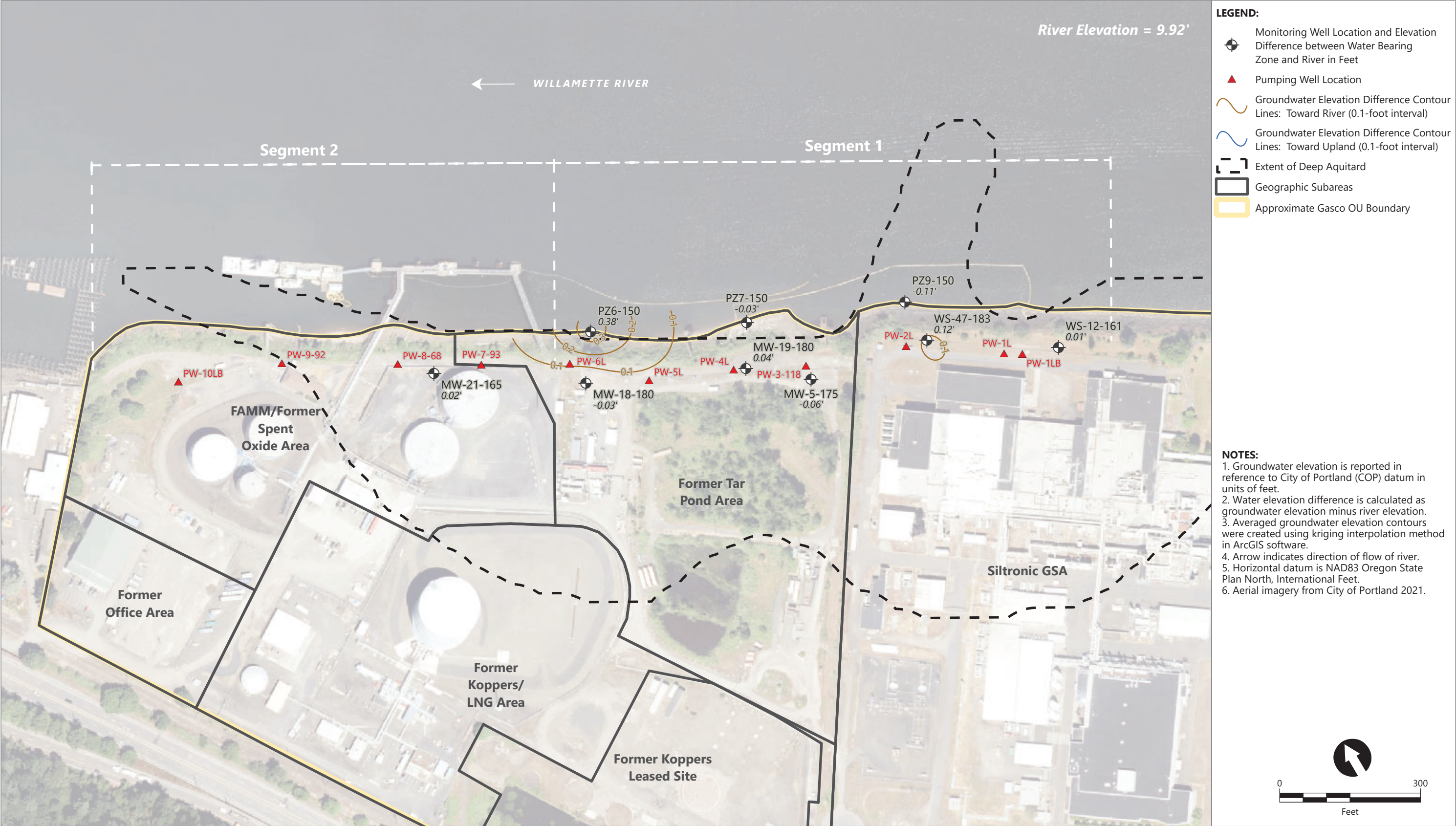


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Figure 3.11b
Contours of Water Elevation Difference Between Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 12/11/2023-12/13/2023

NWN Gasco Site
Portland, Oregon

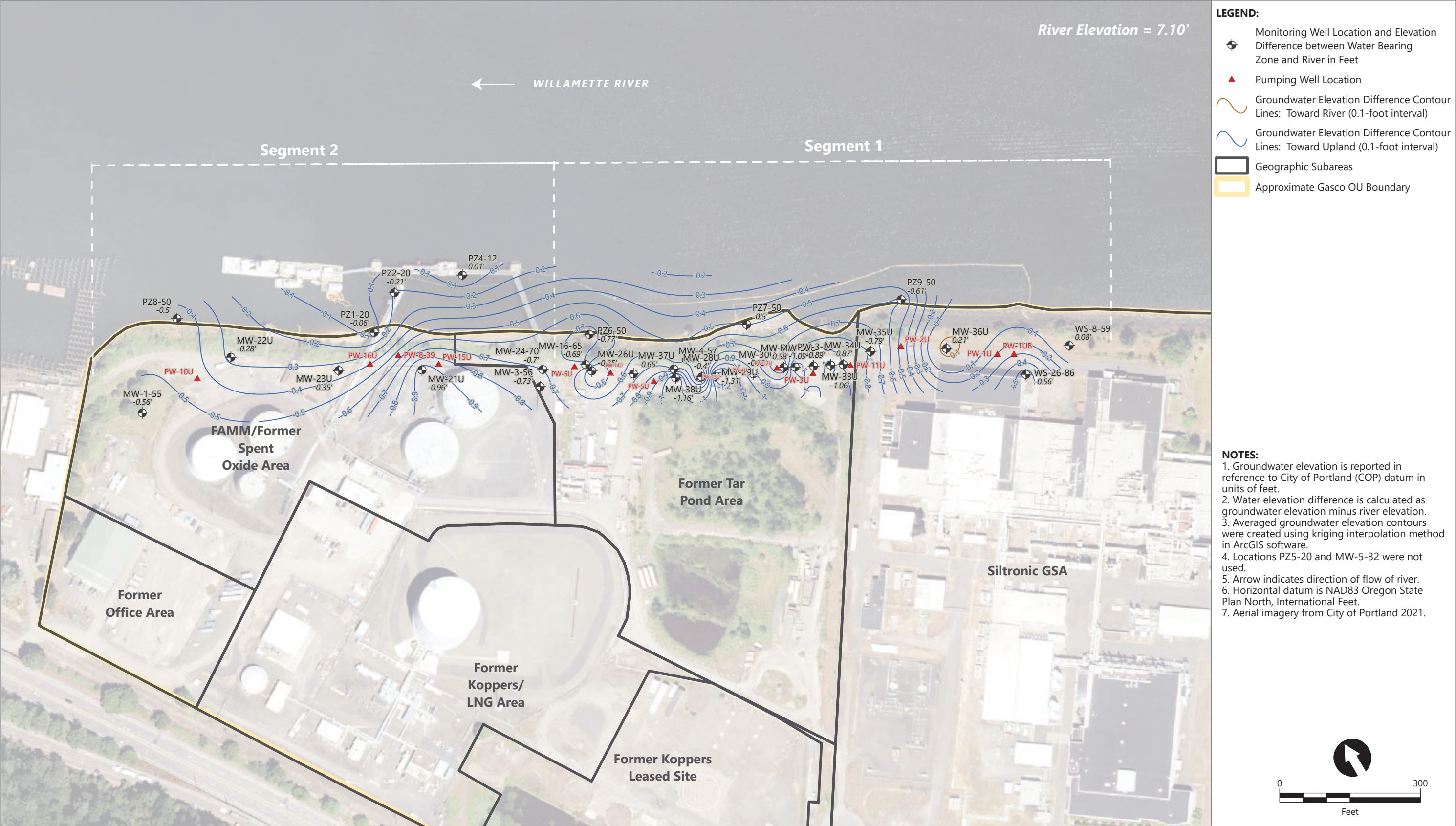


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Figure 3.11c
Contours of Water Elevation Difference Between Deep Lower Alluvium WBZ and River Using Serfes 3-Day Rolling Averages From 12/11/2023-12/13/2023

NWN Gasco Site
Portland, Oregon



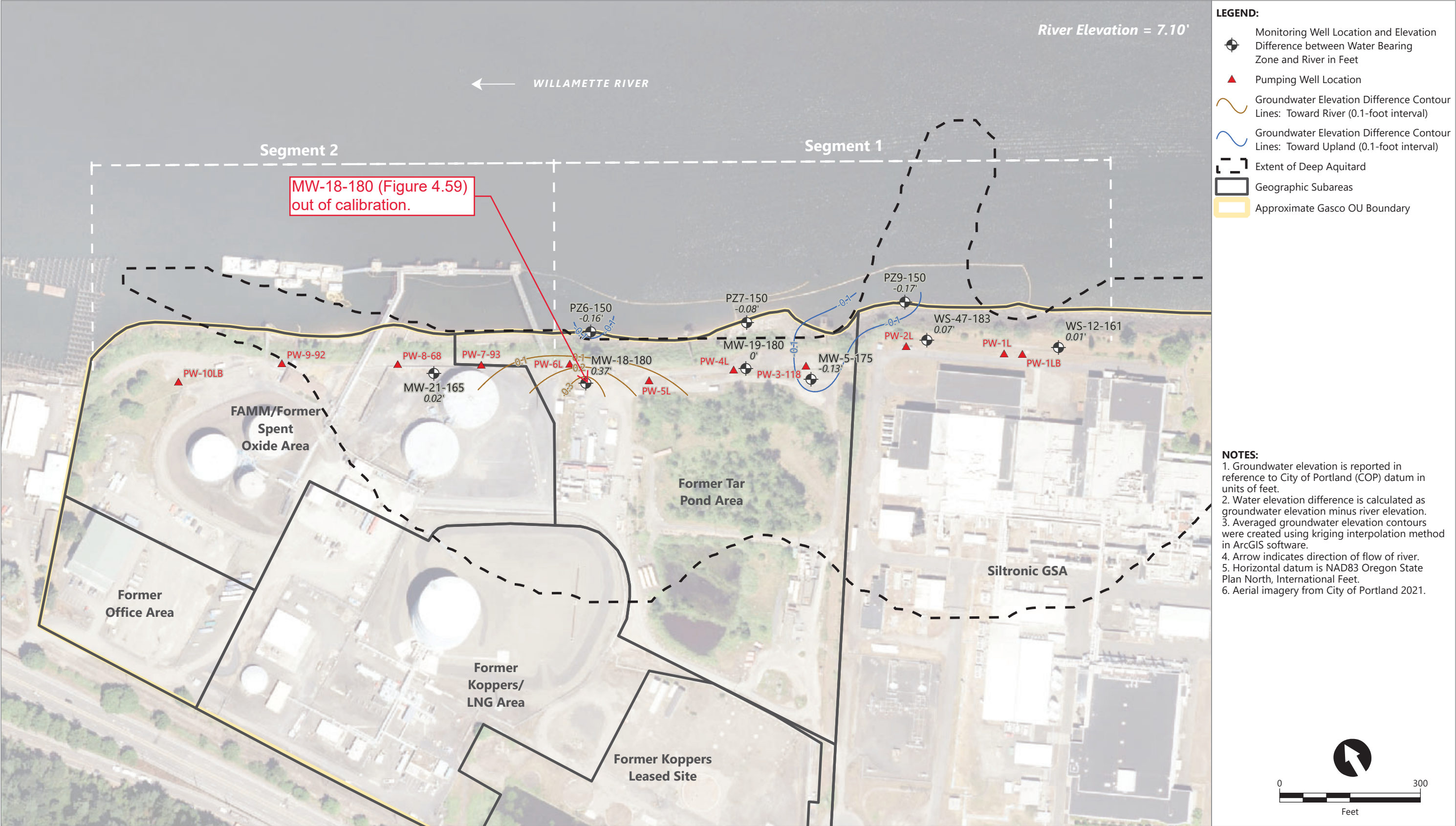
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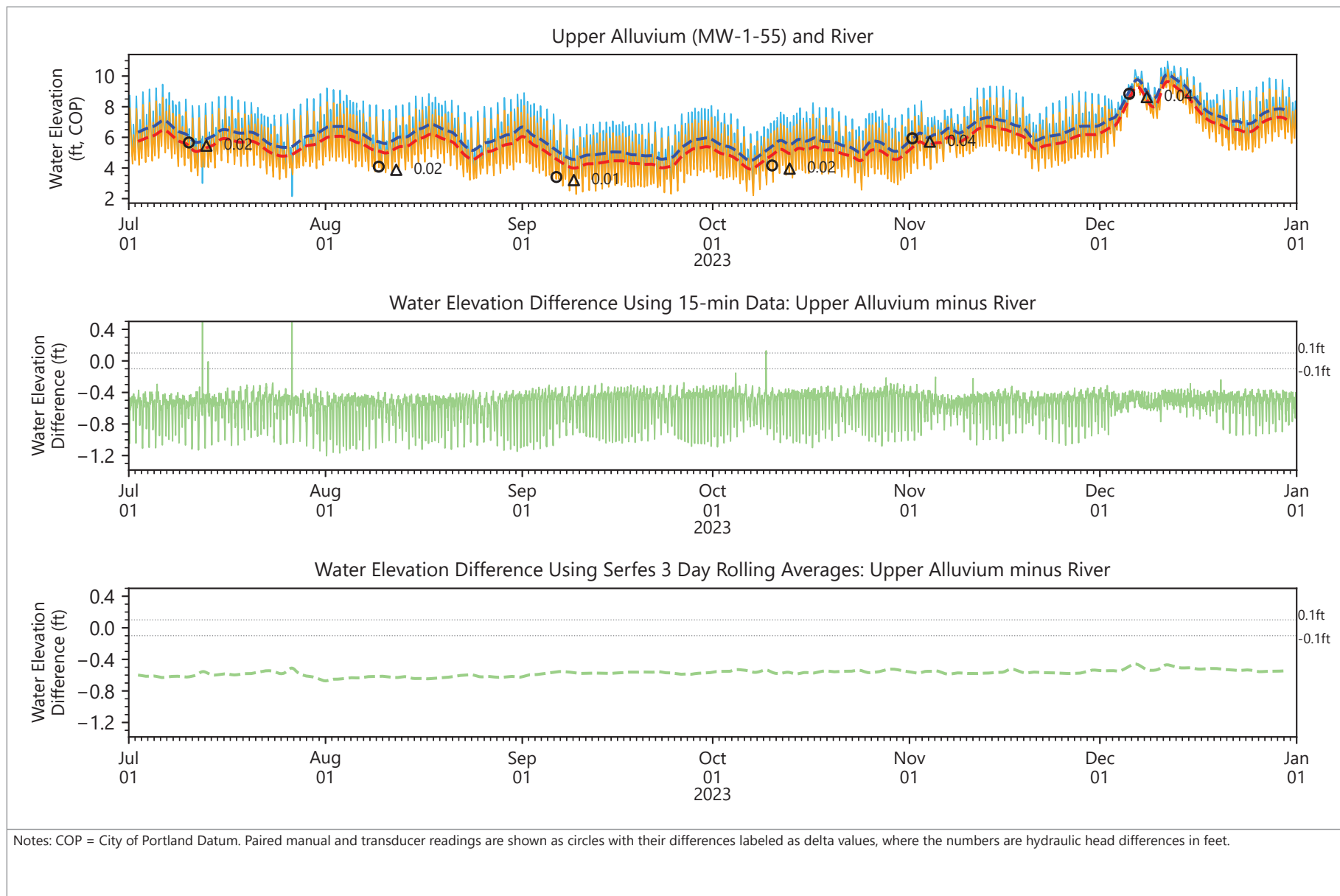
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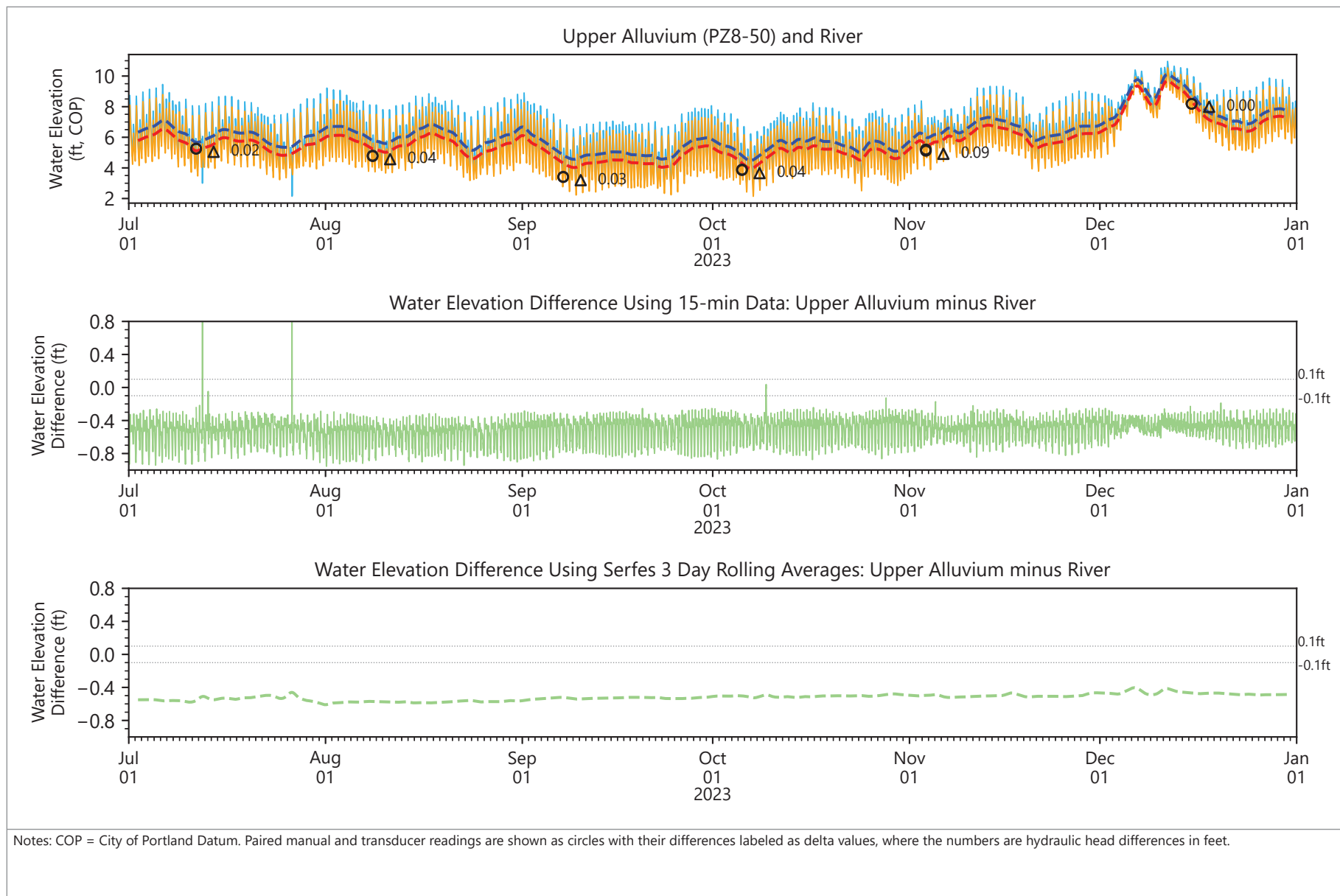


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.1
Groundwater Elevation Differences
 NW Natural Gasco Site



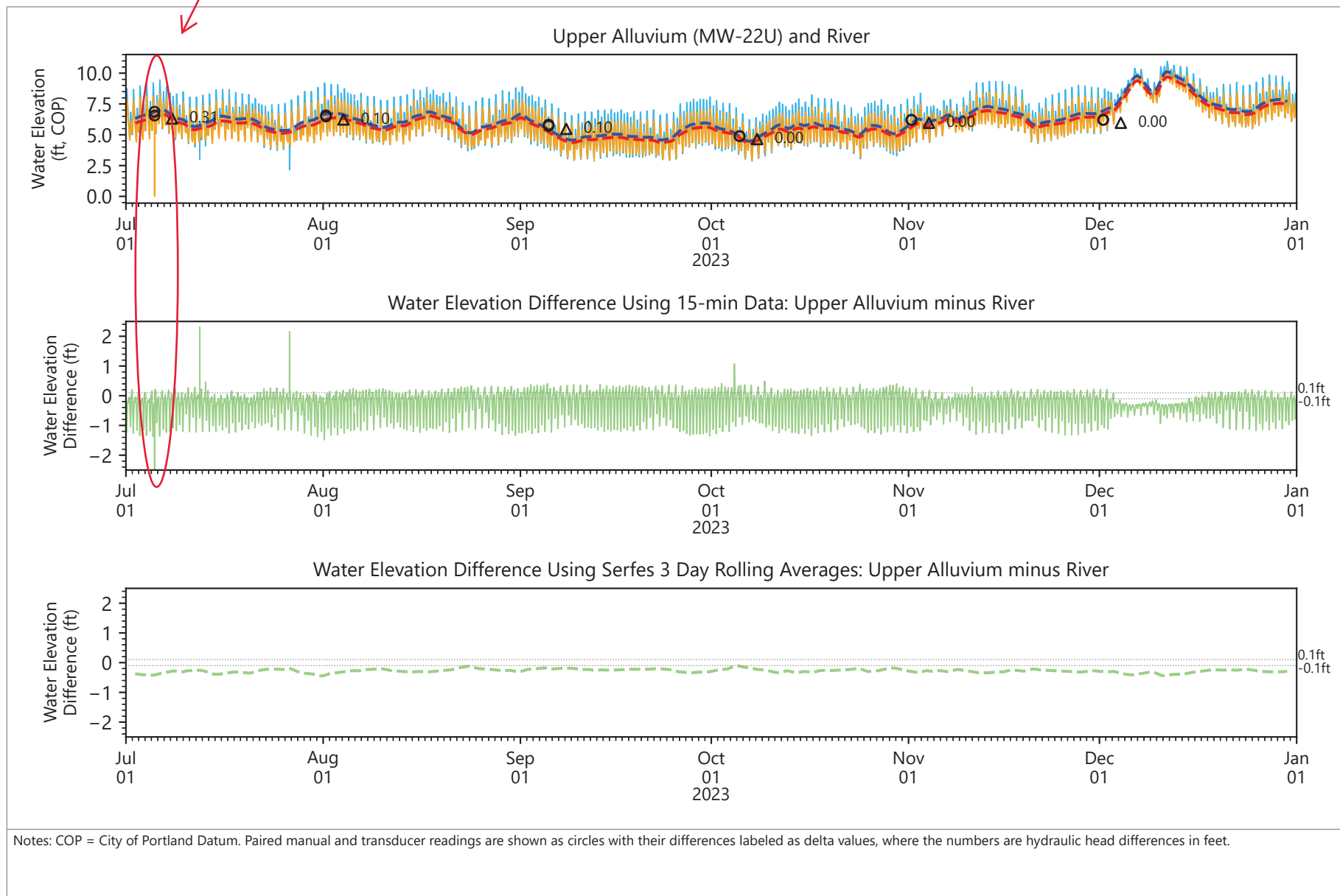
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.2
Groundwater Elevation Differences
 NW Natural Gasco Site

Annual transducer maintenance.



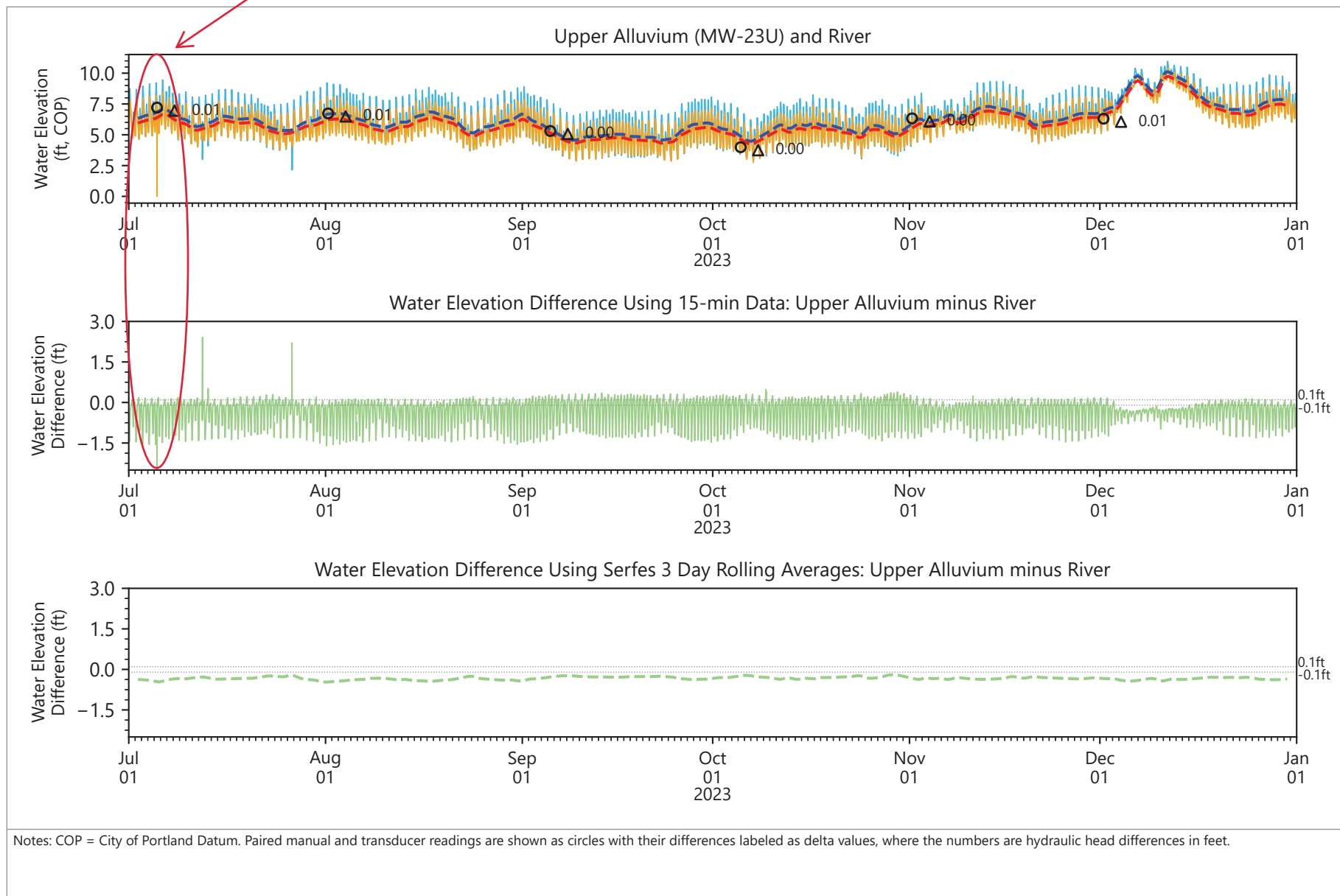
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.3
Groundwater Elevation Differences
NW Natural Gasco Site

Annual transducer maintenance.

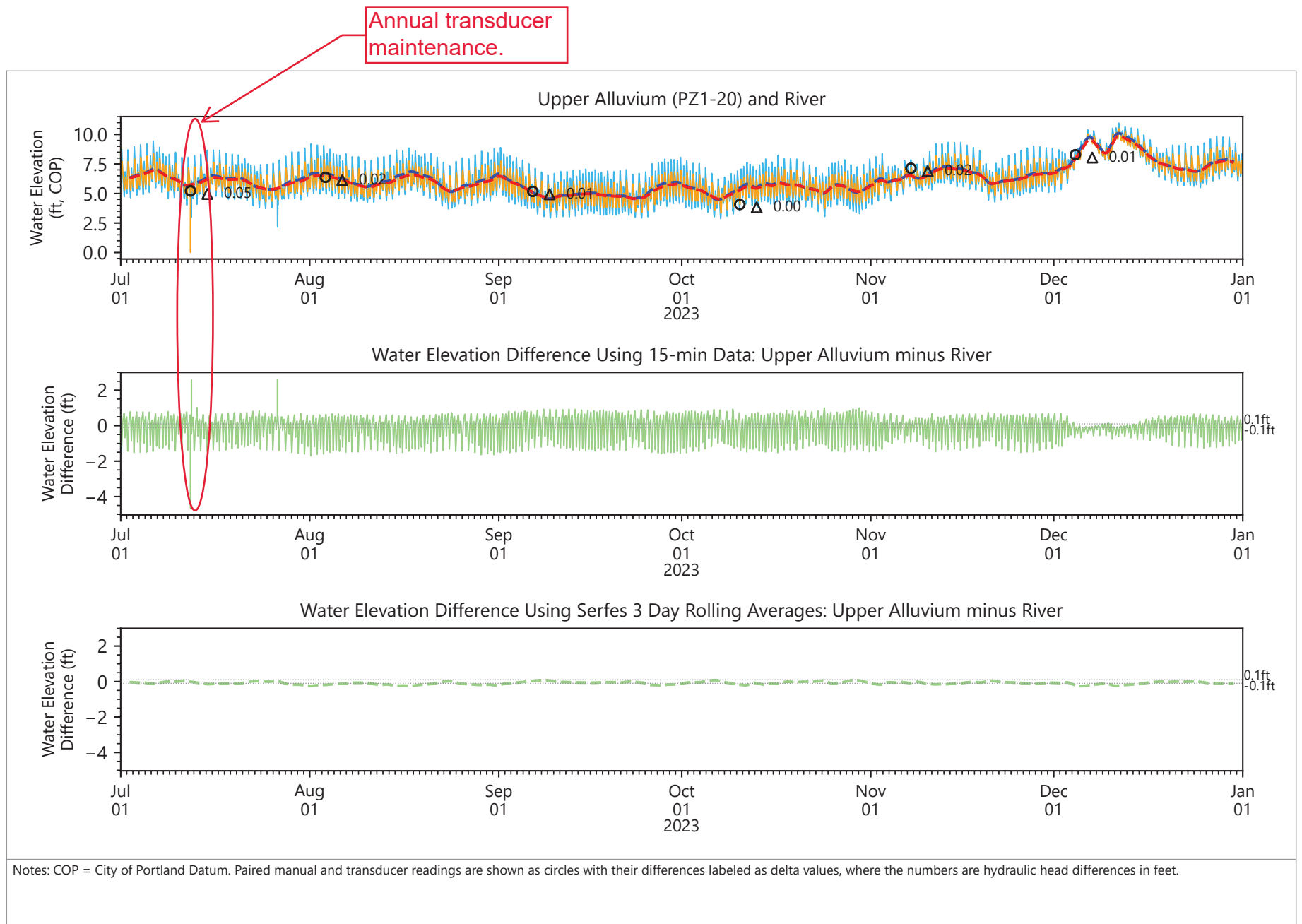


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
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- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.4
Groundwater Elevation Differences
NW Natural Gasco Site



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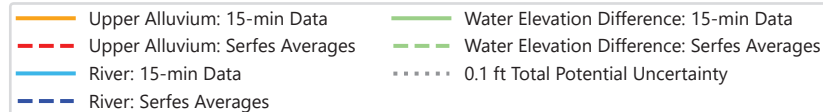
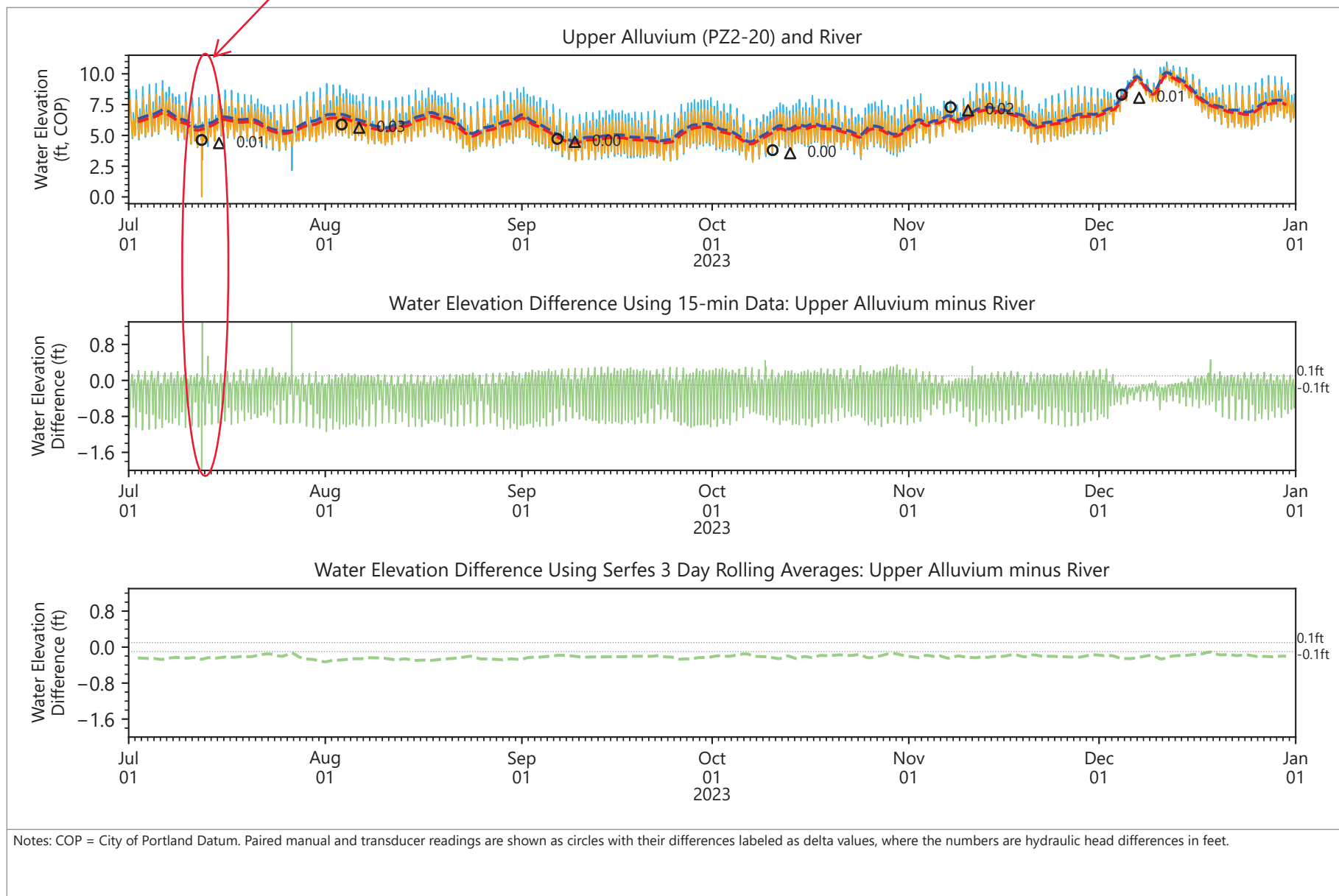


Figure 4.5
Groundwater Elevation Differences
NW Natural Gasco Site

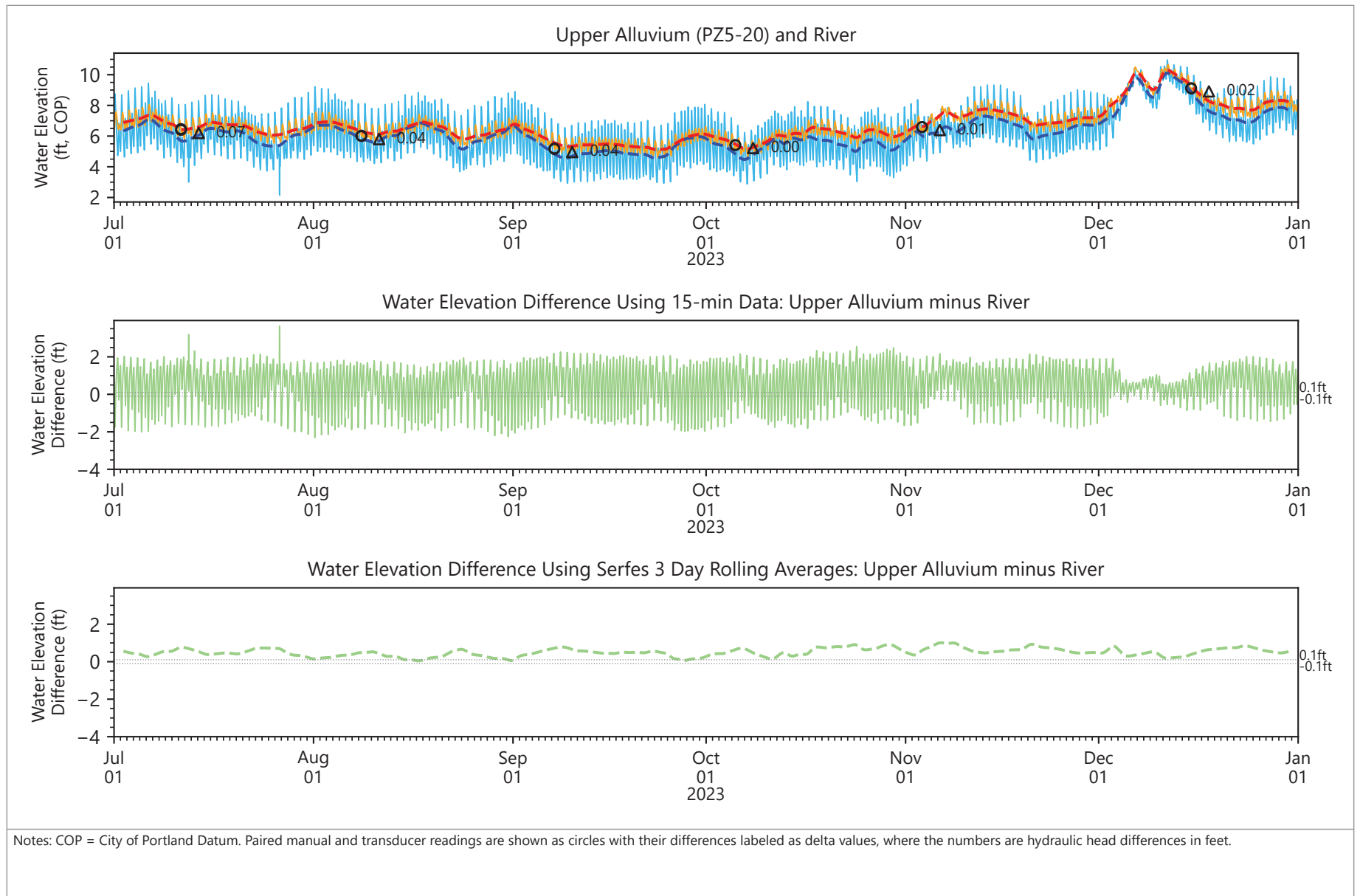
Annual transducer
maintenance.



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Figure 4.6
Groundwater Elevation Differences
NW Natural Gasco Site



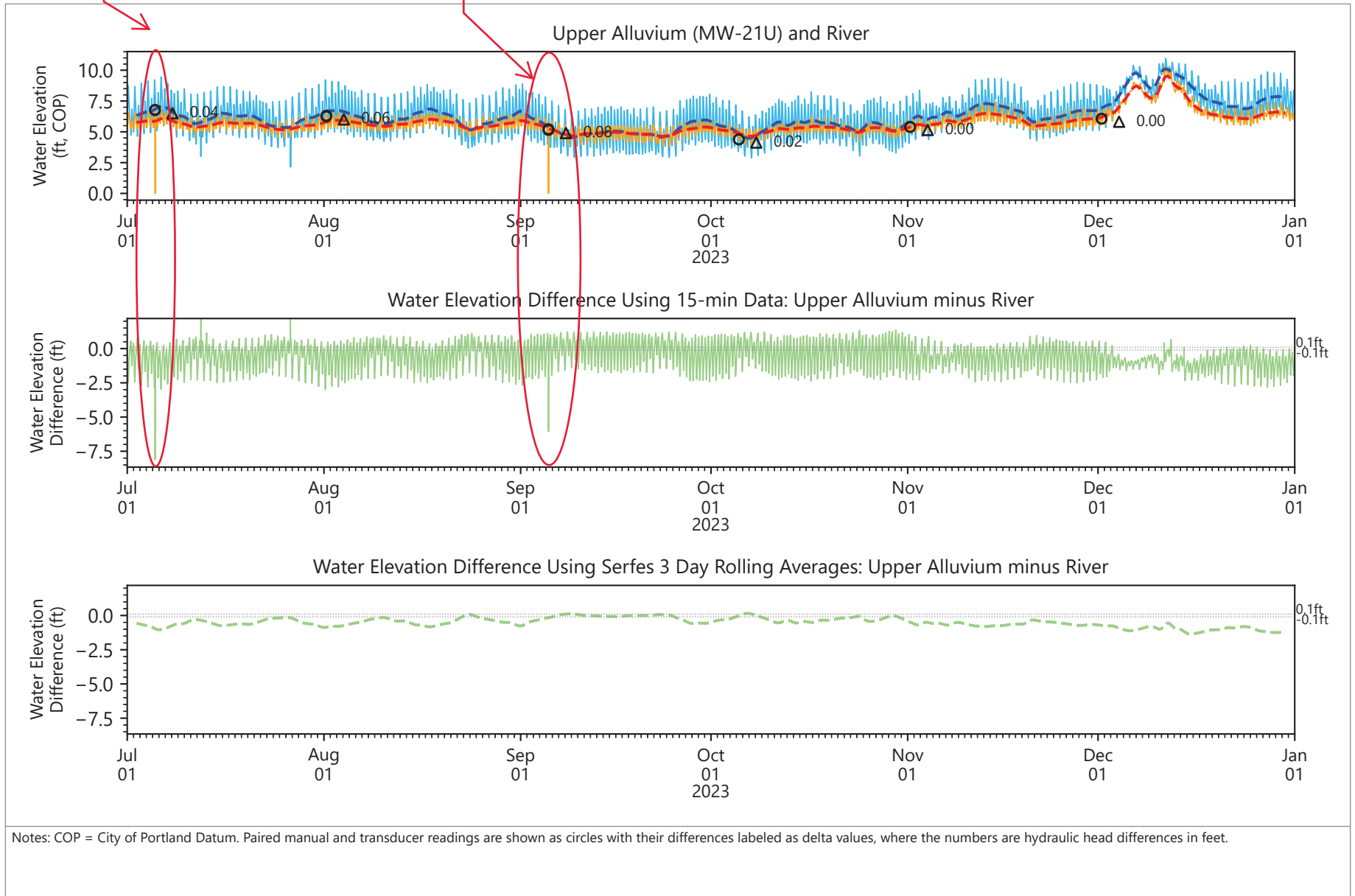
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Figure 4.7
Groundwater Elevation Differences
 NW Natural Gasco Site

Annual transducer maintenance.

Transducer calibration.



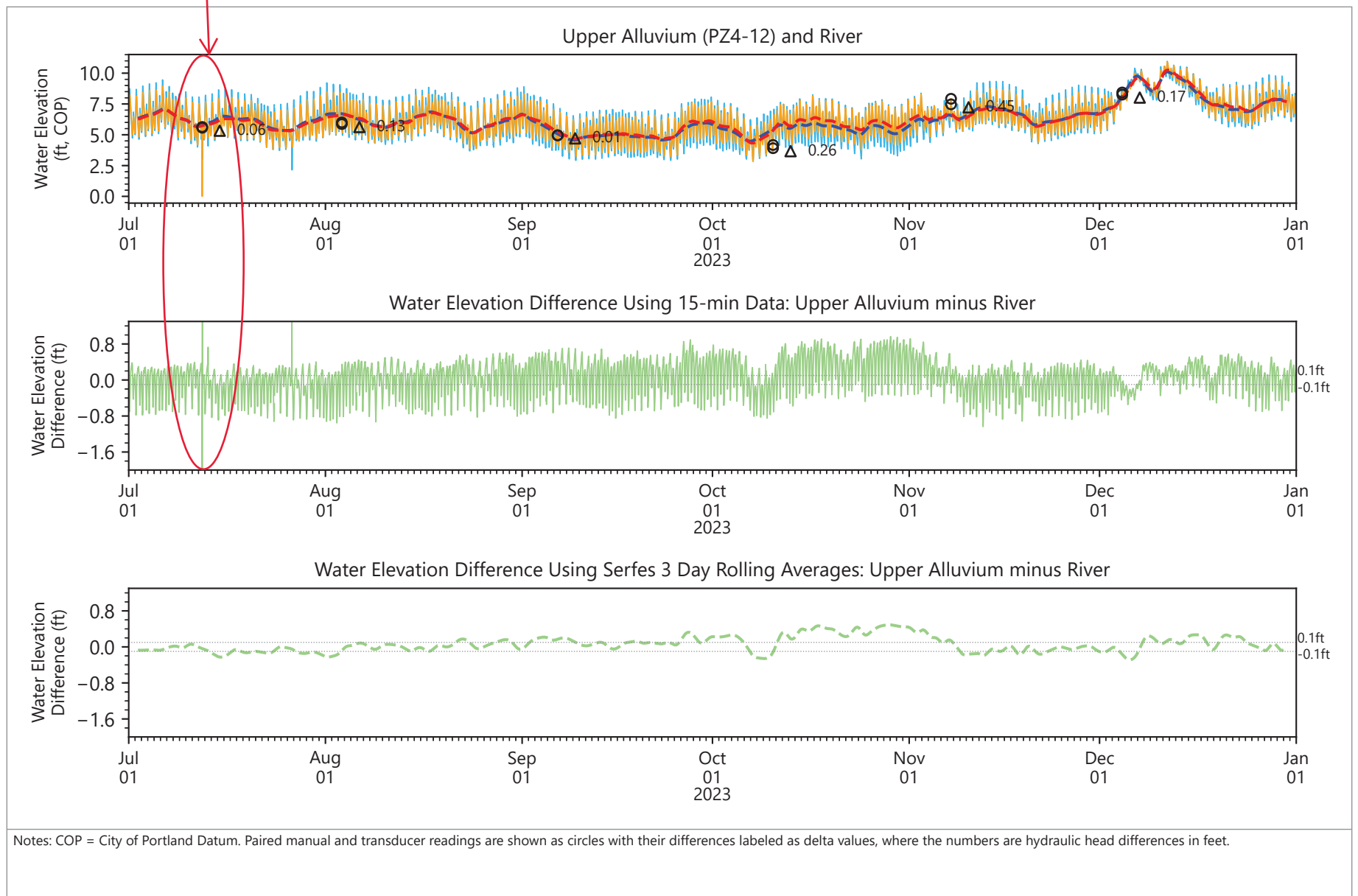
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.8
Groundwater Elevation Differences
NW Natural Gasco Site

Annual transducer
maintenance.



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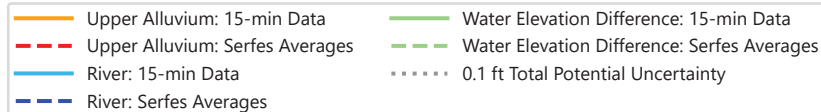
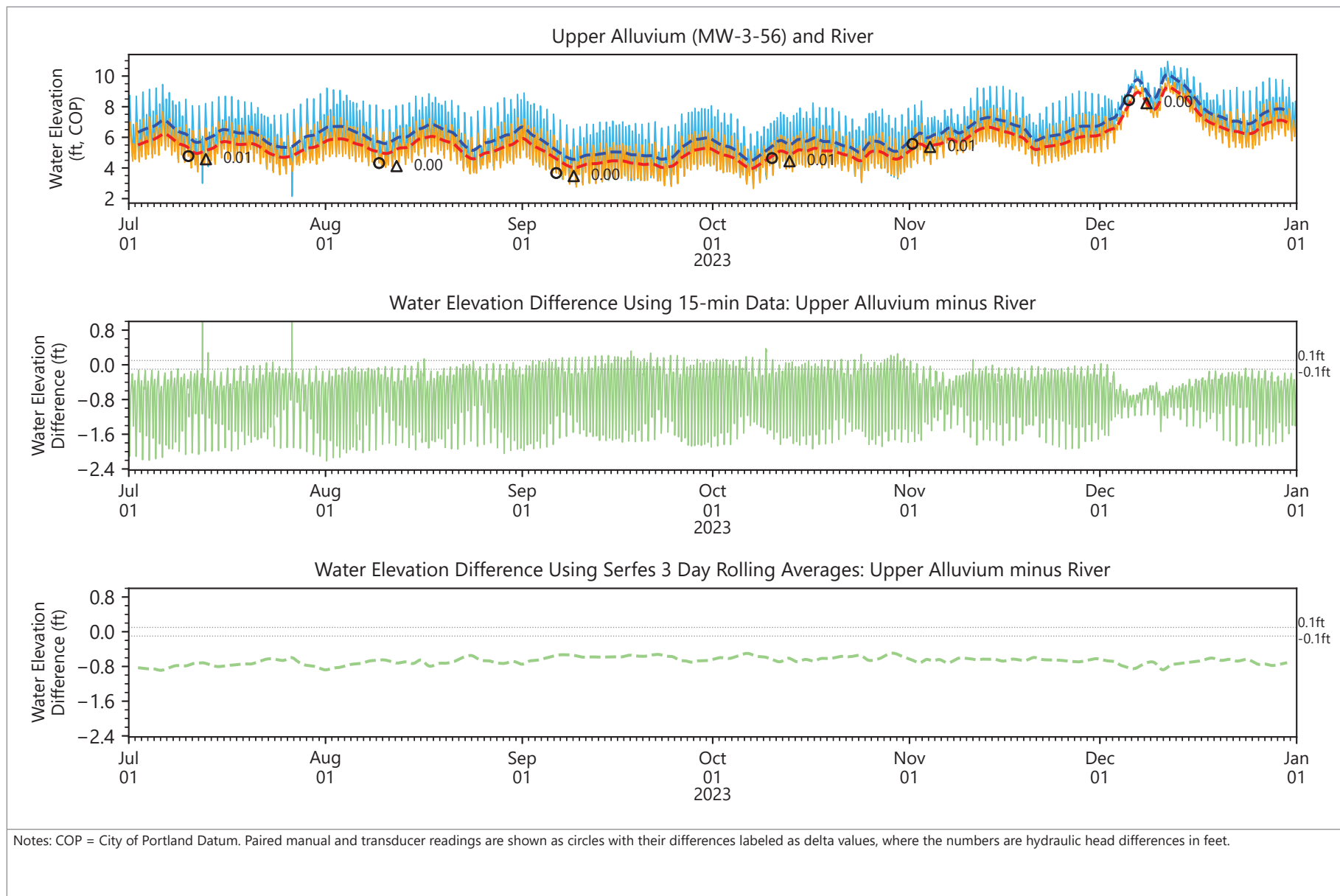


Figure 4.9
Groundwater Elevation Differences
NW Natural Gasco Site

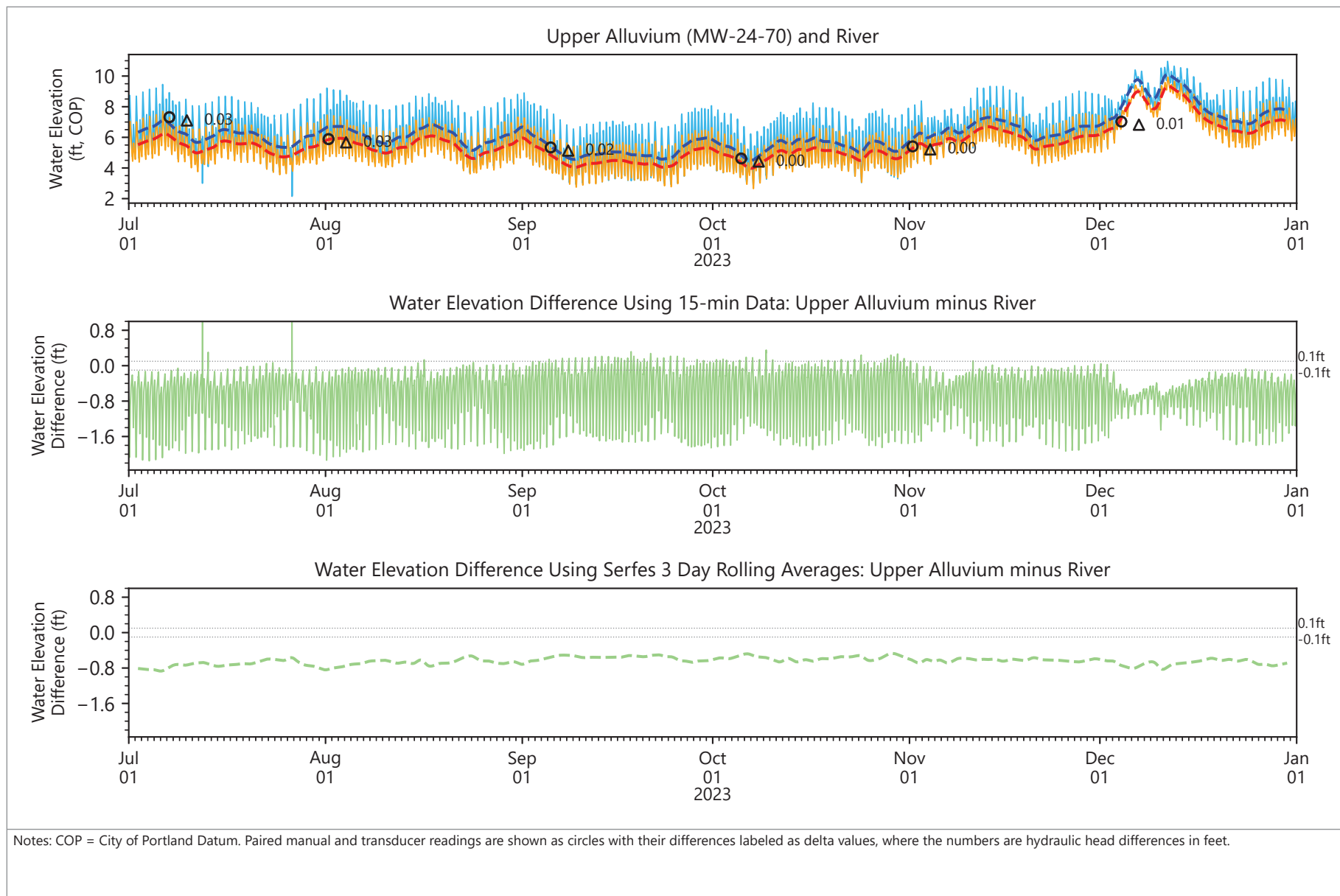


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- Upper Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Upper Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.10
Groundwater Elevation Differences
 NW Natural Gasco Site

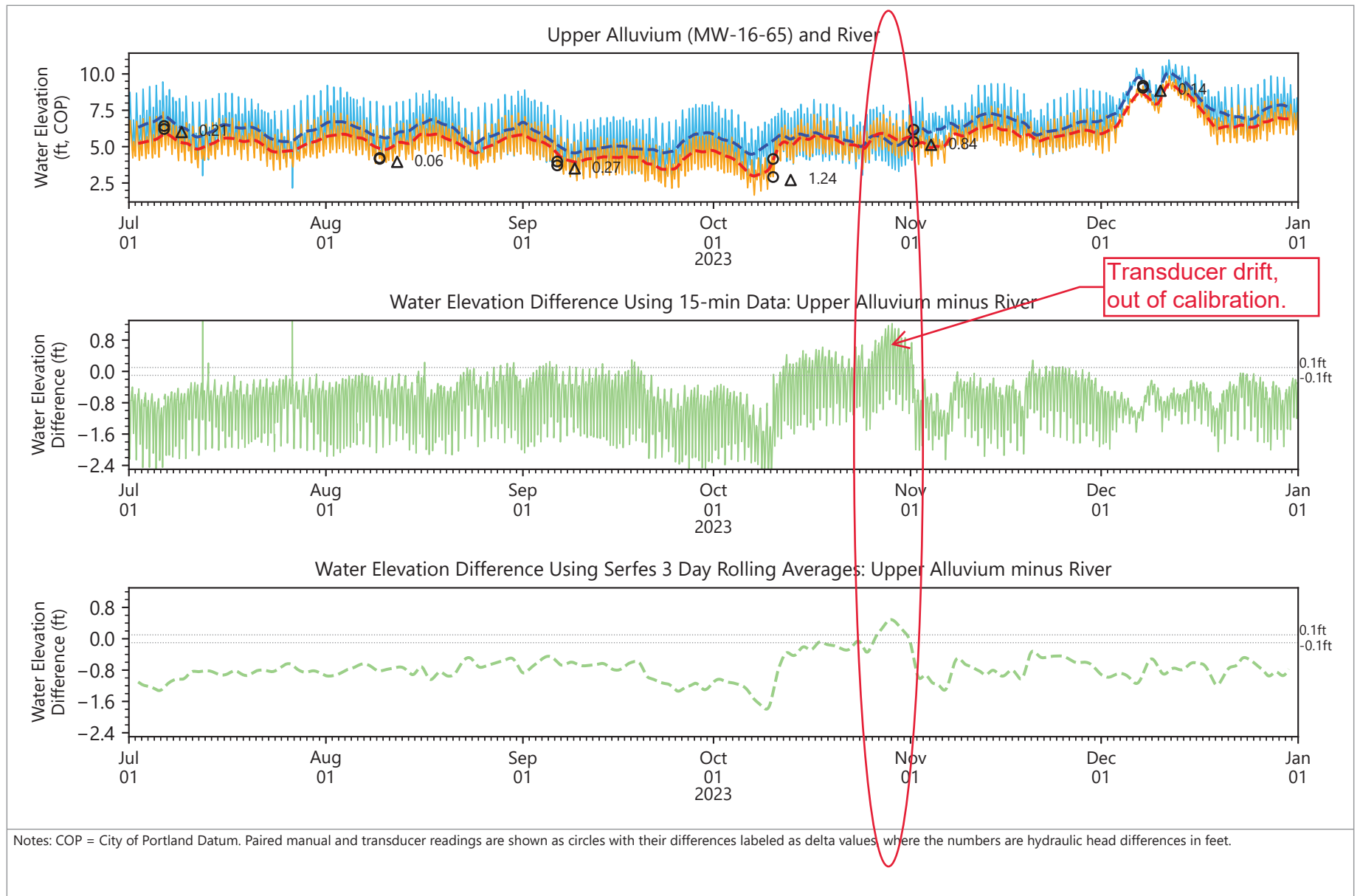


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.11
Groundwater Elevation Differences
 NW Natural Gasco Site



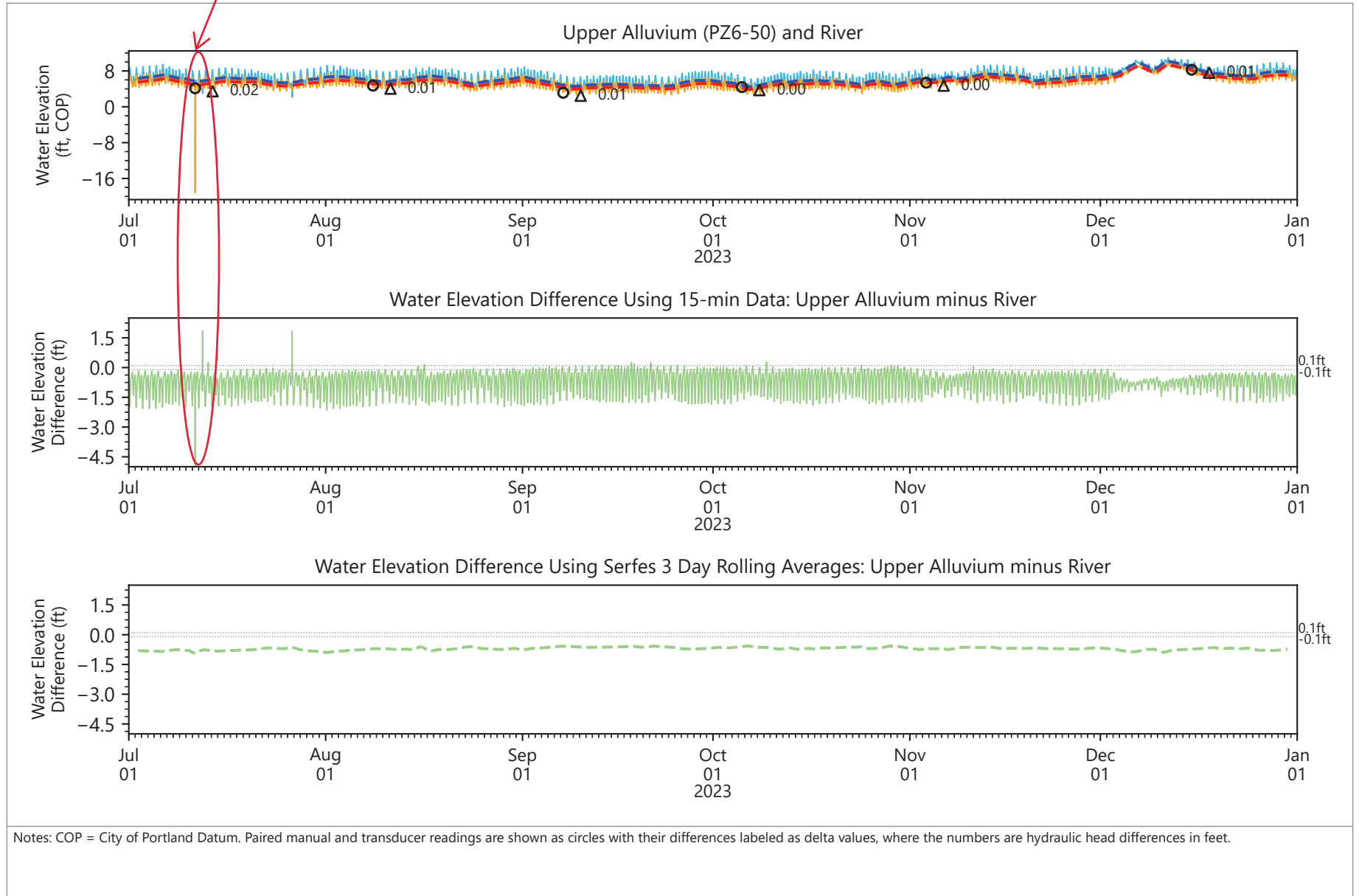
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- Upper Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.12
Groundwater Elevation Differences
 NW Natural Gasco Site

Annual transducer maintenance.



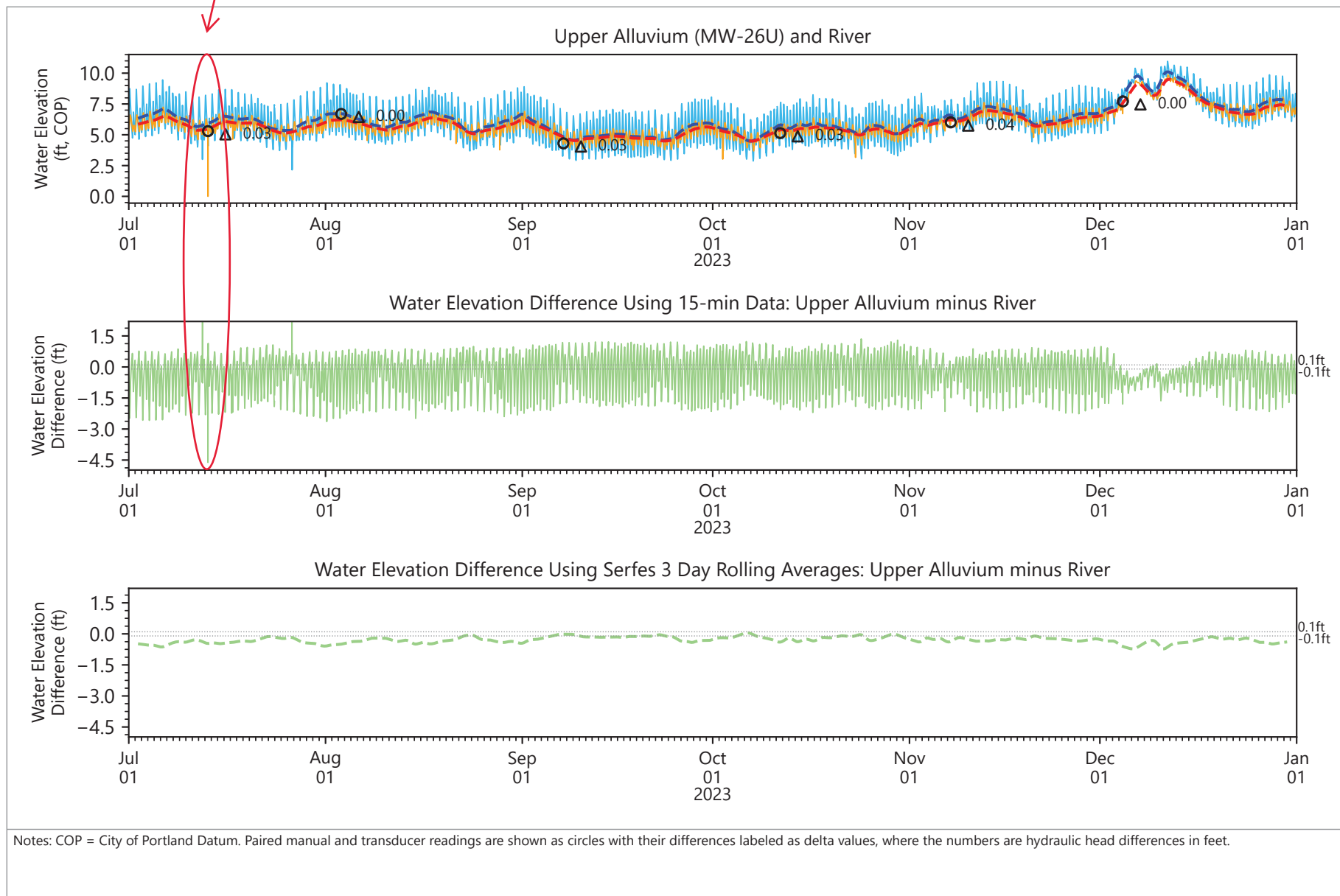
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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.13
Groundwater Elevation Differences
 NW Natural Gasco Site

Annual transducer maintenance.



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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.14
Groundwater Elevation Differences
NW Natural Gasco Site

Transducer
malfunction. Data
unrecoverable.



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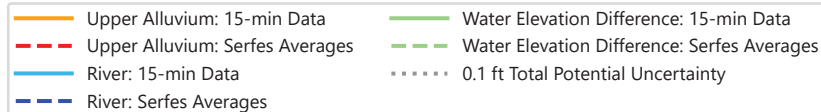
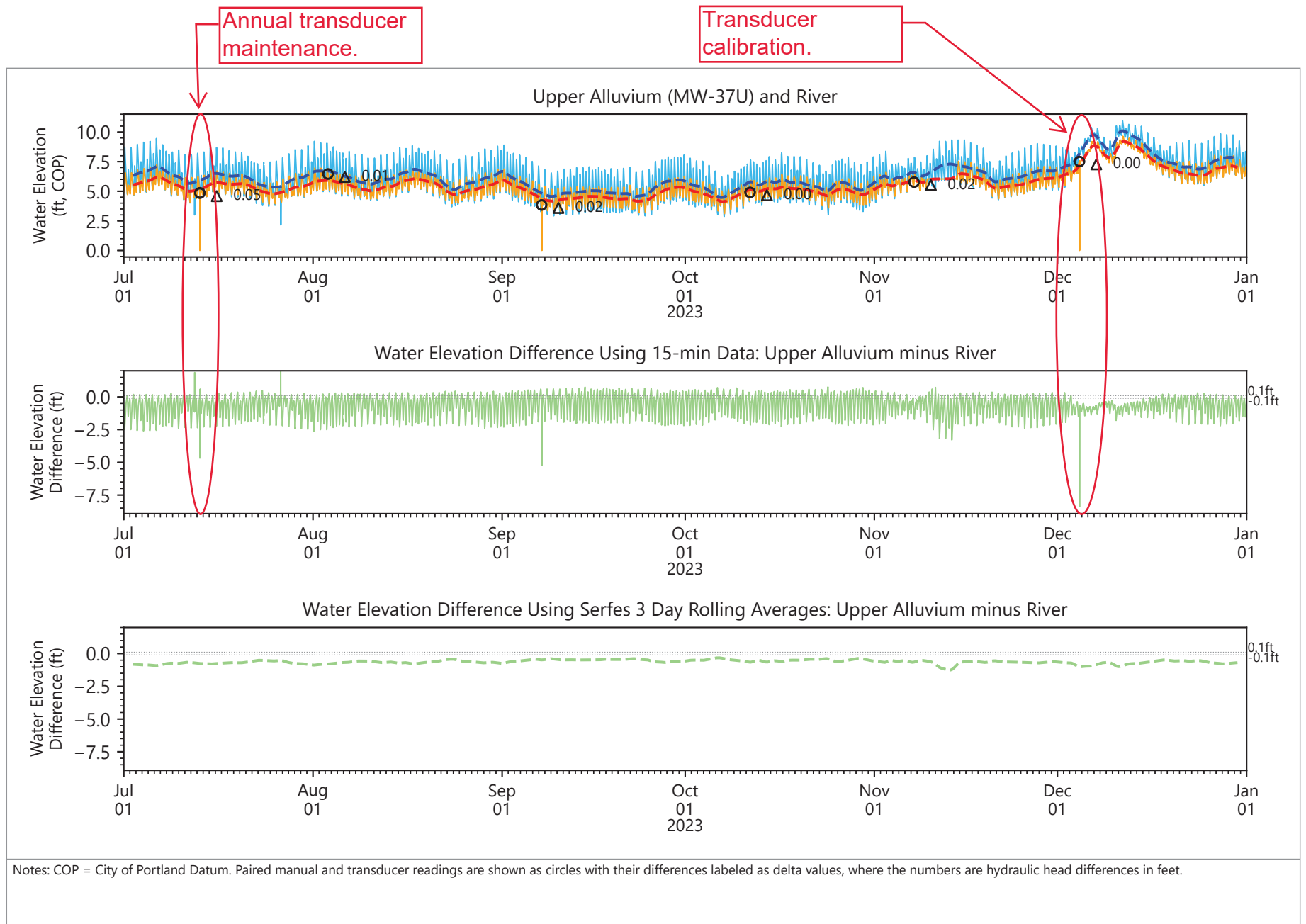


Figure 4.15
Groundwater Elevation Differences
NW Natural Gasco Site



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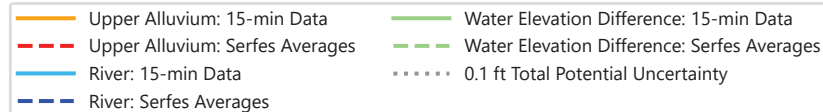
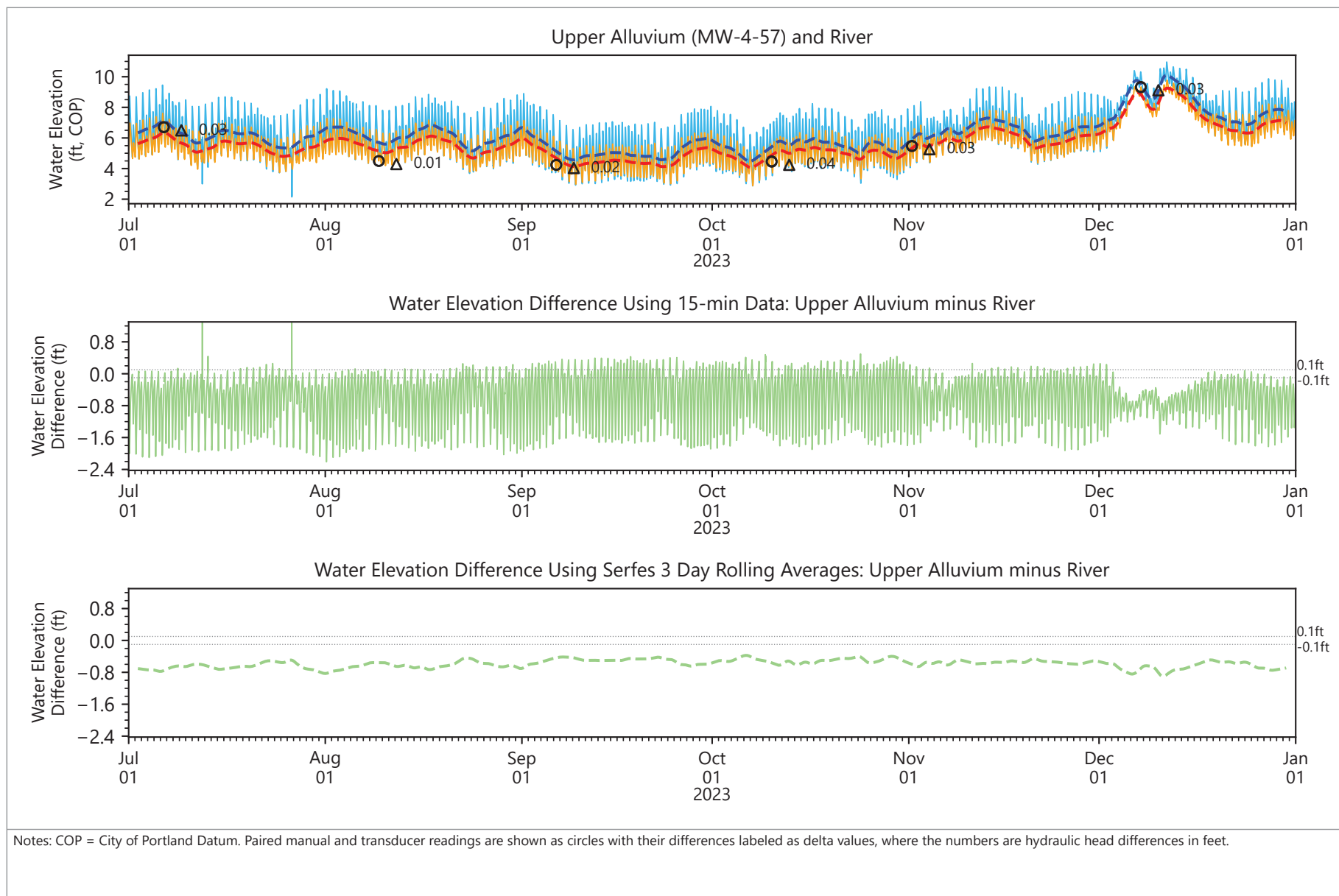


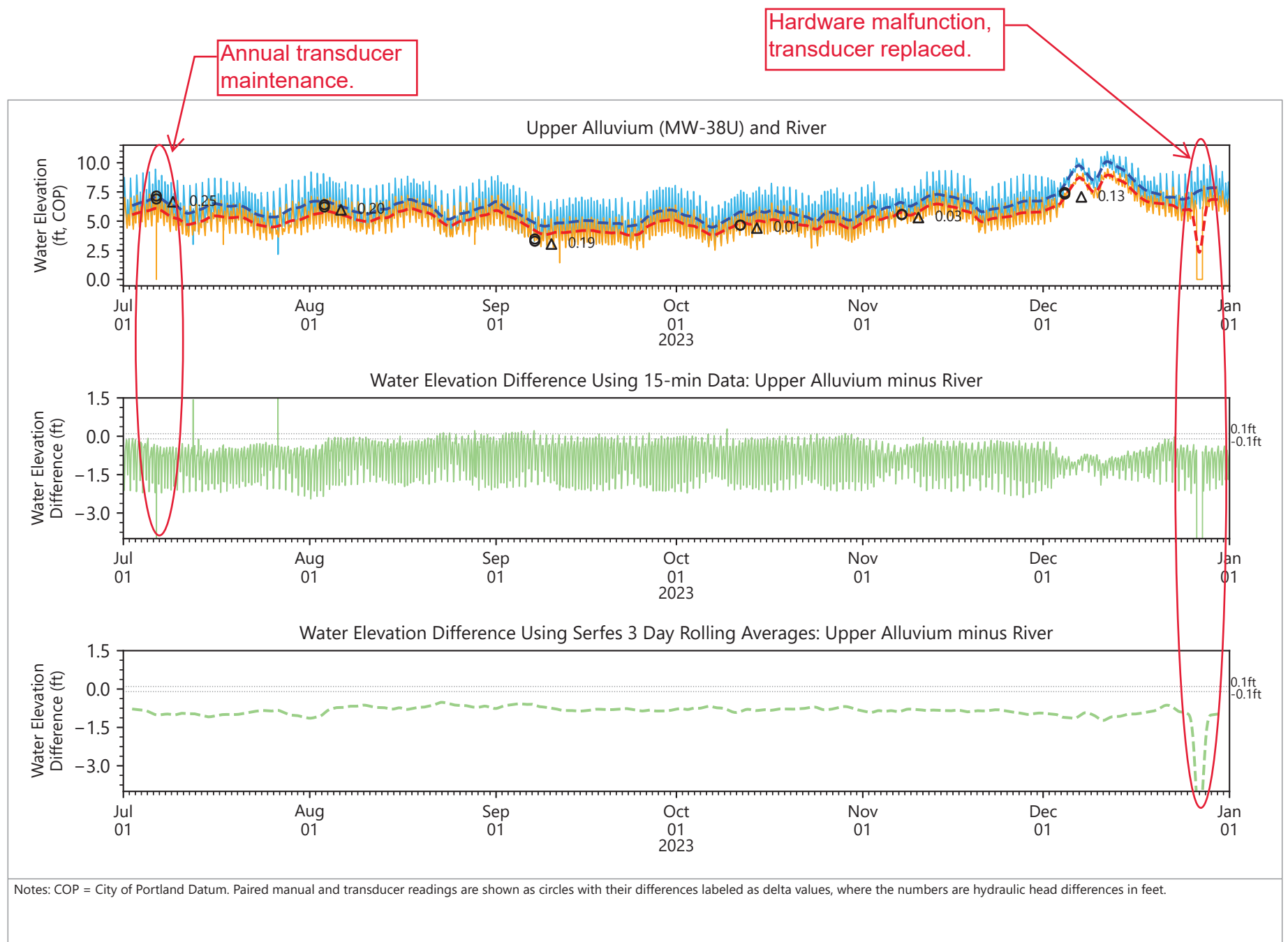
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Groundwater Elevation Differences
NW Natural Gasco Site



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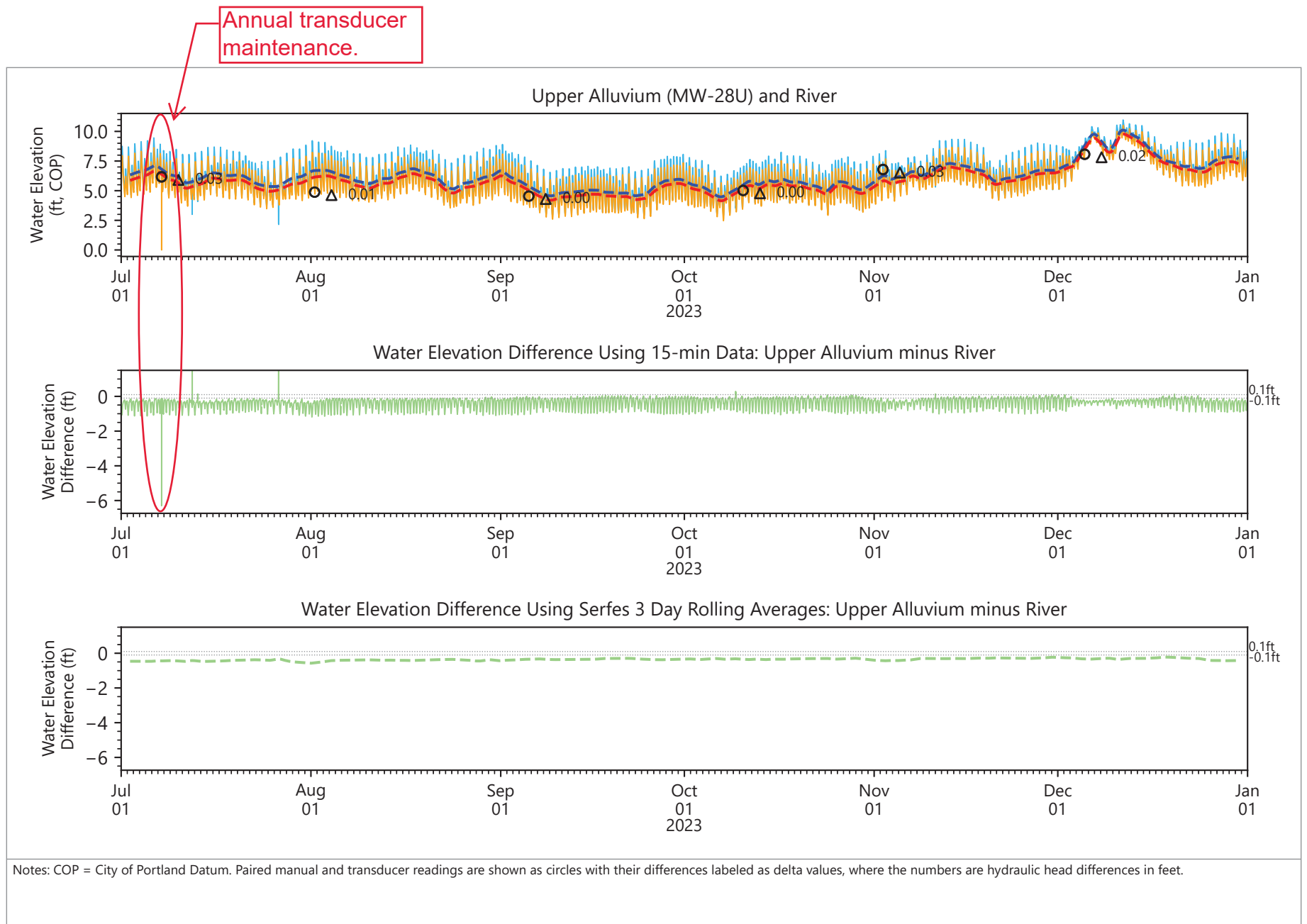
Figure 4.17
Groundwater Elevation Differences
 NW Natural Gasco Site



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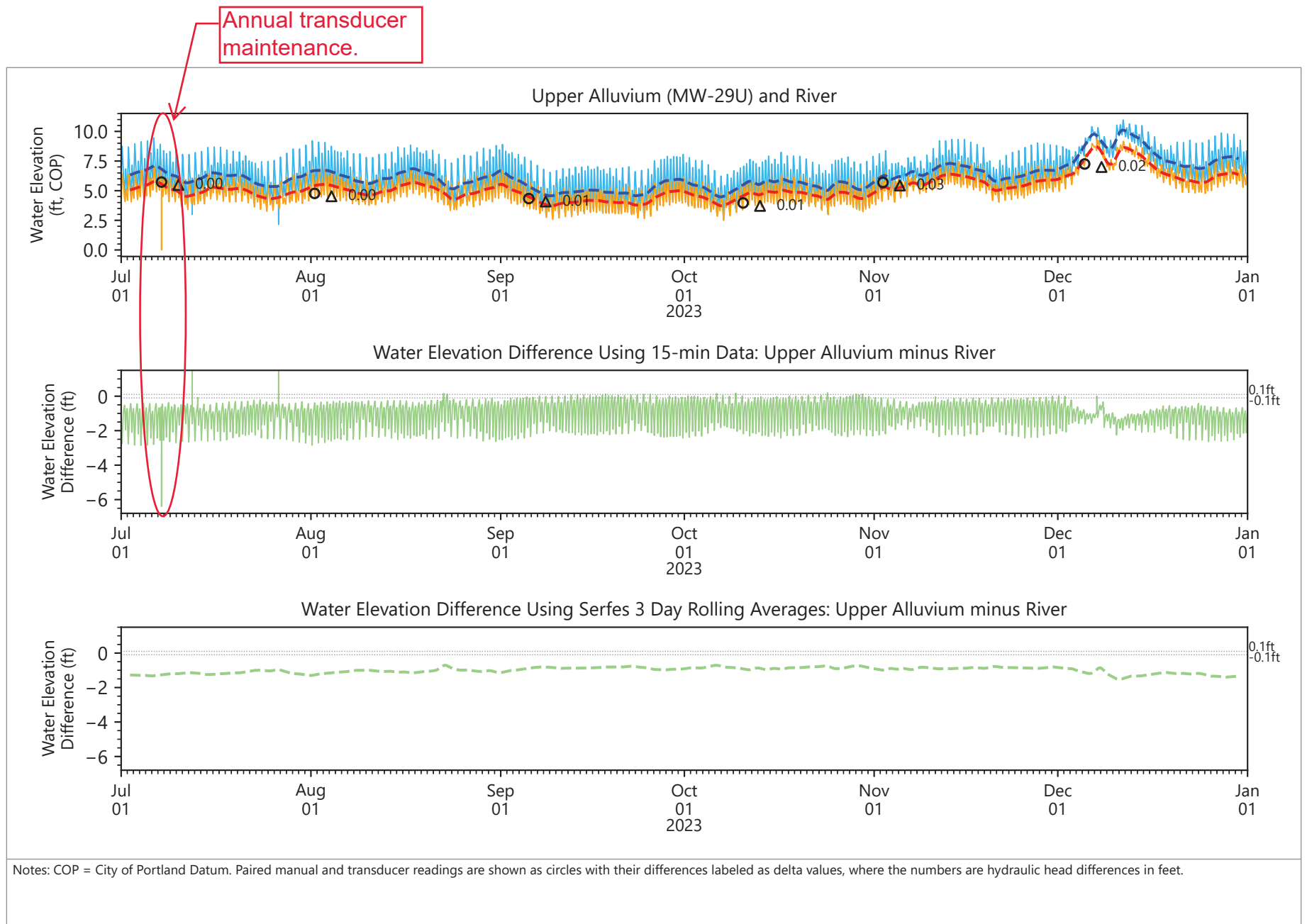
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Groundwater Elevation Differences
 NW Natural Gasco Site



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Figure 4.19
Groundwater Elevation Differences
NW Natural Gasco Site

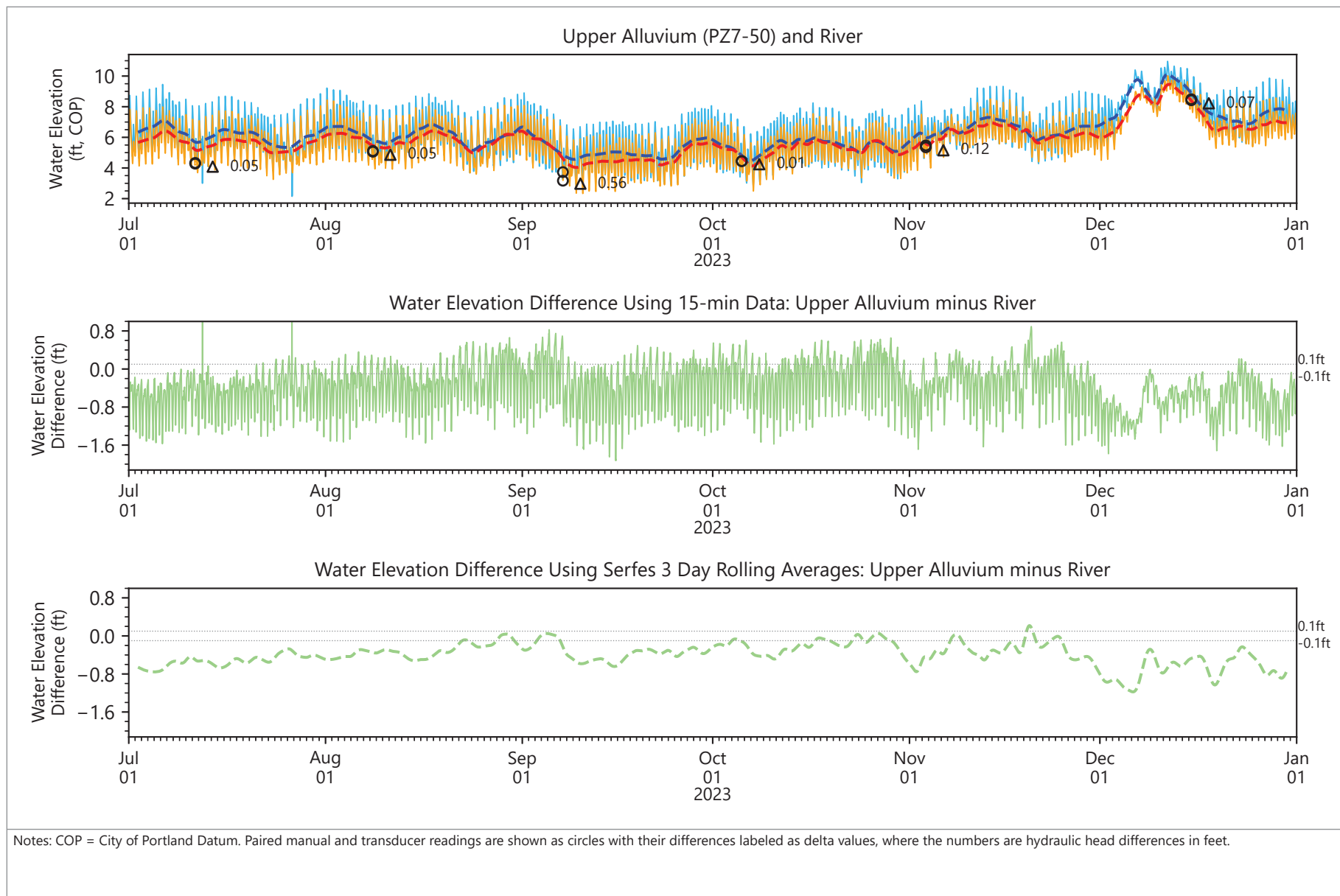


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- Upper Alluvium: 15-min Data
- Upper Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.20
Groundwater Elevation Differences
 NW Natural Gasco Site

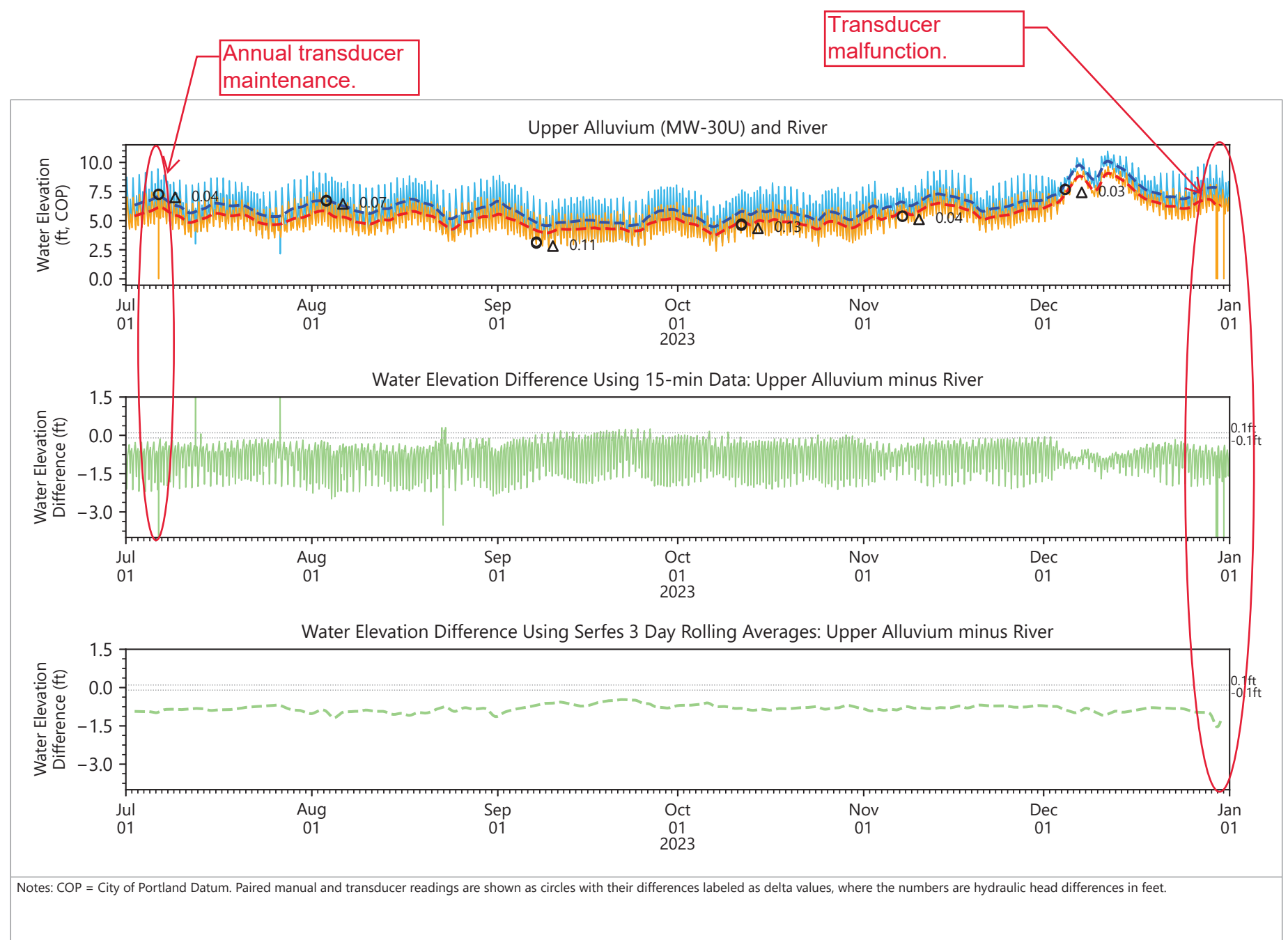


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- Upper Alluvium: 15-min Data
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- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.21
Groundwater Elevation Differences
 NW Natural Gasco Site



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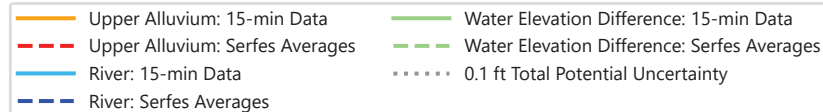
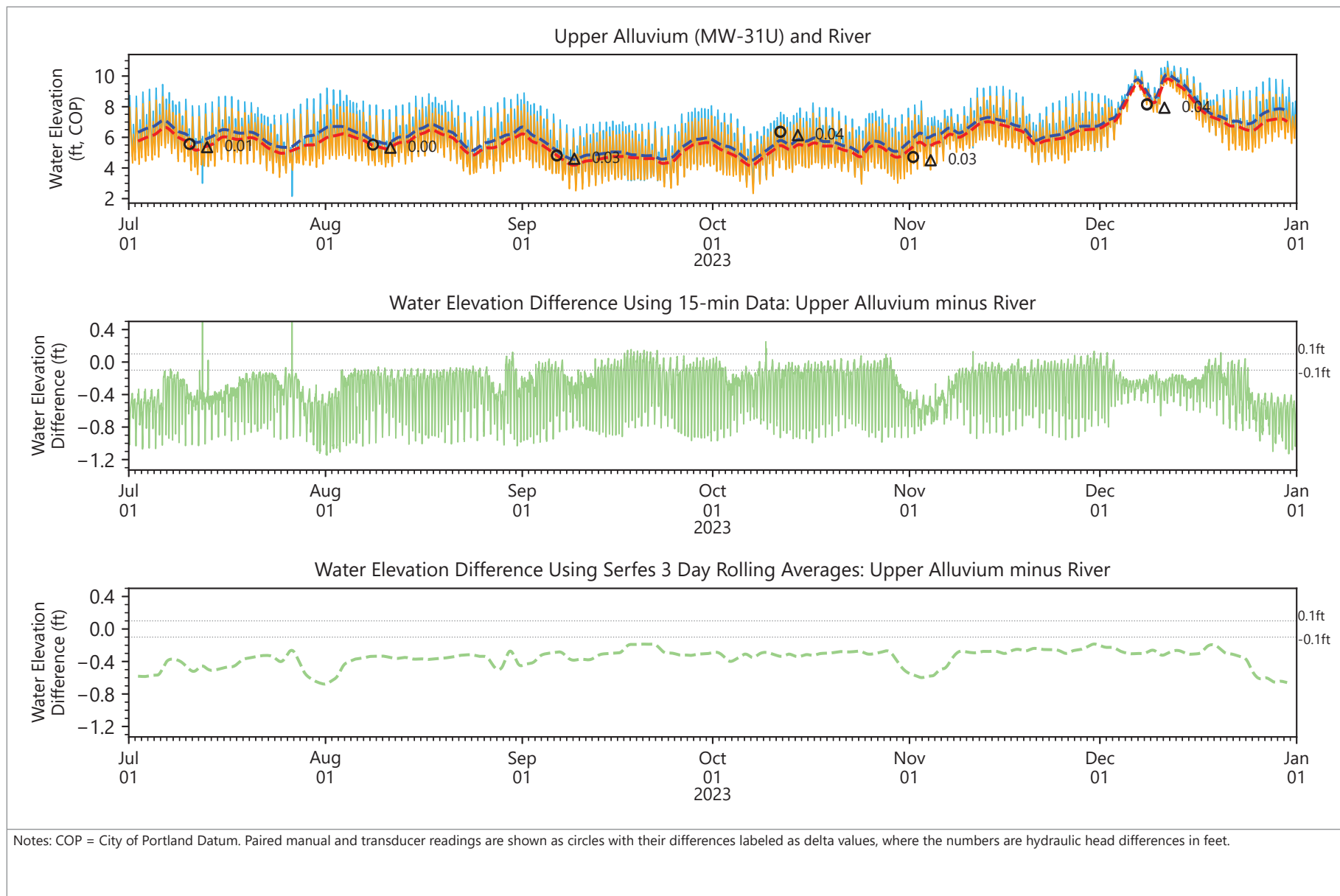


Figure 4.22
Groundwater Elevation Differences
NW Natural Gasco Site

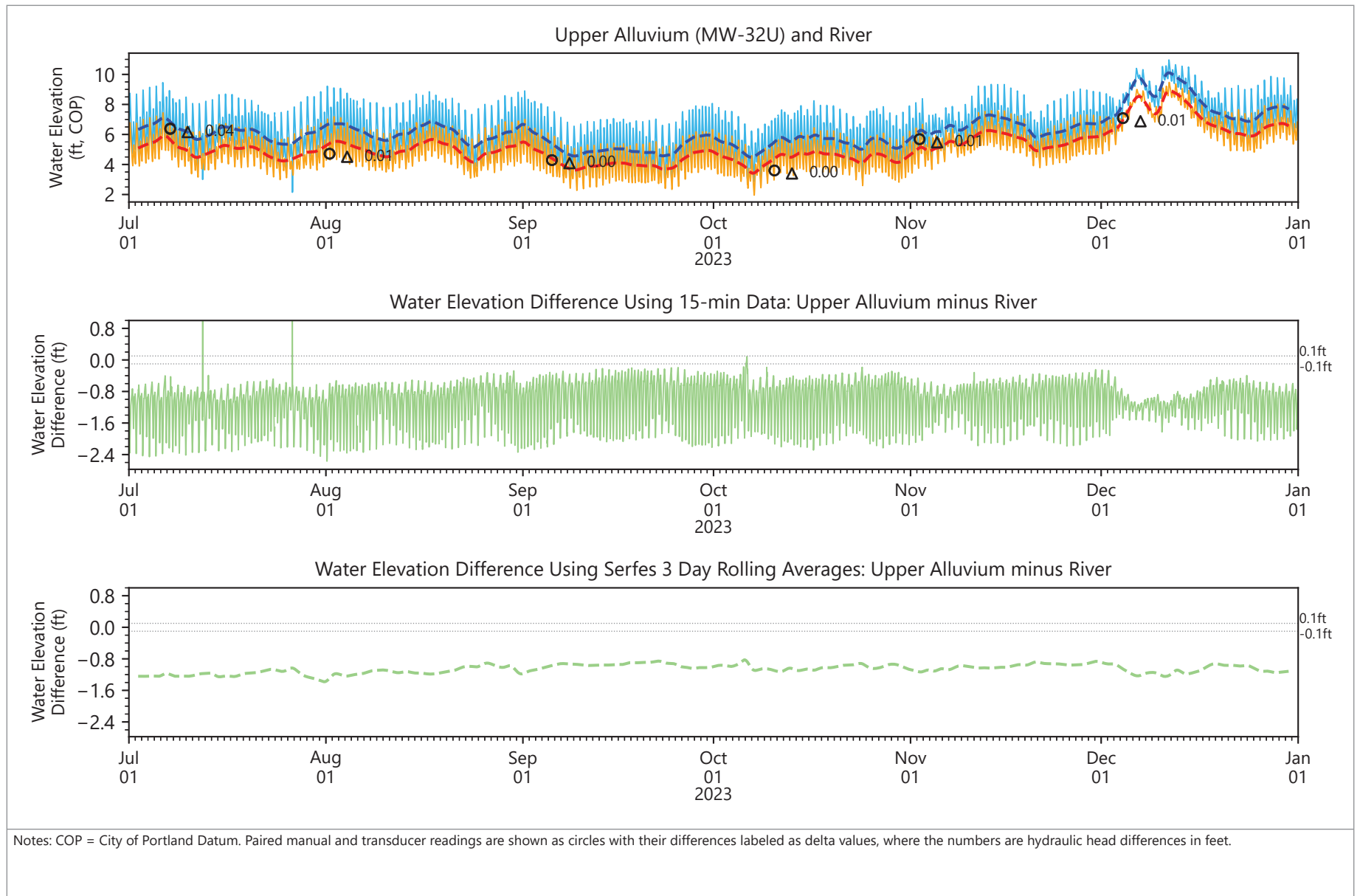


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- Upper Alluvium: 15-min Data
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- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.23
Groundwater Elevation Differences
 NW Natural Gasco Site

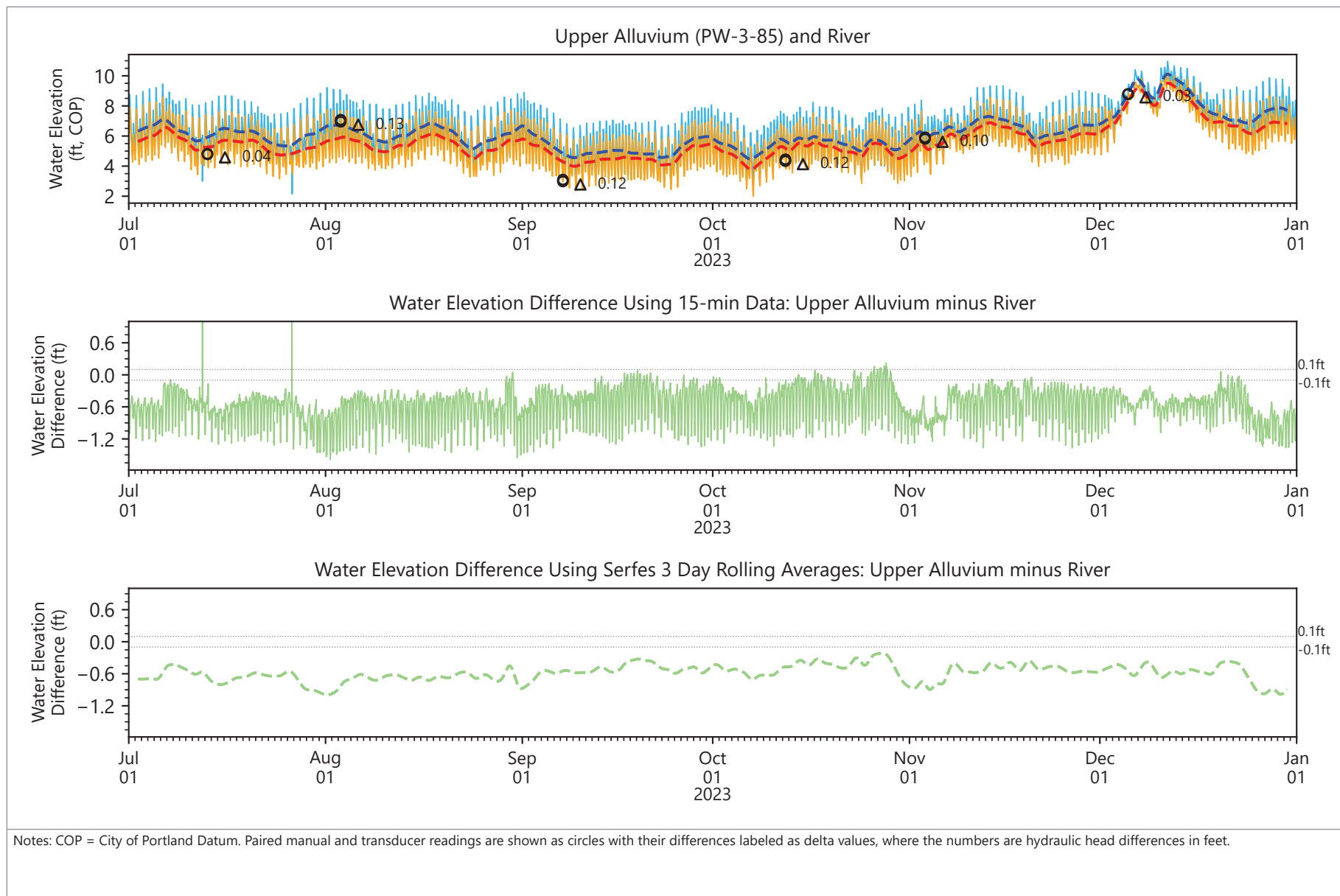


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- River: Serfes Averages
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- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.24
Groundwater Elevation Differences
 NW Natural Gasco Site

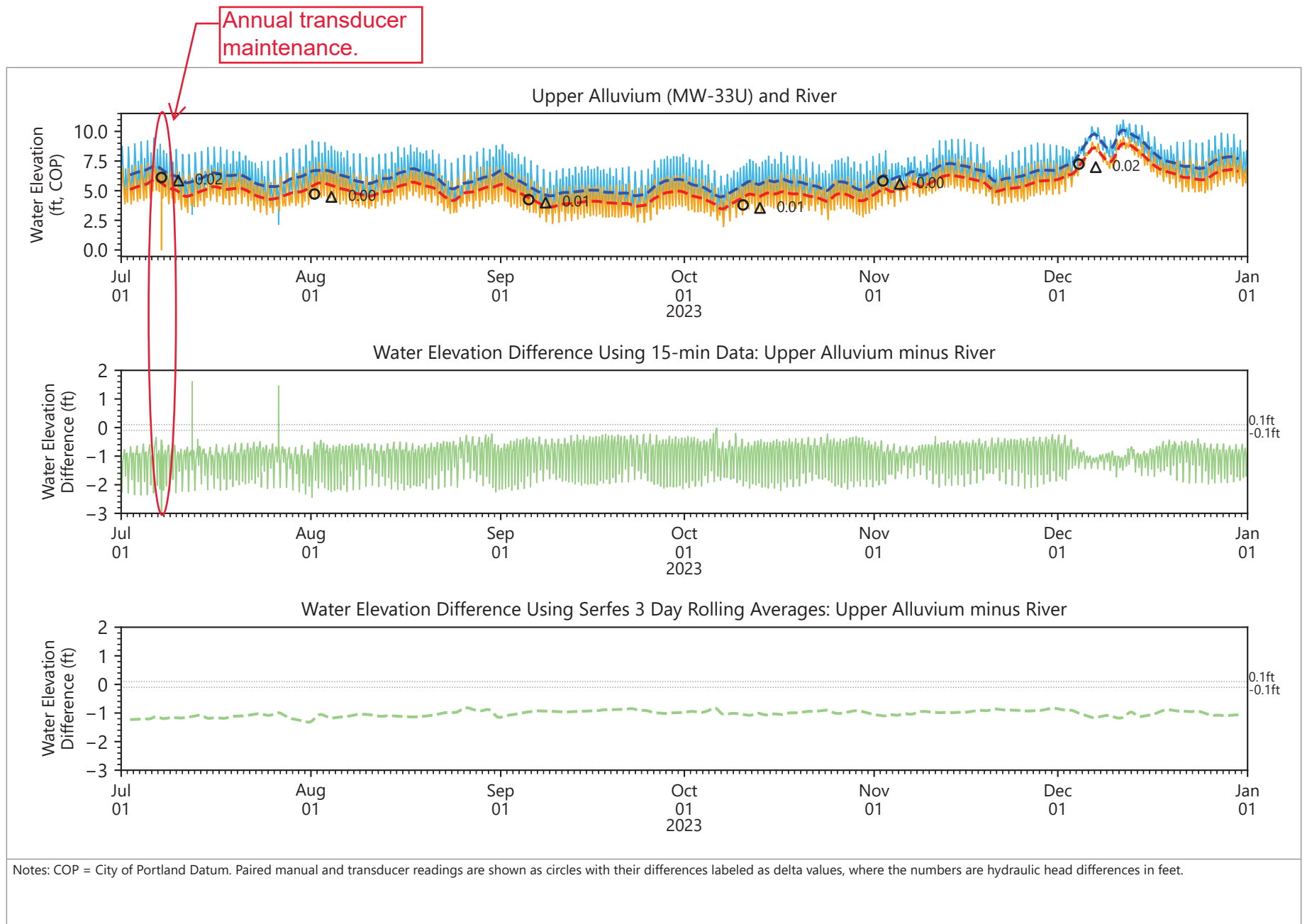


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- River: Serfes Averages
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- 0.1 ft Total Potential Uncertainty

Figure 4.25
Groundwater Elevation Differences
 NW Natural Gasco Site

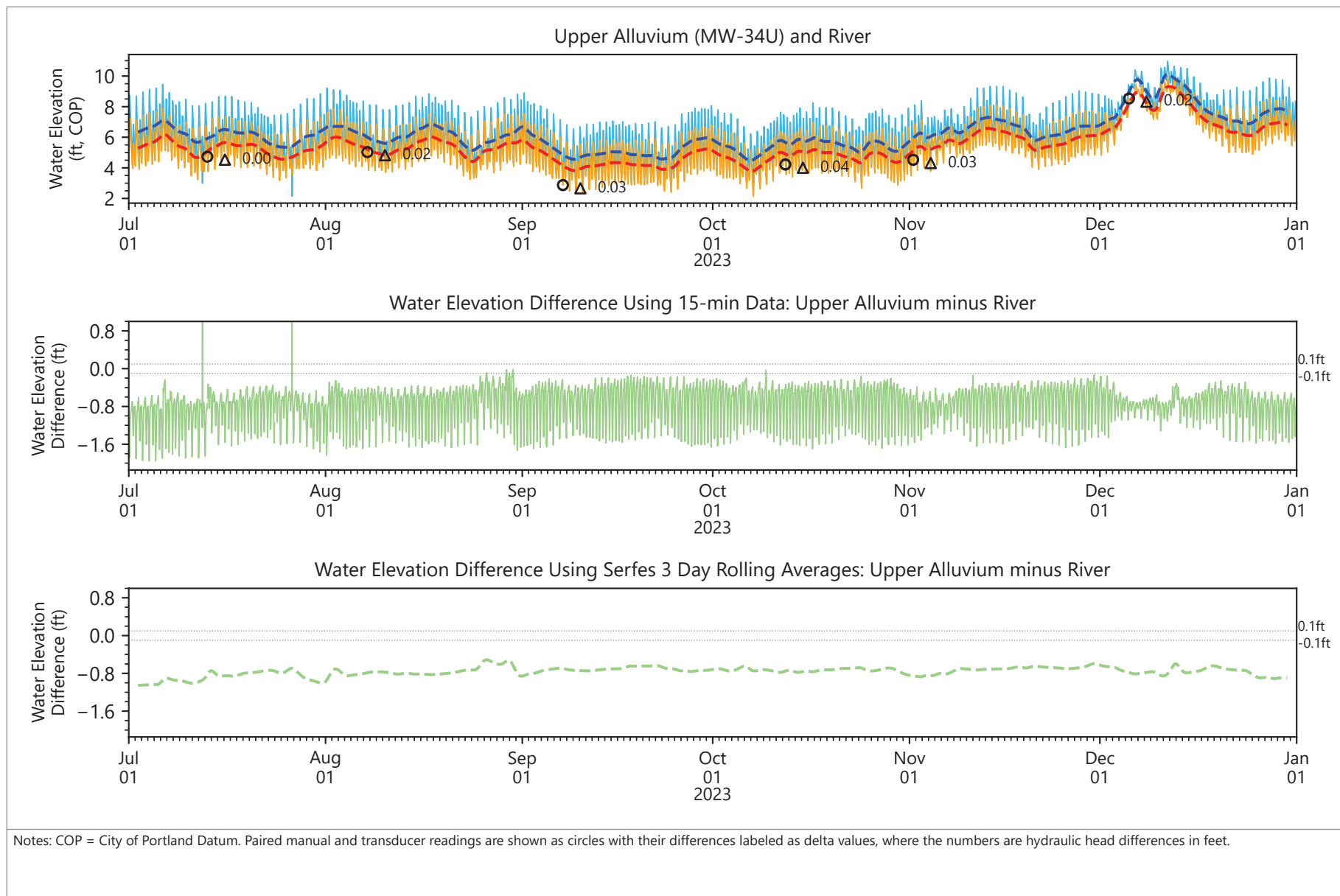


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- Upper Alluvium: 15-min Data
- - - Upper Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
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- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.26
Groundwater Elevation Differences
 NW Natural Gasco Site

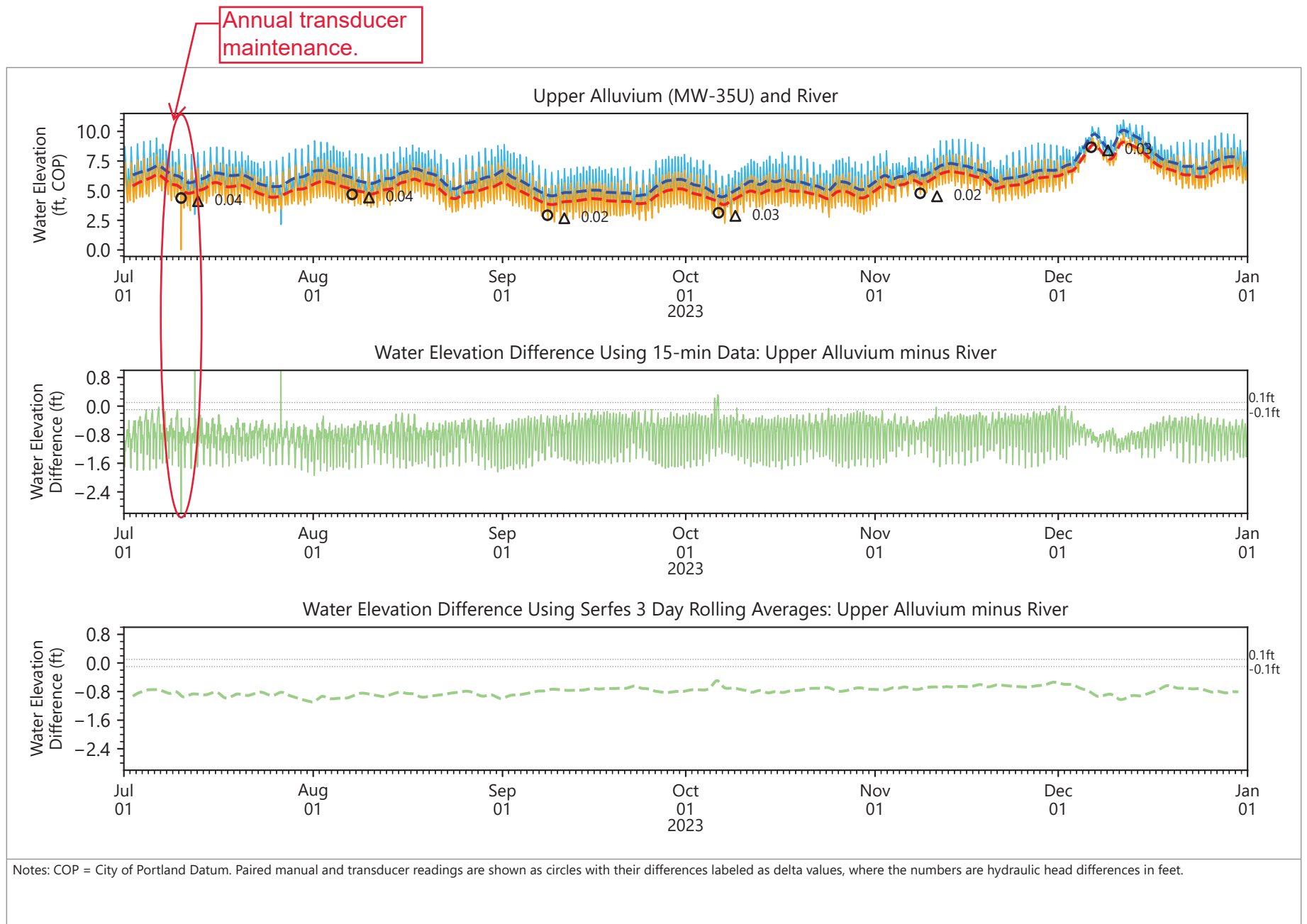


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- Upper Alluvium: 15-min Data
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- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.27
Groundwater Elevation Differences
 NW Natural Gasco Site



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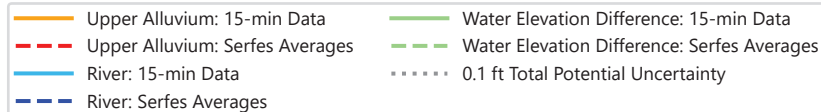
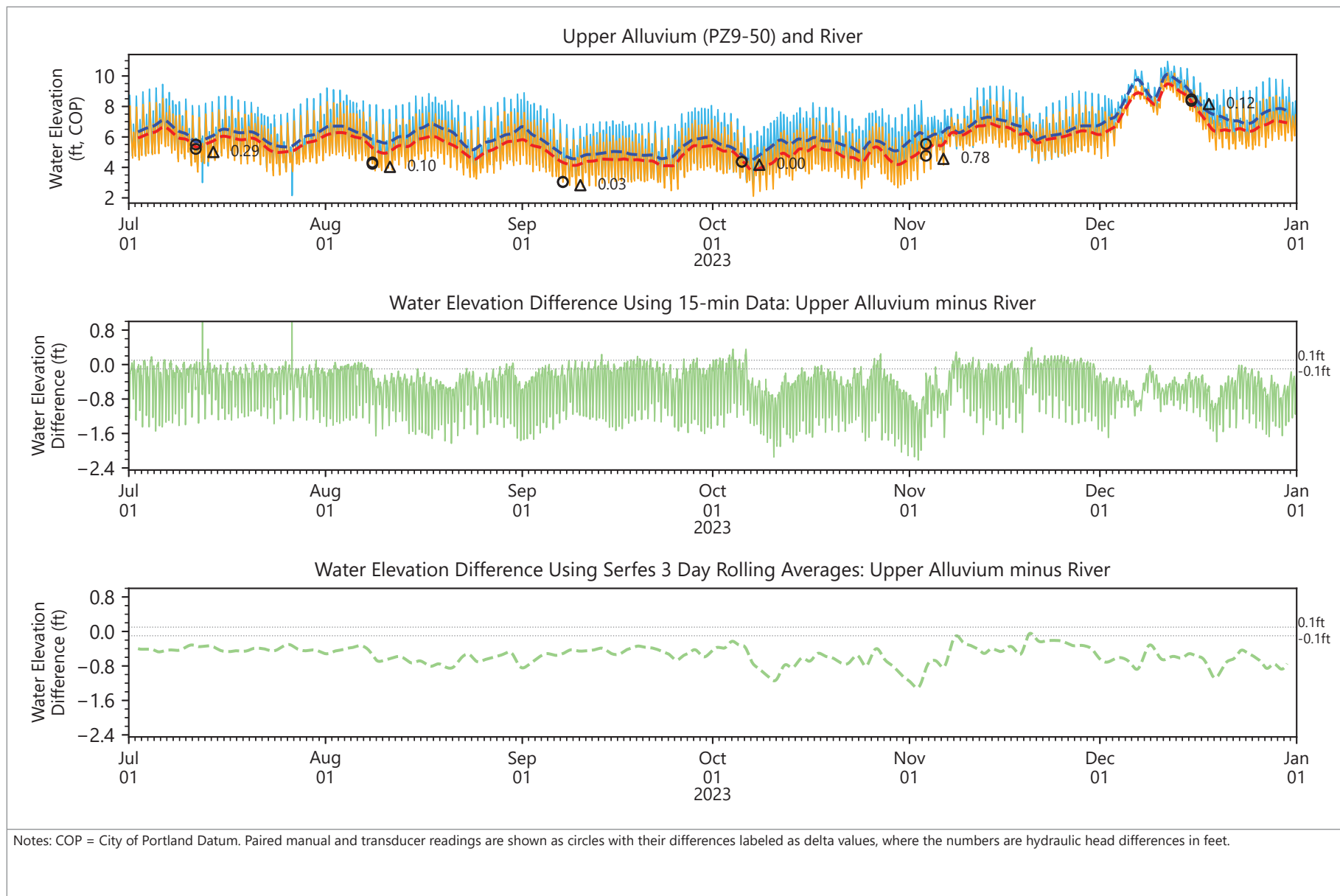


Figure 4.28
Groundwater Elevation Differences
NW Natural Gasco Site

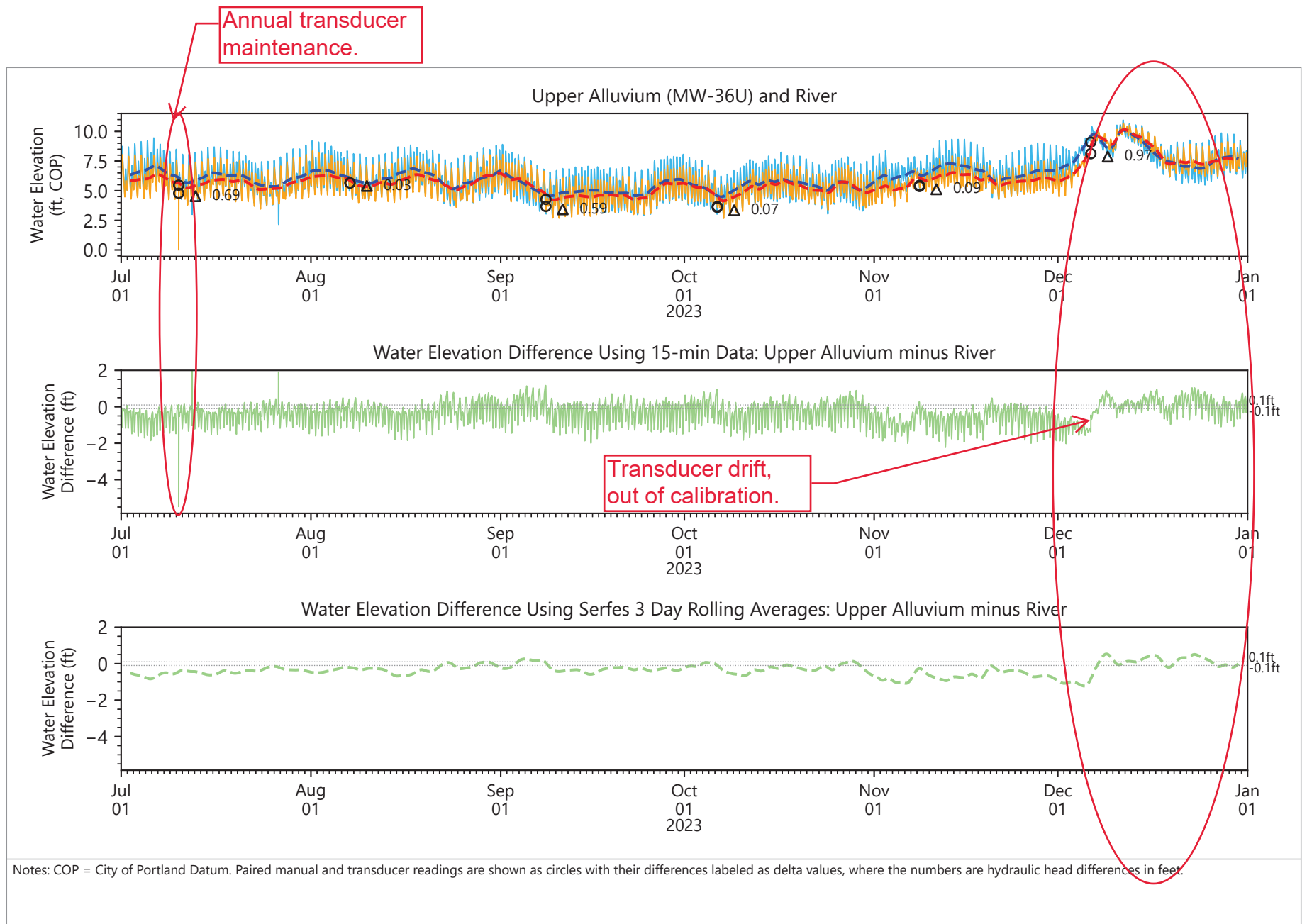


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- Upper Alluvium: 15-min Data
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- River: Serfes Averages
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- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.29
Groundwater Elevation Differences
 NW Natural Gasco Site

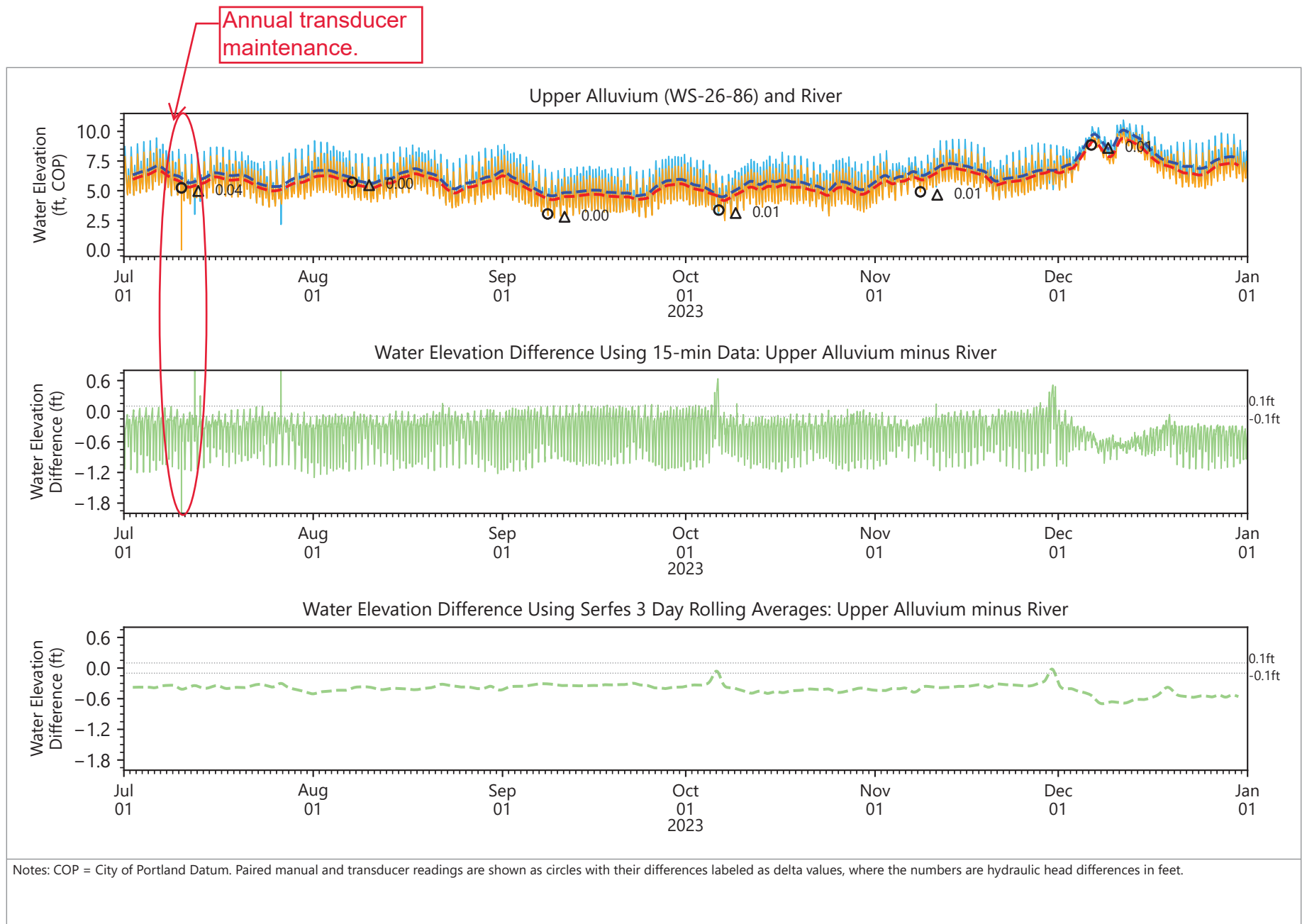


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- Upper Alluvium: 15-min Data
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- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.30
Groundwater Elevation Differences
 NW Natural Gasco Site

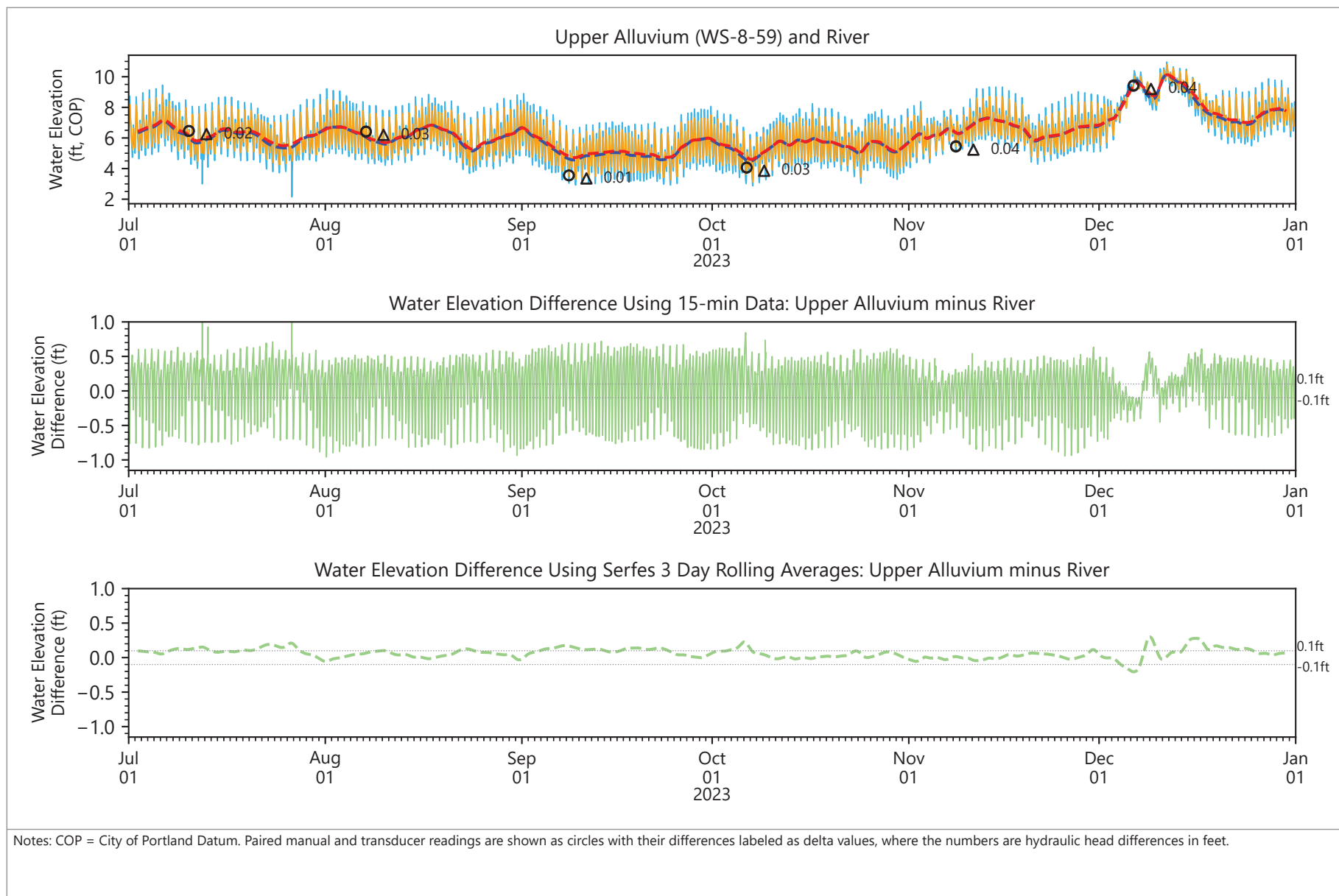


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- Upper Alluvium: 15-min Data
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- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.31
Groundwater Elevation Differences
 NW Natural Gasco Site

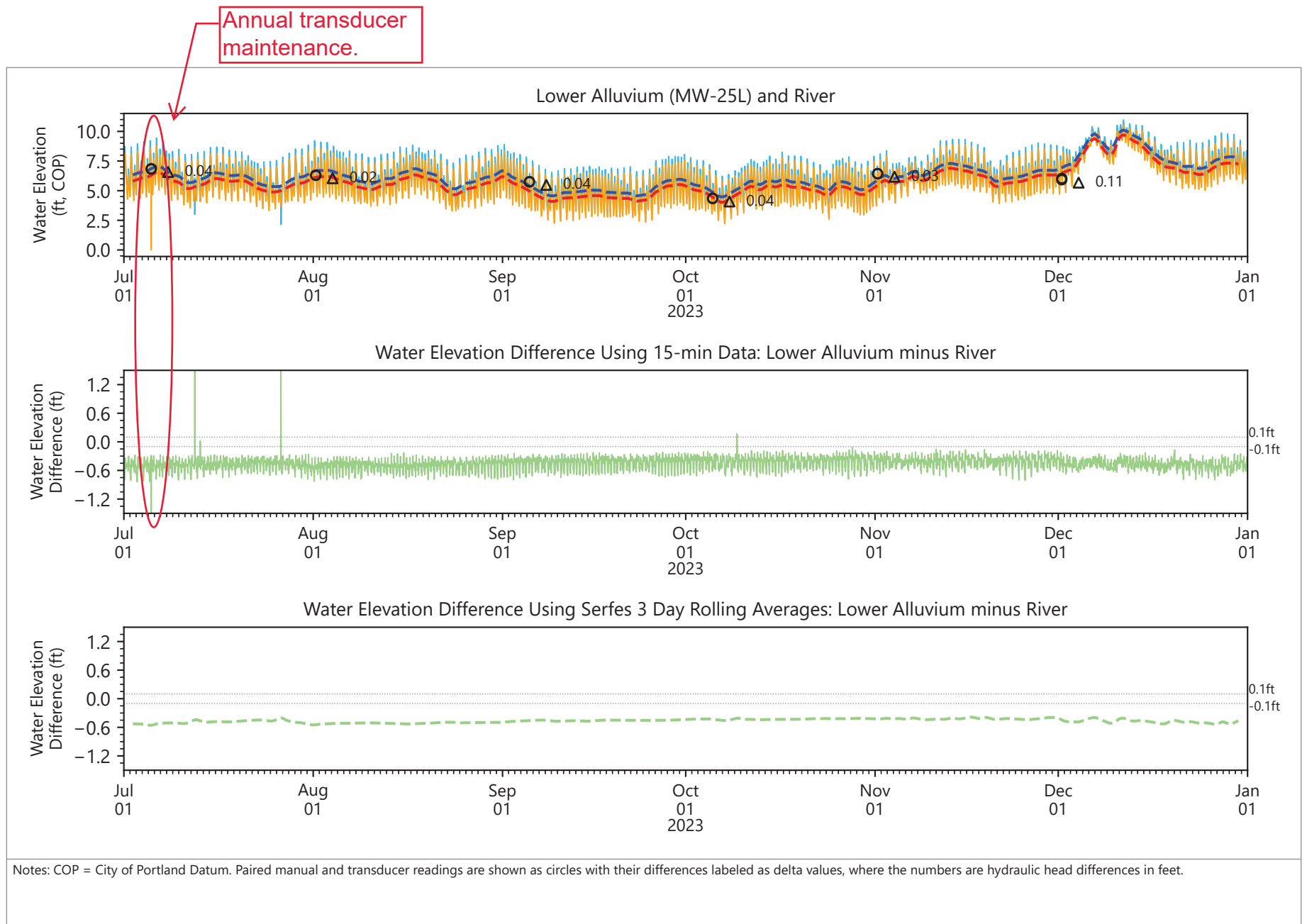


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- Upper Alluvium: 15-min Data
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- River: Serfes Averages
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- 0.1 ft Total Potential Uncertainty

Figure 4.32
Groundwater Elevation Differences
 NW Natural Gasco Site

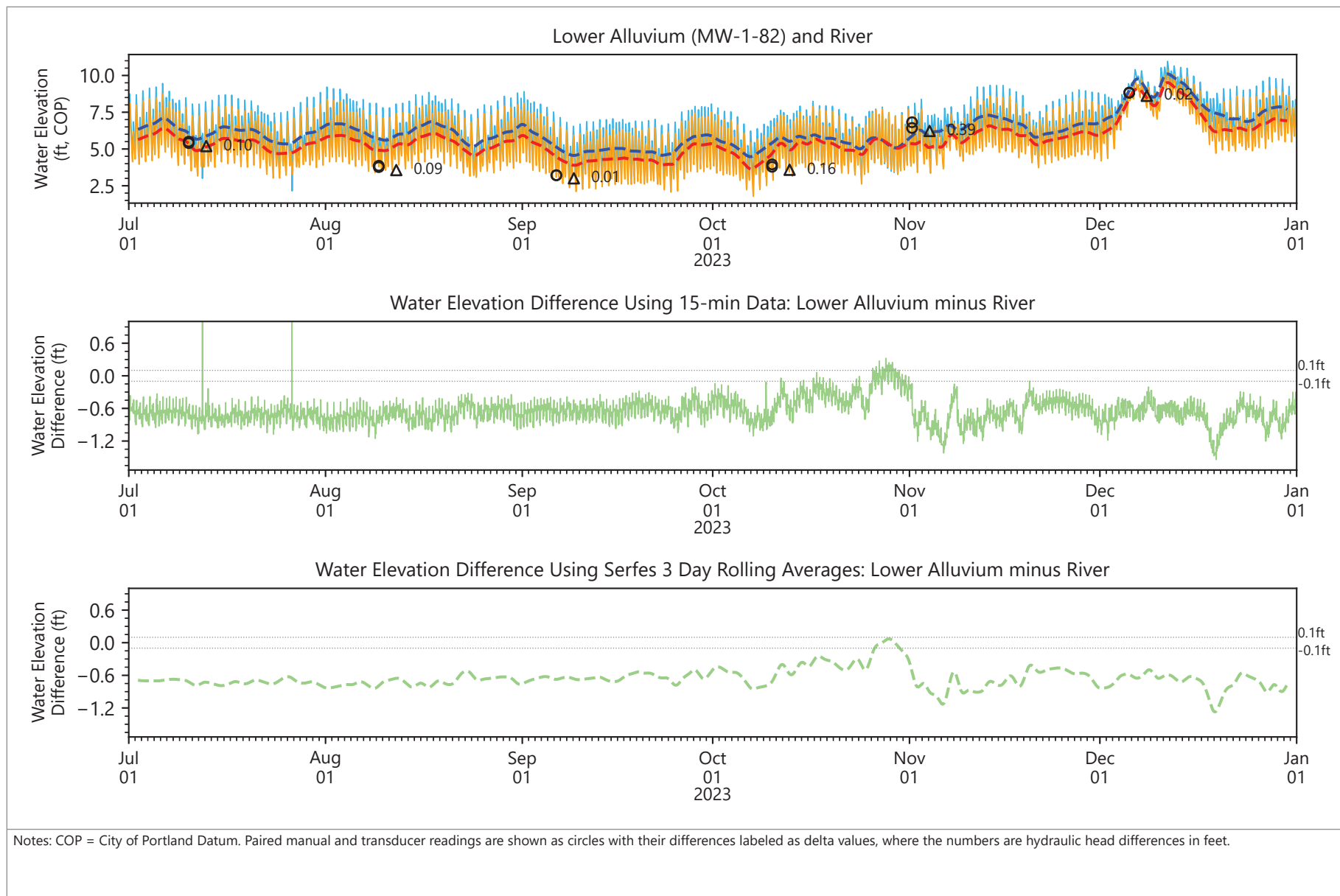


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- Lower Alluvium: 15-min Data
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- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.33
Groundwater Elevation Differences
 NW Natural Gasco Site

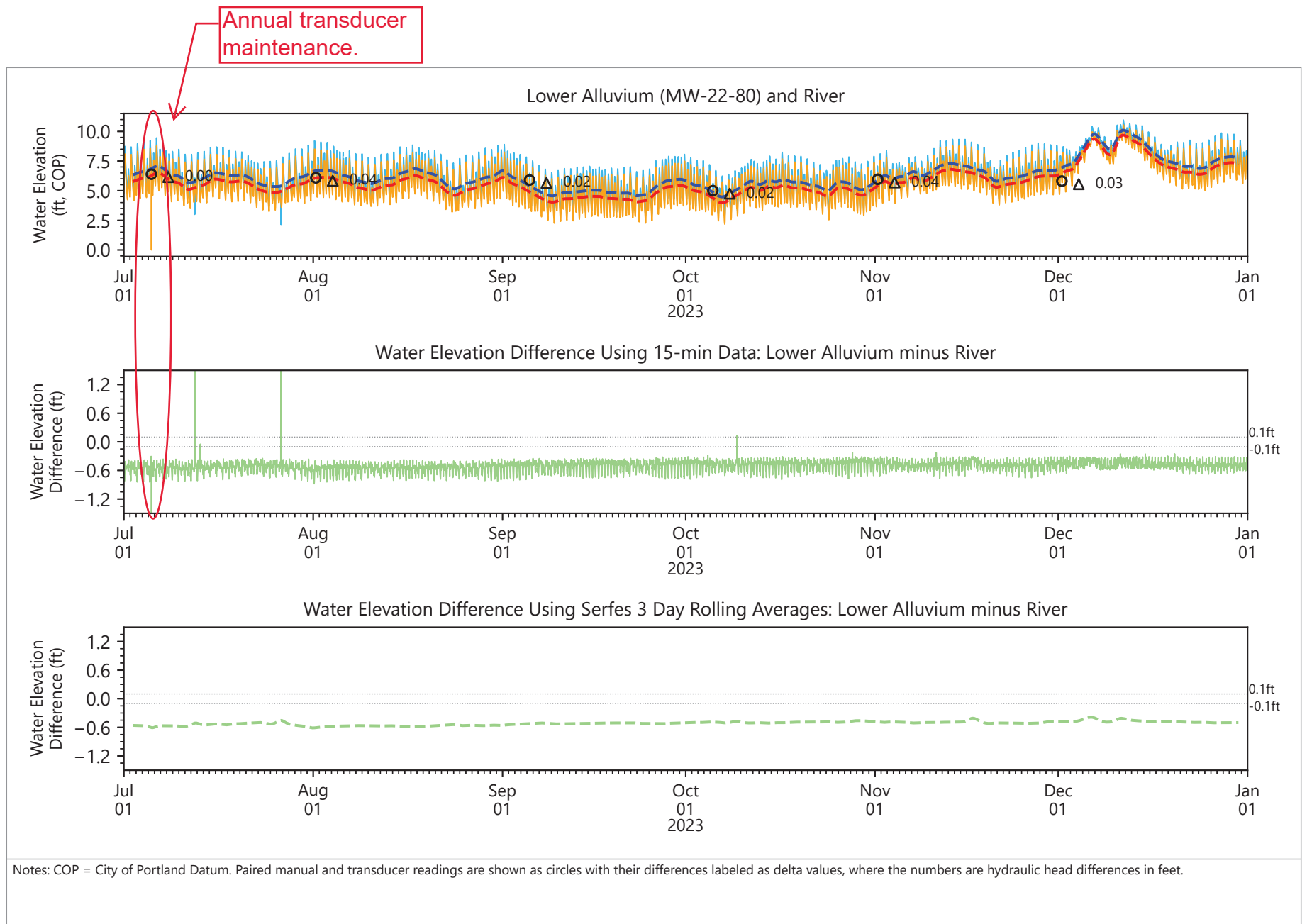


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- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.34
Groundwater Elevation Differences
 NW Natural Gasco Site

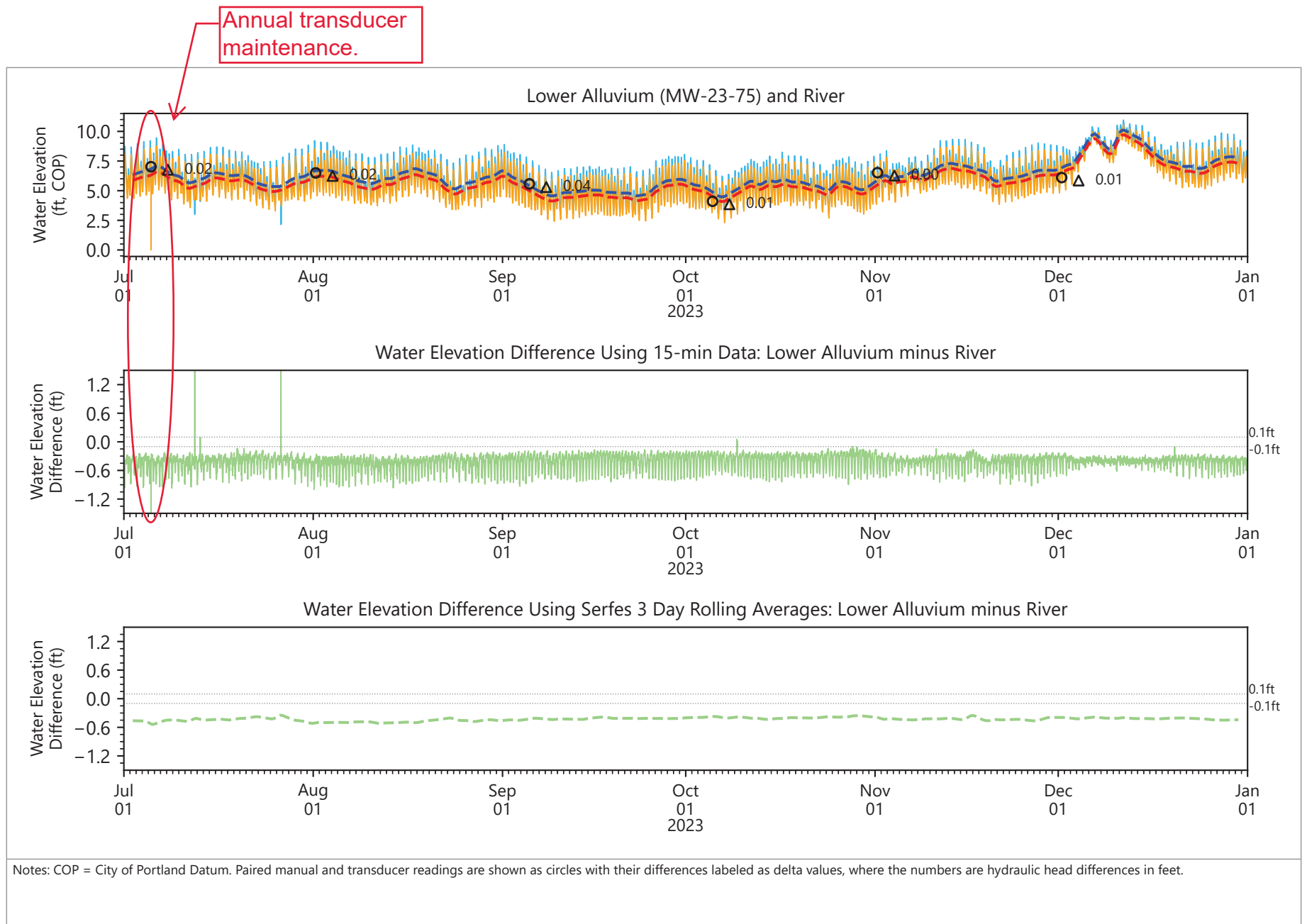


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 \\fuji\Anchor\Data Management\Users\Jason\Python\Gasco\elevation_time_series_per6months_EQUIS.py



- Lower Alluvium: 15-min Data
- - - Lower Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.35
Groundwater Elevation Differences
 NW Natural Gasco Site

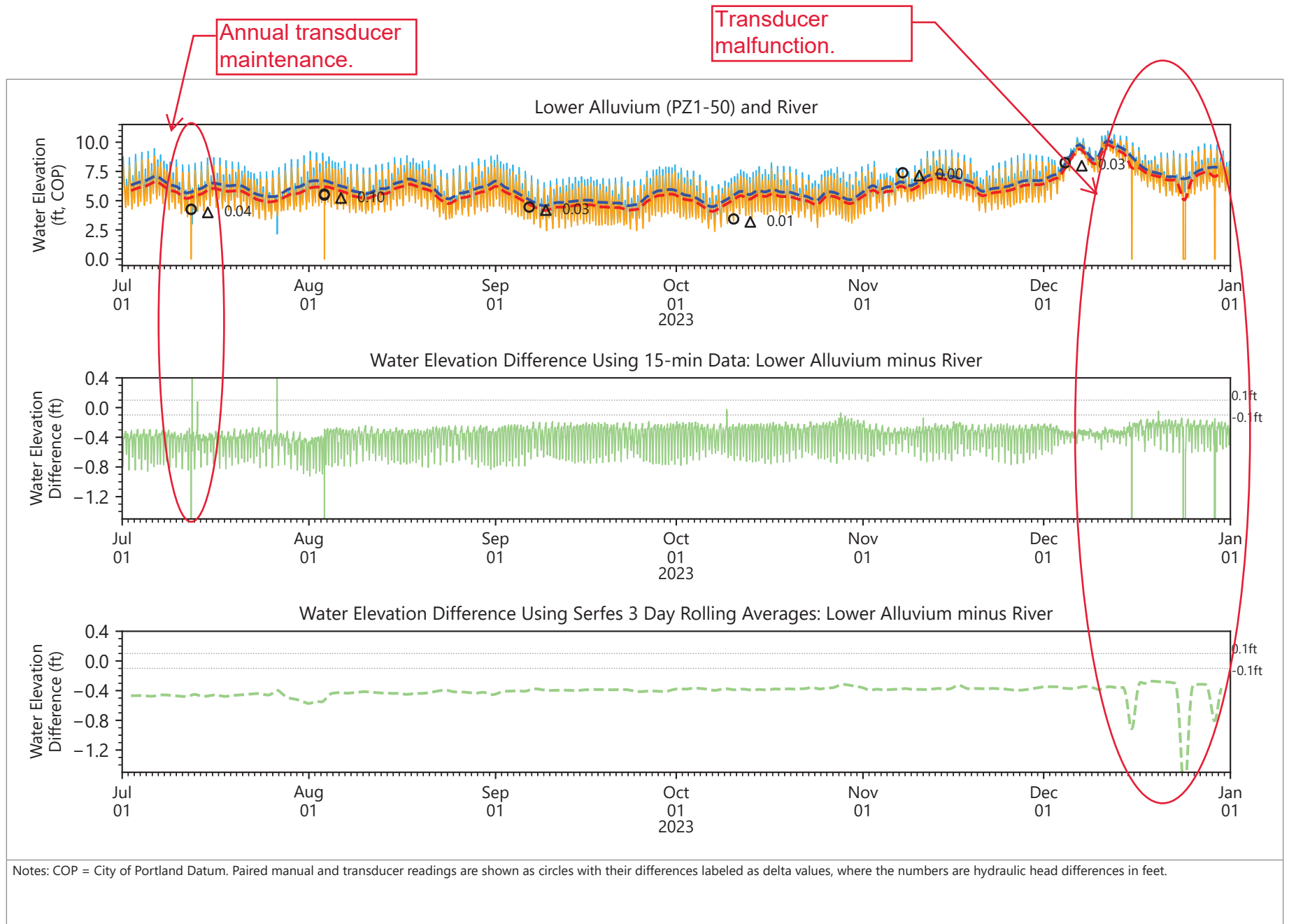


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.36
Groundwater Elevation Differences
 NW Natural Gasco Site

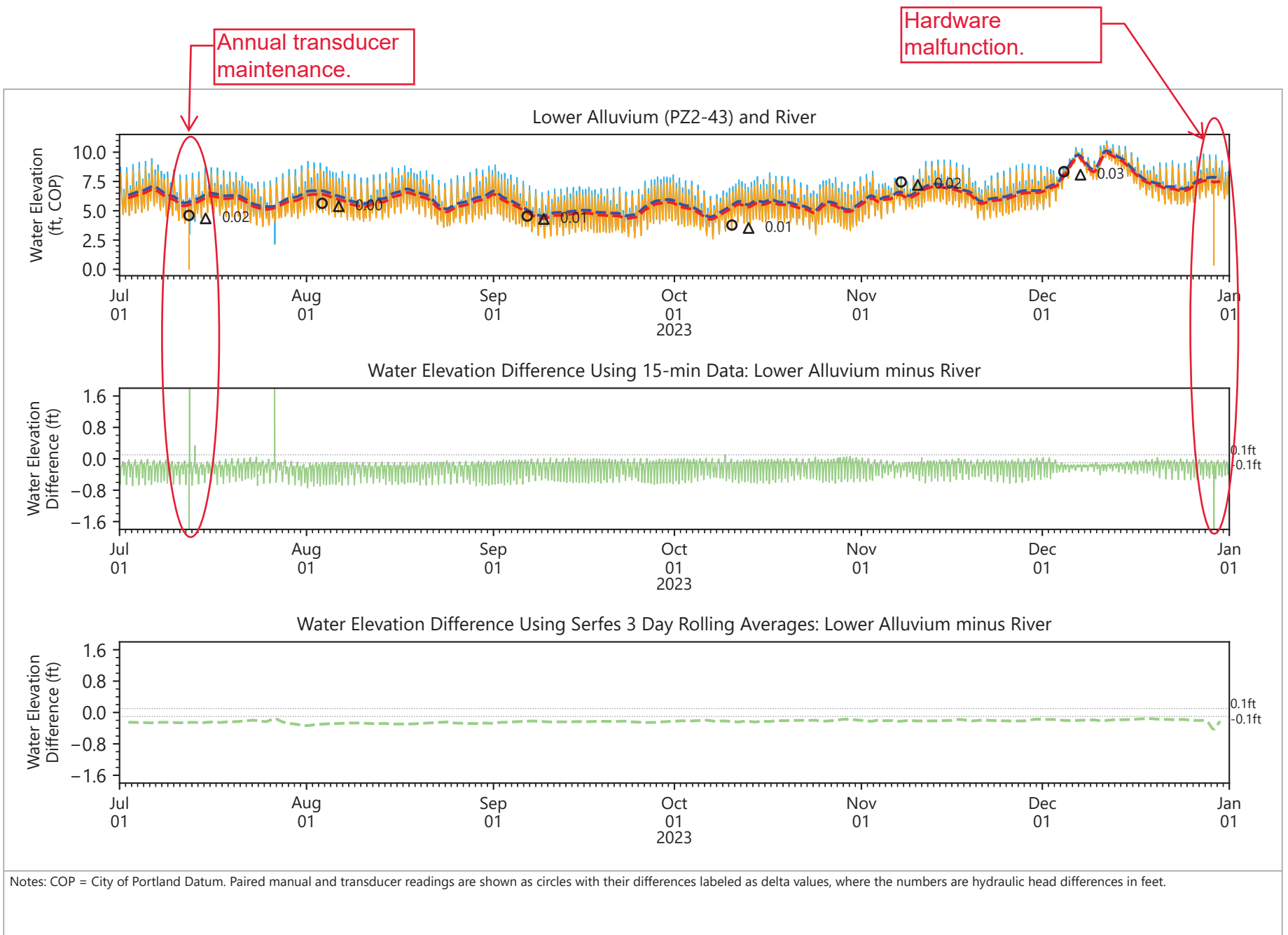


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- Lower Alluvium: 15-min Data
- - - Lower Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.37
Groundwater Elevation Differences
 NW Natural Gasco Site

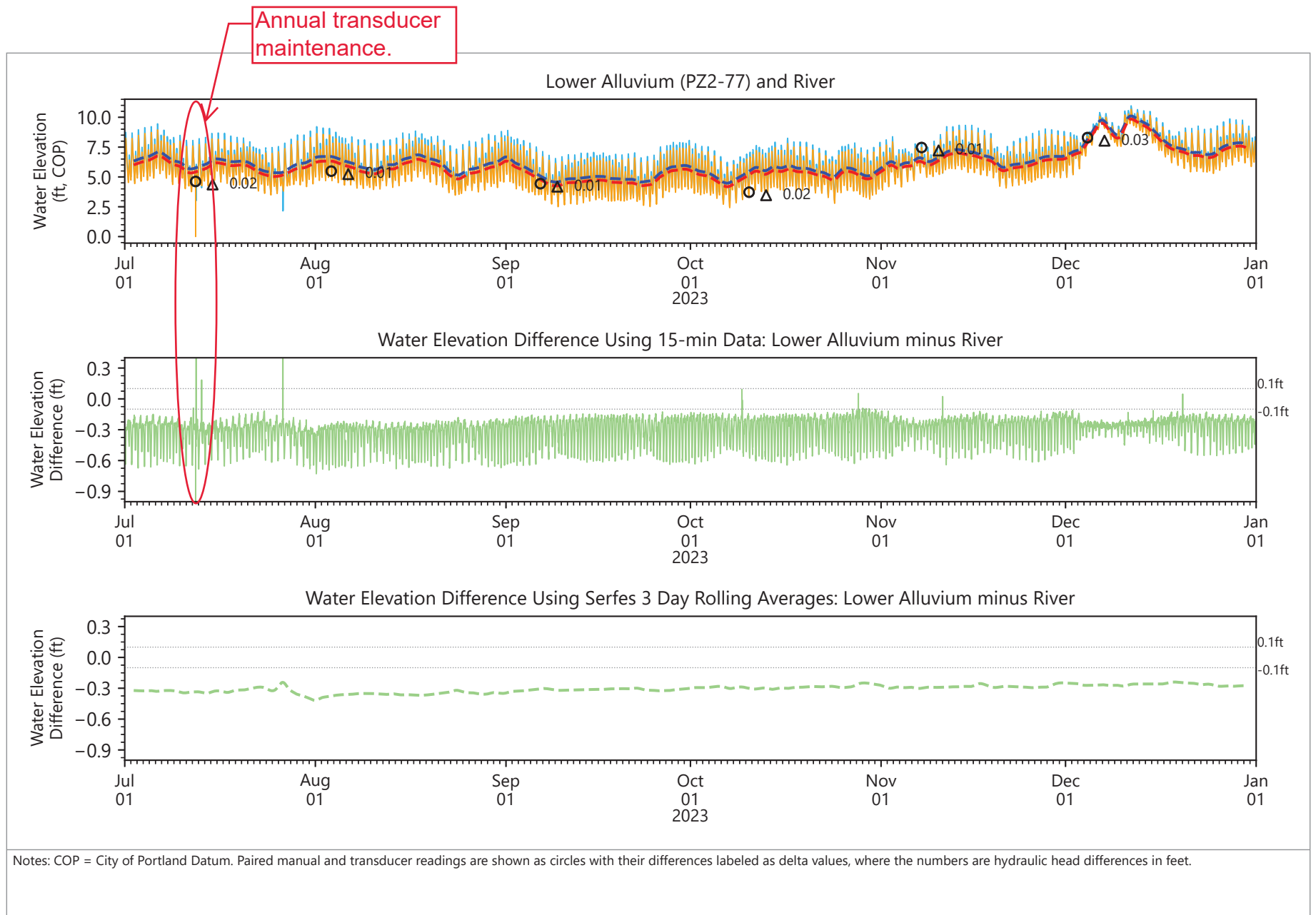


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

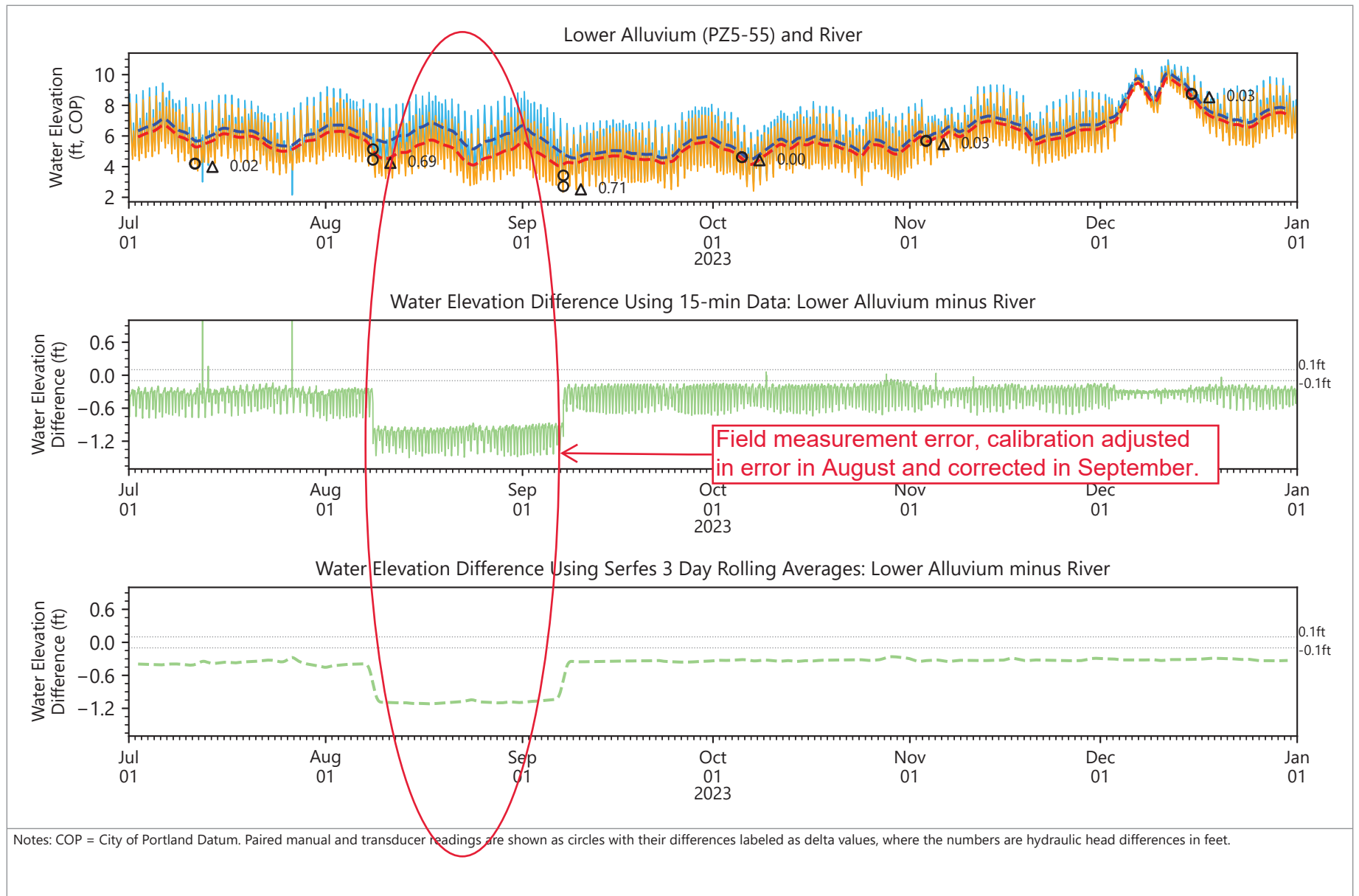
Figure 4.38
Groundwater Elevation Differences
NW Natural Gasco Site



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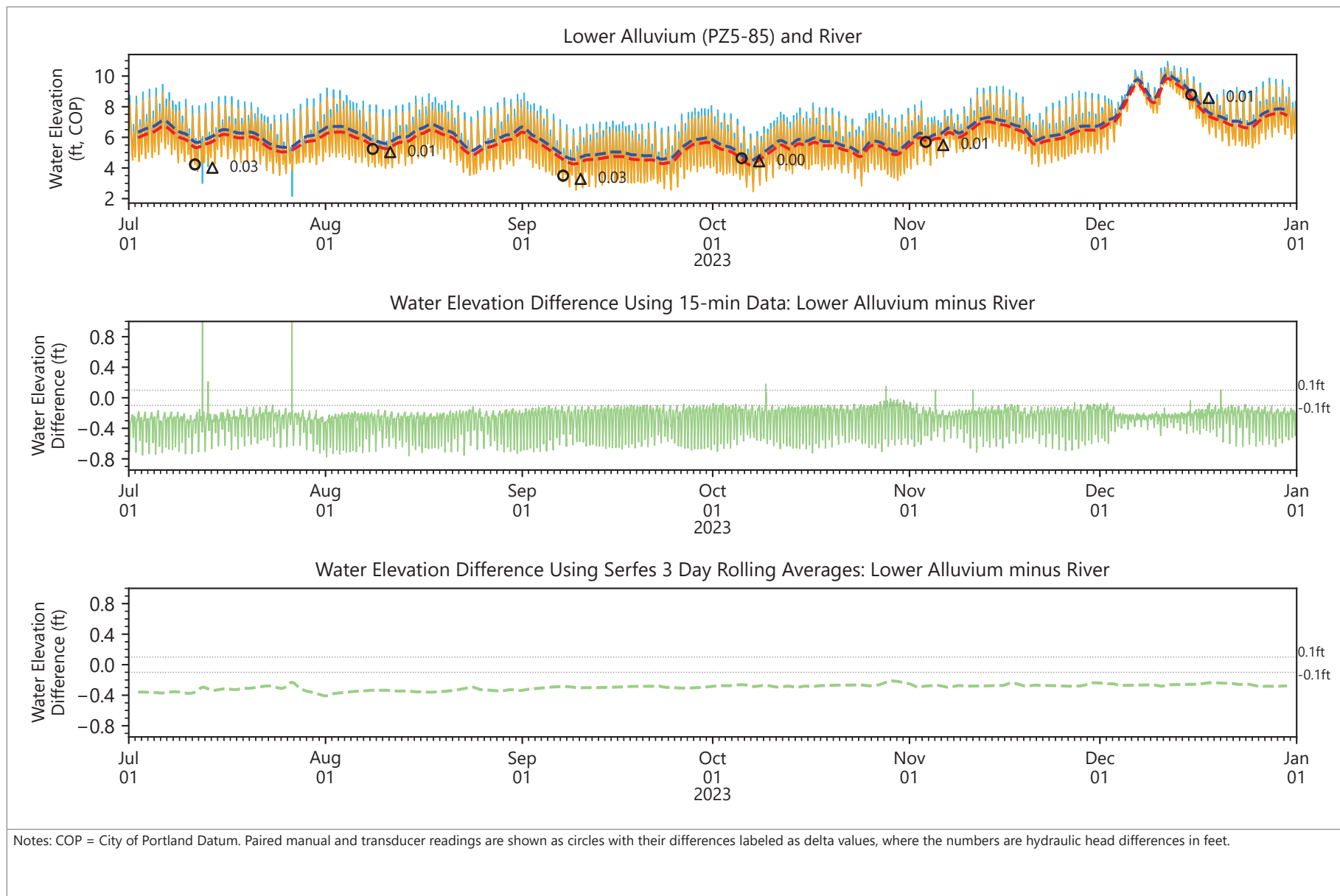
Figure 4.39
Groundwater Elevation Differences
 NW Natural Gasco Site



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Figure 4.40
Groundwater Elevation Differences
NW Natural Gasco Site

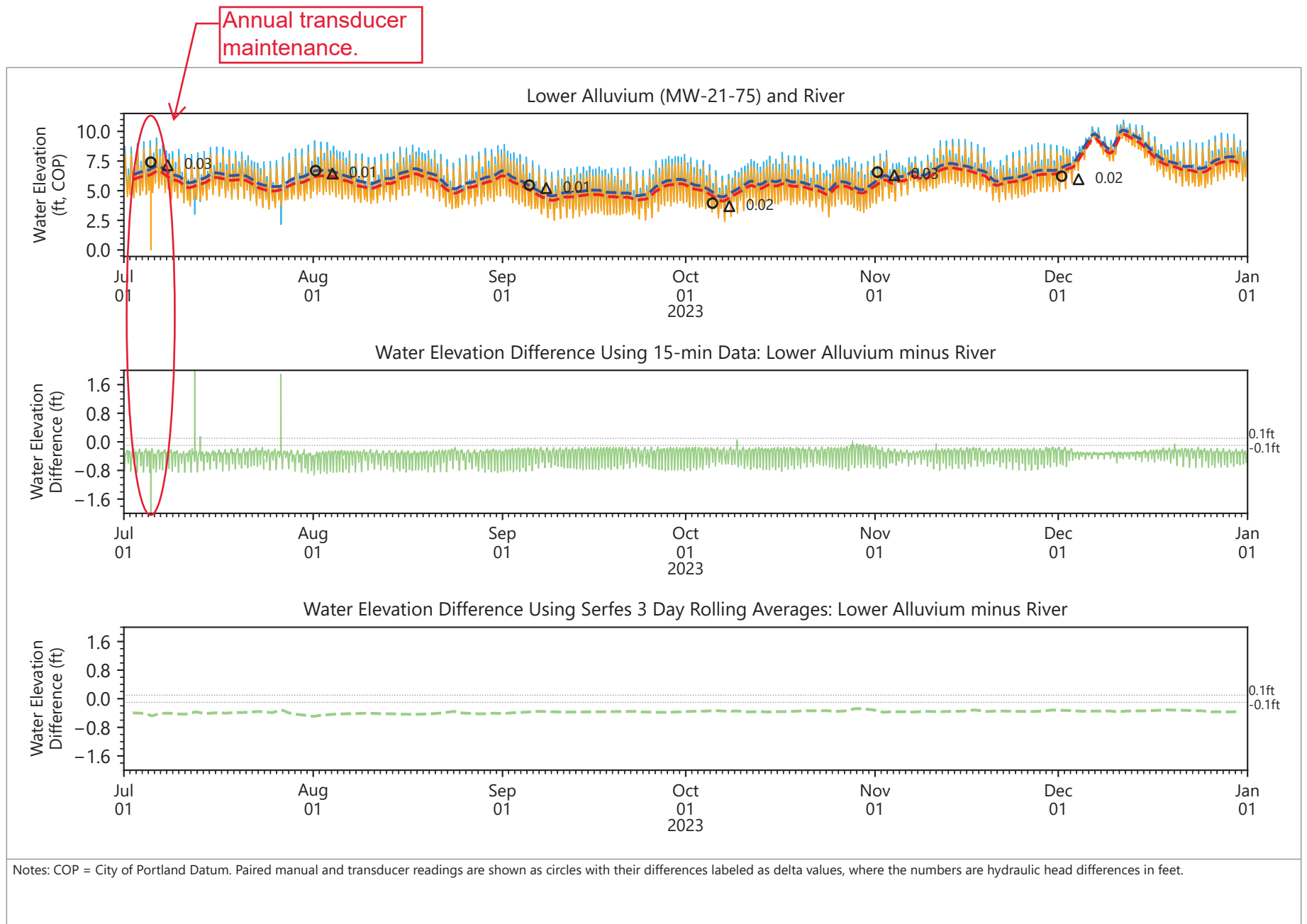


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- Lower Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Lower Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.41
Groundwater Elevation Differences
 NW Natural Gasco Site

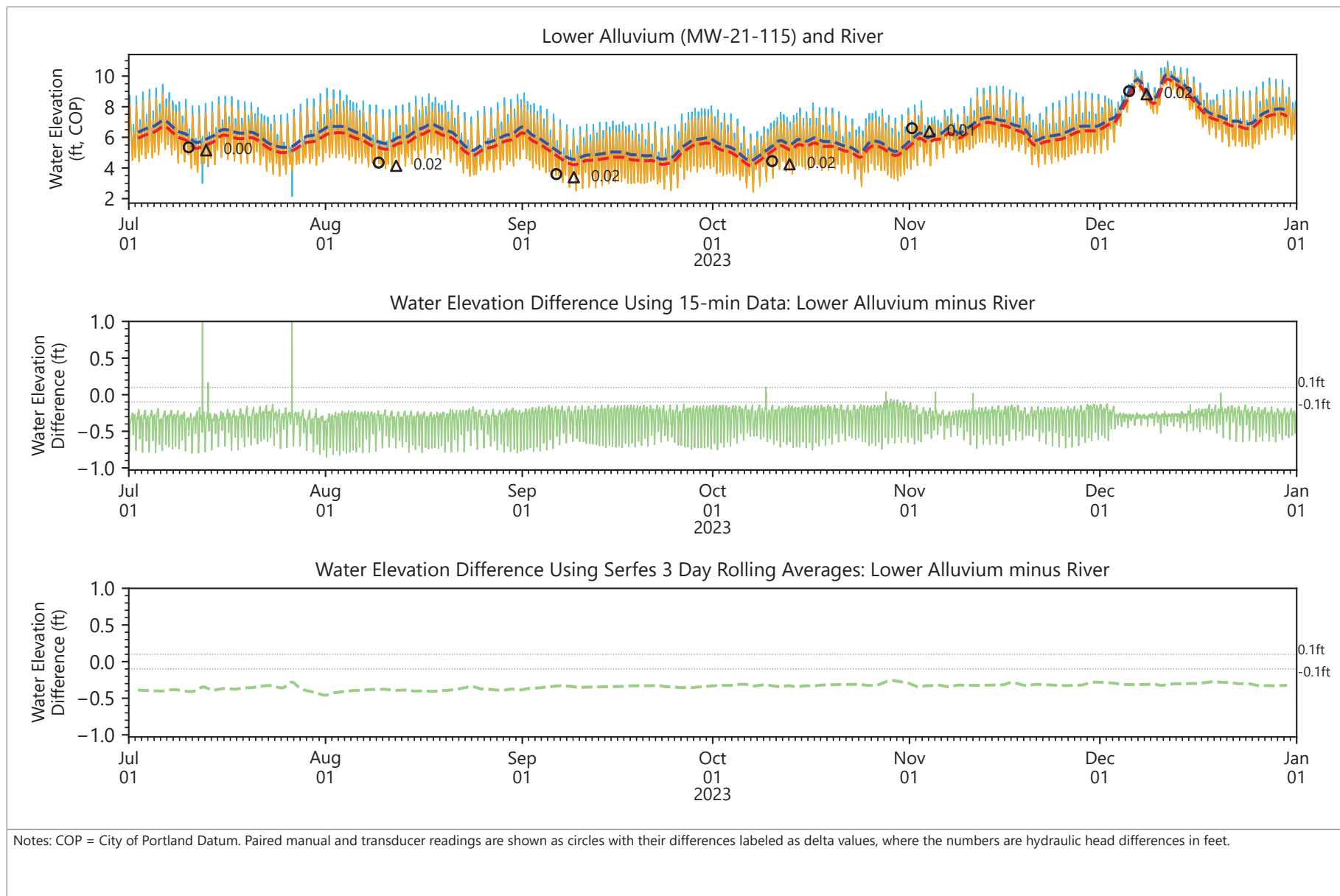


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

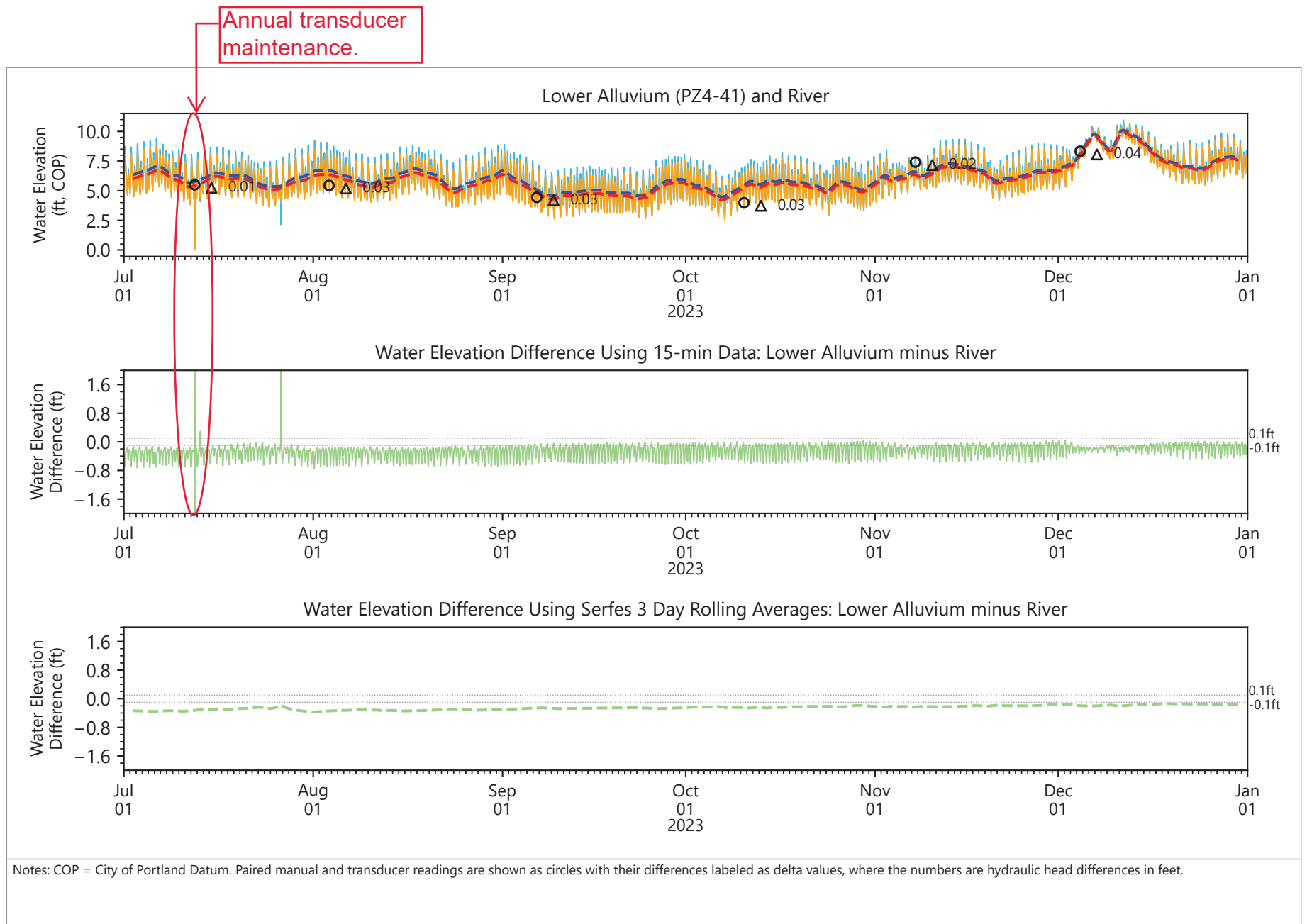
Figure 4.42
Groundwater Elevation Differences
 NW Natural Gasco Site



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Figure 4.43
Groundwater Elevation Differences
 NW Natural Gasco Site

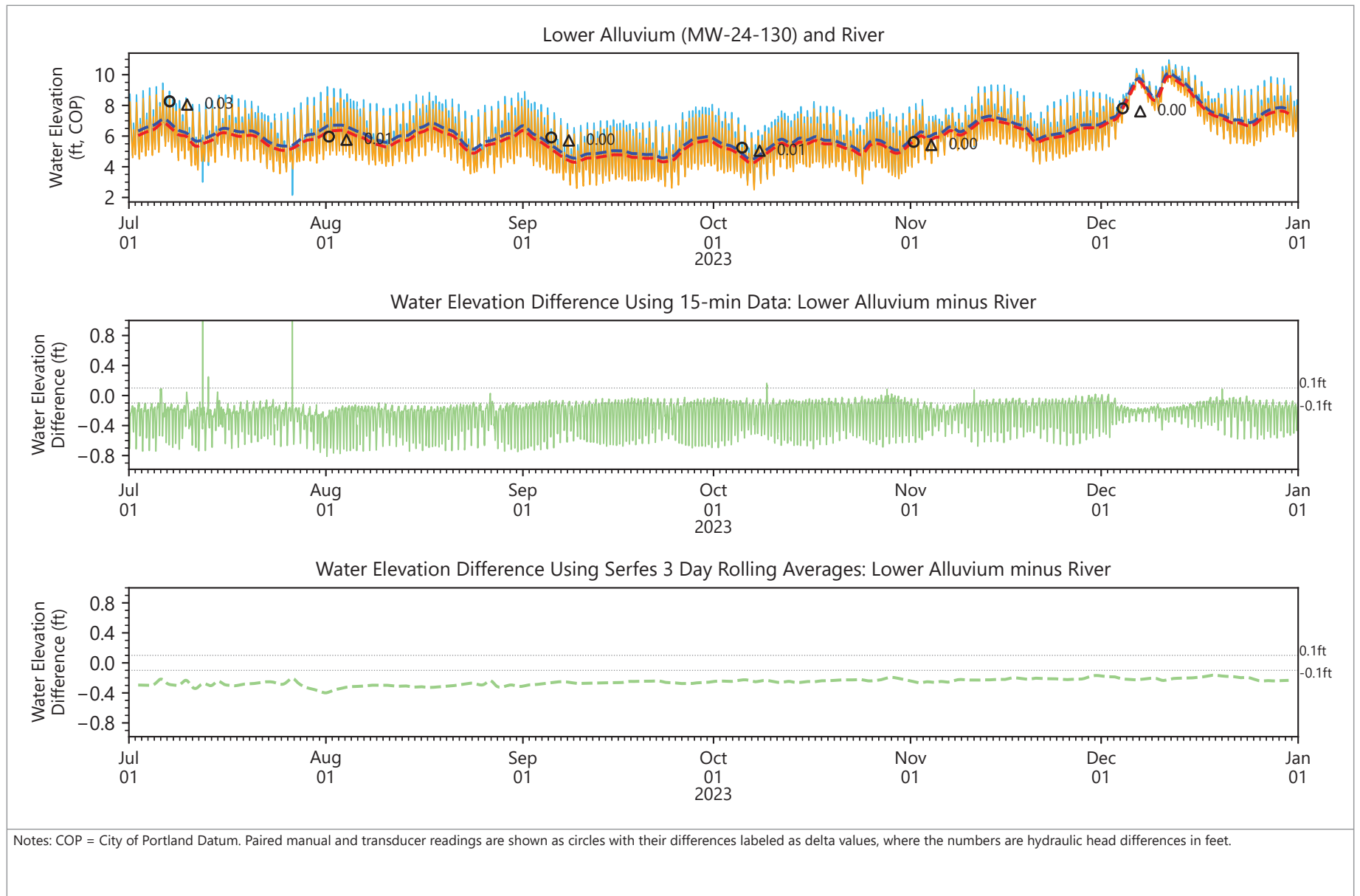


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- Lower Alluvium: 15-min Data
- - - Lower Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

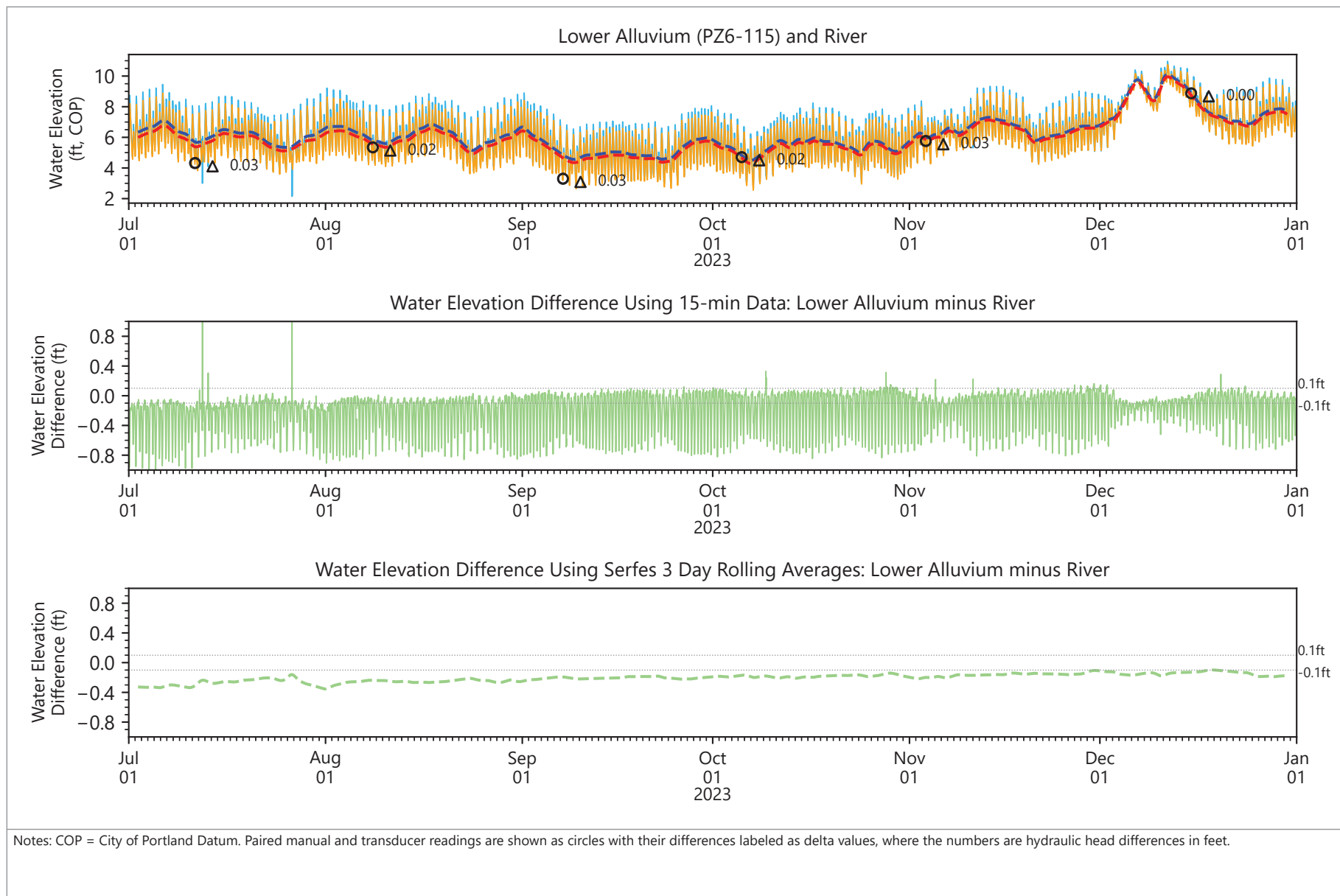
Figure 4.44
Groundwater Elevation Differences
 NW Natural Gasco Site



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Figure 4.45
Groundwater Elevation Differences
NW Natural Gasco Site

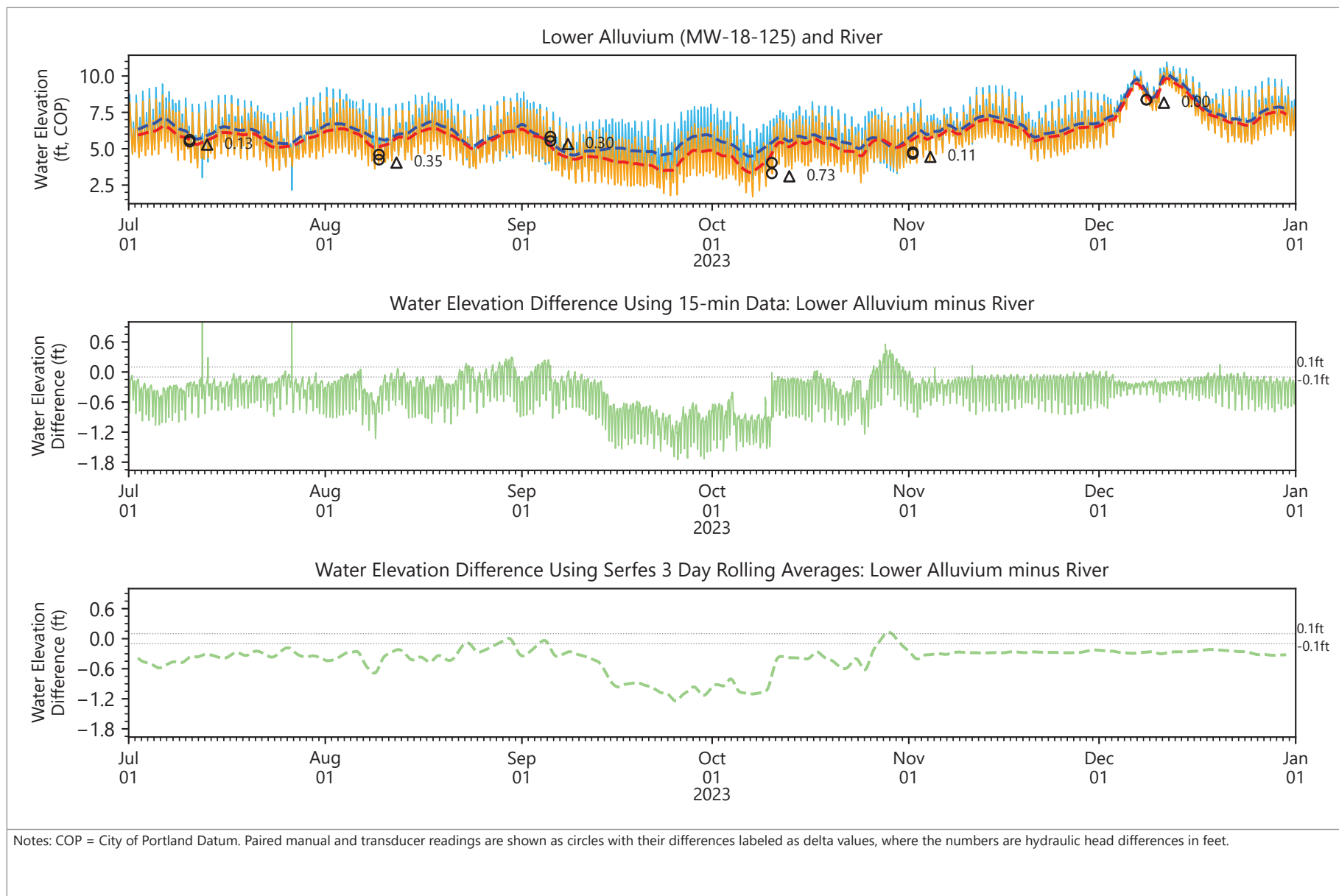


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.46
Groundwater Elevation Differences
 NW Natural Gasco Site



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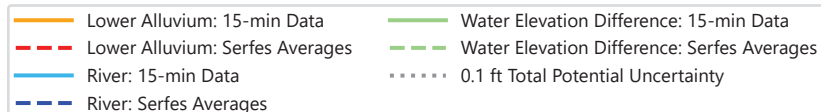
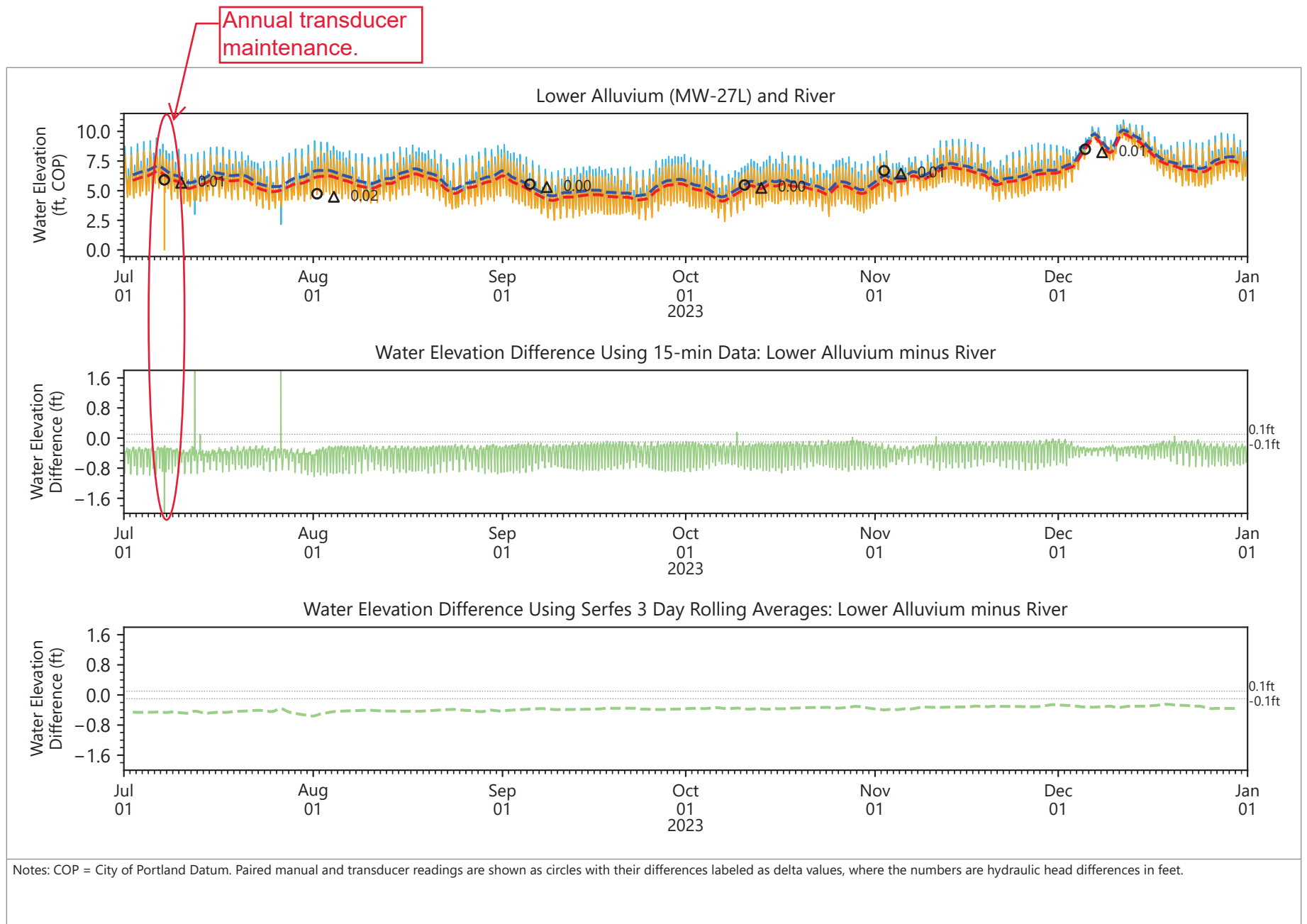


Figure 4.47
Groundwater Elevation Differences
 NW Natural Gasco Site

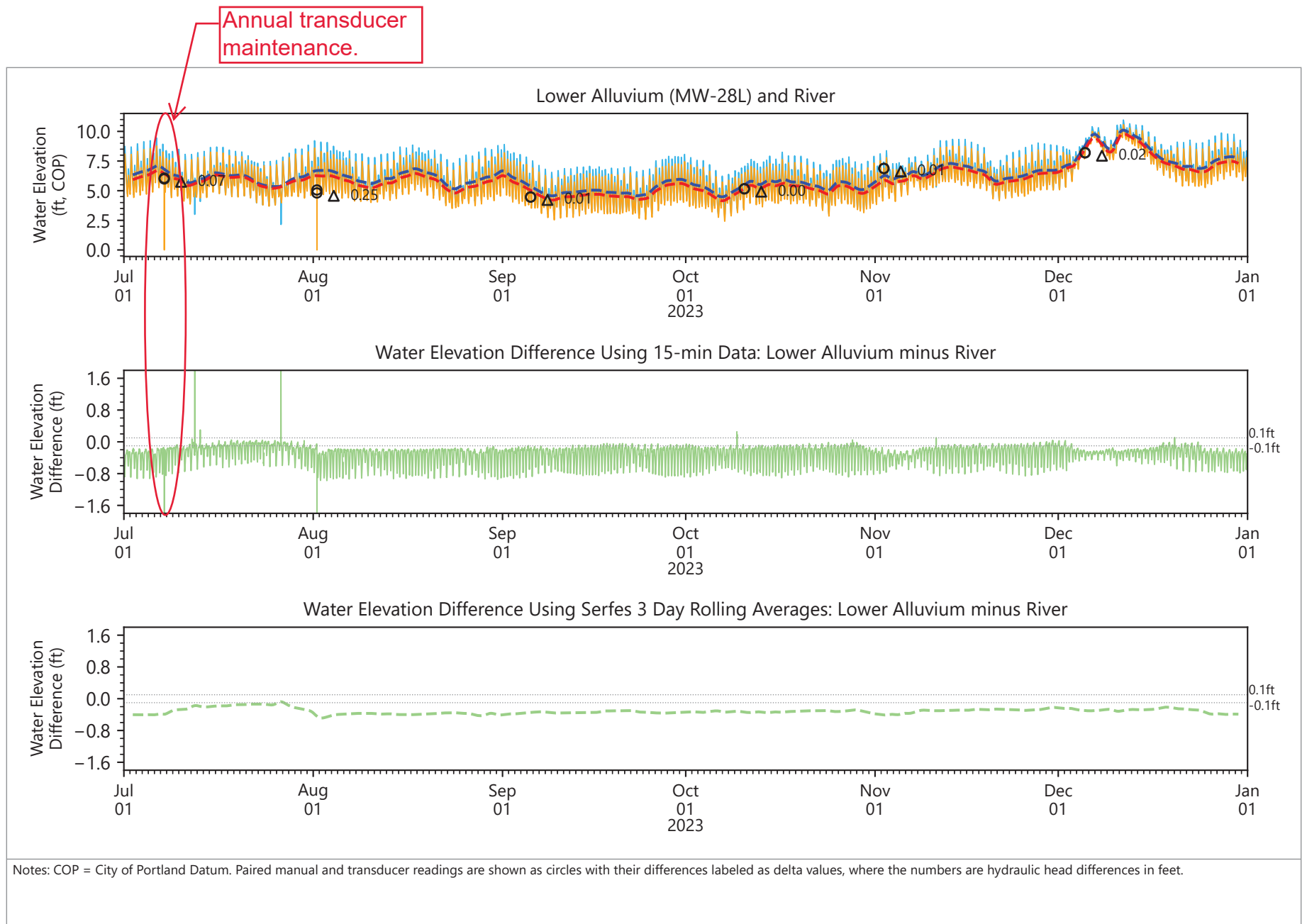


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- Lower Alluvium: 15-min Data
- - - Lower Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.48
Groundwater Elevation Differences
 NW Natural Gasco Site

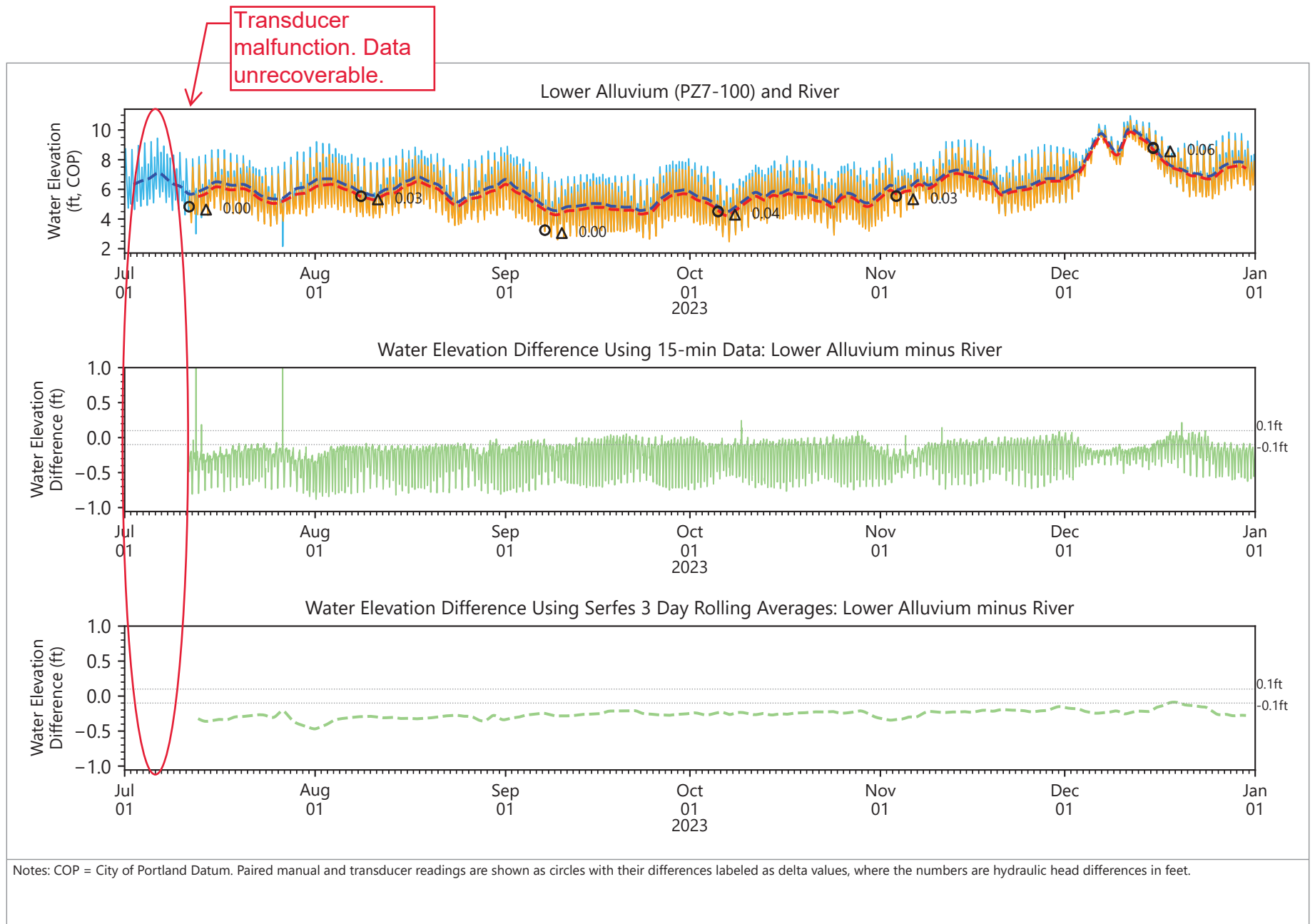


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- Lower Alluvium: 15-min Data
- - - Lower Alluvium: Serfes Averages
- River: 15-min Data
- - - River: Serfes Averages
- Water Elevation Difference: 15-min Data
- - - Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

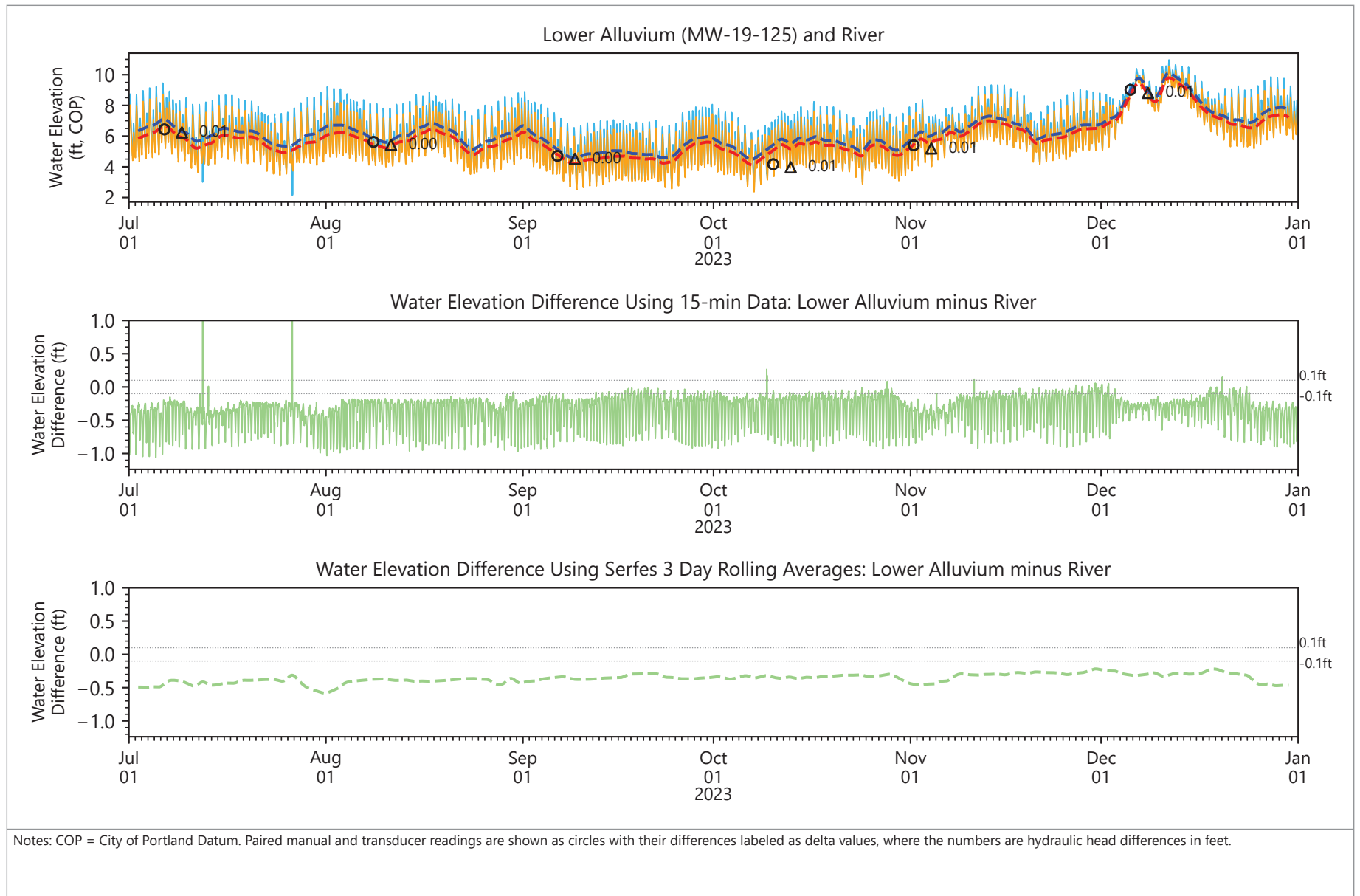
Figure 4.49
Groundwater Elevation Differences
 NW Natural Gasco Site



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Figure 4.50
Groundwater Elevation Differences
 NW Natural Gasco Site

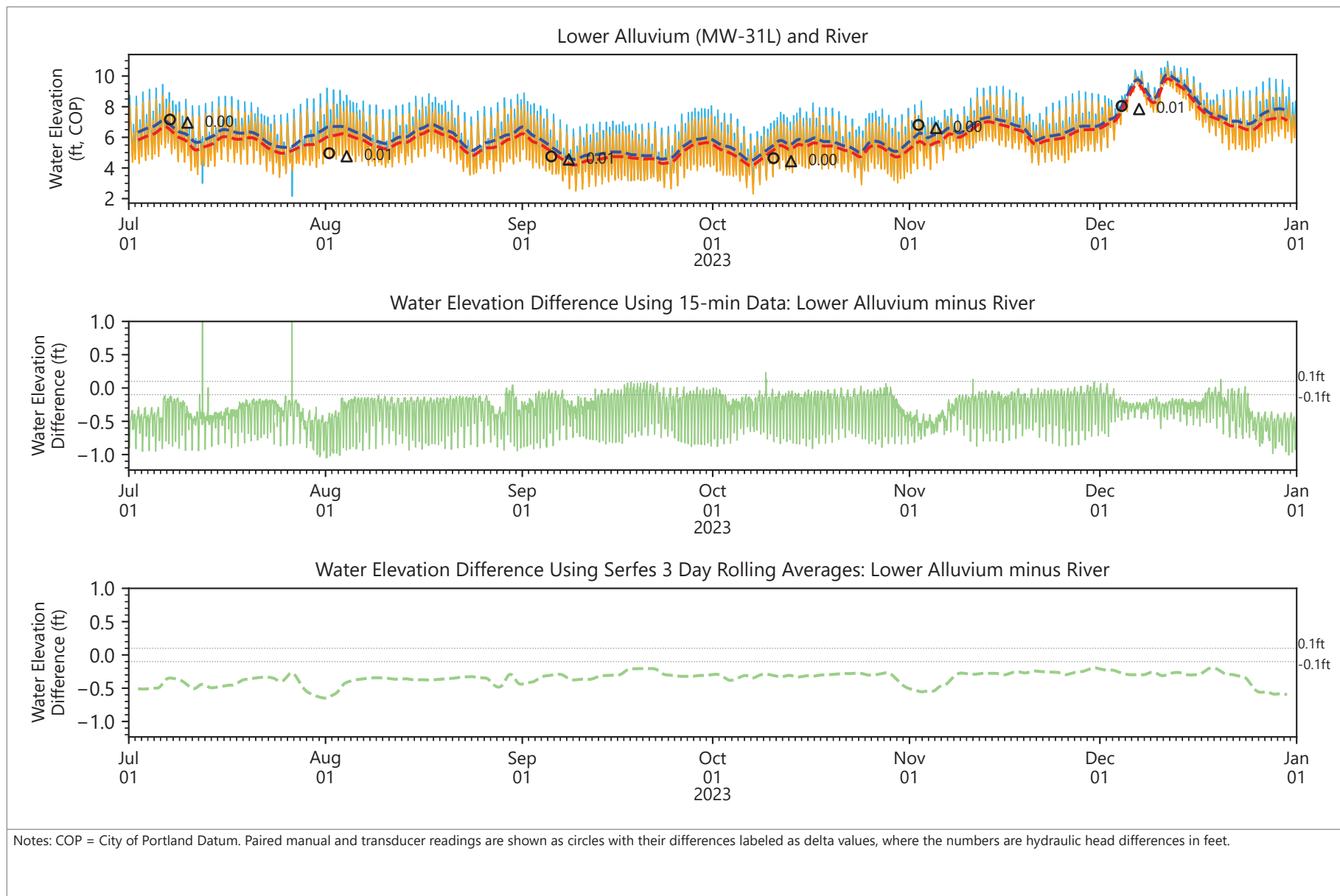


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- Lower Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Lower Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.51
Groundwater Elevation Differences
 NW Natural Gasco Site



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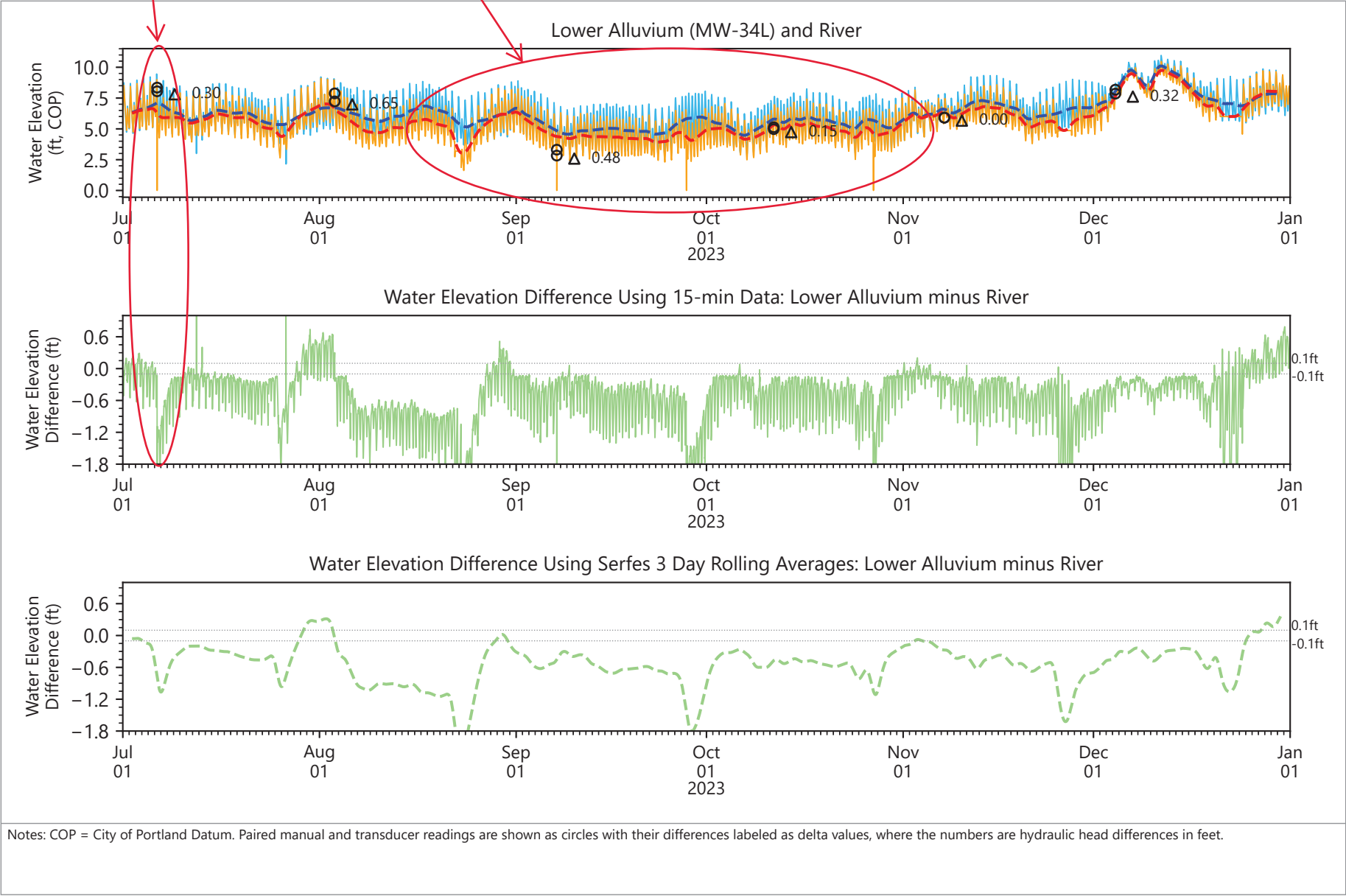


- Lower Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Lower Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.52
Groundwater Elevation Differences
 NW Natural Gasco Site

Annual transducer maintenance.

Hardware connectivity issues.

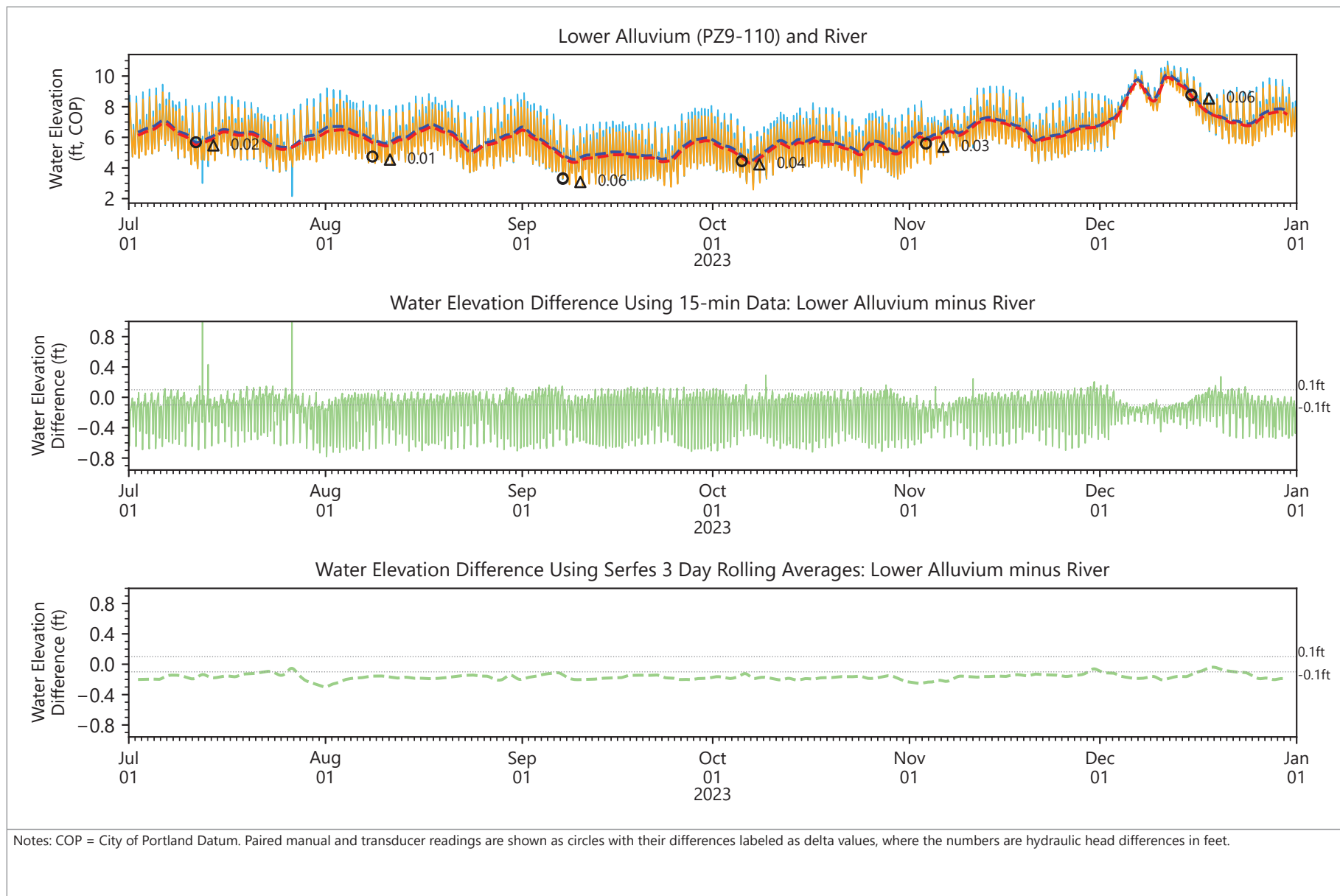


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.53
Groundwater Elevation Differences
NW Natural Gasco Site

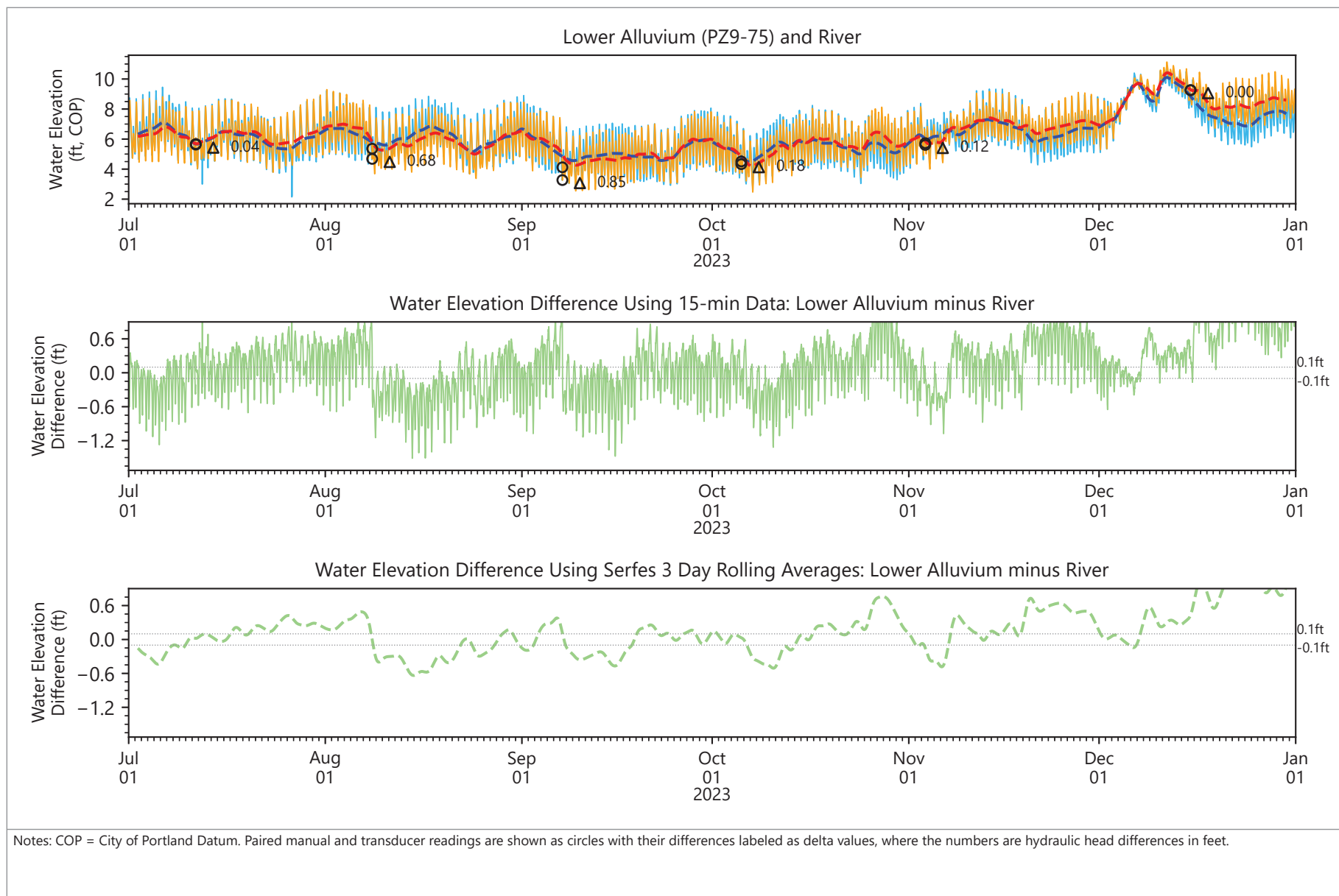


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.54
Groundwater Elevation Differences
 NW Natural Gasco Site



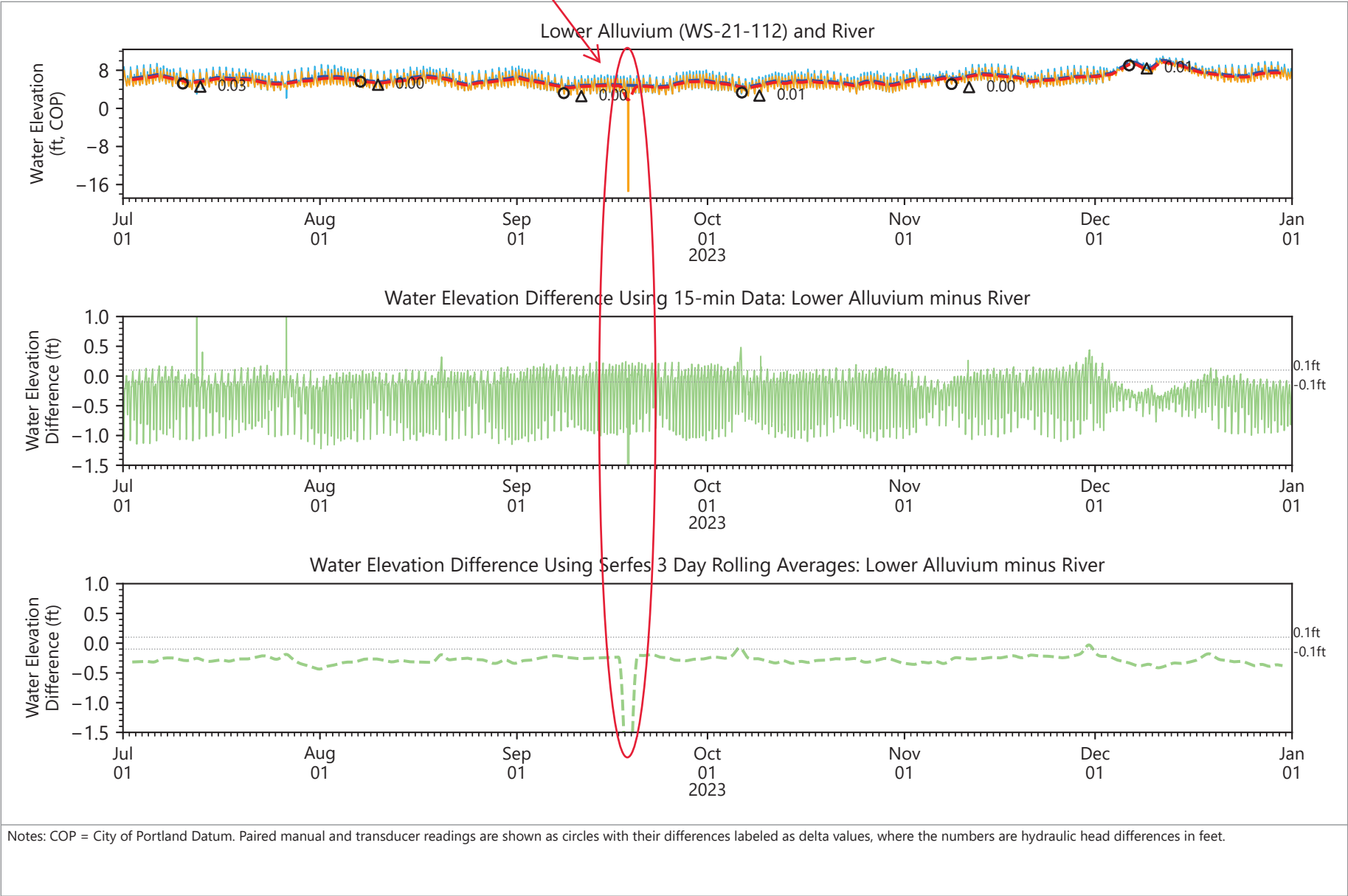
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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.55
Groundwater Elevation Differences
 NW Natural Gasco Site

3rd Quarter Groundwater monitoring.

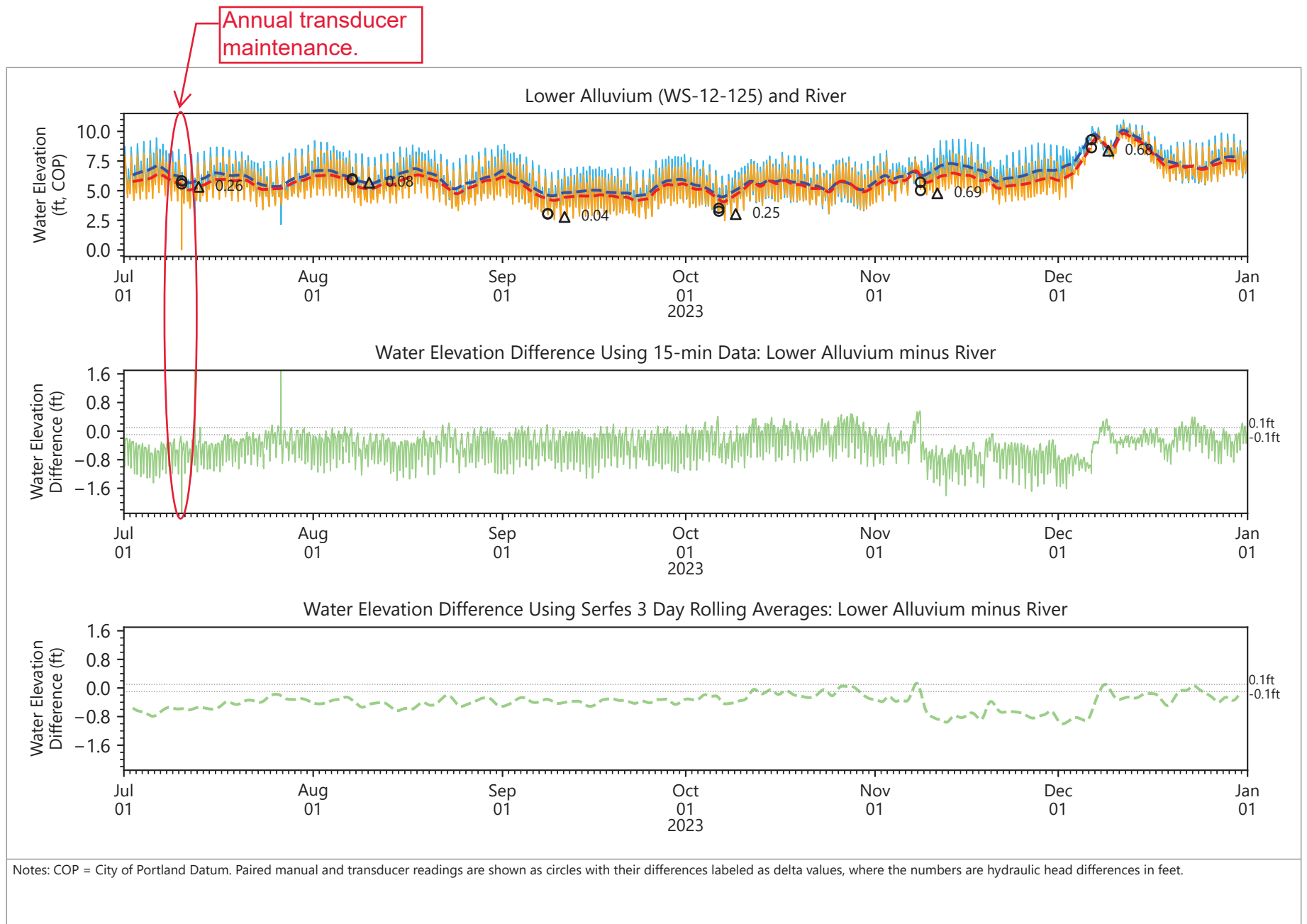


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— Lower Alluvium: 15-min Data — Water Elevation Difference: 15-min Data
- - - Lower Alluvium: Serfes Averages - - - Water Elevation Difference: Serfes Averages
— River: 15-min Data 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.56
Groundwater Elevation Differences
NW Natural Gasco Site

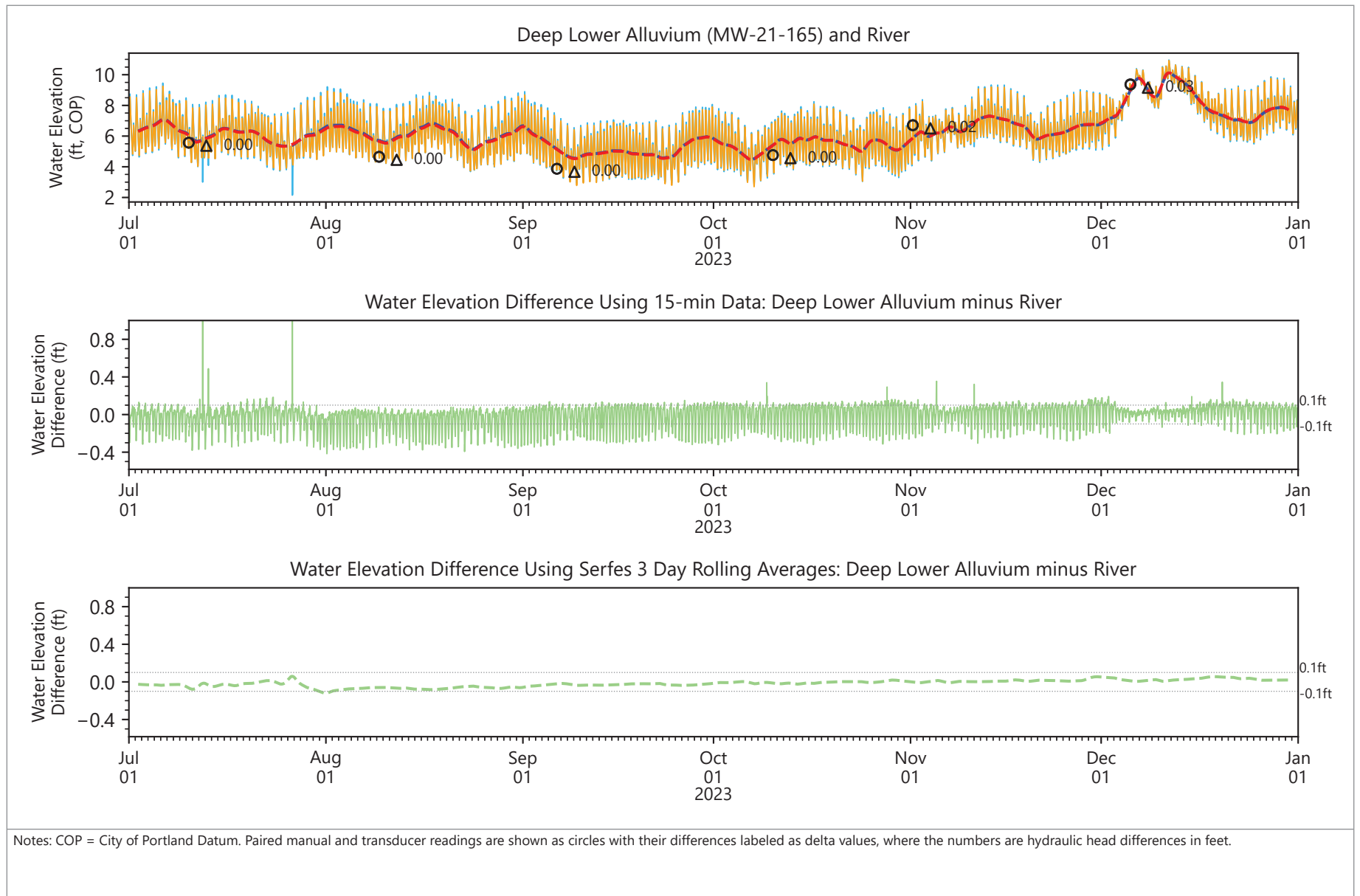


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- Lower Alluvium: 15-min Data
- Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.57
Groundwater Elevation Differences
 NW Natural Gasco Site



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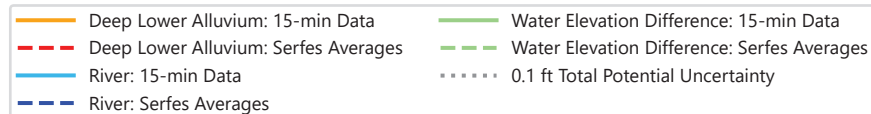
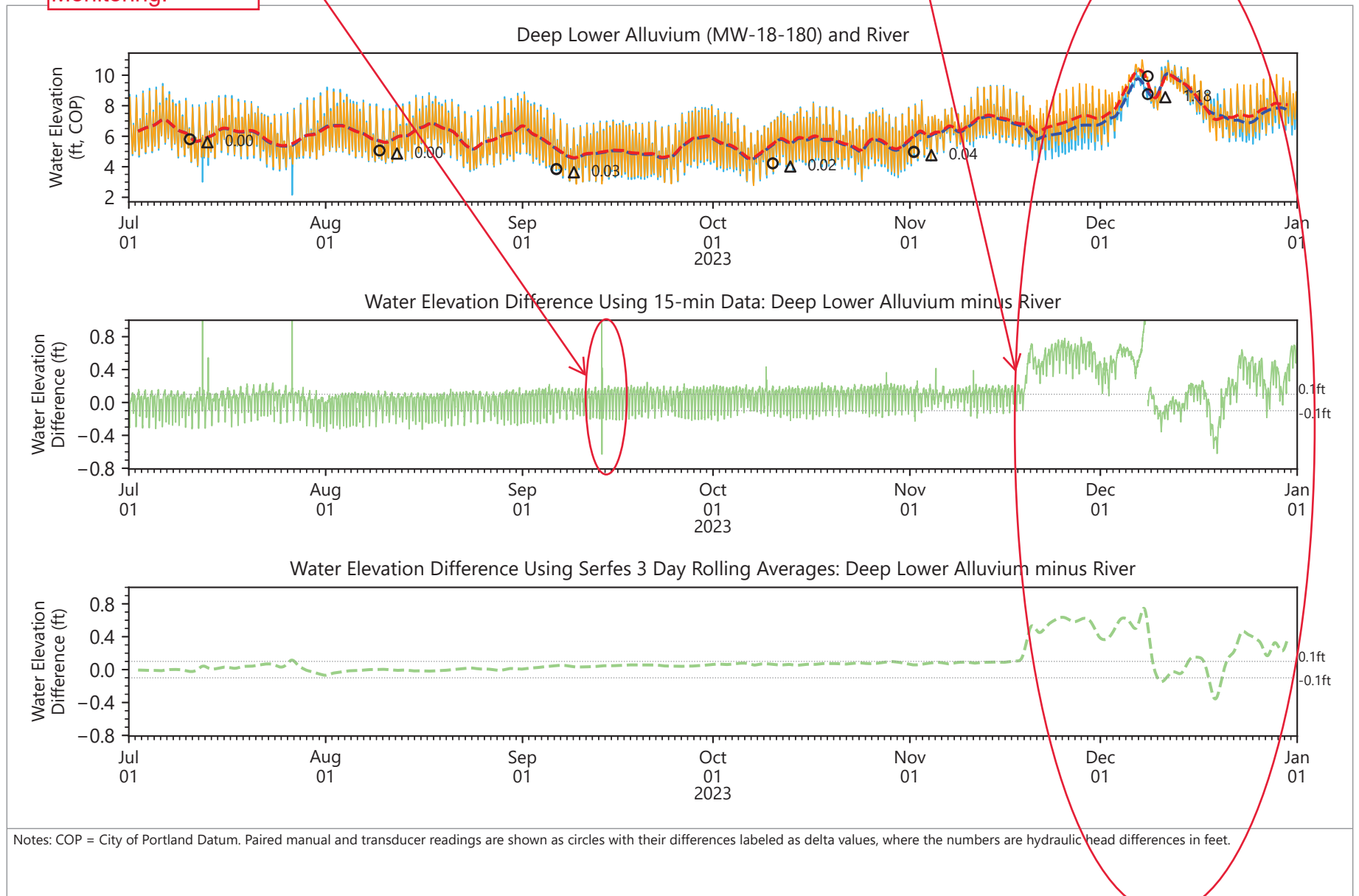


Figure 4.58
Groundwater Elevation Differences
 NW Natural Gasco Site

3rd Quarter
Groundwater
Monitoring.

Transducer out of
calibration.



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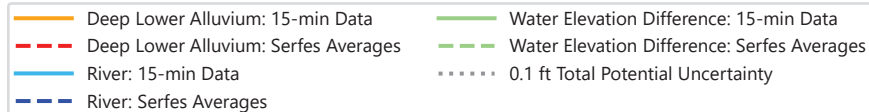
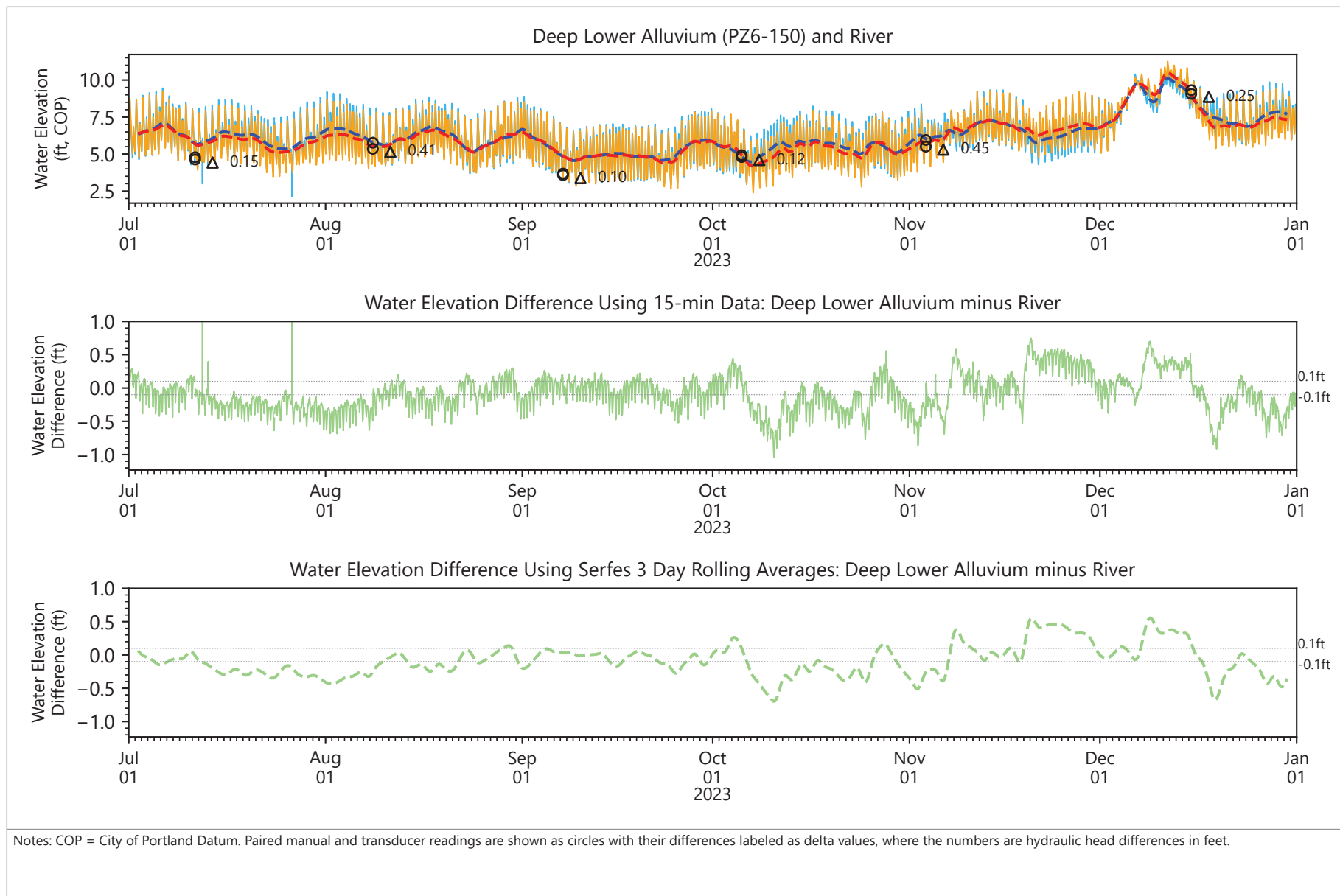


Figure 4.59
Groundwater Elevation Differences
NW Natural Gasco Site



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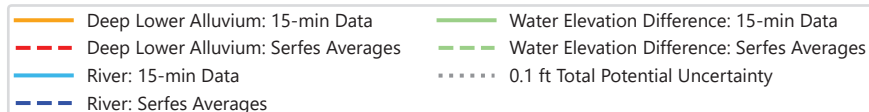
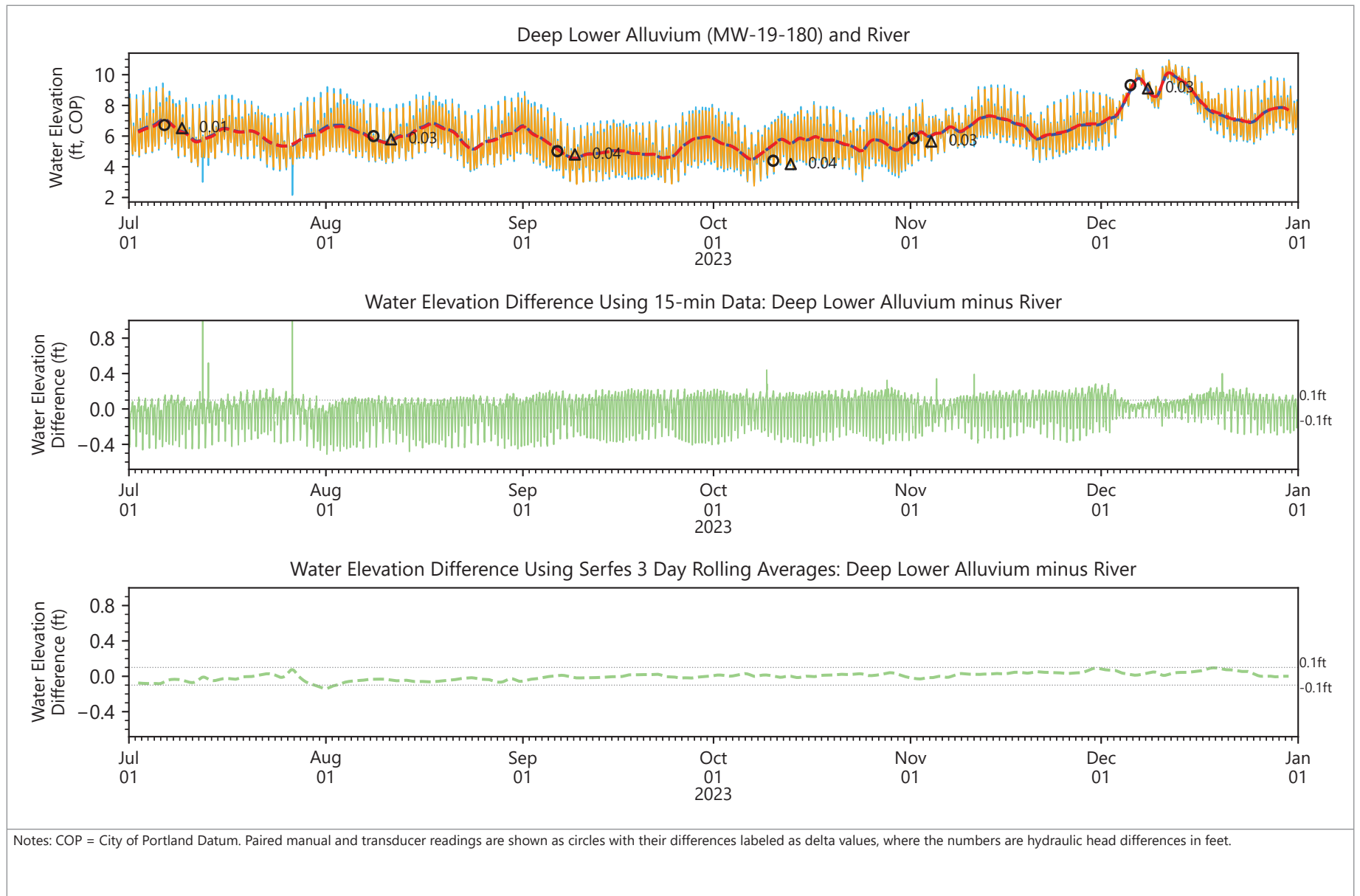


Figure 4.60
Groundwater Elevation Differences
 NW Natural Gasco Site



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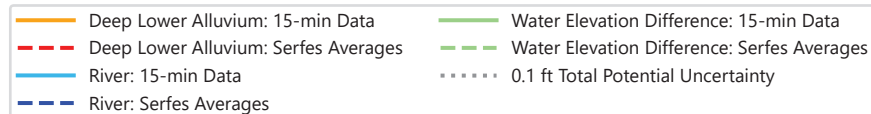
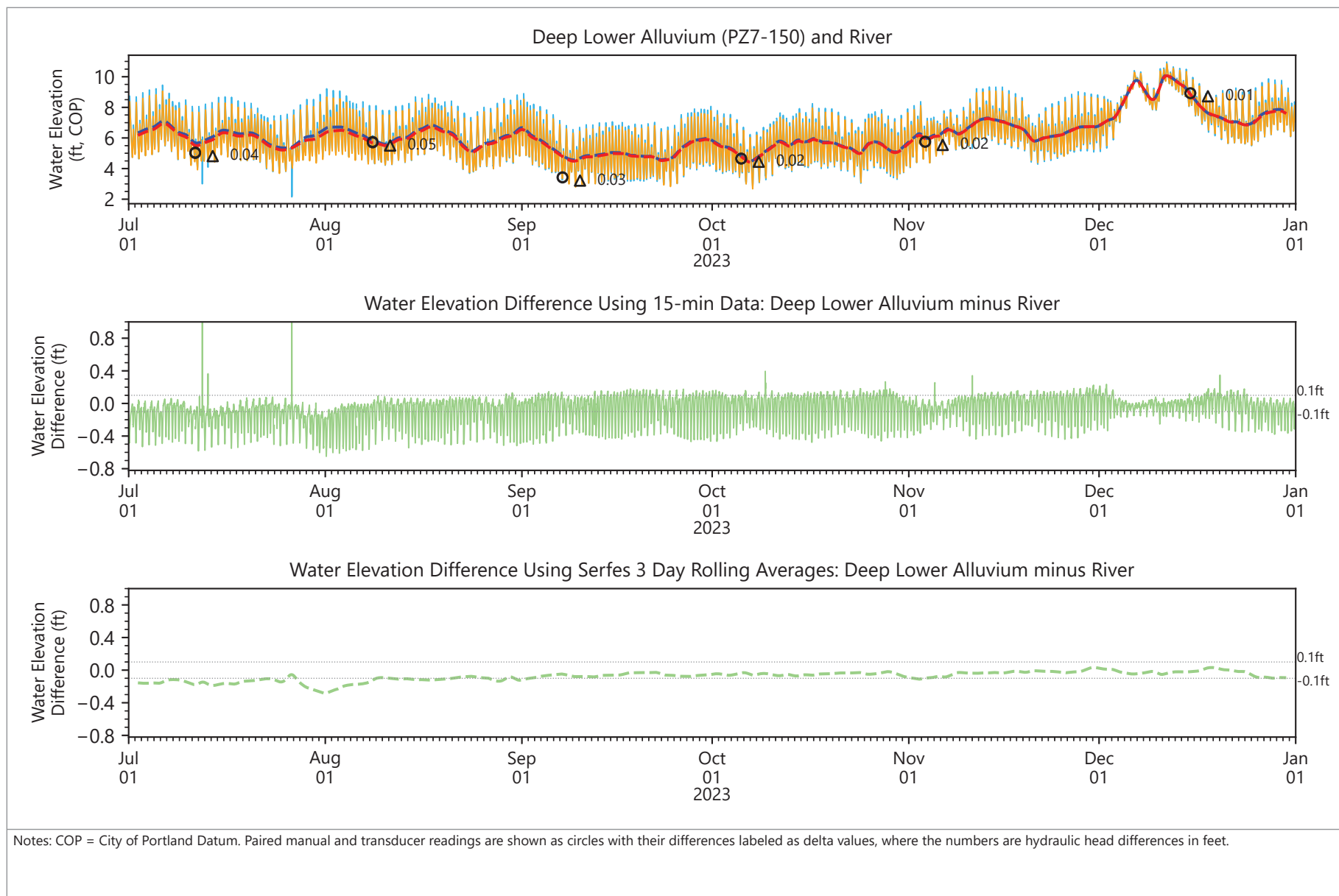


Figure 4.61
Groundwater Elevation Differences
NW Natural Gasco Site

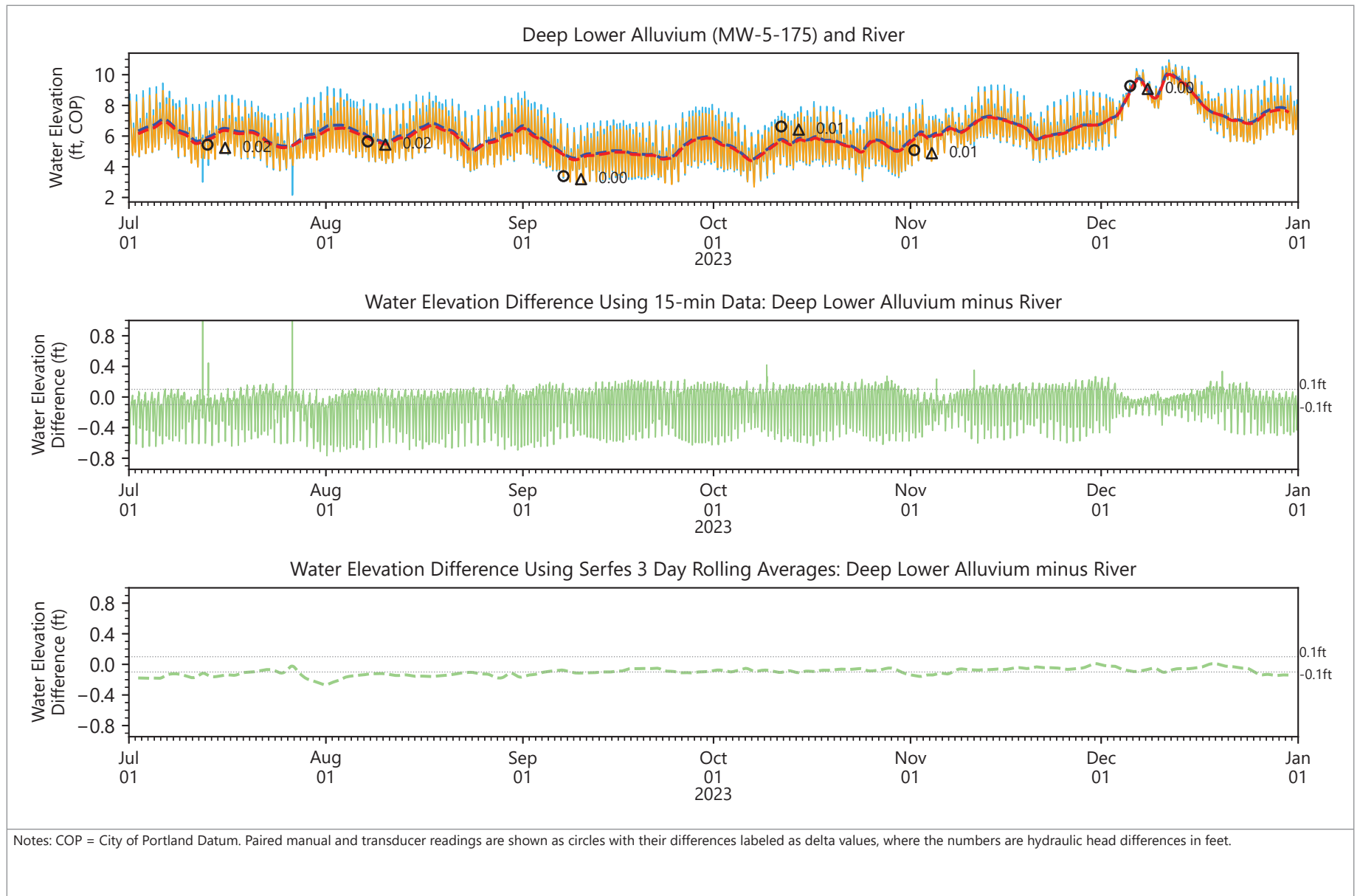


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 \\fuji\Anchor\Data Management\Users\Jason\Python\Gasco\elevation_time_series_per6months_EQUIS.py



- Deep Lower Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Deep Lower Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

Figure 4.62
Groundwater Elevation Differences
 NW Natural Gasco Site



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\\fuji\Anchor\Data Management\Users\Jason\Python\Gasco\elevation_time_series_per6months_EQUIS.py

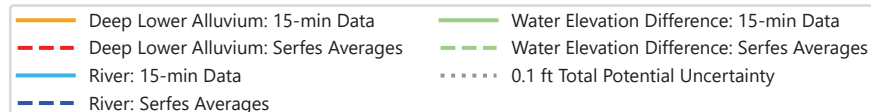
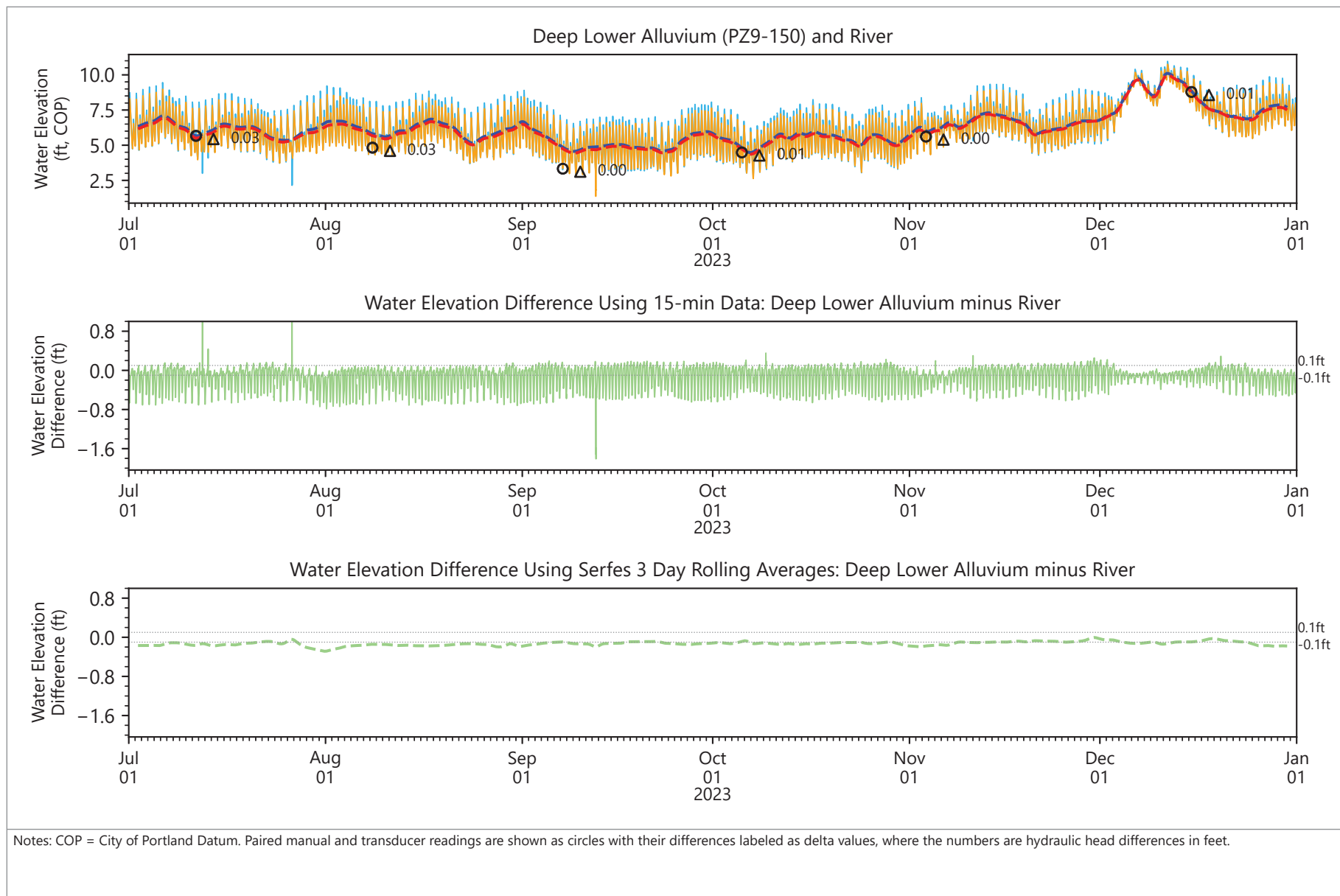


Figure 4.63
Groundwater Elevation Differences
NW Natural Gasco Site



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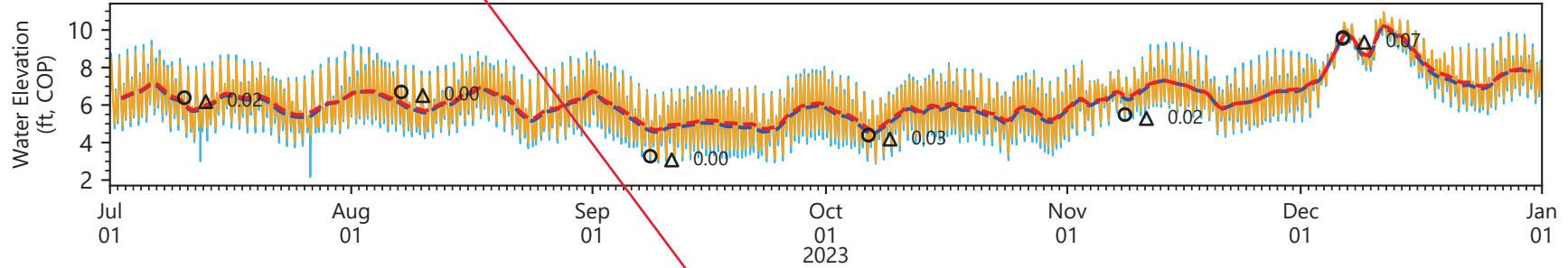


- Deep Lower Alluvium: 15-min Data
 — Water Elevation Difference: 15-min Data
- - - Deep Lower Alluvium: Serfes Averages
 - - - Water Elevation Difference: Serfes Averages
- River: 15-min Data
 0.1 ft Total Potential Uncertainty
- - - River: Serfes Averages

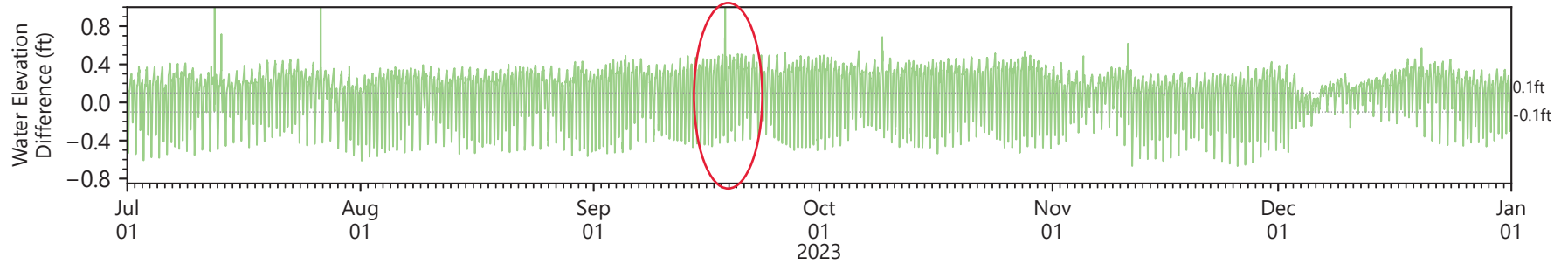
Figure 4.64
Groundwater Elevation Differences
 NW Natural Gasco Site

3rd Quarter
Groundwater
Monitoring.

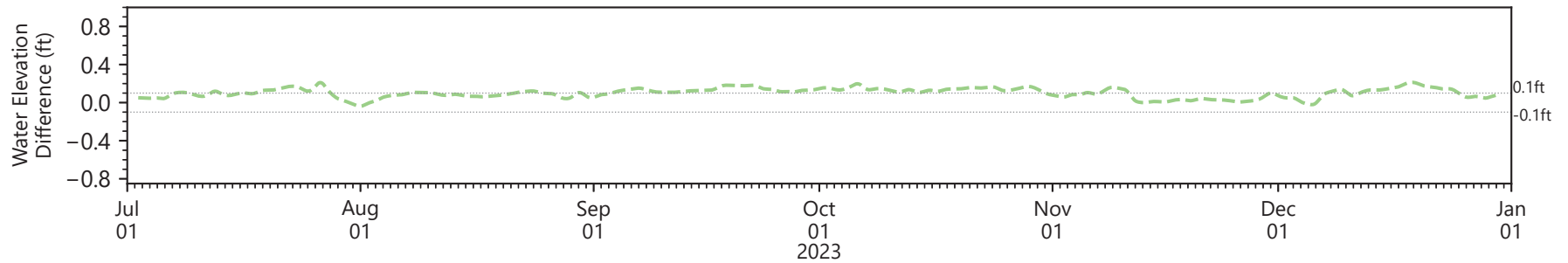
Deep Lower Alluvium (WS-47-183) and River



Water Elevation Difference Using 15-min Data: Deep Lower Alluvium minus River



Water Elevation Difference Using Serfes 3 Day Rolling Averages: Deep Lower Alluvium minus River



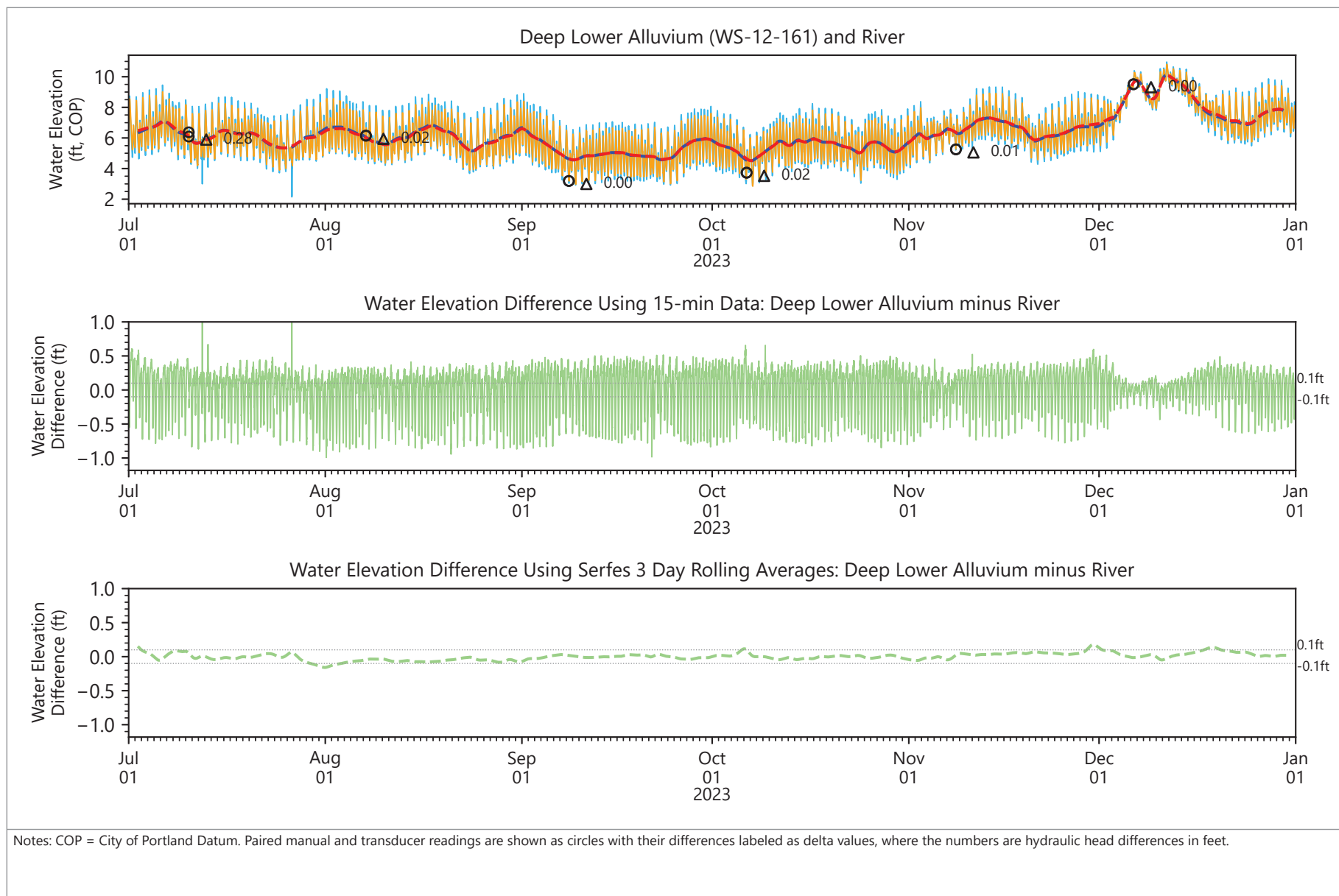
Notes: COP = City of Portland Datum. Paired manual and transducer readings are shown as circles with their differences labeled as delta values, where the numbers are hydraulic head differences in feet.

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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.65
Groundwater Elevation Differences
NW Natural Gasco Site

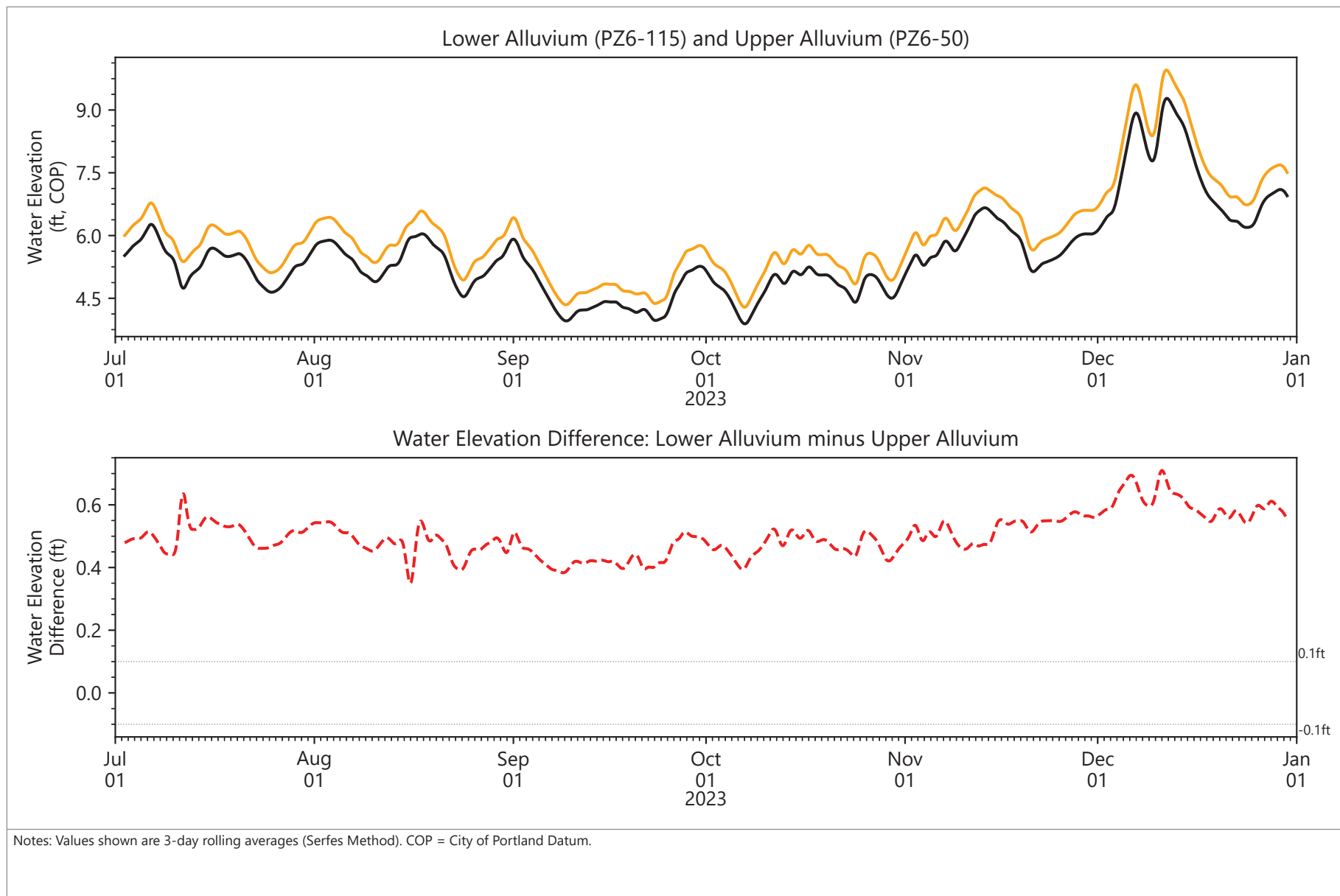


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- Deep Lower Alluvium: 15-min Data
- Deep Lower Alluvium: Serfes Averages
- River: 15-min Data
- River: Serfes Averages
- Water Elevation Difference: 15-min Data
- Water Elevation Difference: Serfes Averages
- 0.1 ft Total Potential Uncertainty

Figure 4.66
Groundwater Elevation Differences
 NW Natural Gasco Site

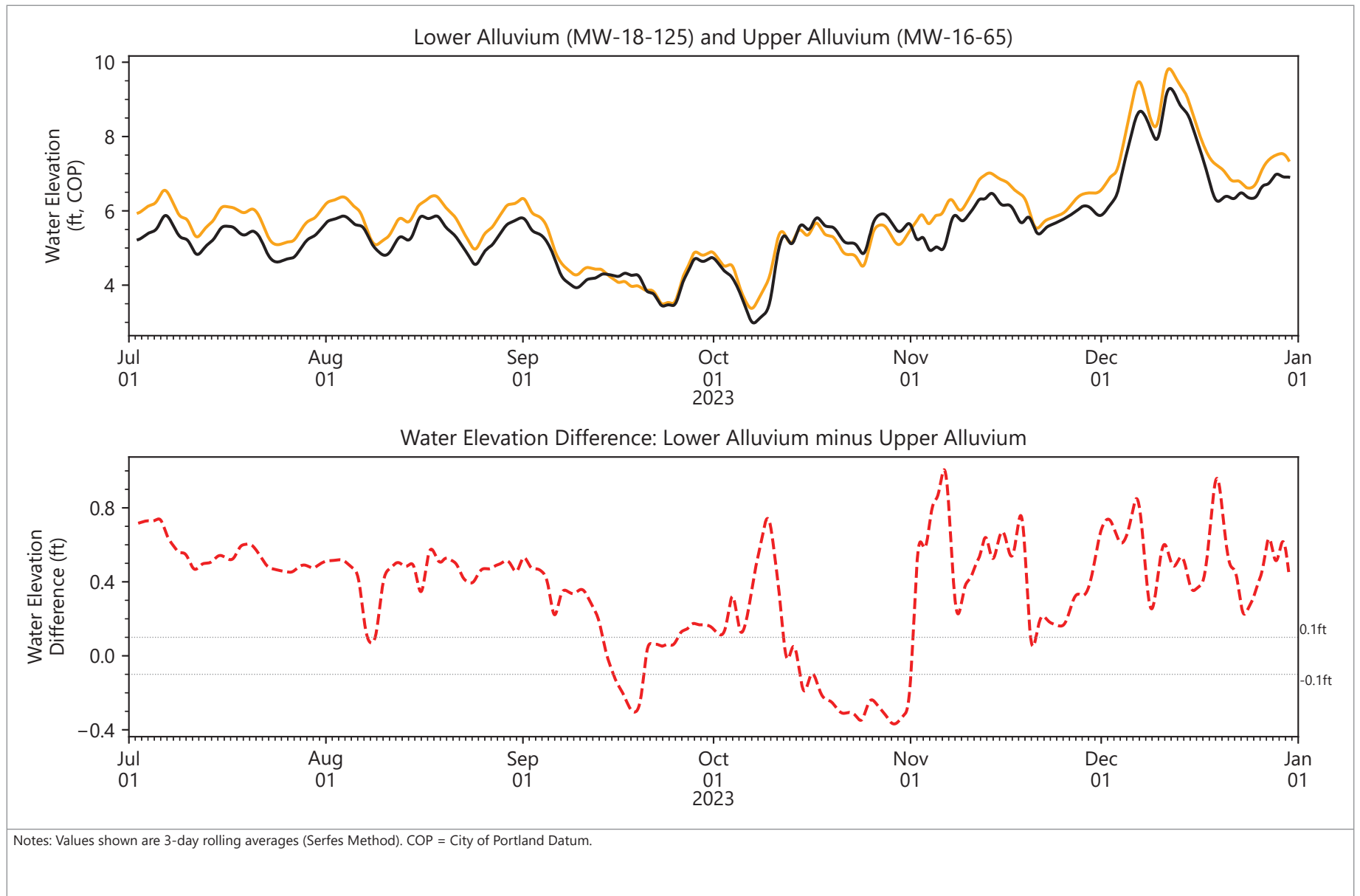


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.1
Groundwater Elevation Differences
NW Natural Gasco Site



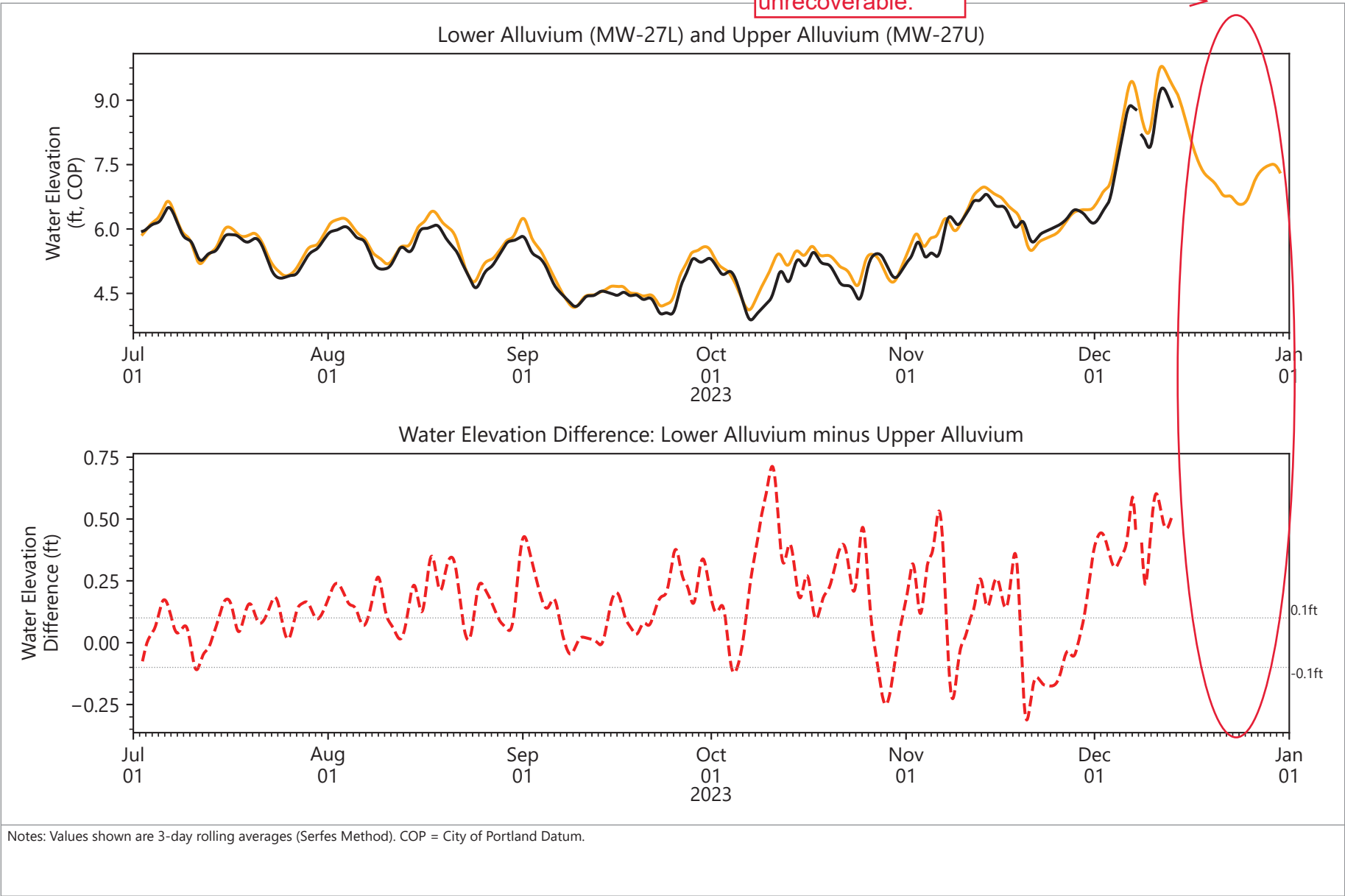
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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.2
Groundwater Elevation Differences
 NW Natural Gasco Site

Transducer malfunction. Data unrecoverable.

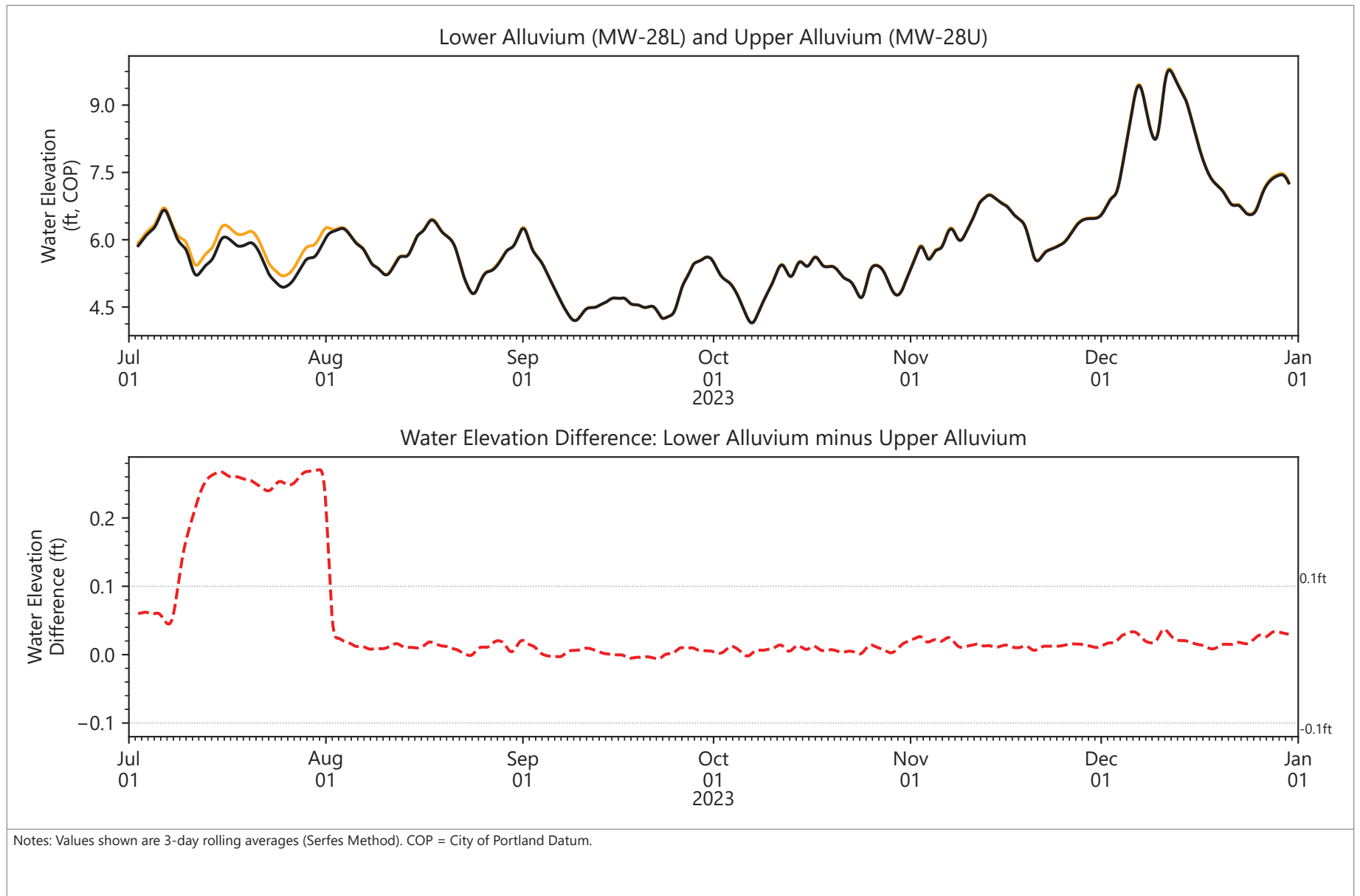


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- Lower Alluvium
- Upper Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.3
Groundwater Elevation Differences
NW Natural Gasco Site



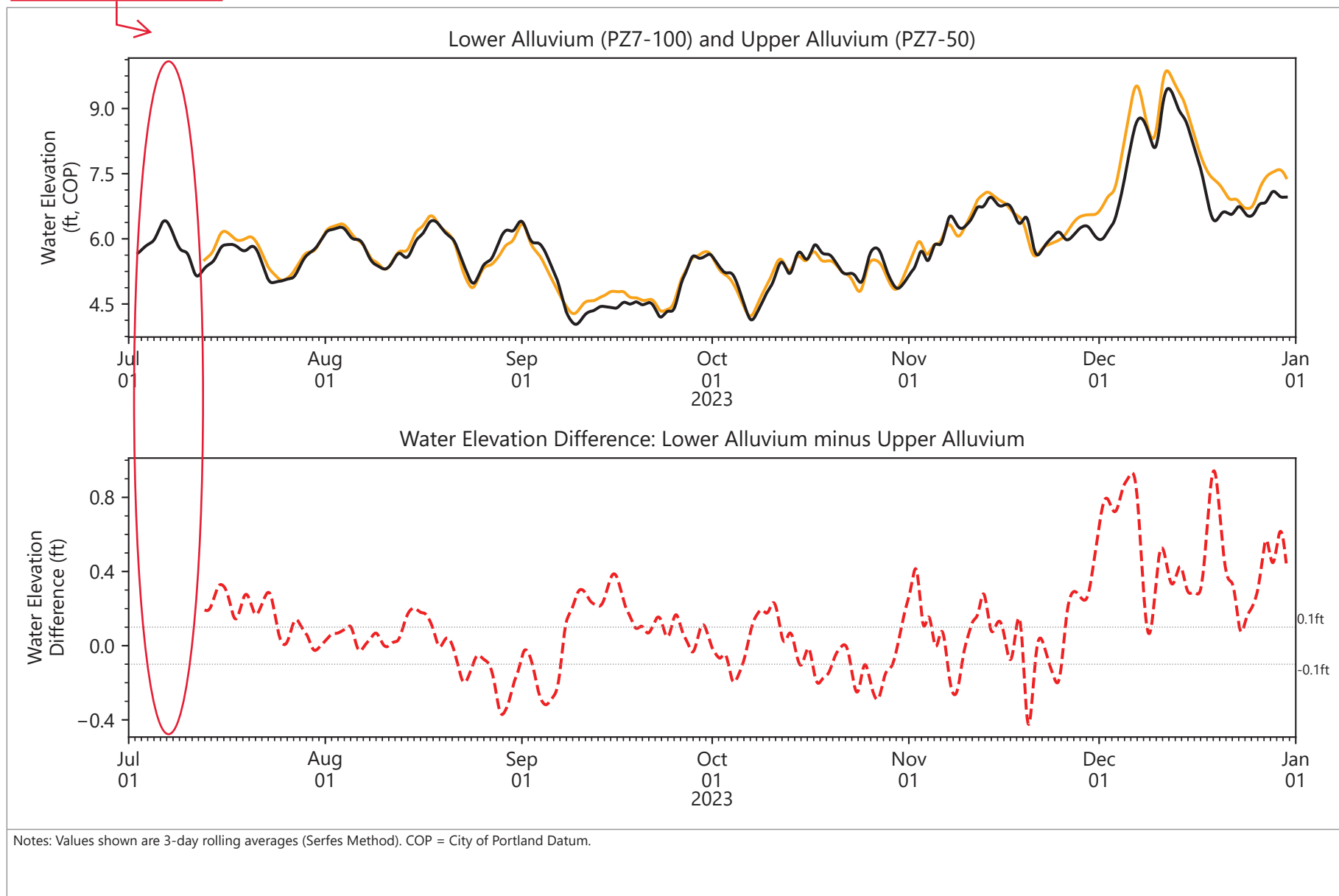
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- Lower Alluvium
- Upper Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.4
Groundwater Elevation Differences
NW Natural Gasco Site

Transducer malfunction. Data unrecoverable.

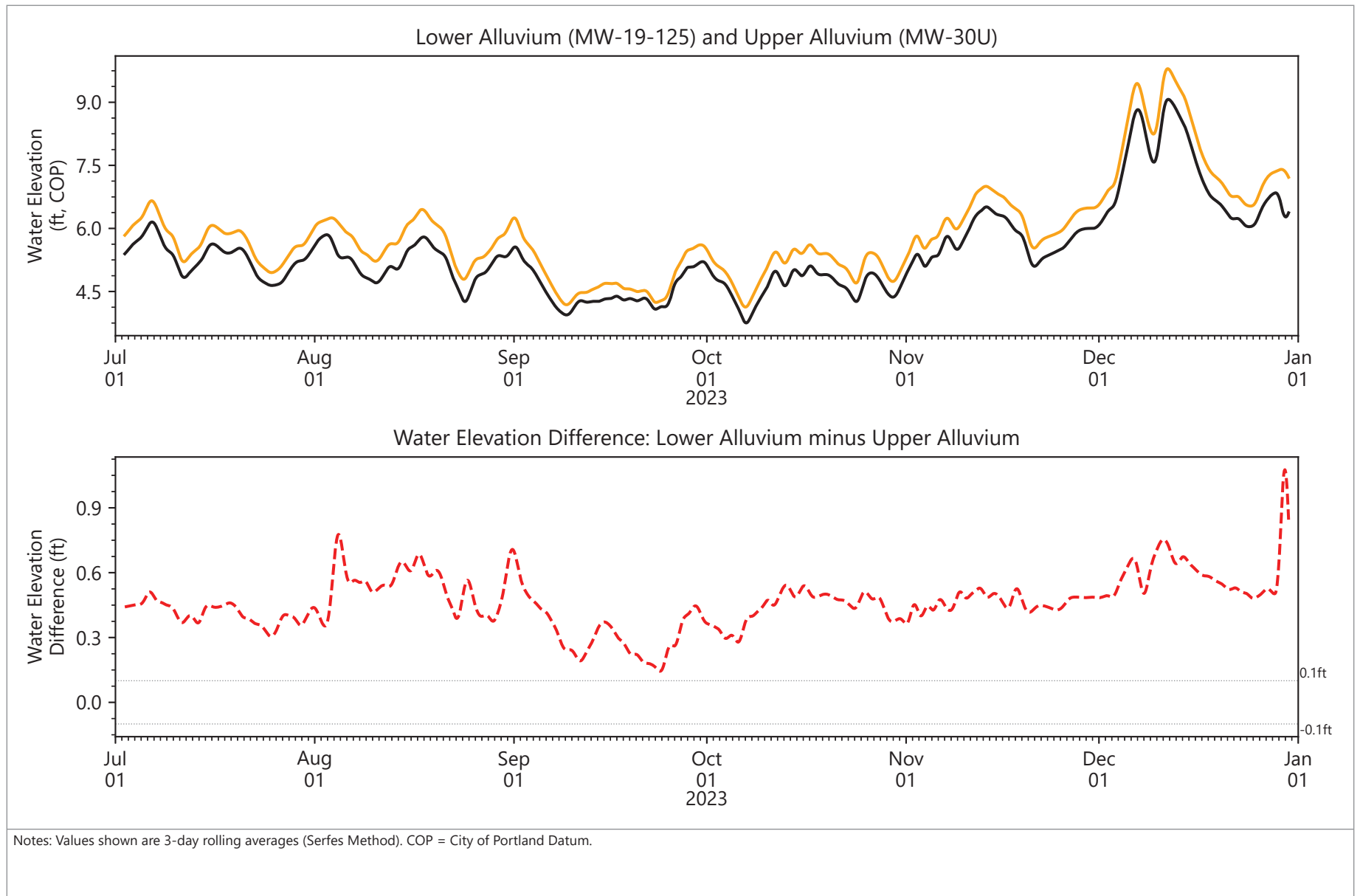


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- Lower Alluvium
- Upper Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.5
Groundwater Elevation Differences
NW Natural Gasco Site

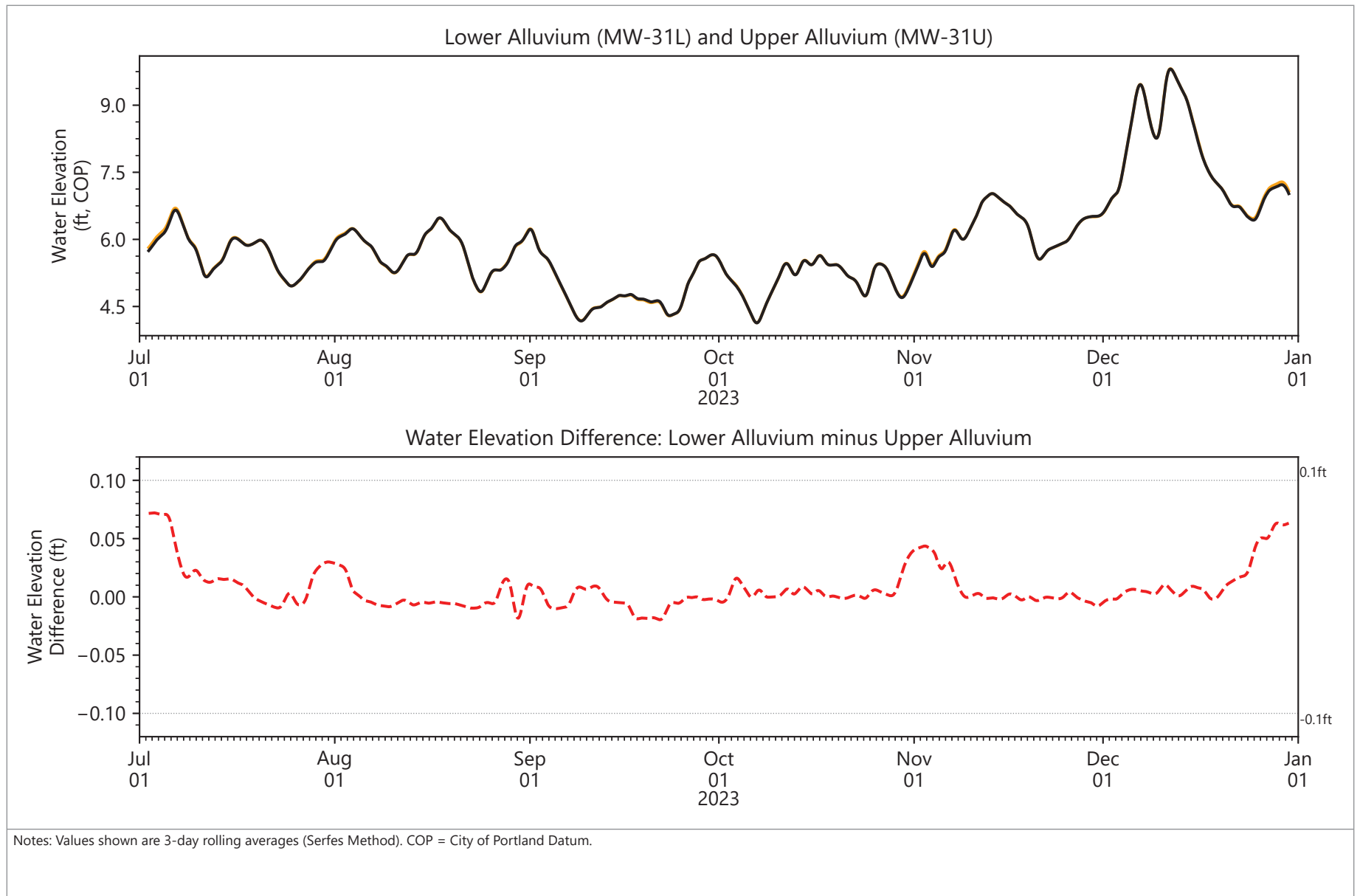


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- Lower Alluvium
- Upper Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.6
Groundwater Elevation Differences
NW Natural Gasco Site

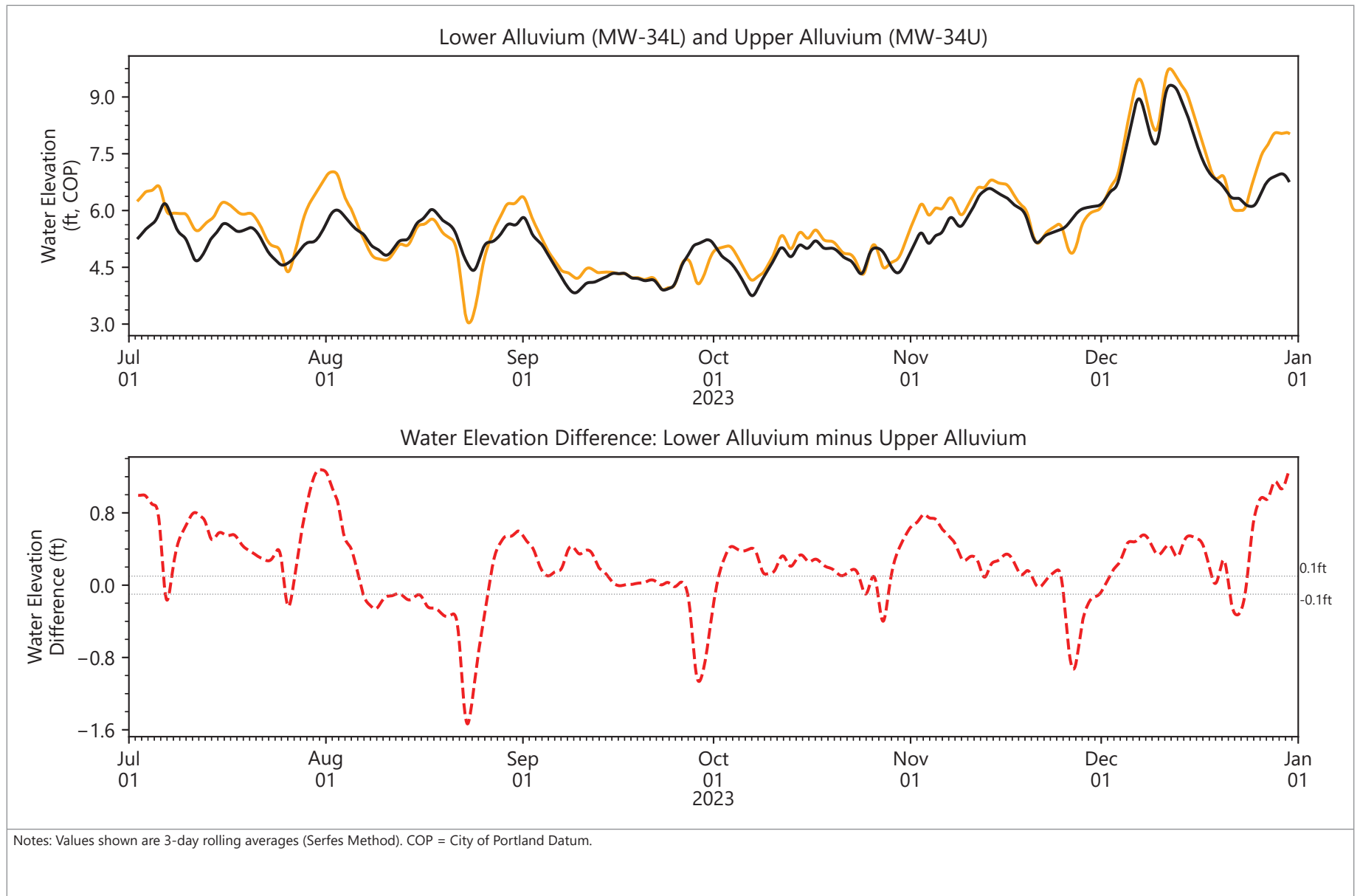


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.7
Groundwater Elevation Differences
 NW Natural Gasco Site

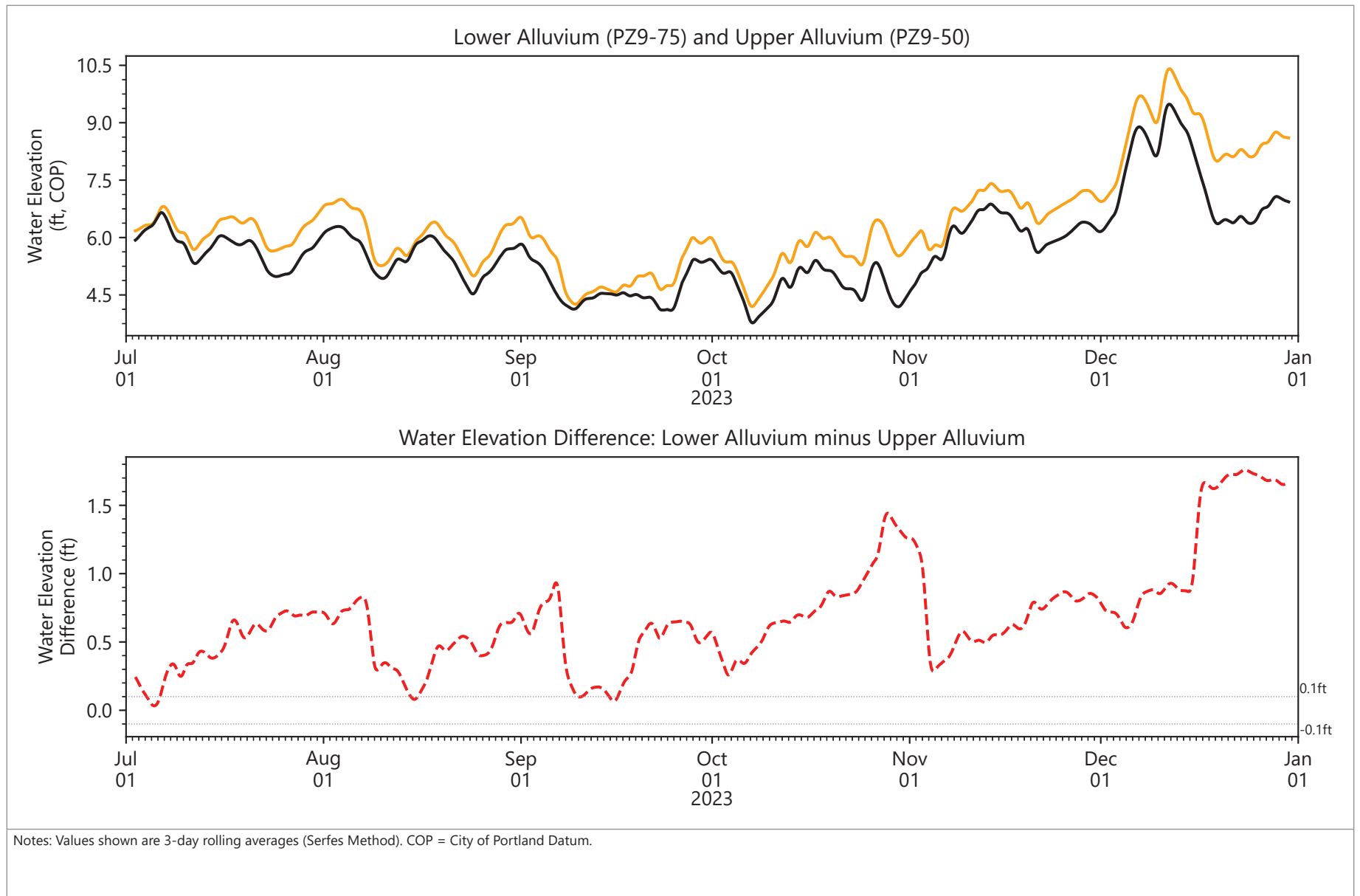


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.8
Groundwater Elevation Differences
NW Natural Gasco Site

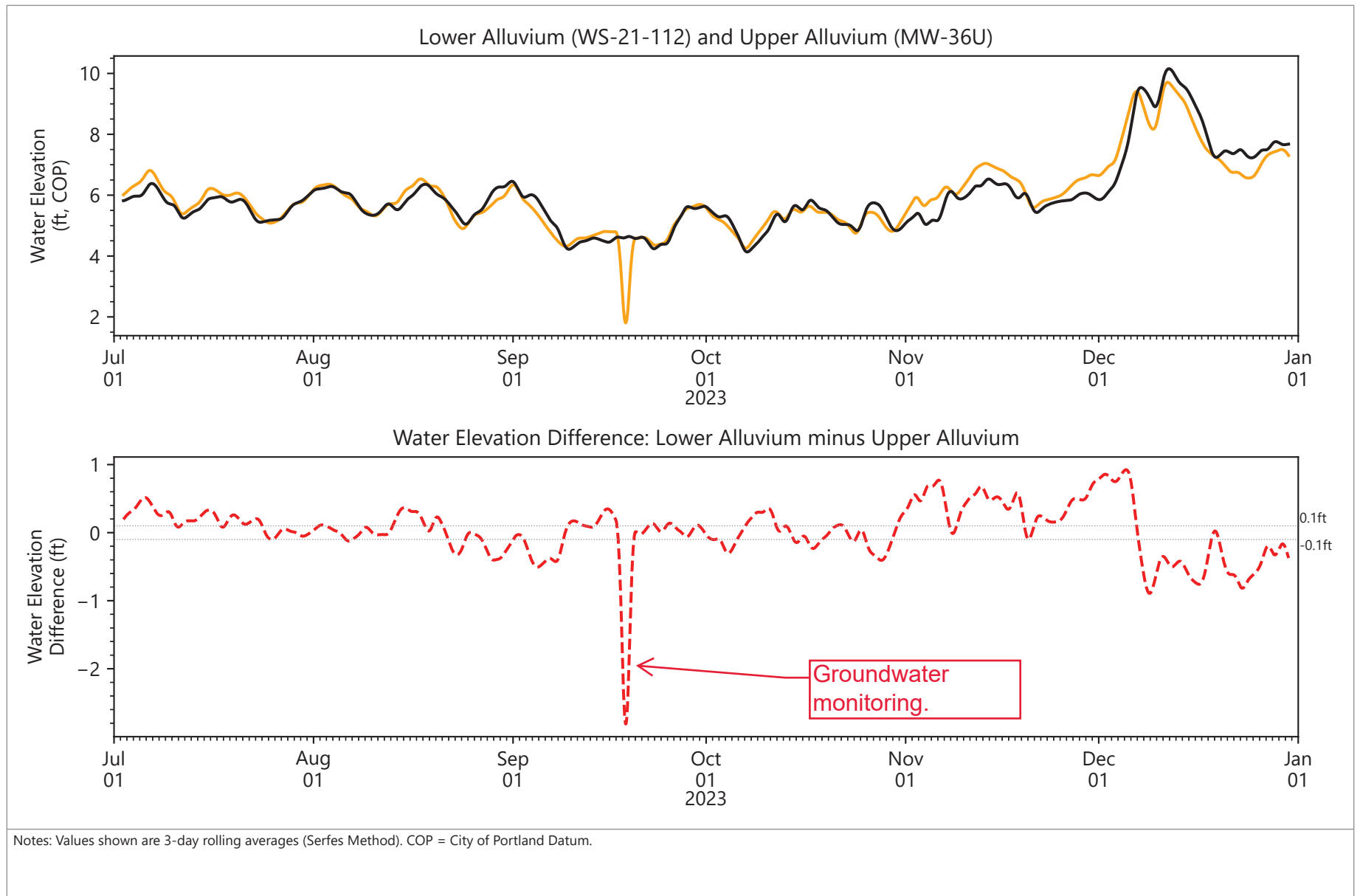


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.9
Groundwater Elevation Differences
NW Natural Gasco Site

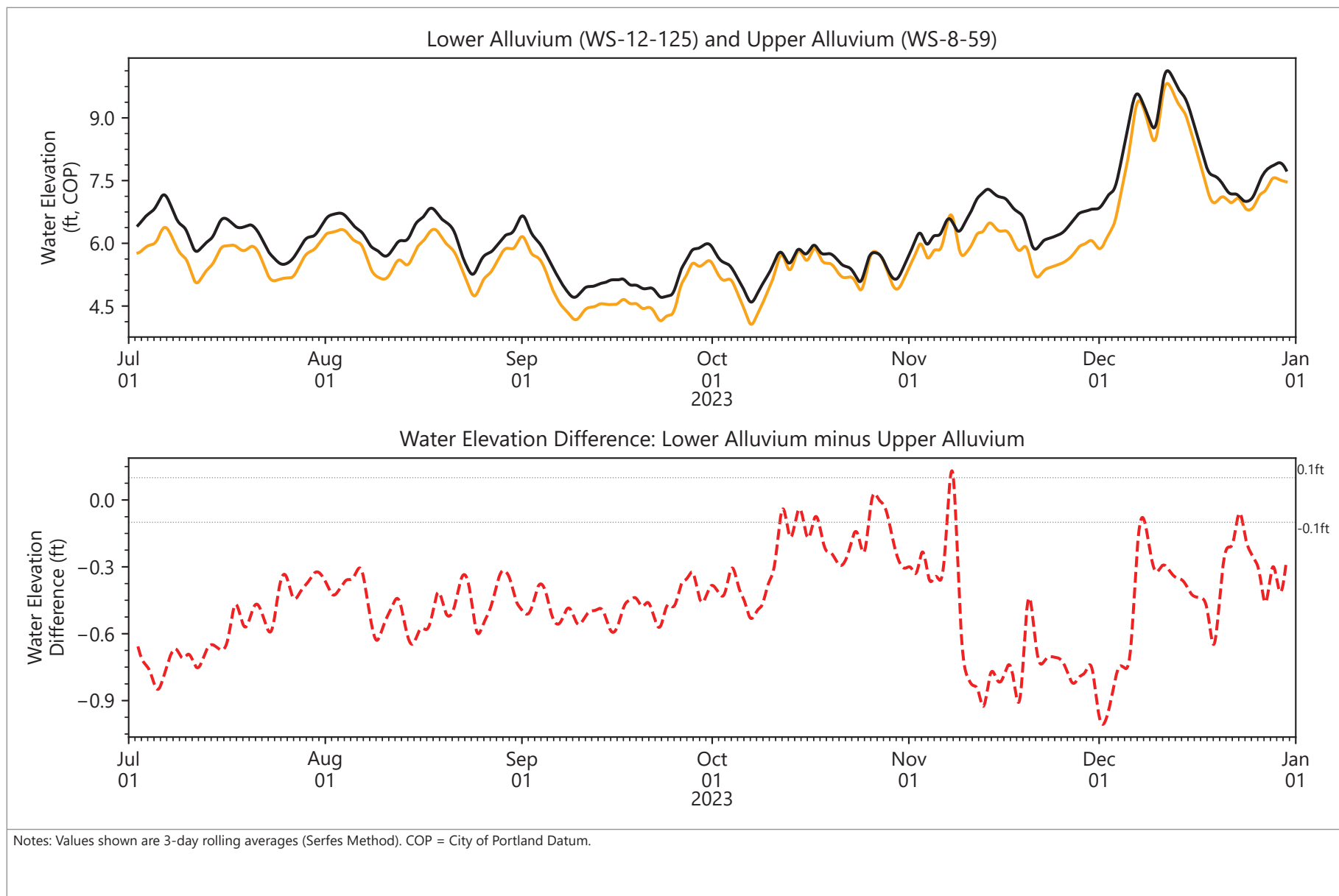


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.10
Groundwater Elevation Differences
NW Natural Gasco Site

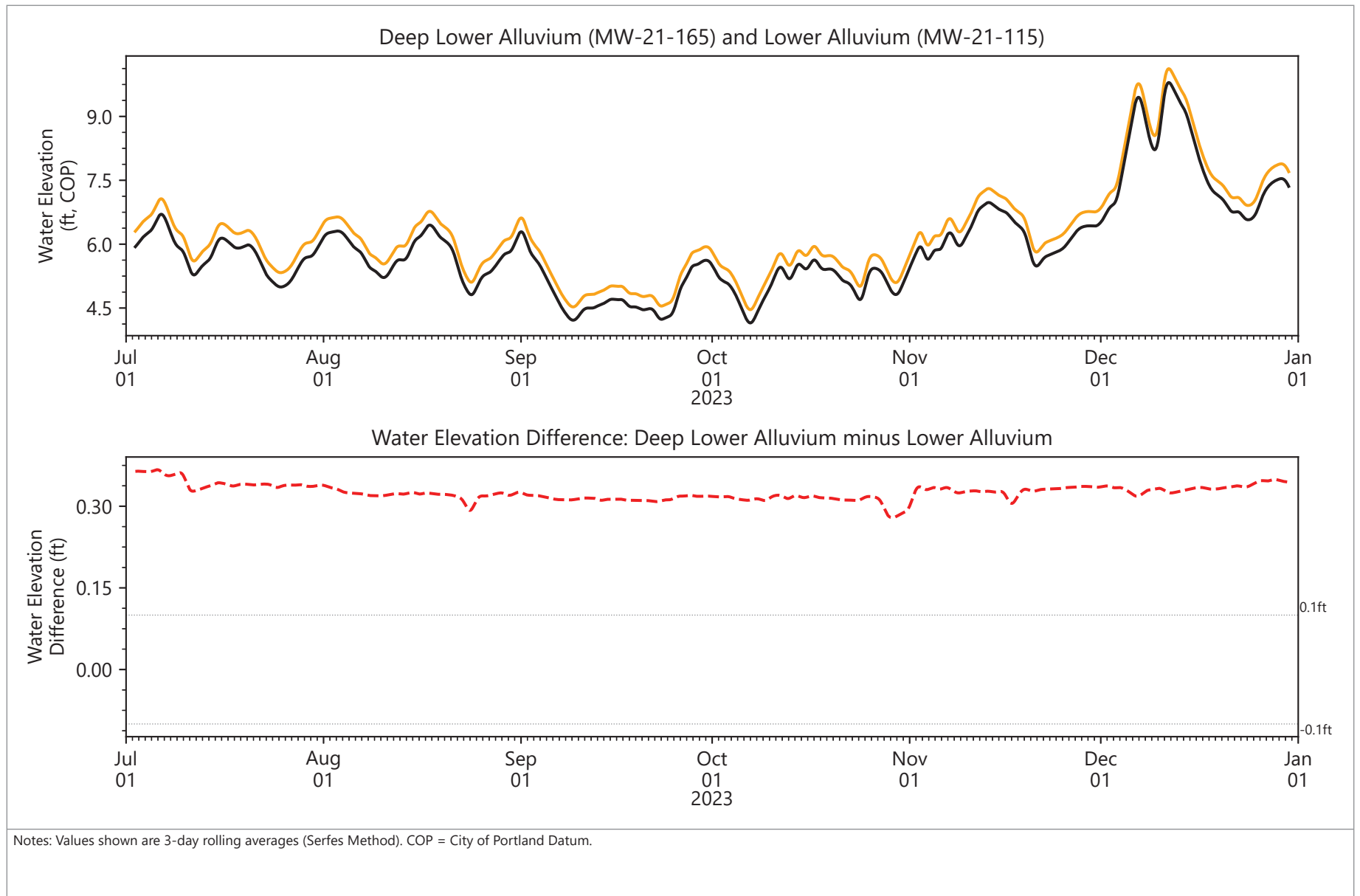


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- Lower Alluvium
- Upper Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.11
Groundwater Elevation Differences
 NW Natural Gasco Site

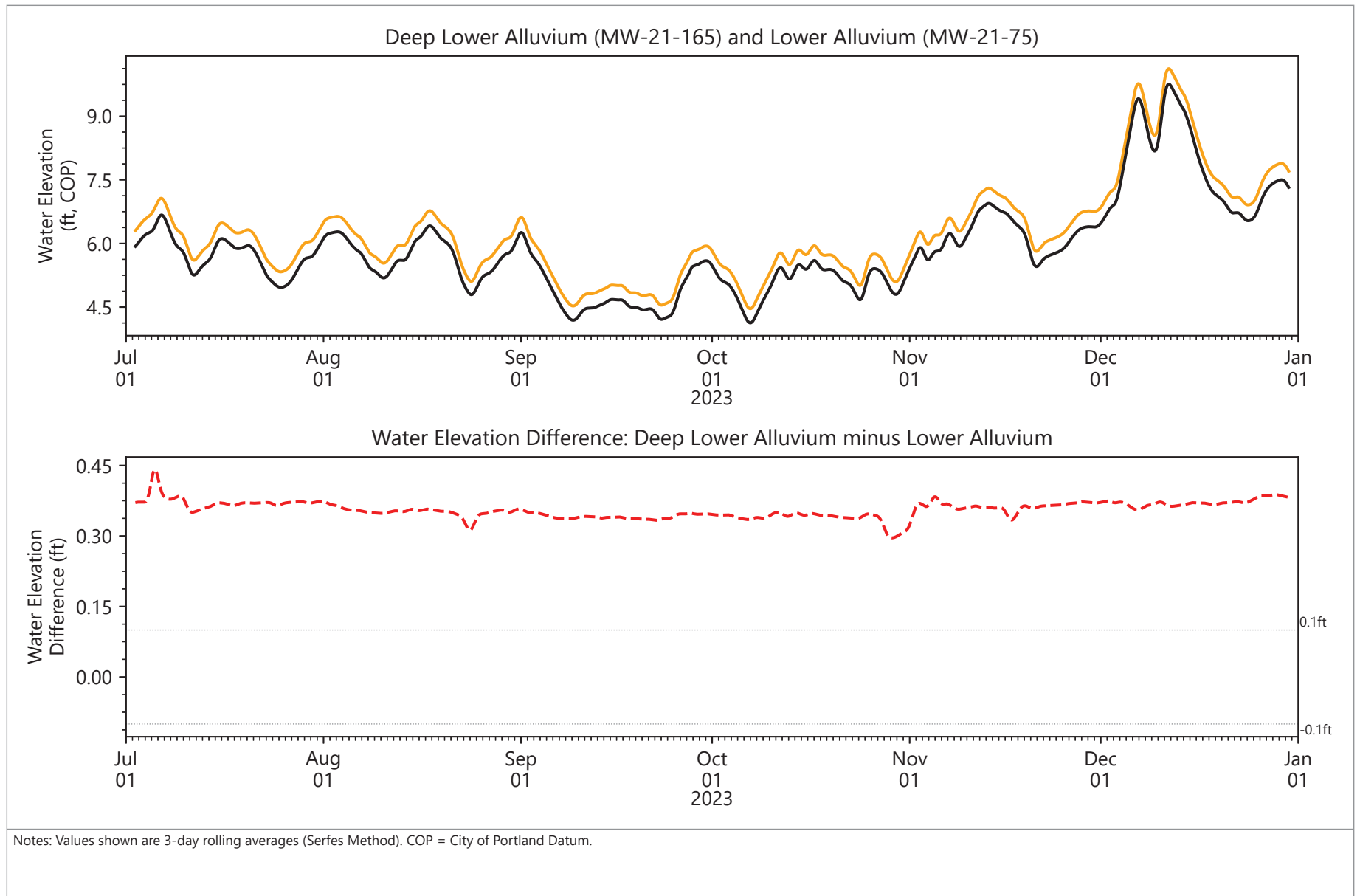


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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.12
Groundwater Elevation Differences
NW Natural Gasco Site

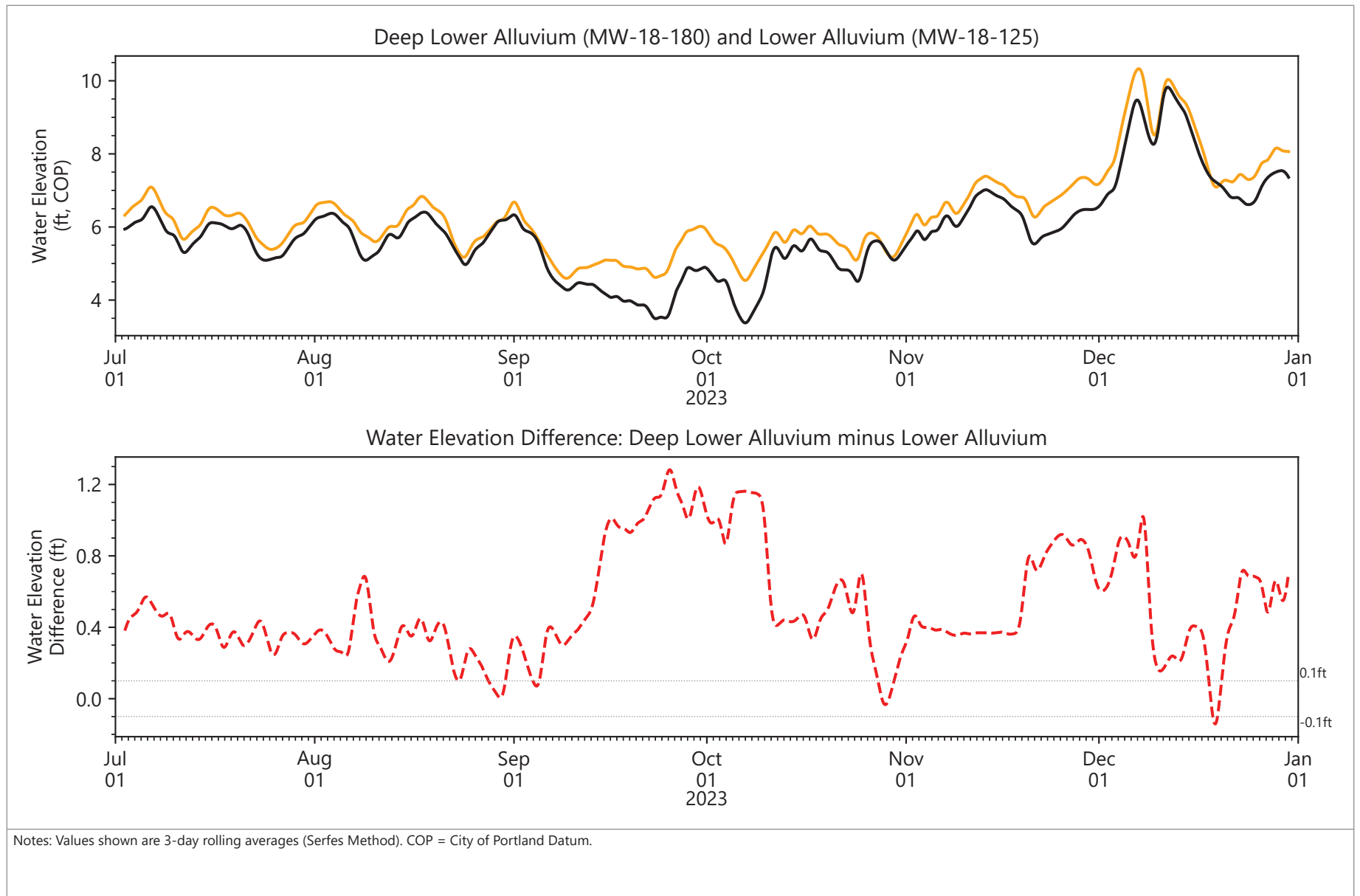


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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.13
Groundwater Elevation Differences
NW Natural Gasco Site

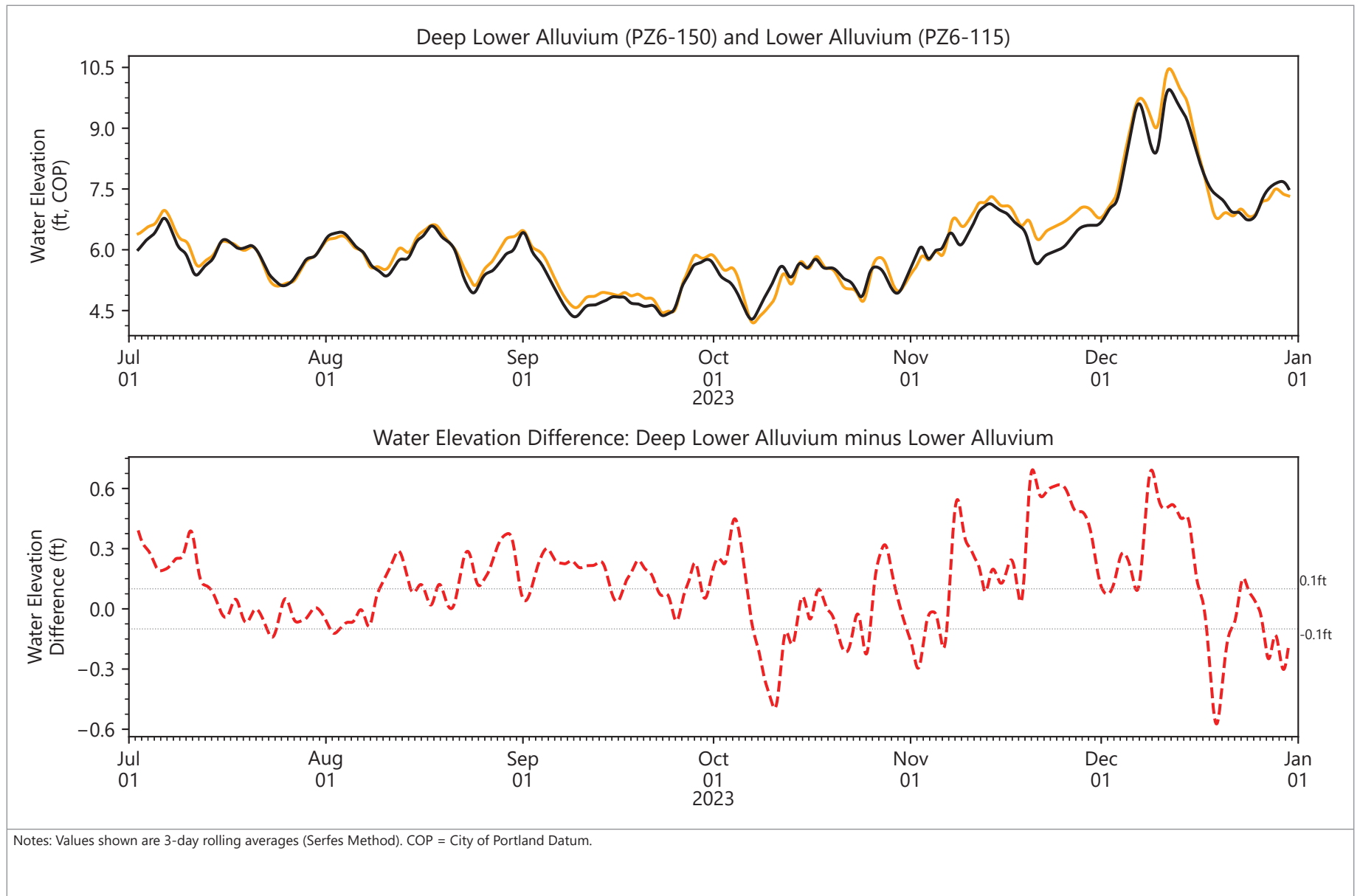


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.14
Groundwater Elevation Differences
 NW Natural Gasco Site

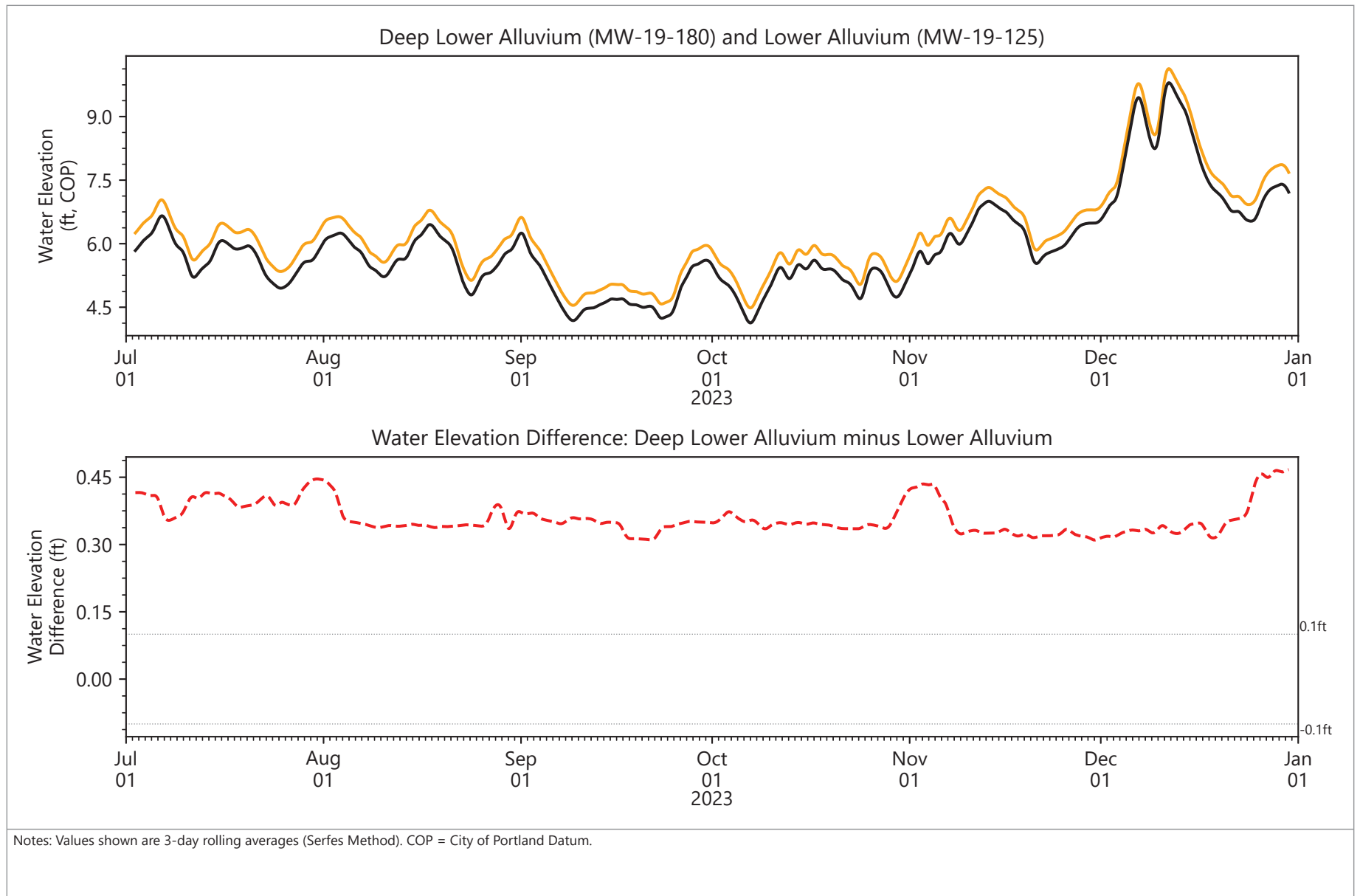


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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.15
Groundwater Elevation Differences
NW Natural Gasco Site



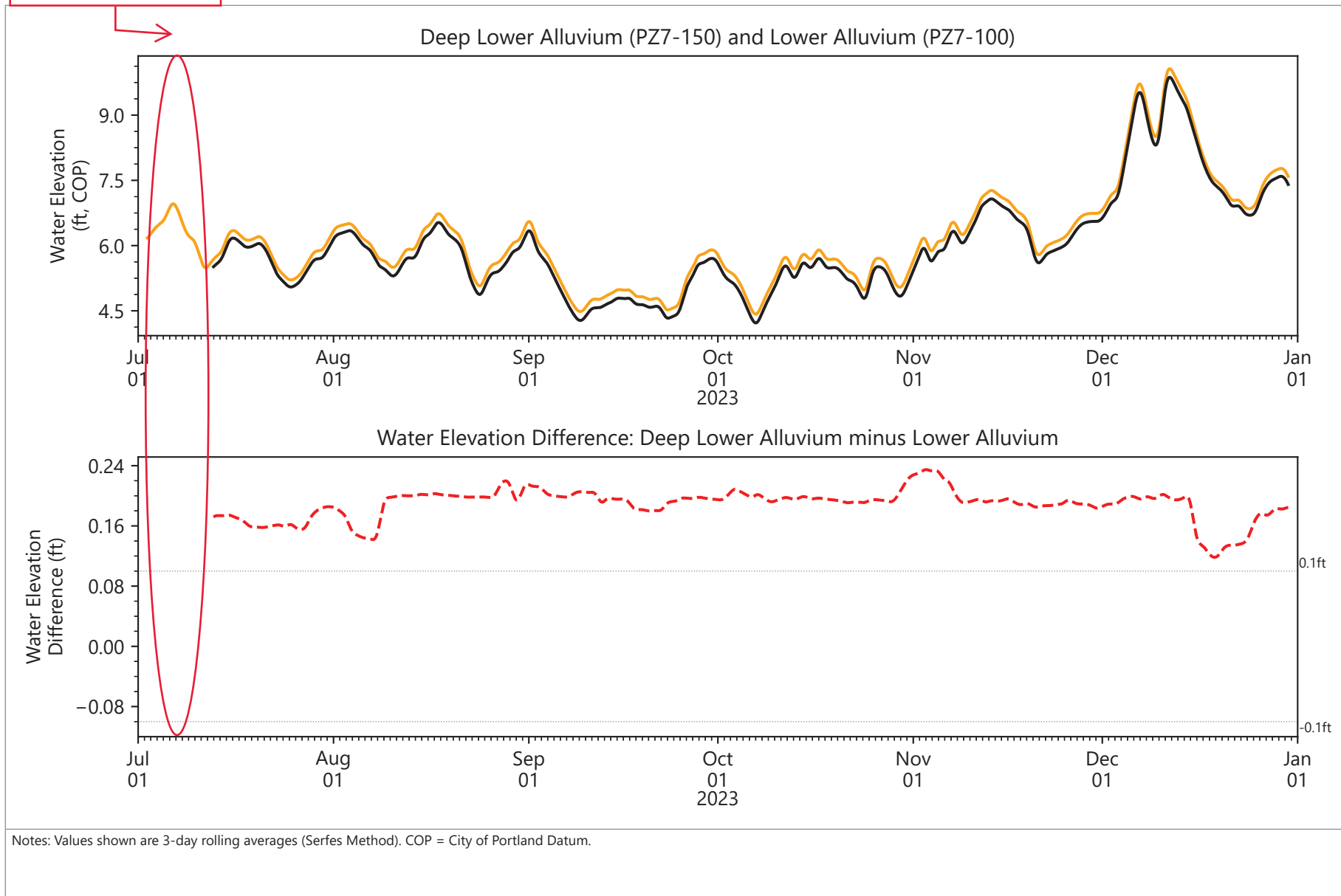
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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.16
Groundwater Elevation Differences
NW Natural Gasco Site

Transducer malfunction. Data unrecoverable.

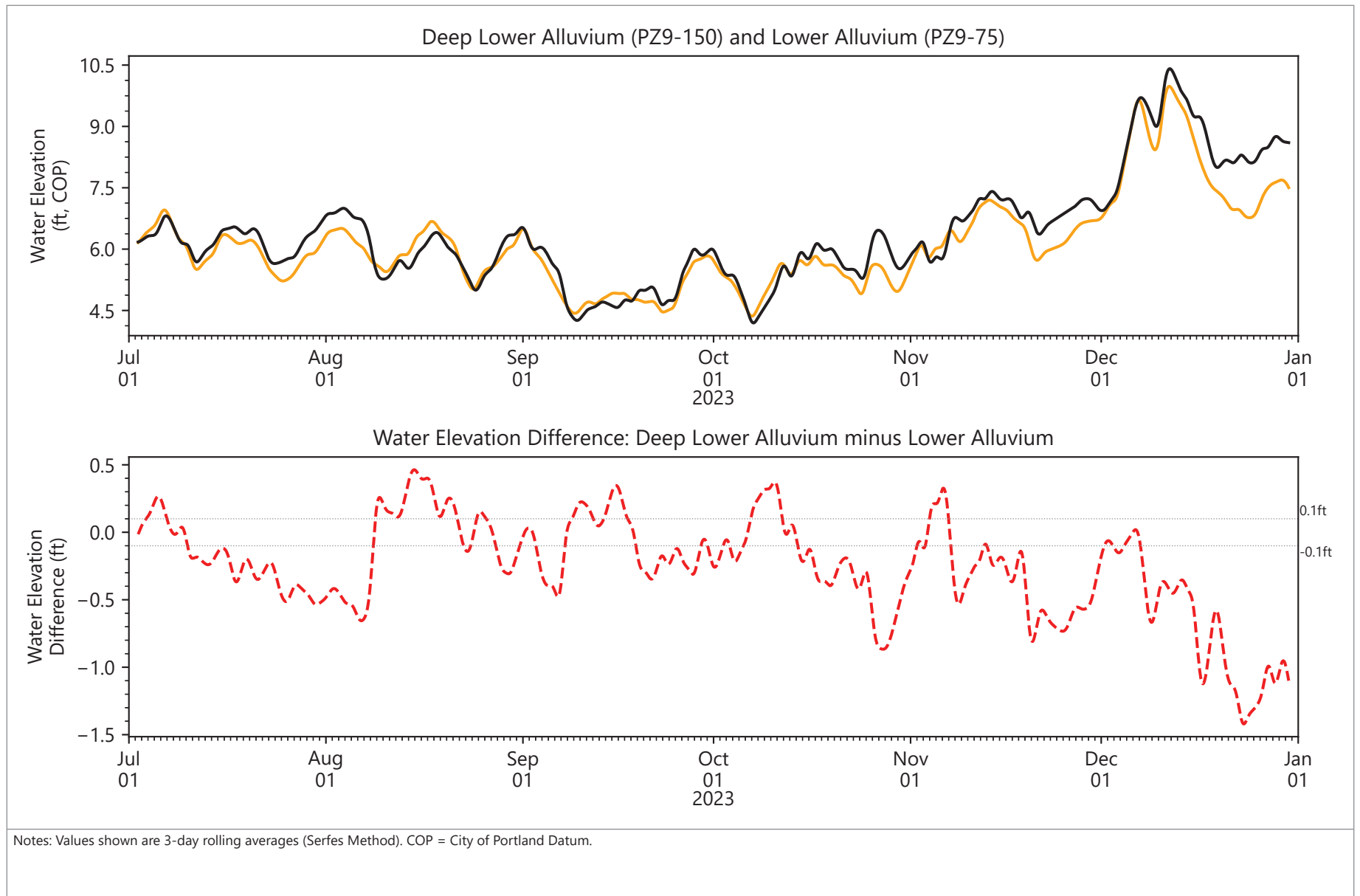


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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.17
Groundwater Elevation Differences
NW Natural Gasco Site

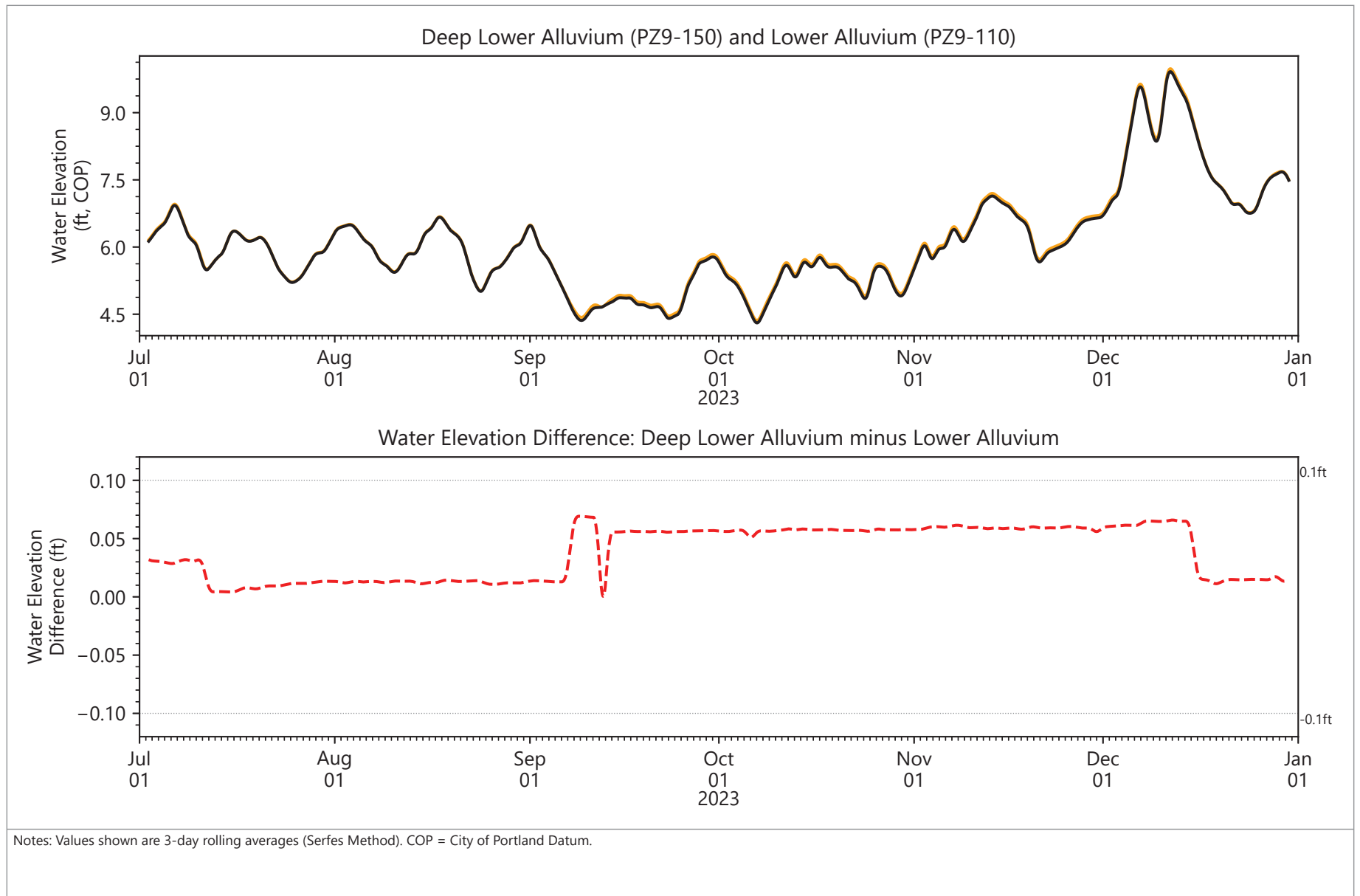


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- Deep Lower Alluvium
- Lower Alluvium
- - - Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.18
Groundwater Elevation Differences
 NW Natural Gasco Site

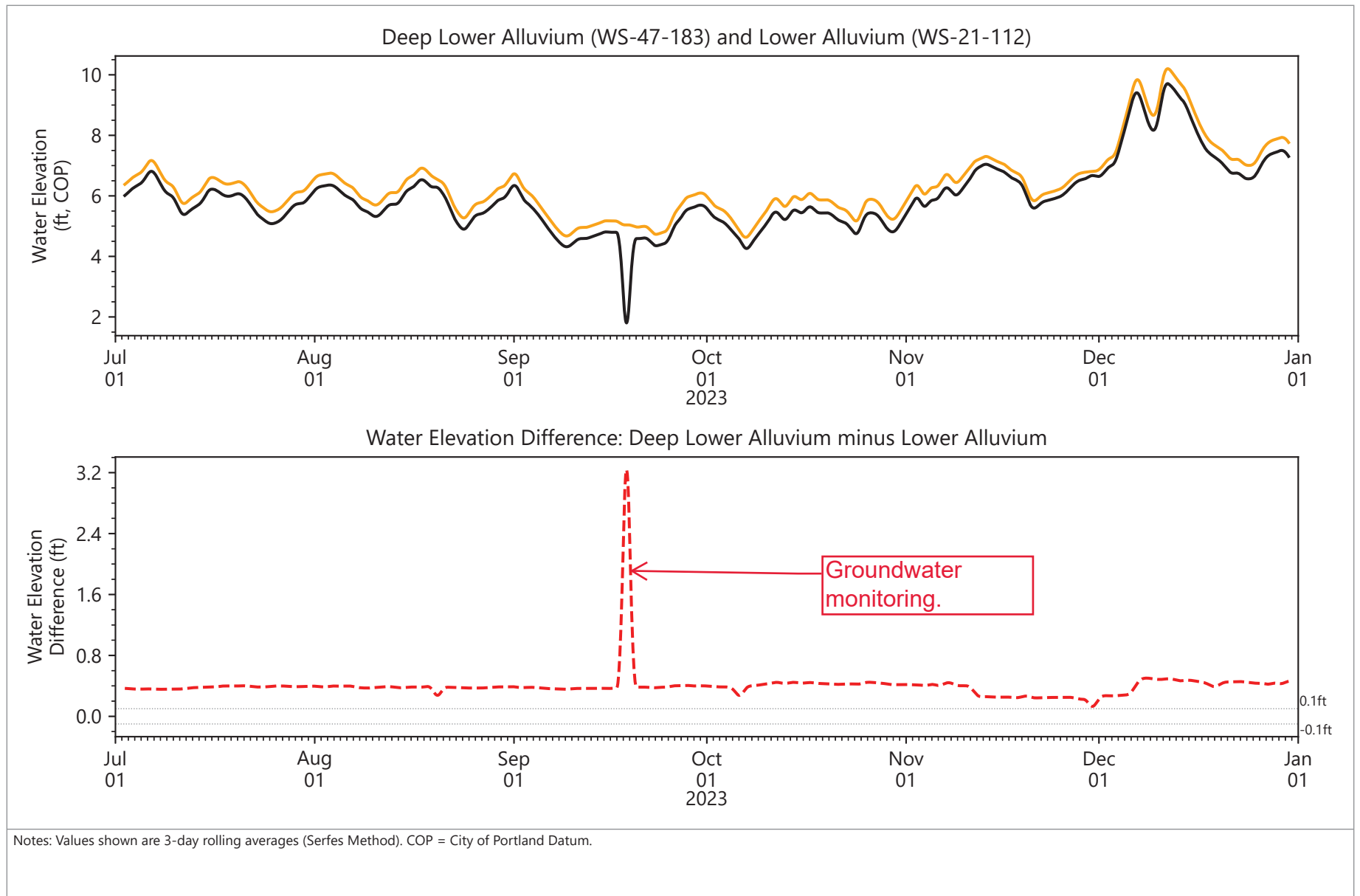


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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.19
Groundwater Elevation Differences
NW Natural Gasco Site

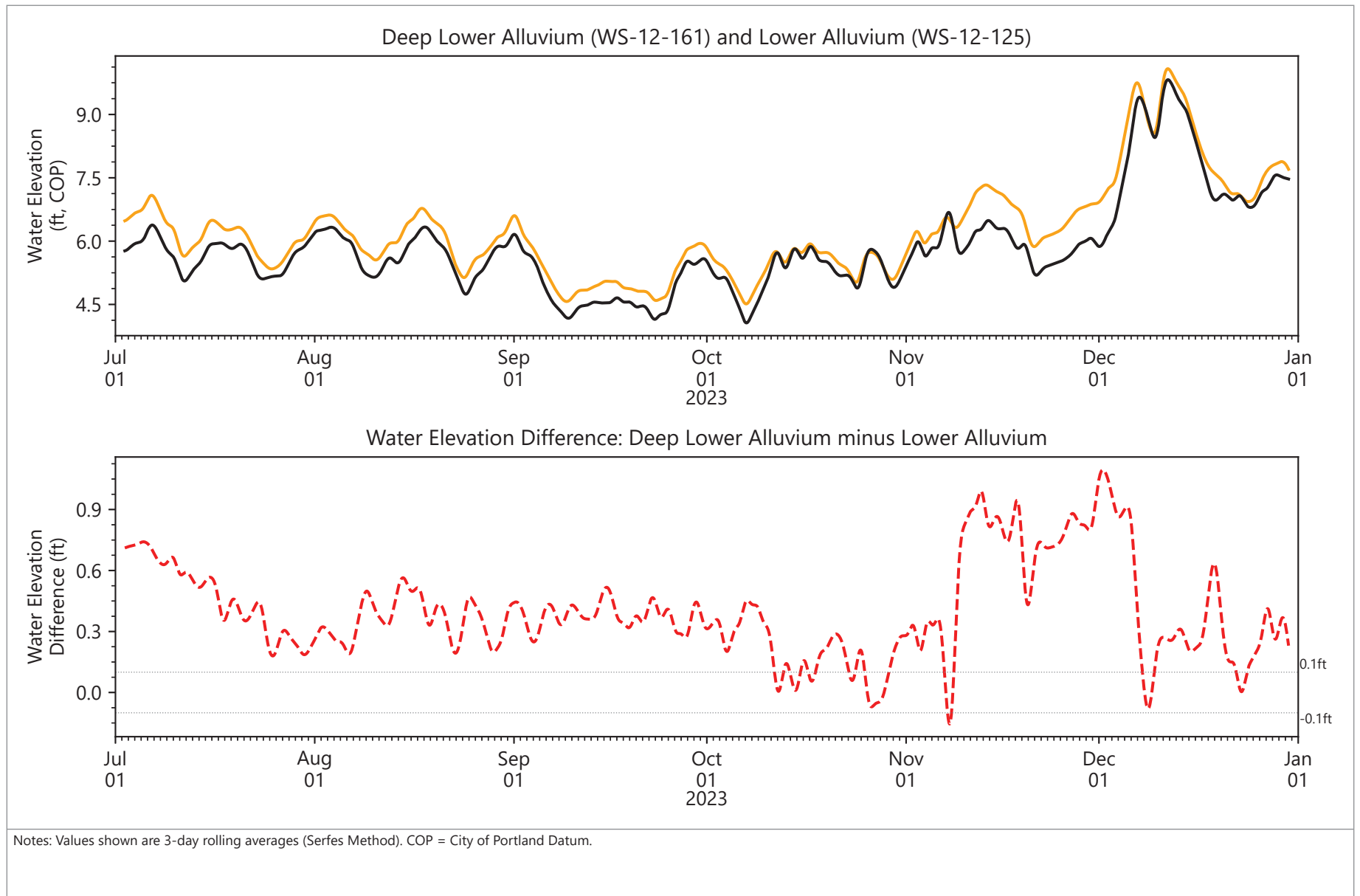


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- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.20
Groundwater Elevation Differences
NW Natural Gasco Site

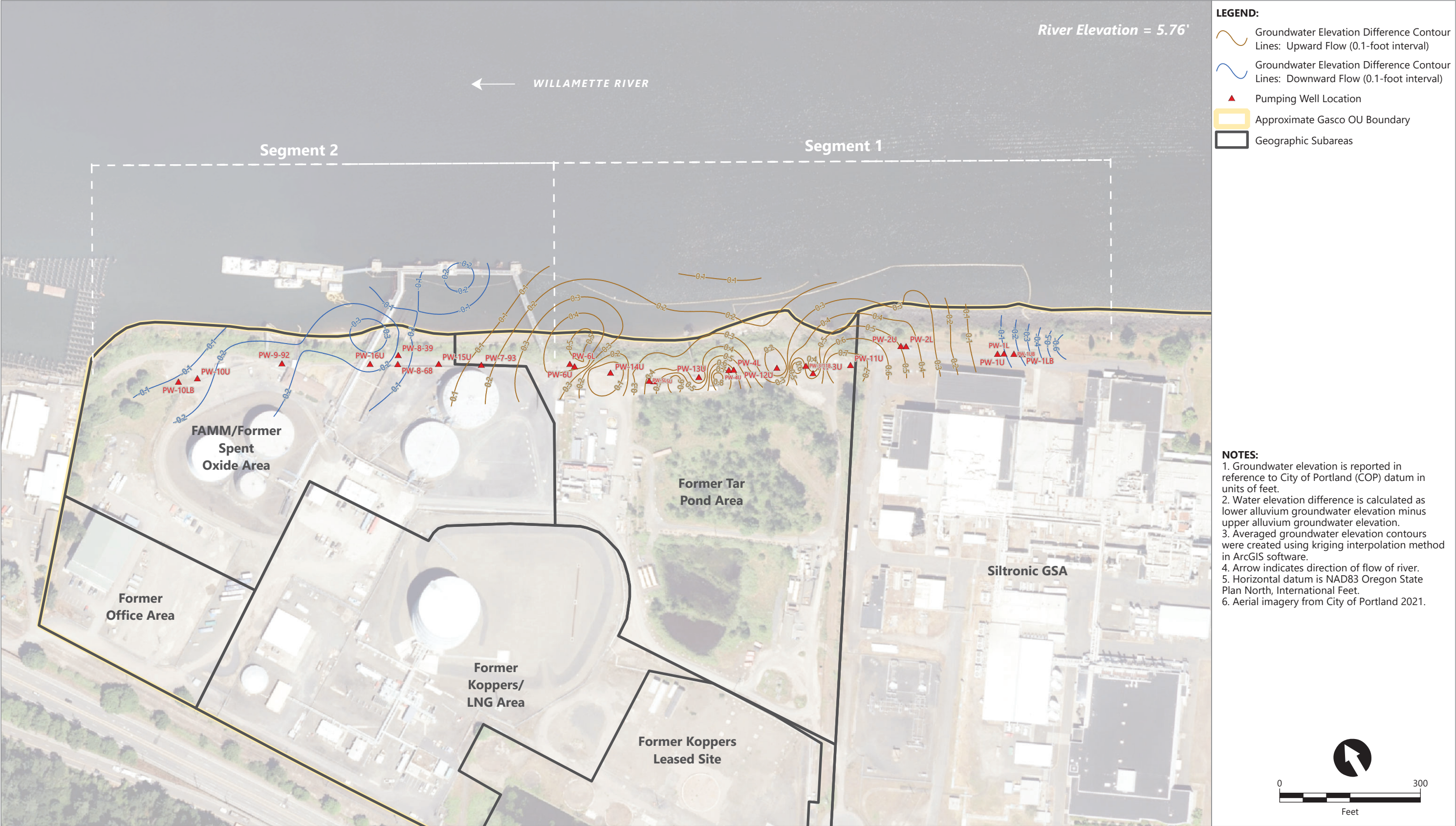


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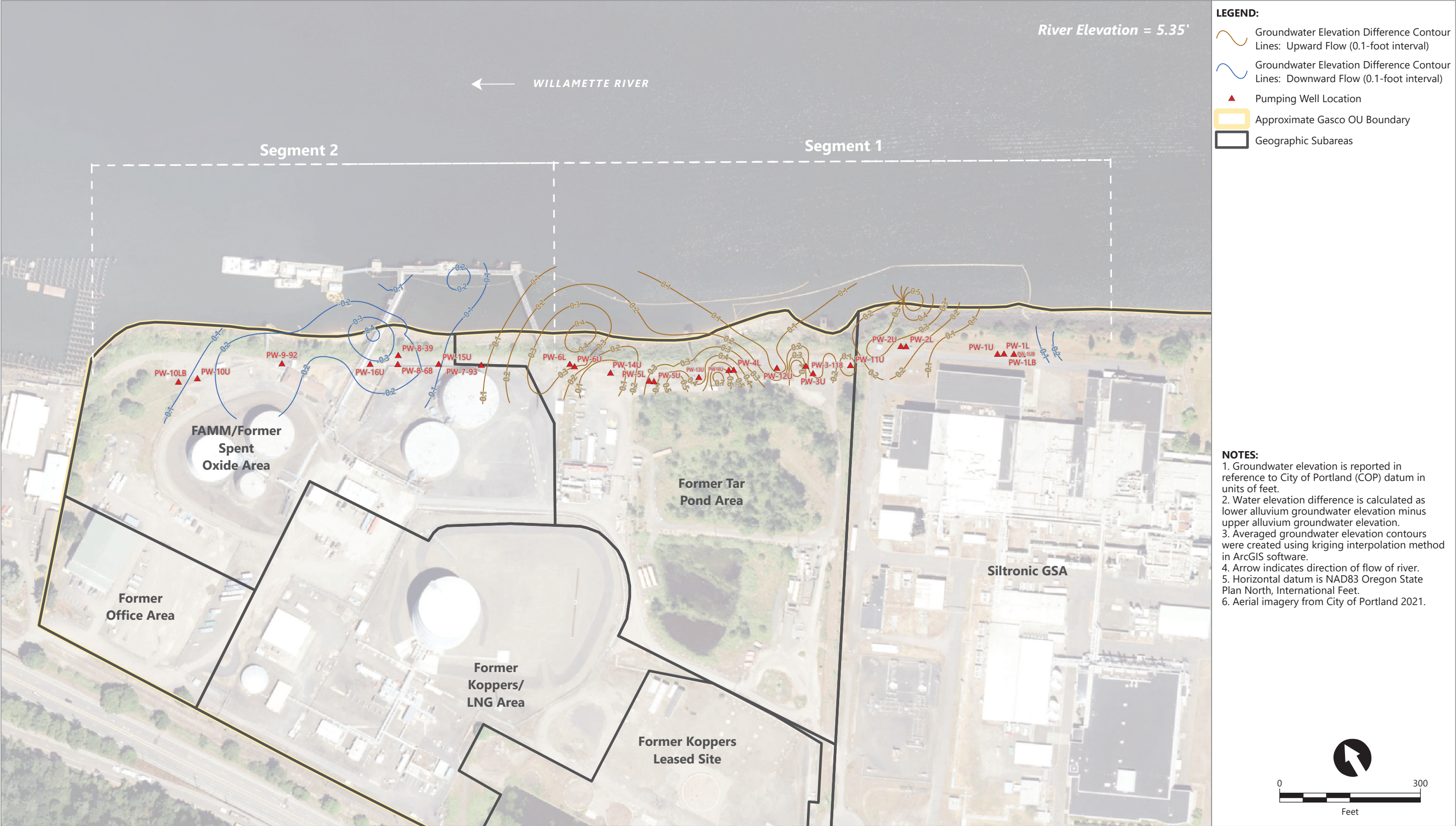
- Deep Lower Alluvium
- Lower Alluvium
- Water Elevation Difference
- 0.1 ft Total Potential Uncertainty

Figure 5.21
Groundwater Elevation Differences
NW Natural Gasco Site



Publish Date: 2023/08/21, 4:56 PM | User: cgardner
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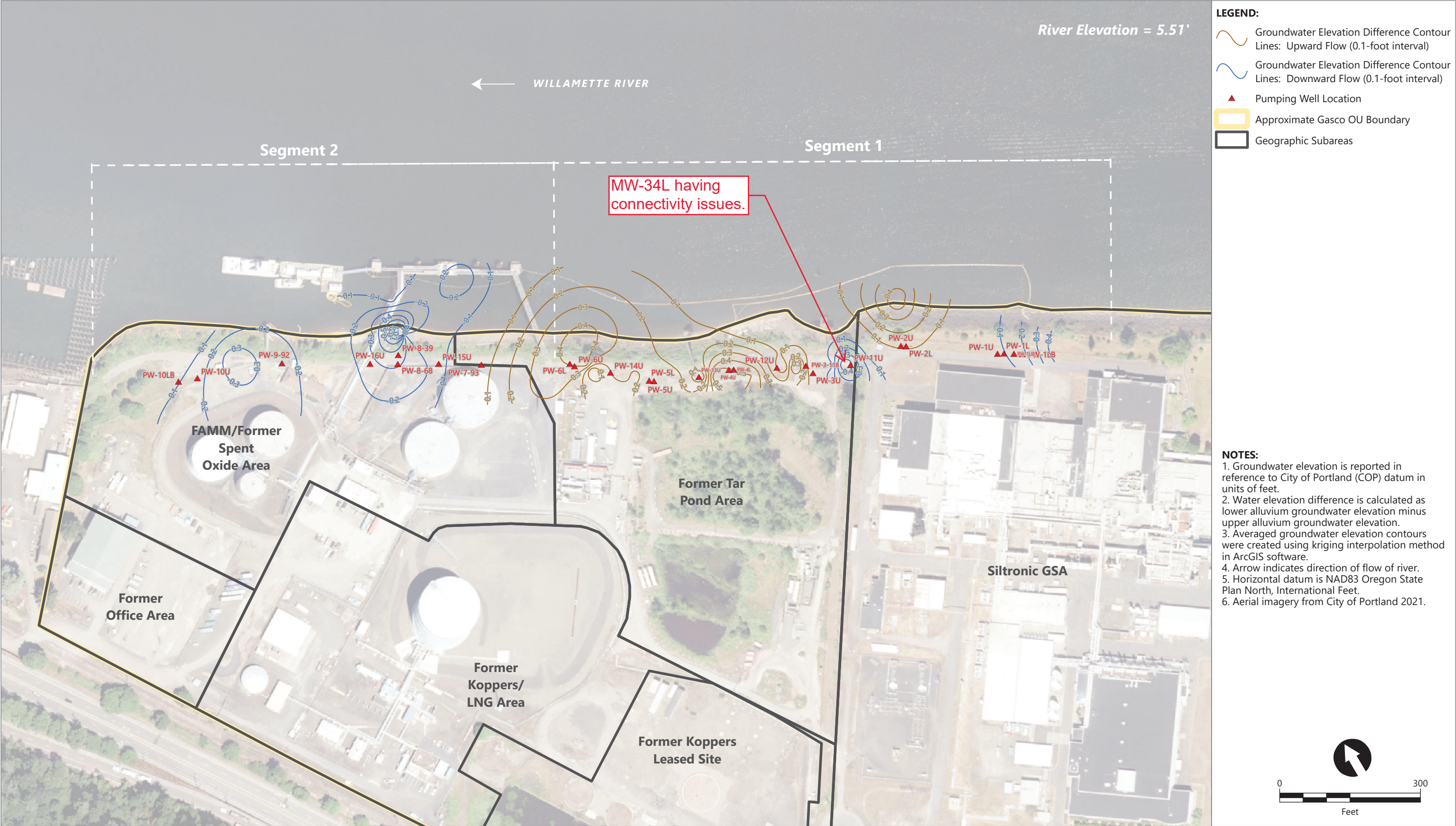
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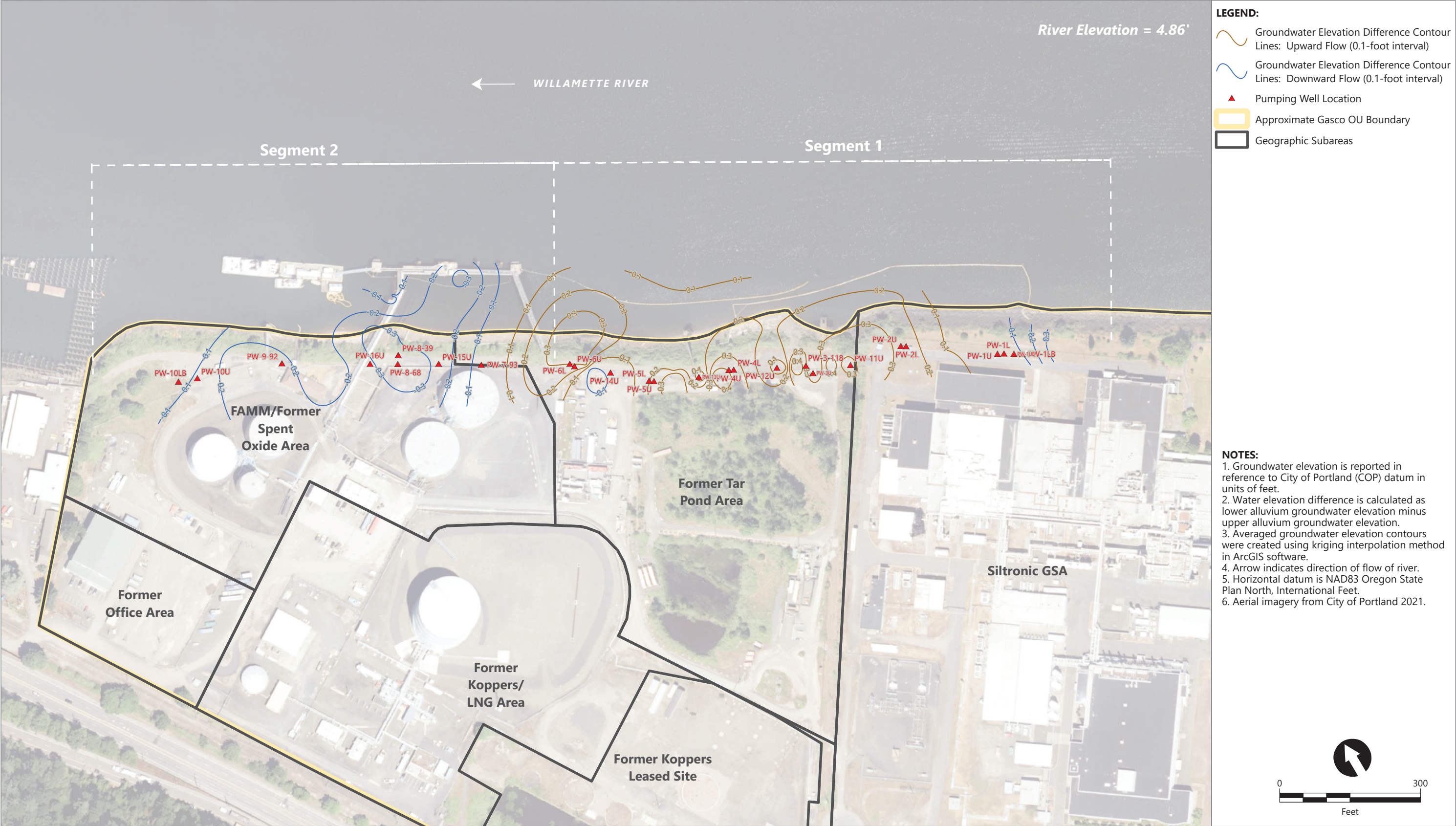
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Figure 6.4

Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 8/24/2023-8/26/2023

NWN Gasco Site
Portland, Oregon



Publish Date: 2024/01/10, 1:05 PM | User: cgardner
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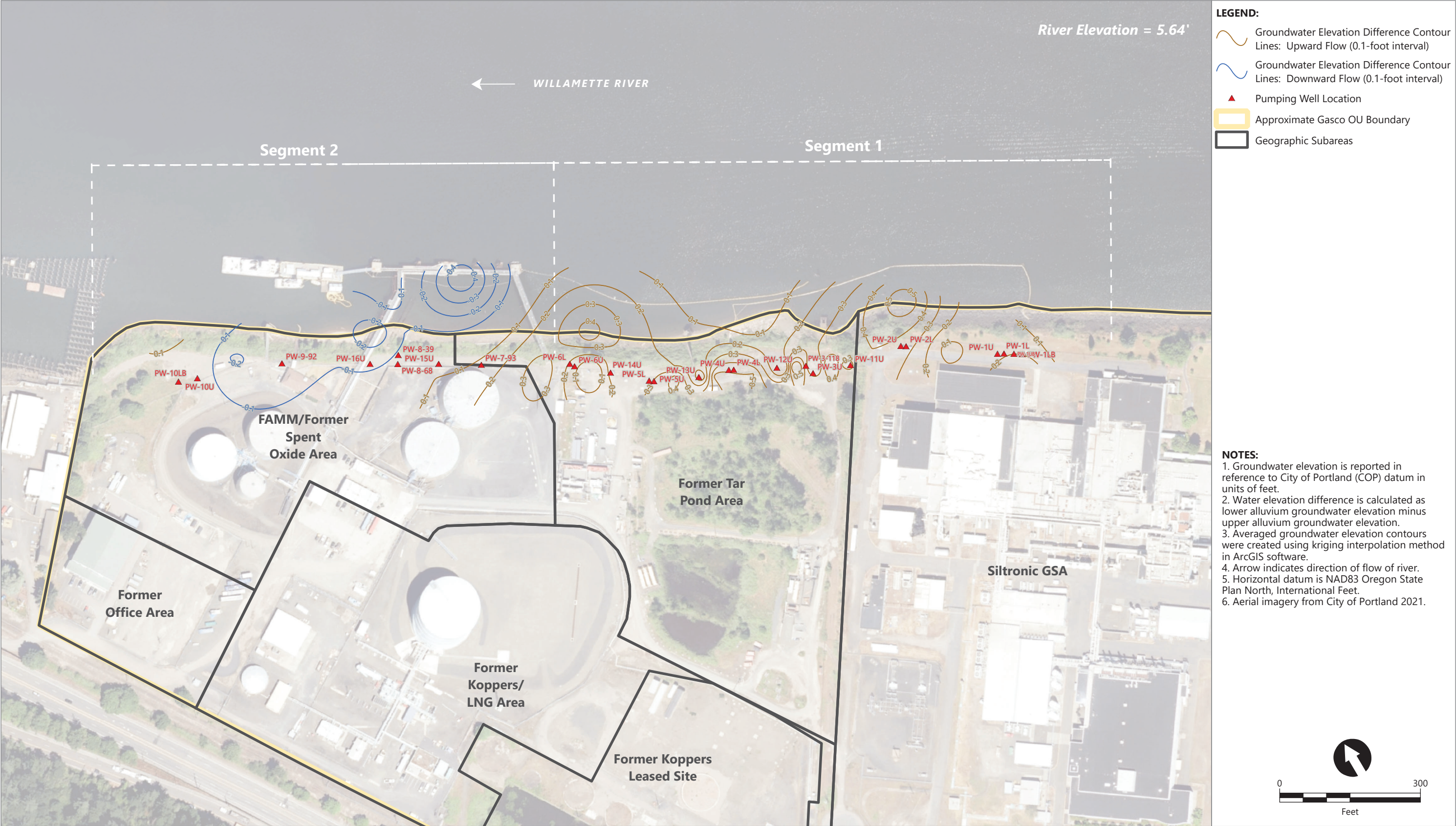
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Figure 6.6

Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 9/24/2023-9/26/2023

NWN Gasco Site
Portland, Oregon



Publish Date: 2024/01/24, 12:39 PM | User: cgardner
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Publish Date: 2024/01/24, 11:37 PM | User: cgardner
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Figure 6.8
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 10/24/2023-10/26/2023
NWN Gasco Site
Portland, Oregon

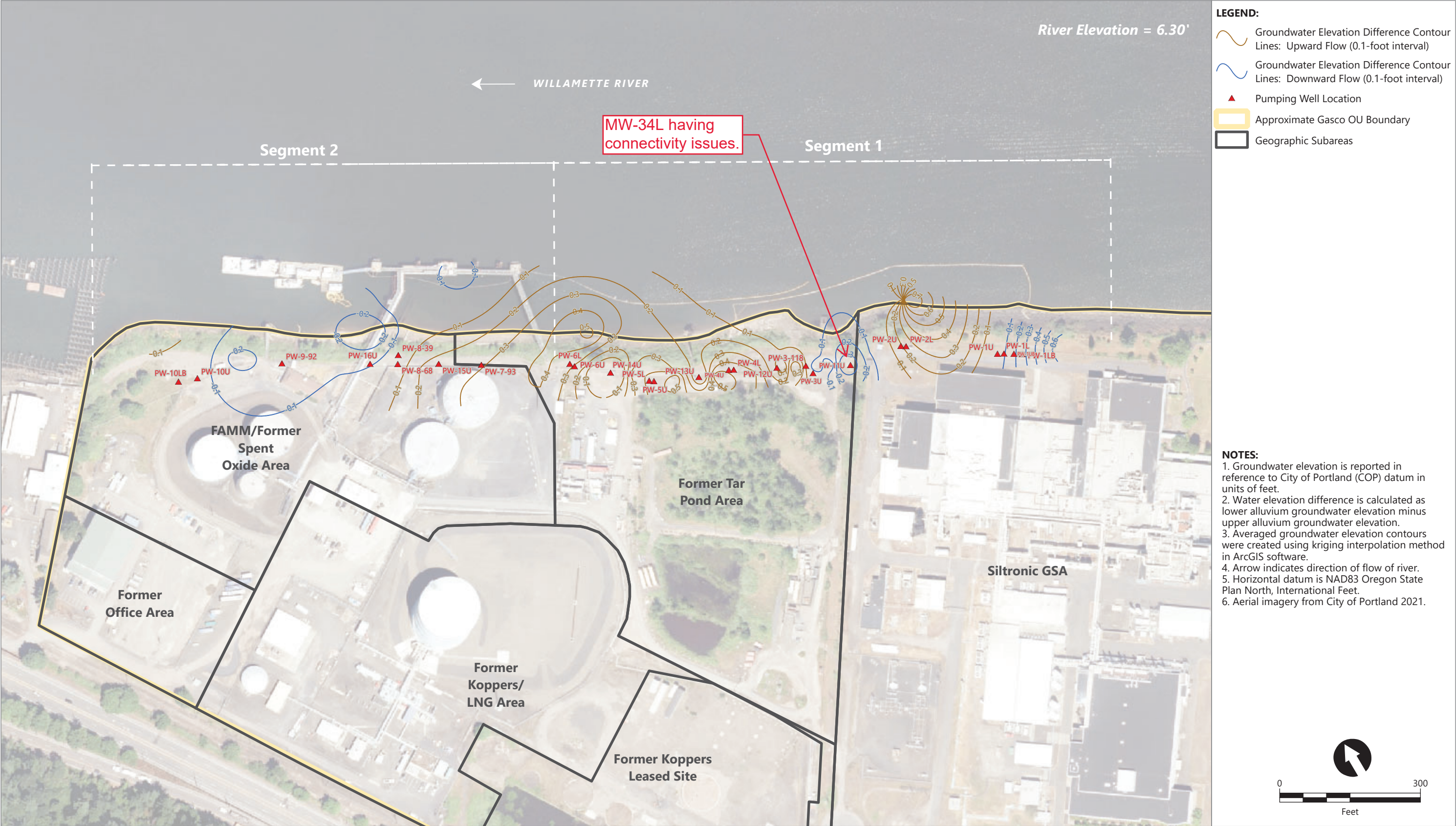


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Figure 6.9
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 11/11/2023-11/13/2023

NWN Gasco Site
Portland, Oregon



Publish Date: 2024/01/29, 4:50 PM | User: cgardner
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Figure 6.10
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 11/24/2023-11/26/2023

NWN Gasco Site
Portland, Oregon



Publish Date: 2024/01/31, 11:55 AM | User: cgardner
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Figure 6.11

Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 12/11/2023-12/13/2023

NWN Gasco Site
Portland, Oregon

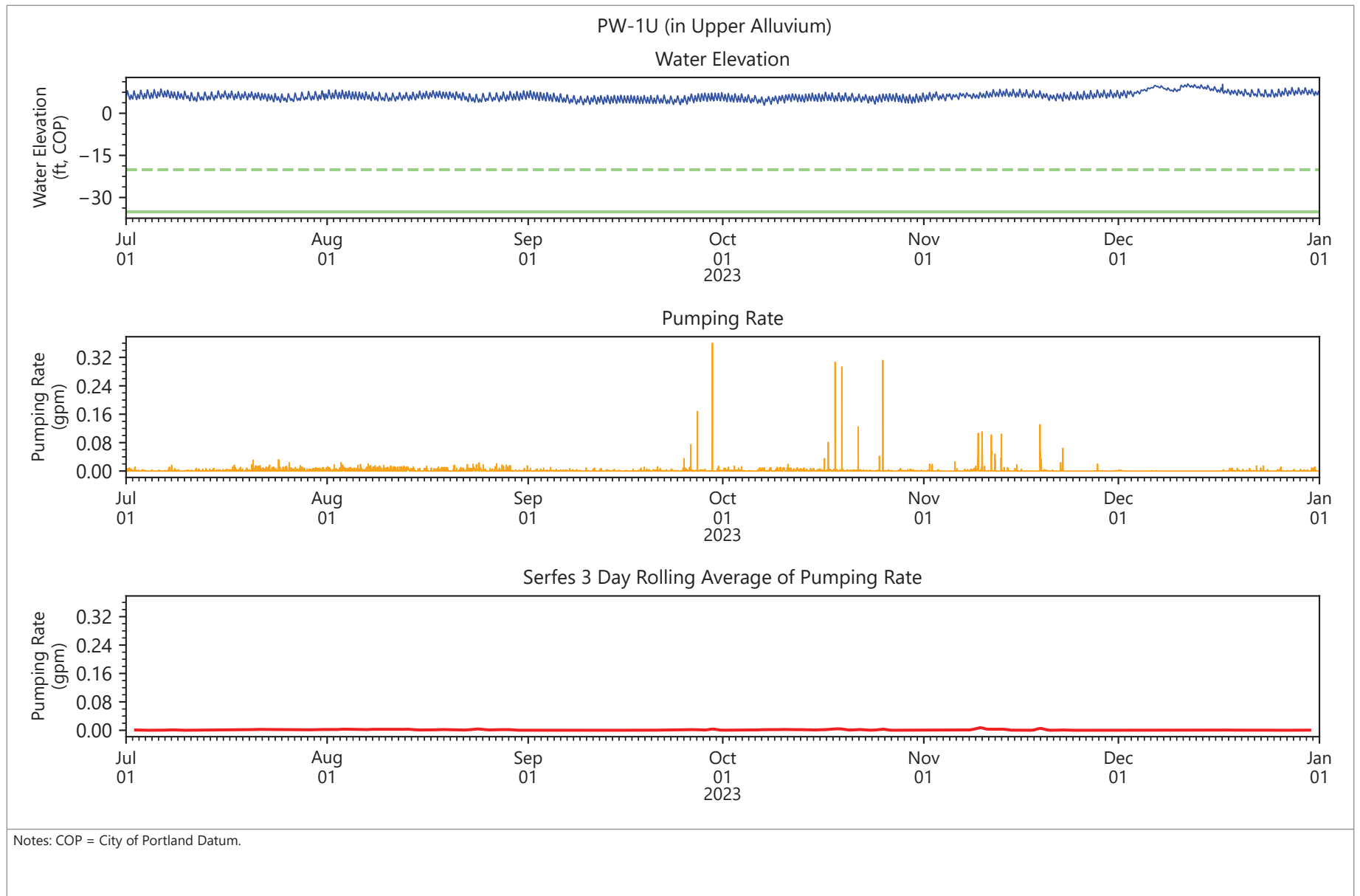


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Figure 6.12
Contours of Water Elevation Difference Between Upper and Lower Alluvium Using Serfes 3-Day Rolling Averages From 12/24/2023-12/26/2023

NWN Gasco Site
Portland, Oregon

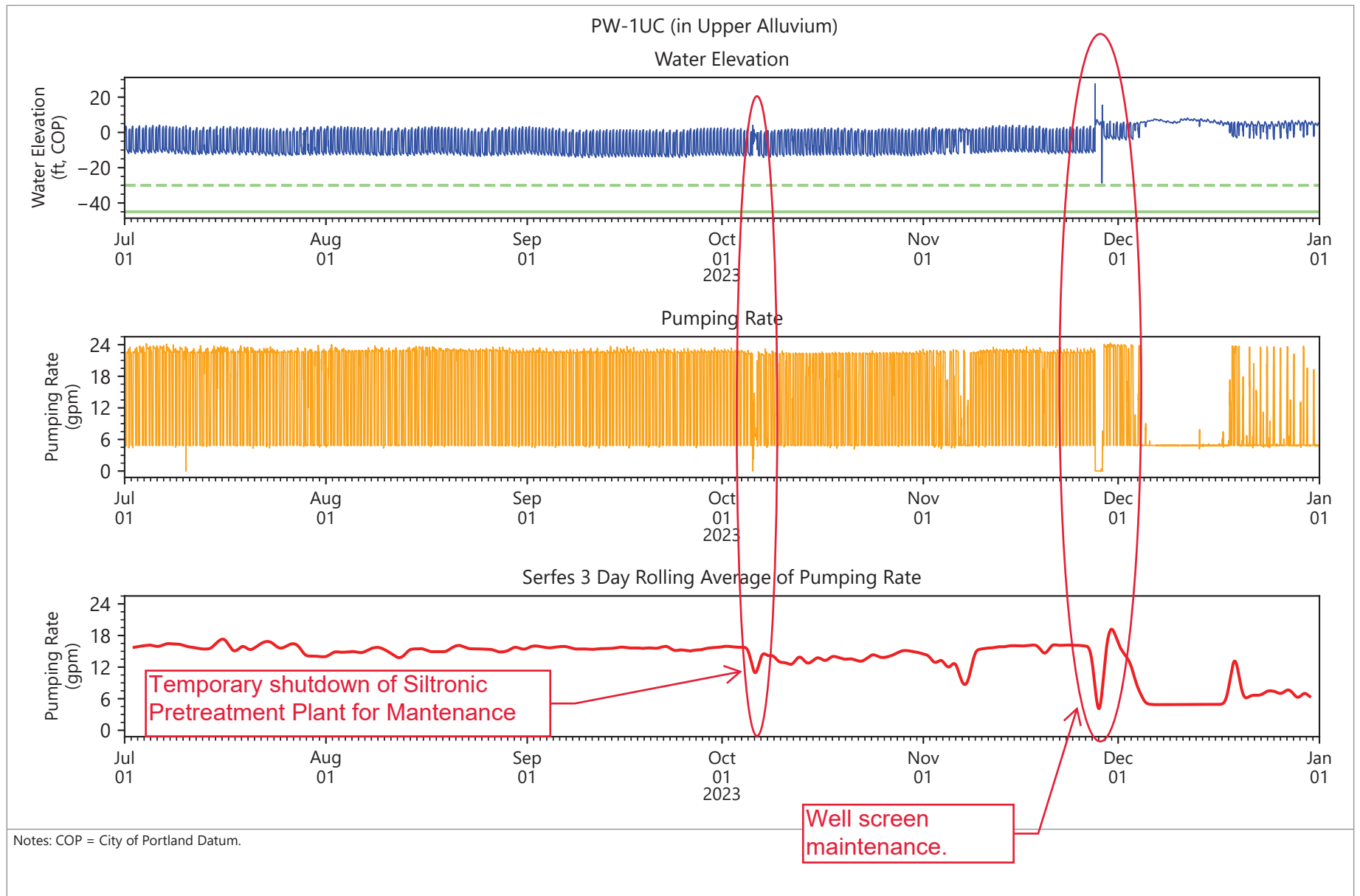


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.1
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

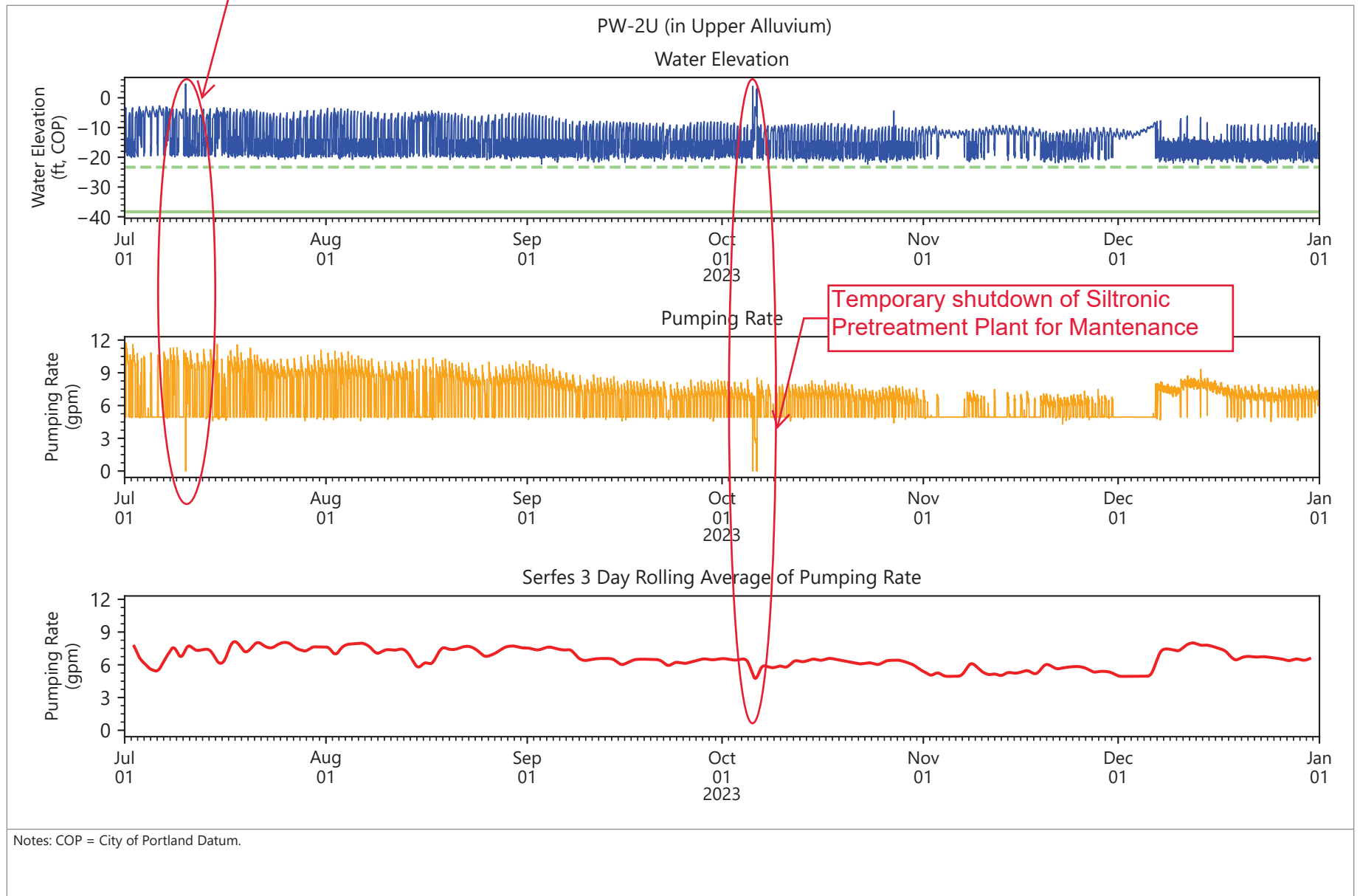


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.2
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

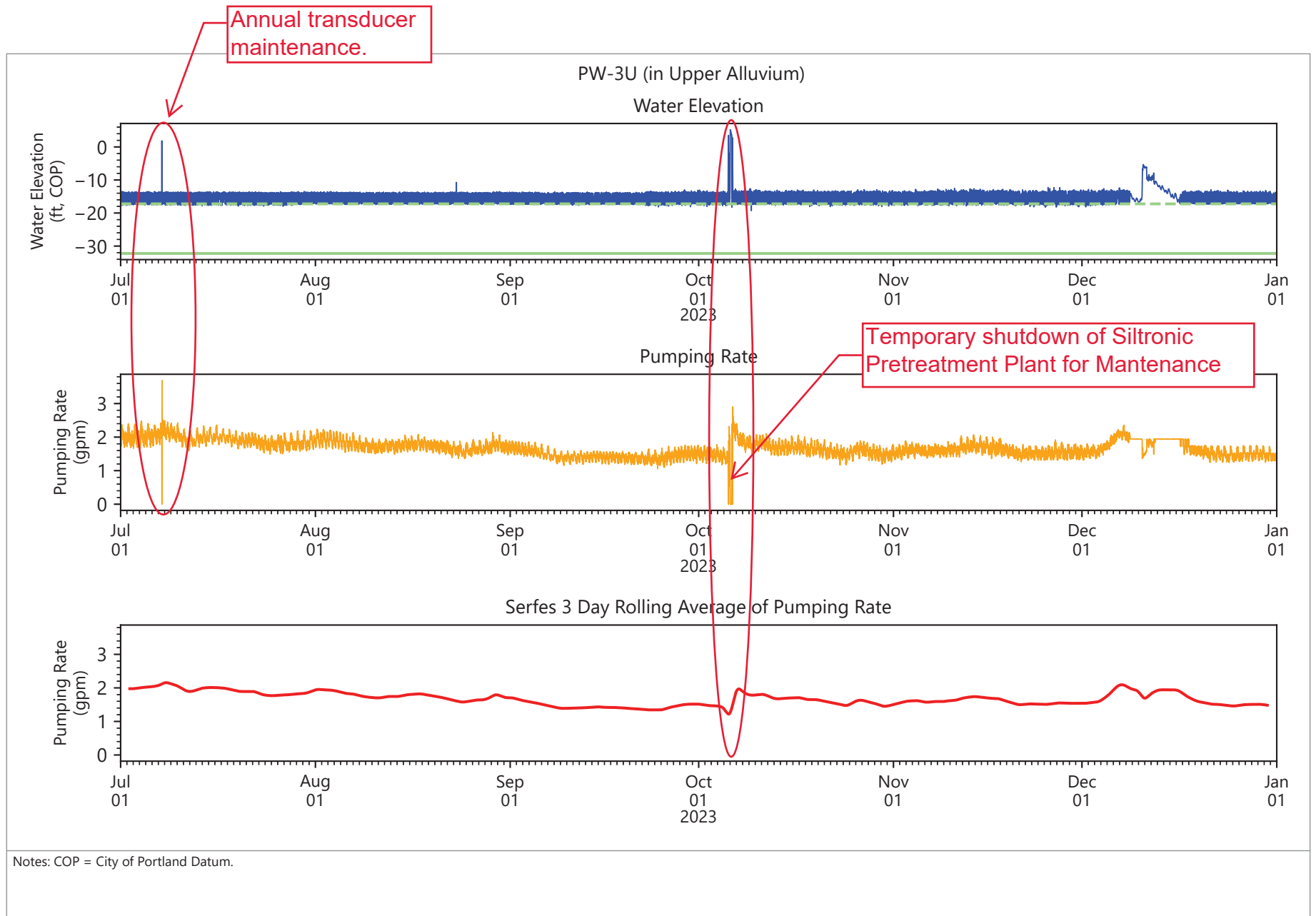


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.3
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

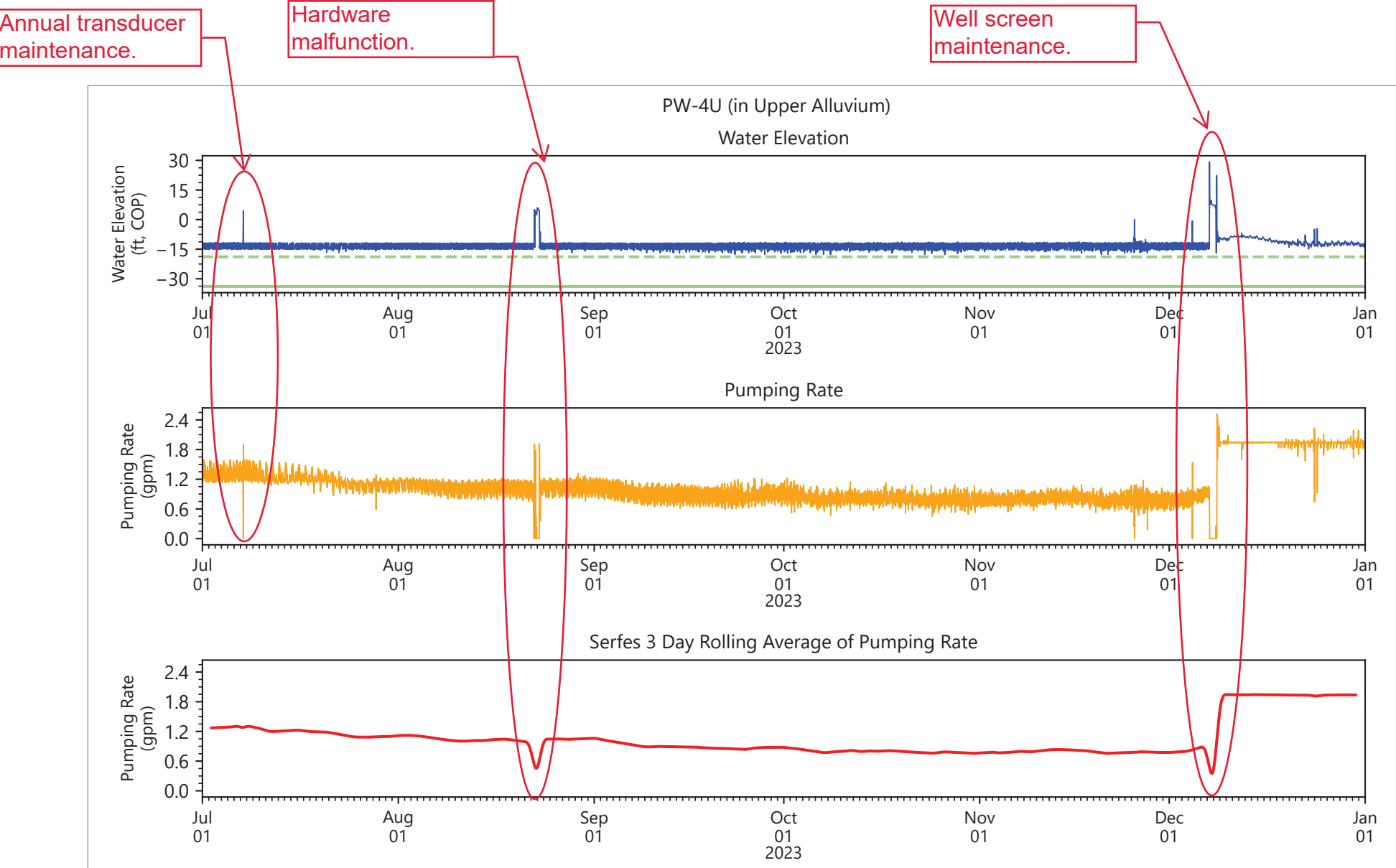


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.4
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



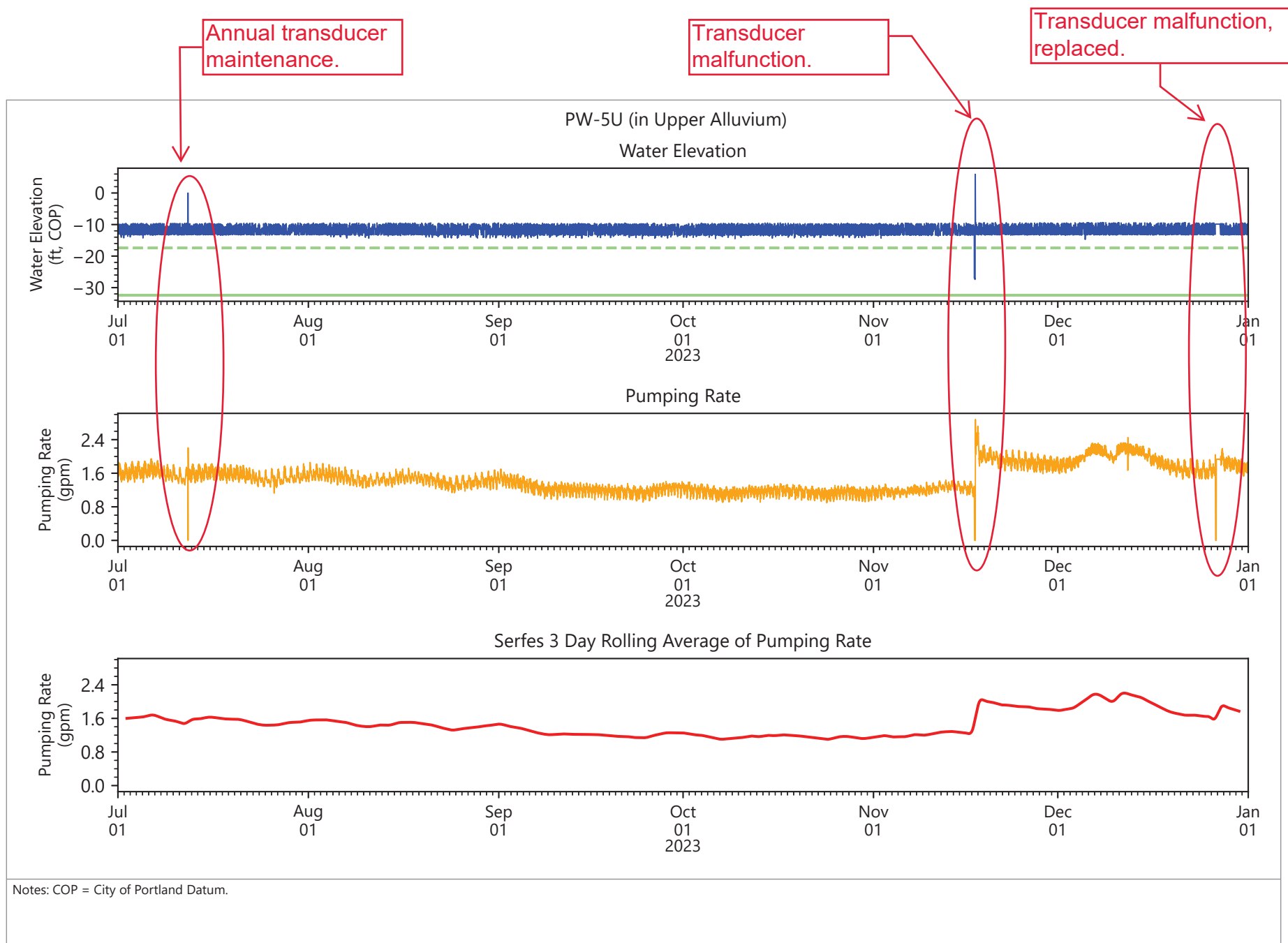
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.5
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

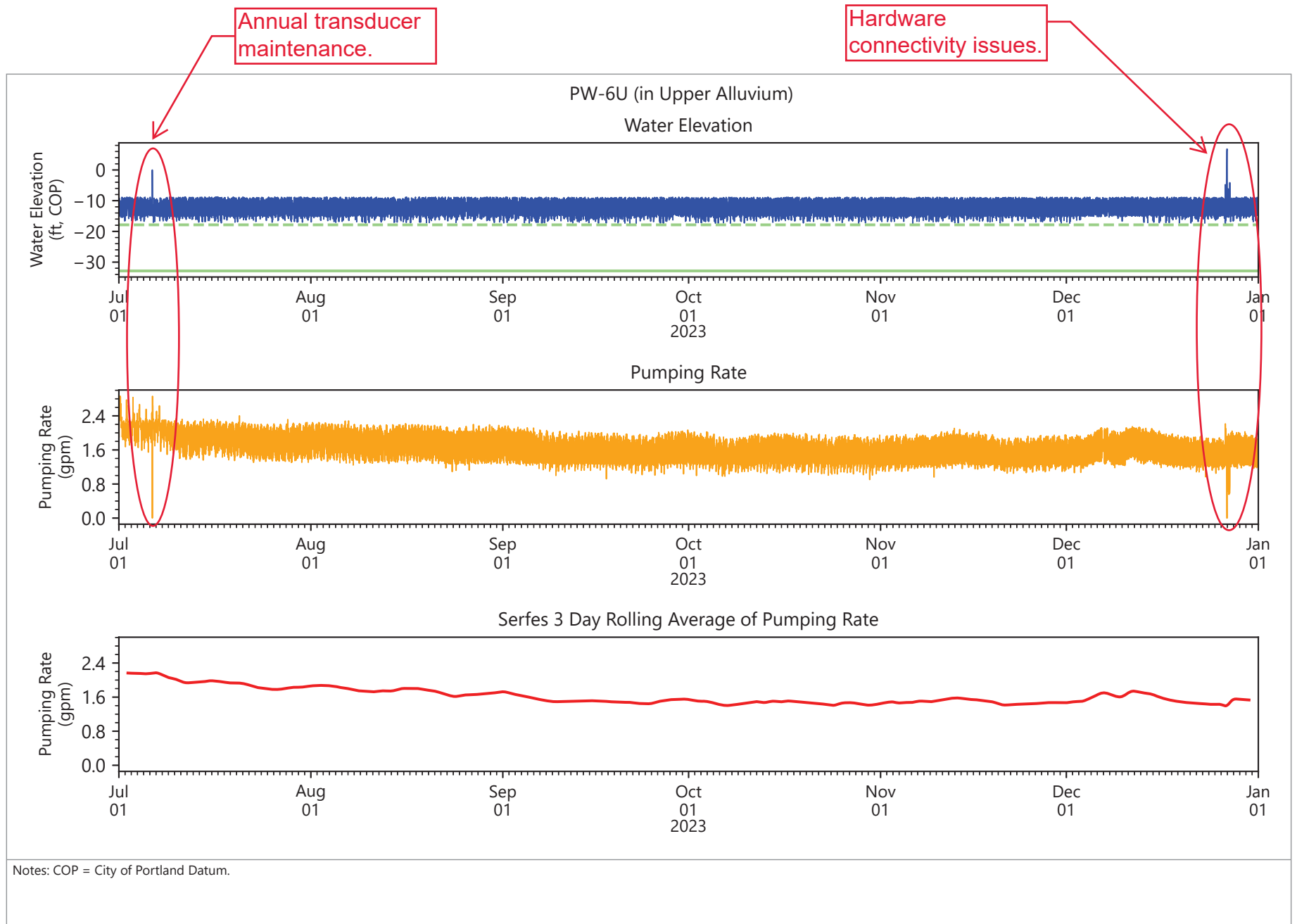


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.6
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



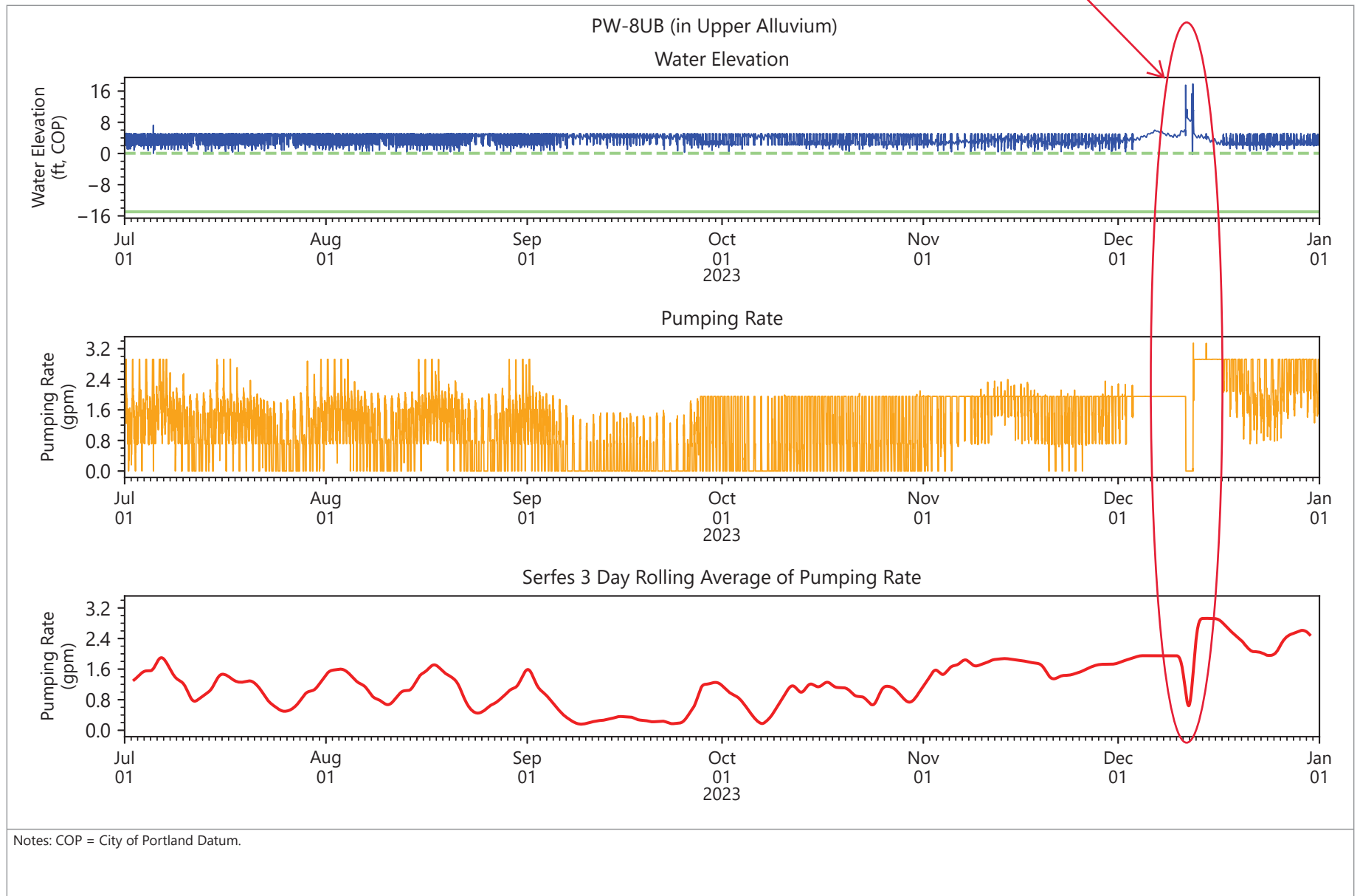
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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.7
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well screen
maintenance.



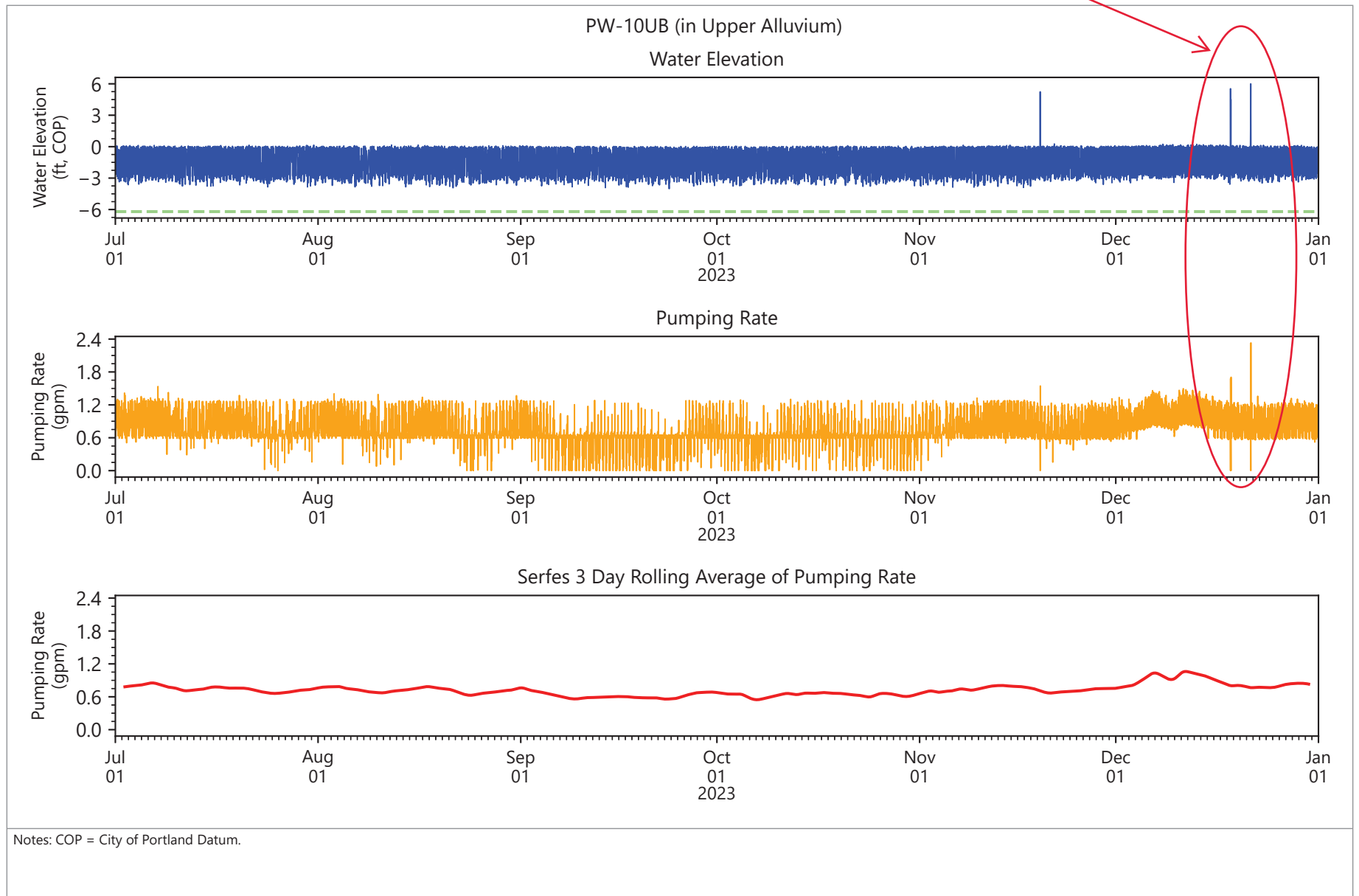
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.8
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Transducer malfunction, replaced.

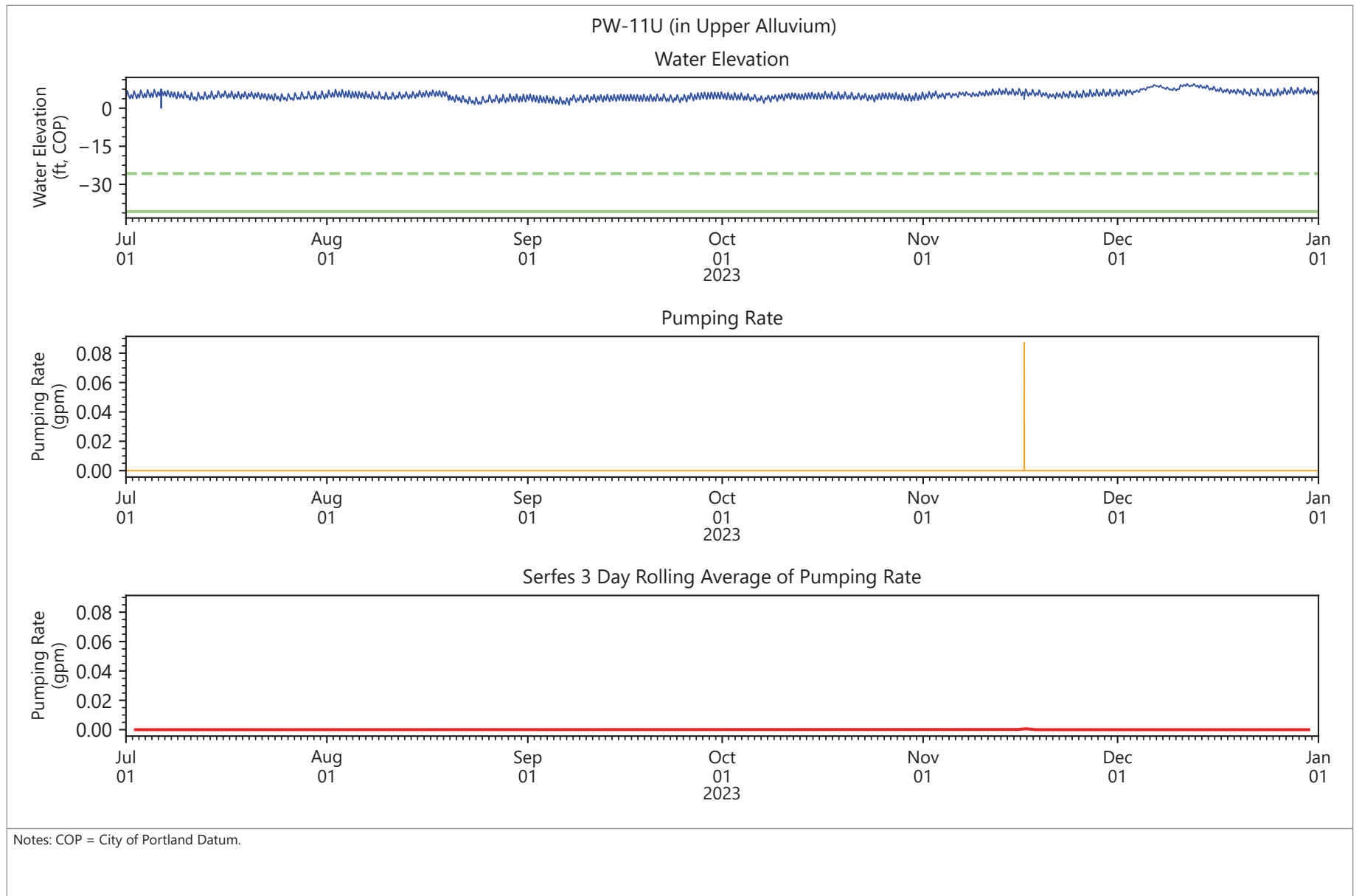


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.9
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

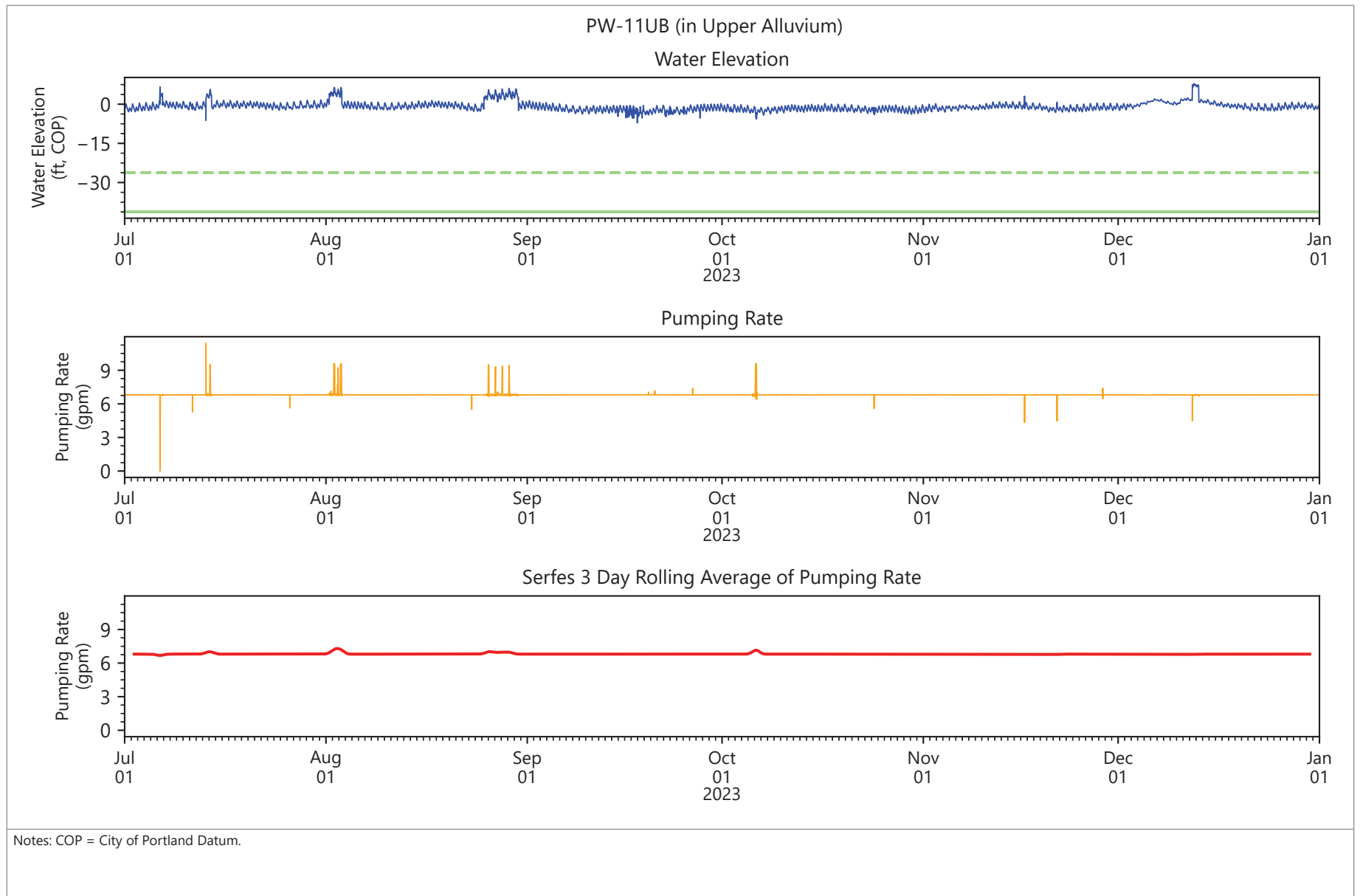


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.10
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

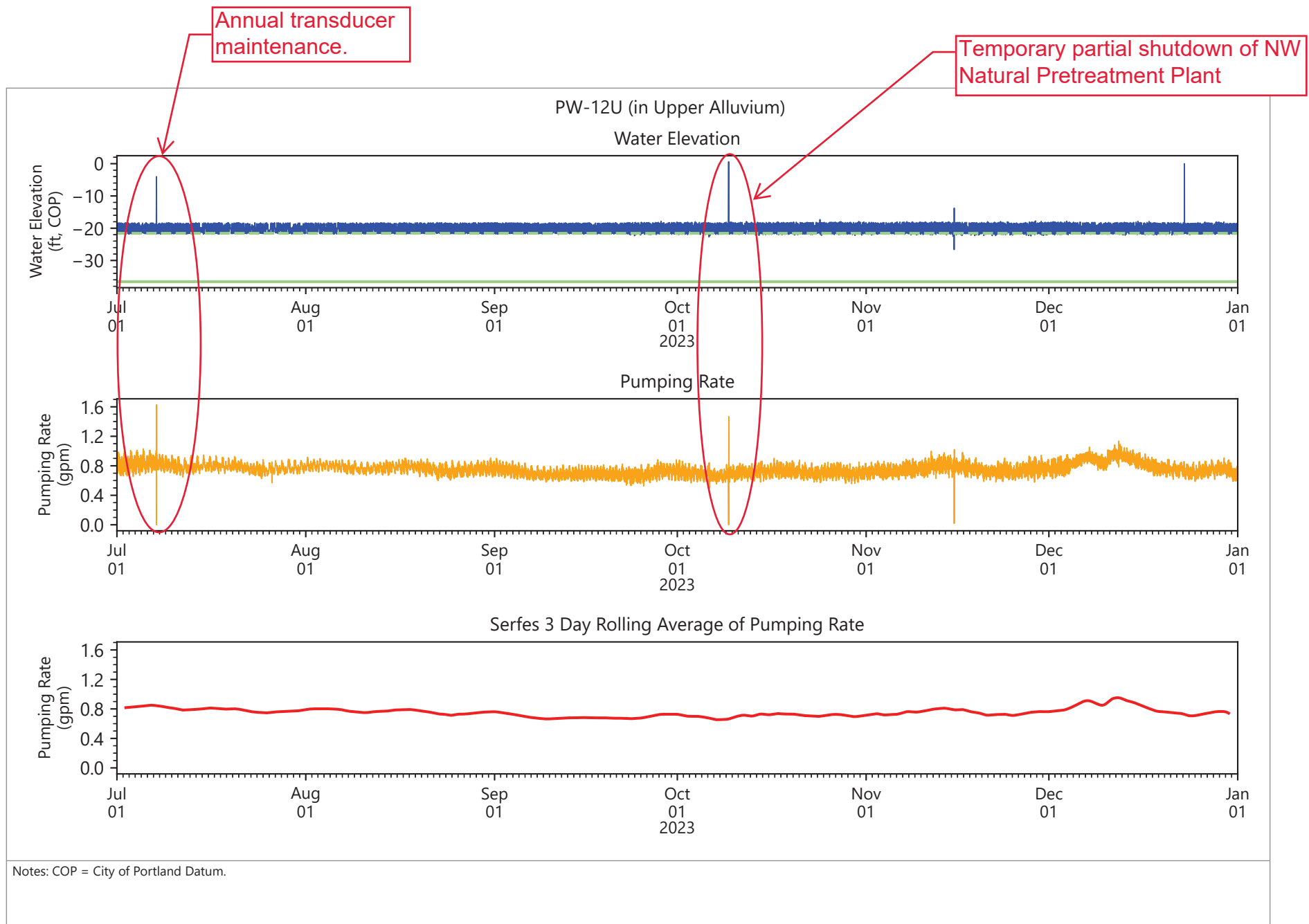


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.11
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

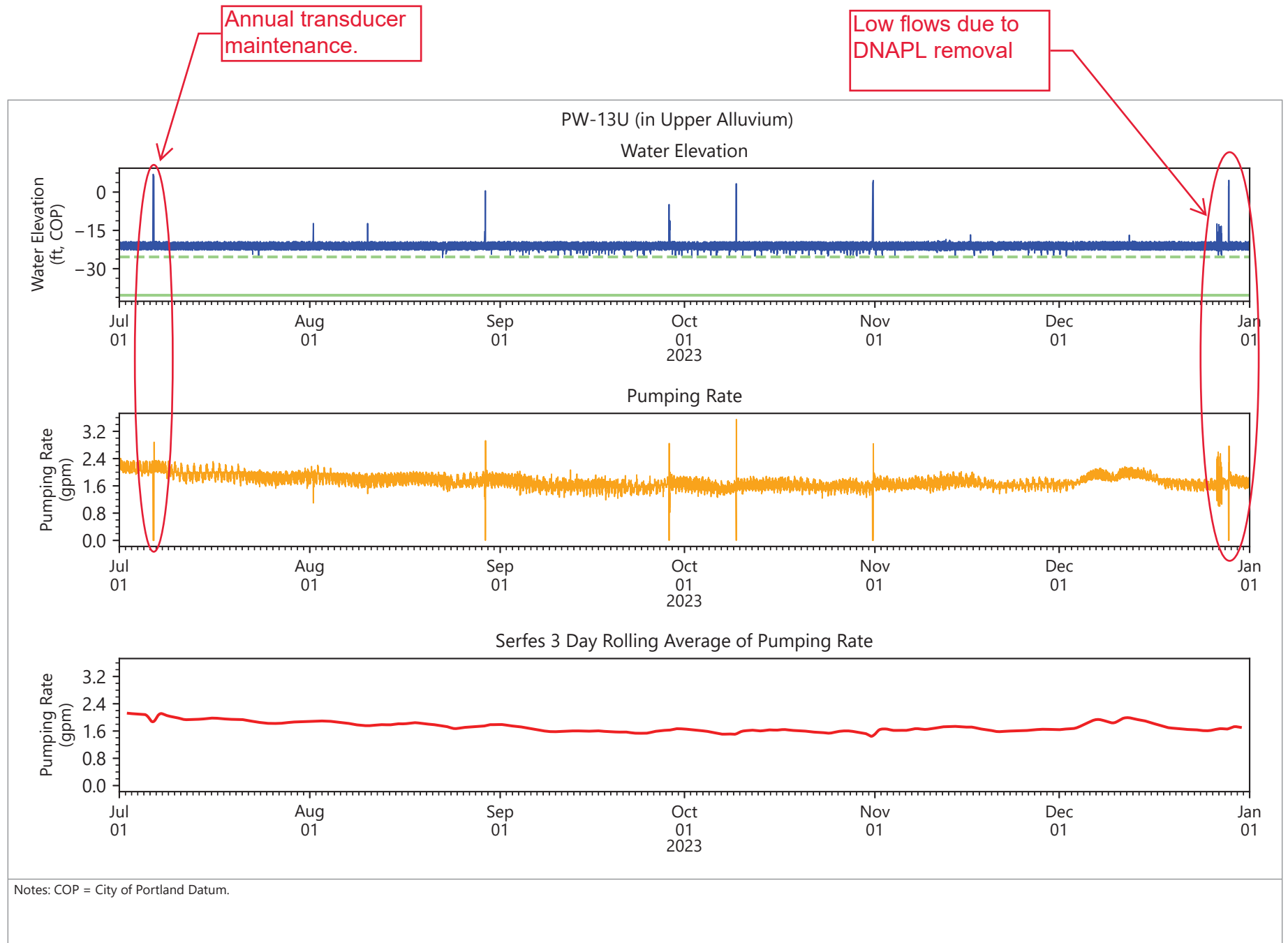


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.12
Groundwater Elevations and Pumping Rates at Pumping Wells
 NW Natural Gasco Site



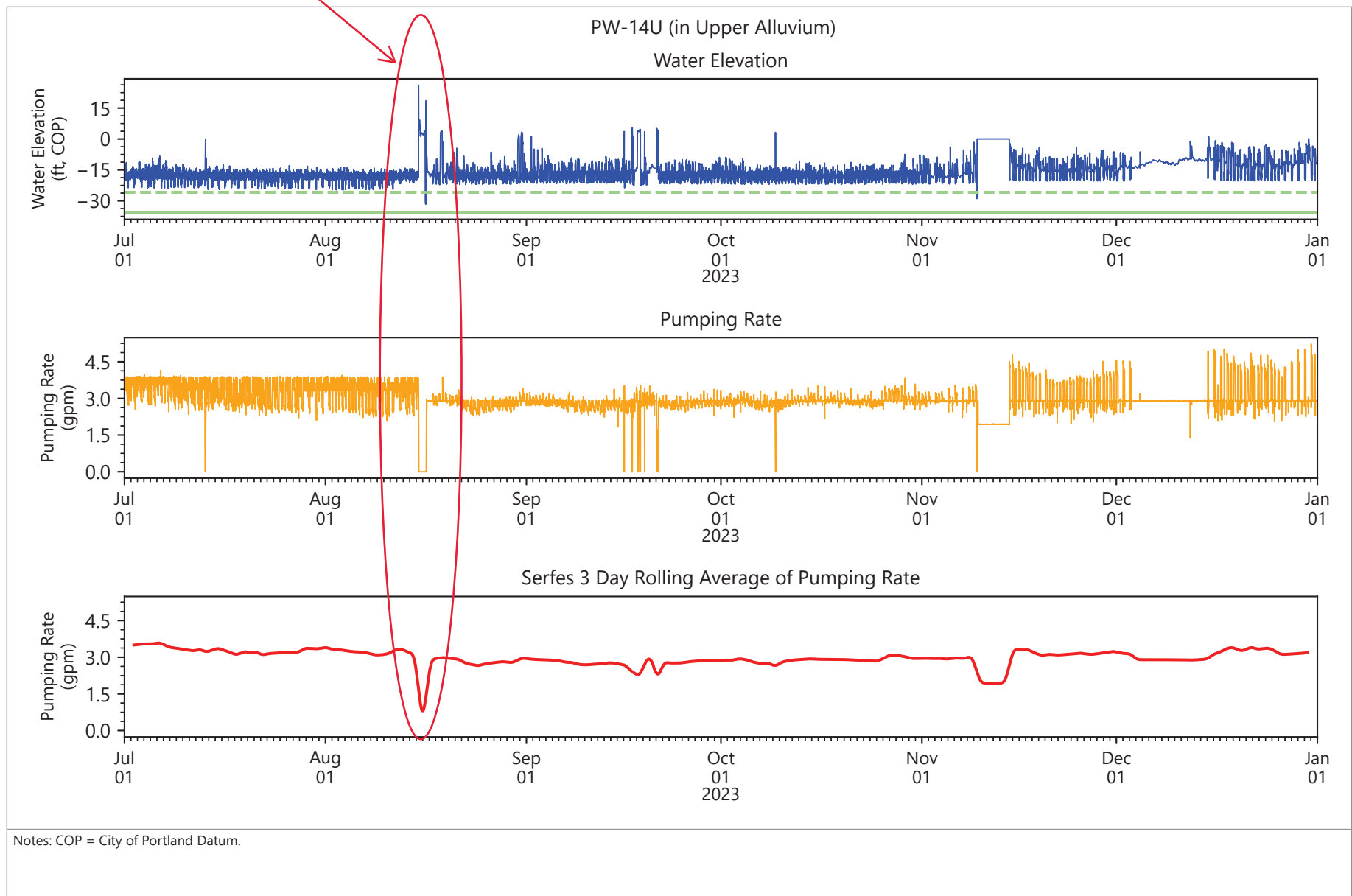
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.13
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well screen
maintenance.



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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.14
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well screen
maintenance.

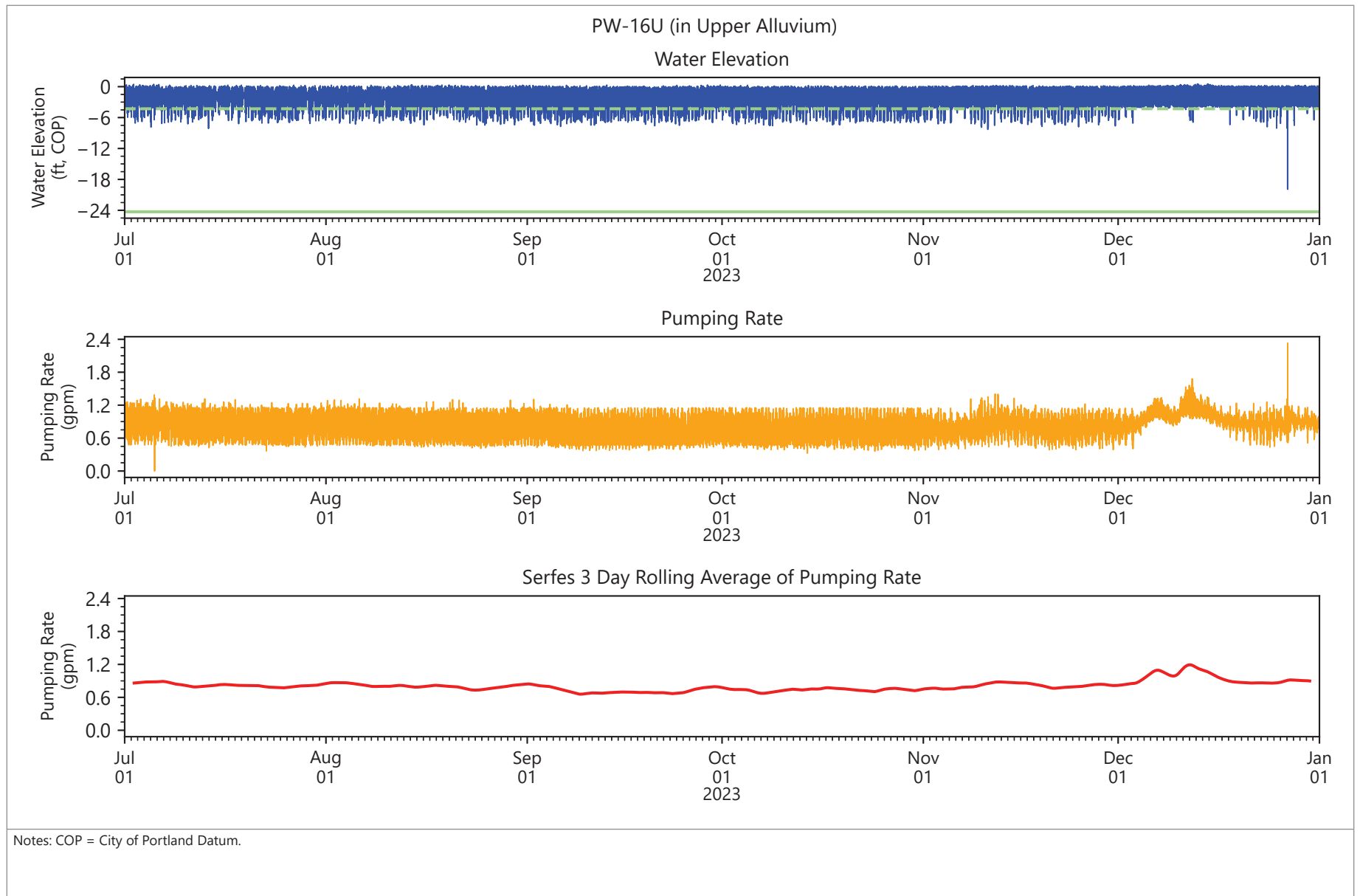


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.15
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



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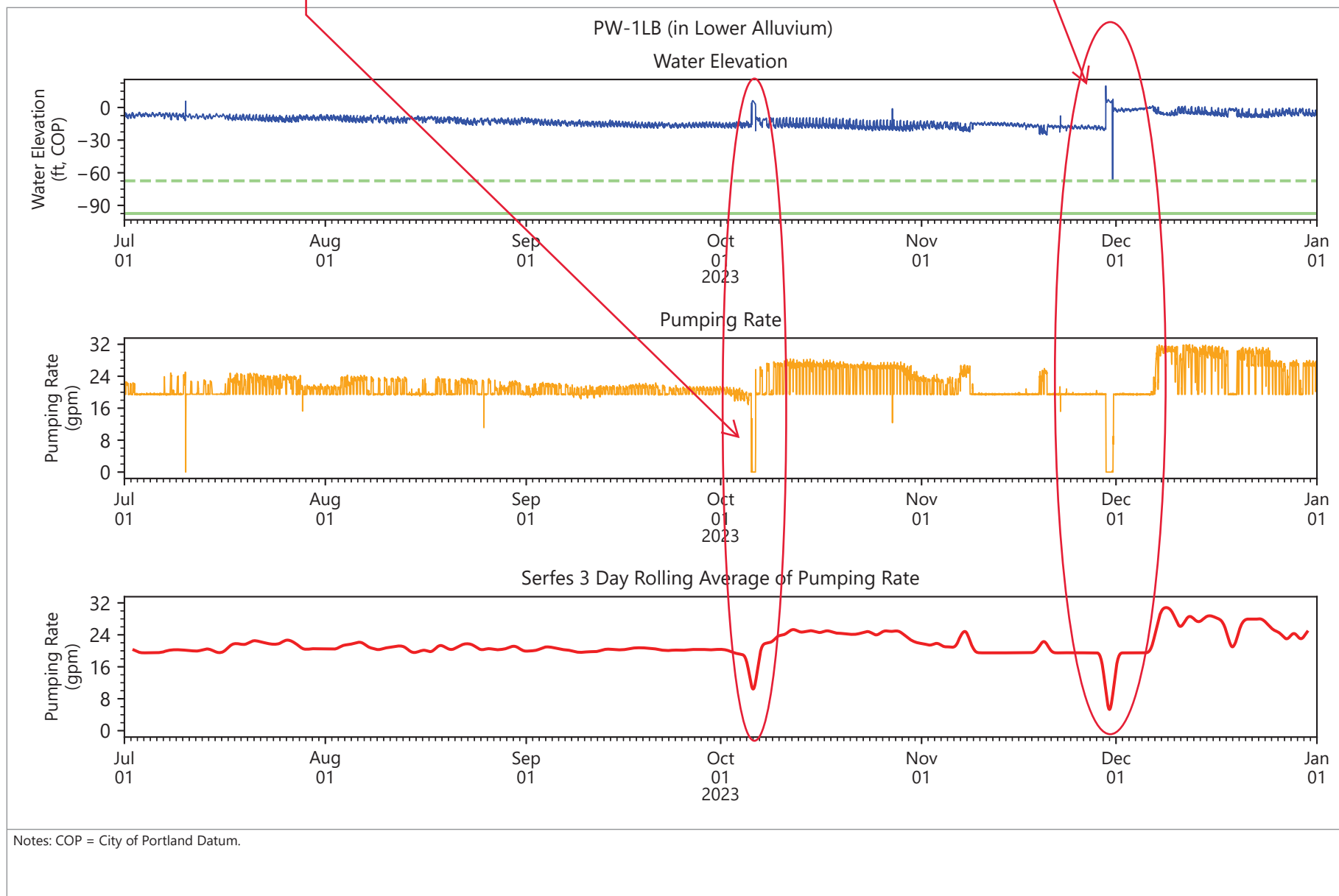


- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.16
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Temporary shutdown of Siltronic Pretreatment Plant for Maintenance

Well screen maintenance.

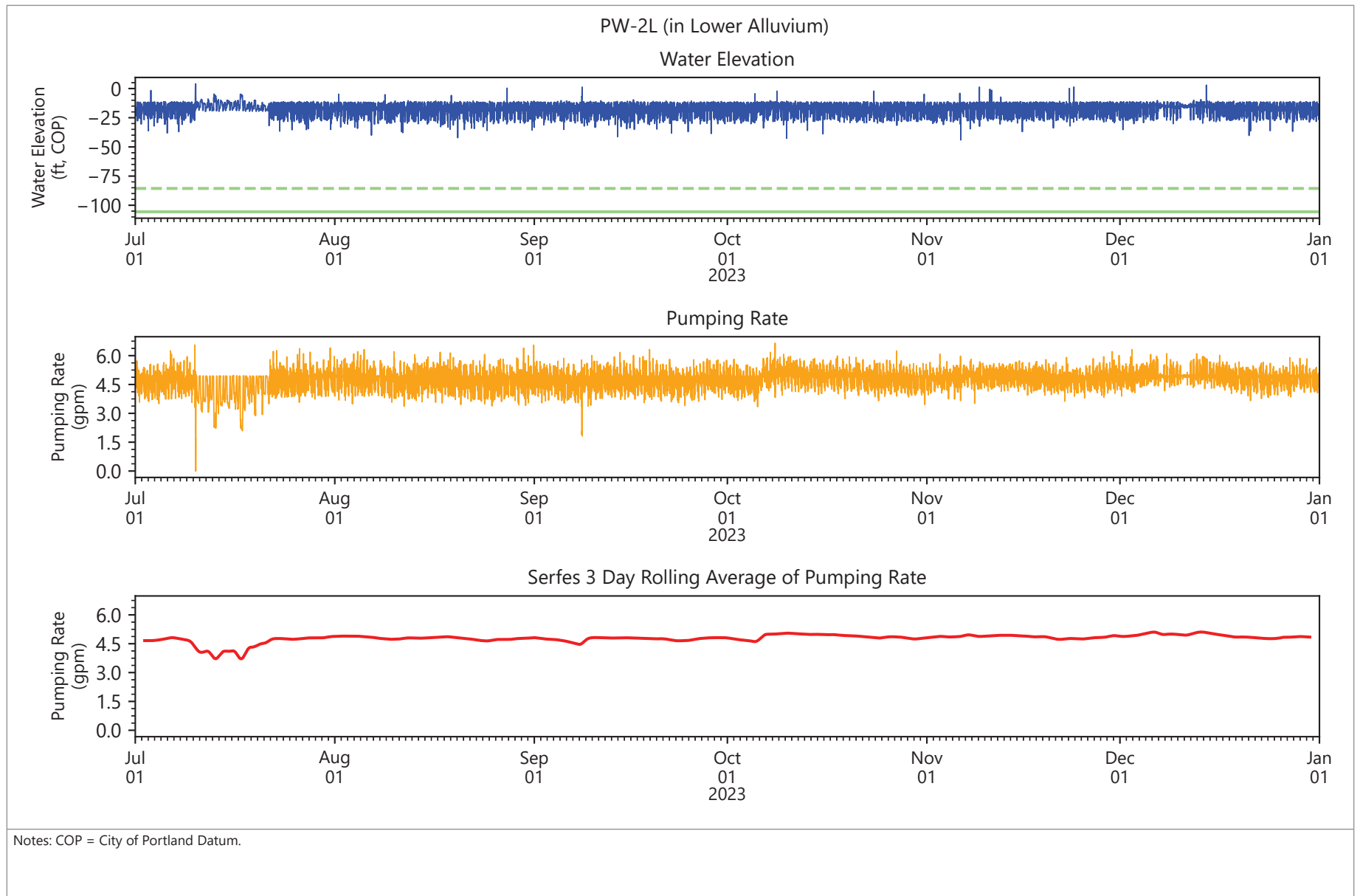


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.17
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



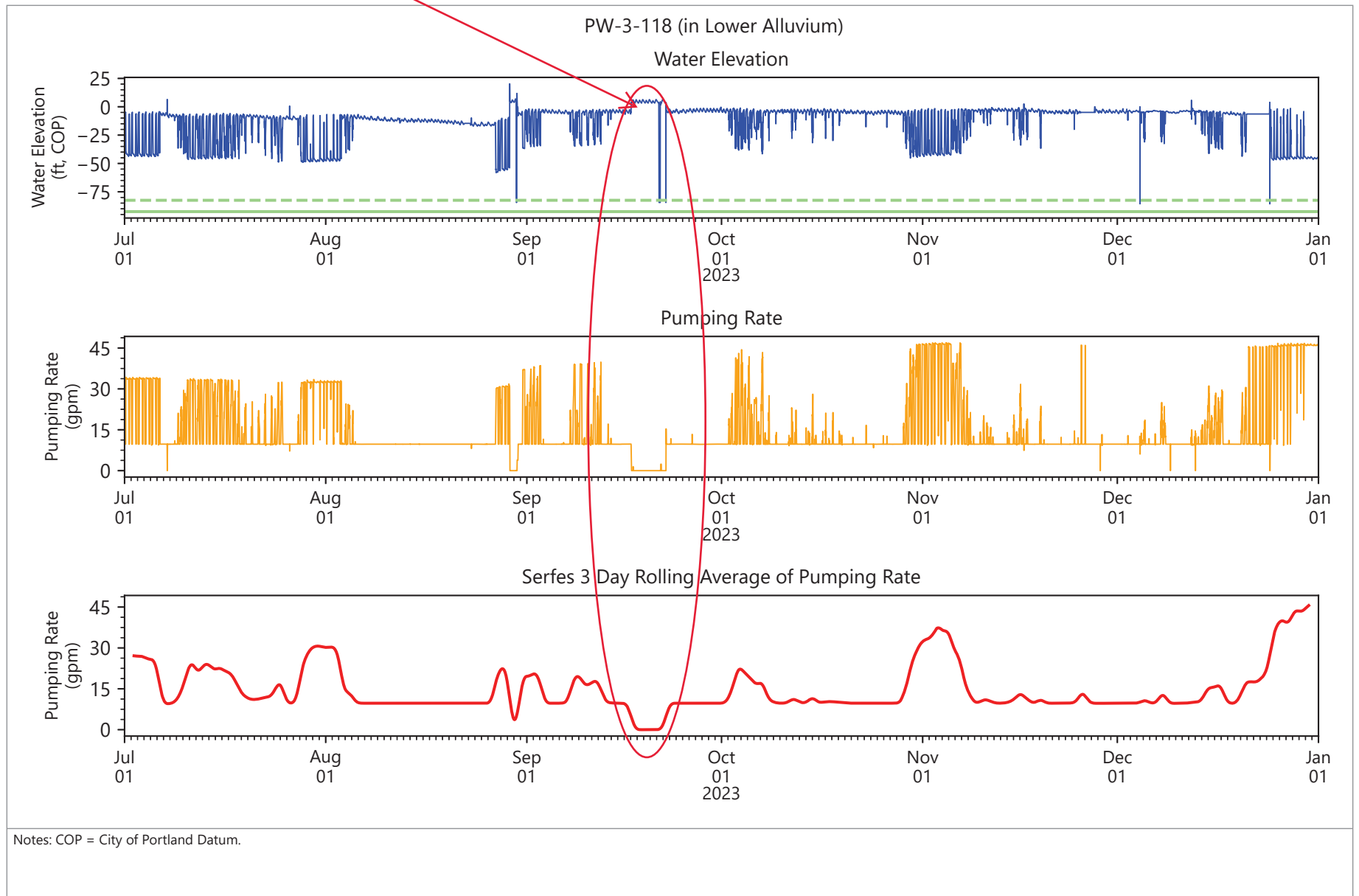
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.18
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Pump fault. New pump installed.

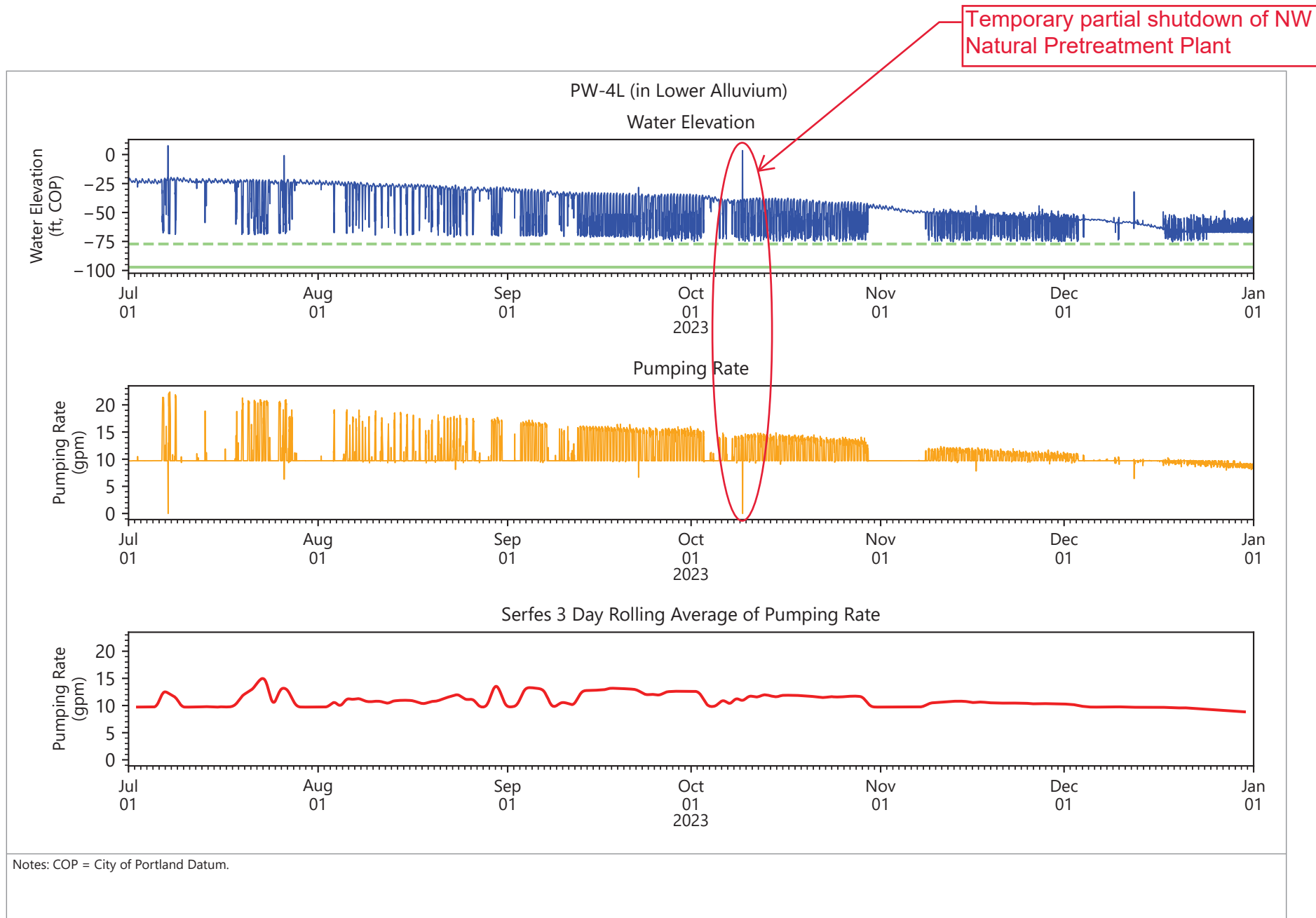


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.19
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

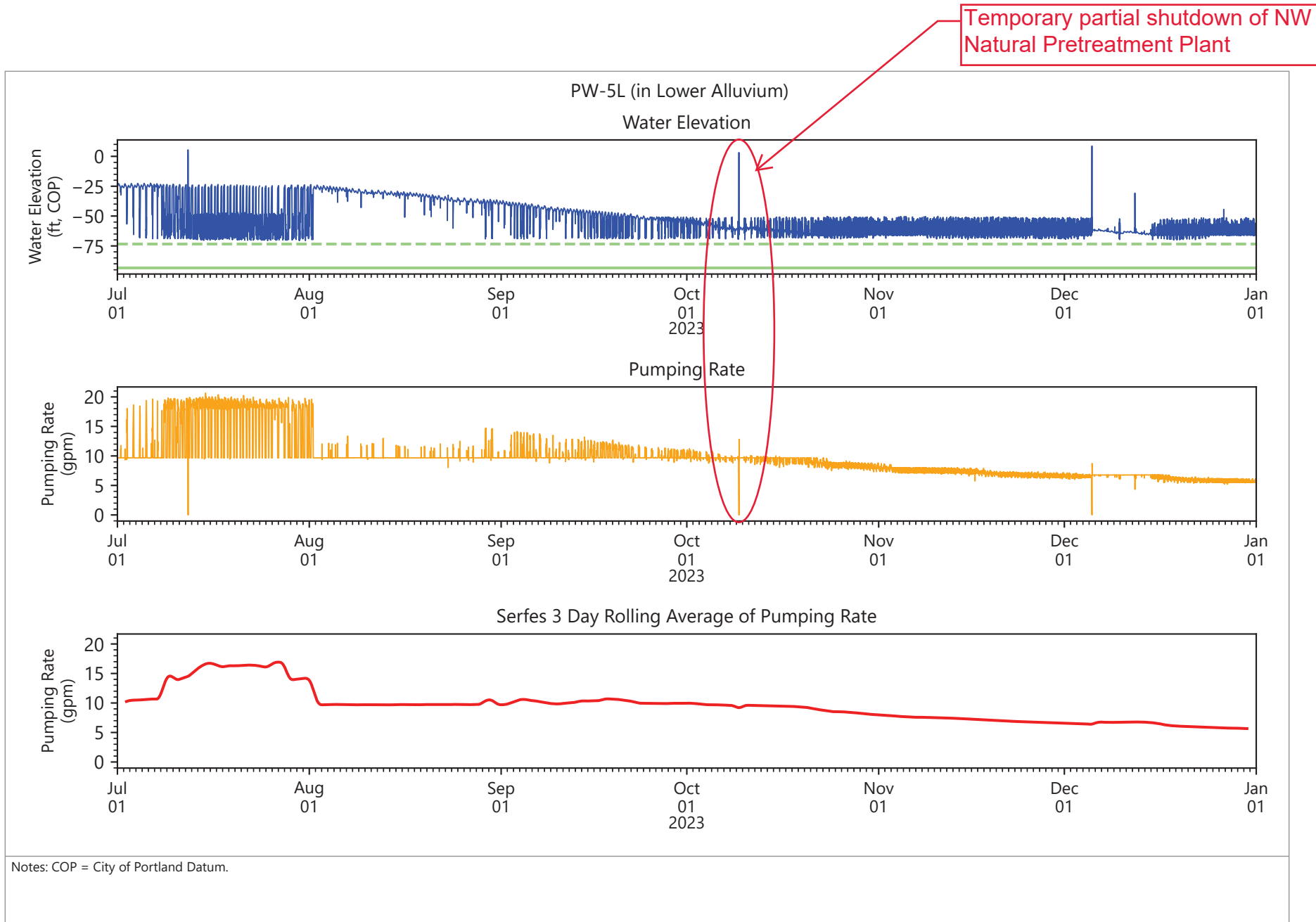


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.20
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site



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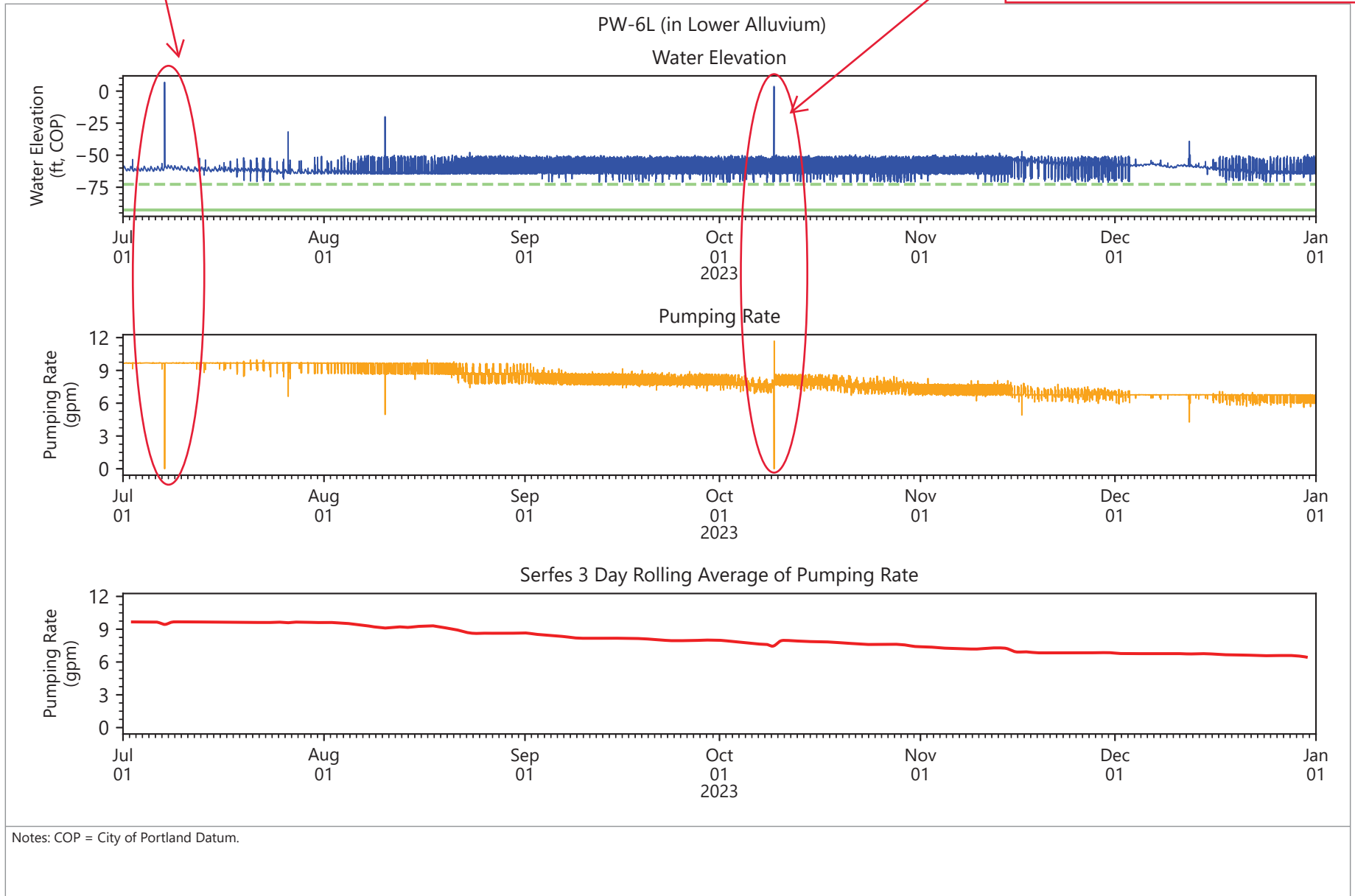


- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.21
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Annual transducer maintenance.

Temporary partial shutdown of NW Natural Pretreatment Plant



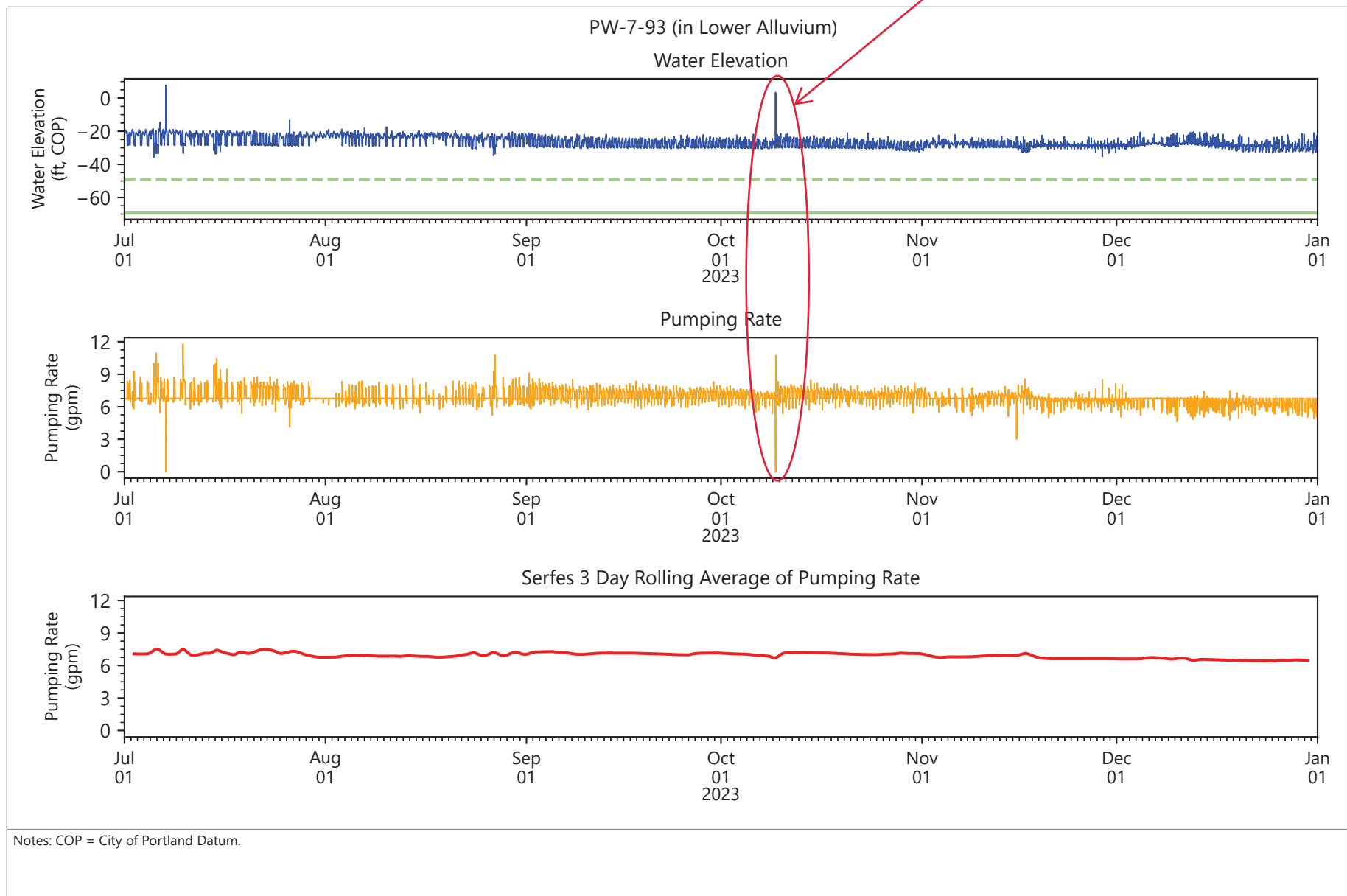
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.22
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Temporary partial shutdown of NW Natural Pretreatment Plant



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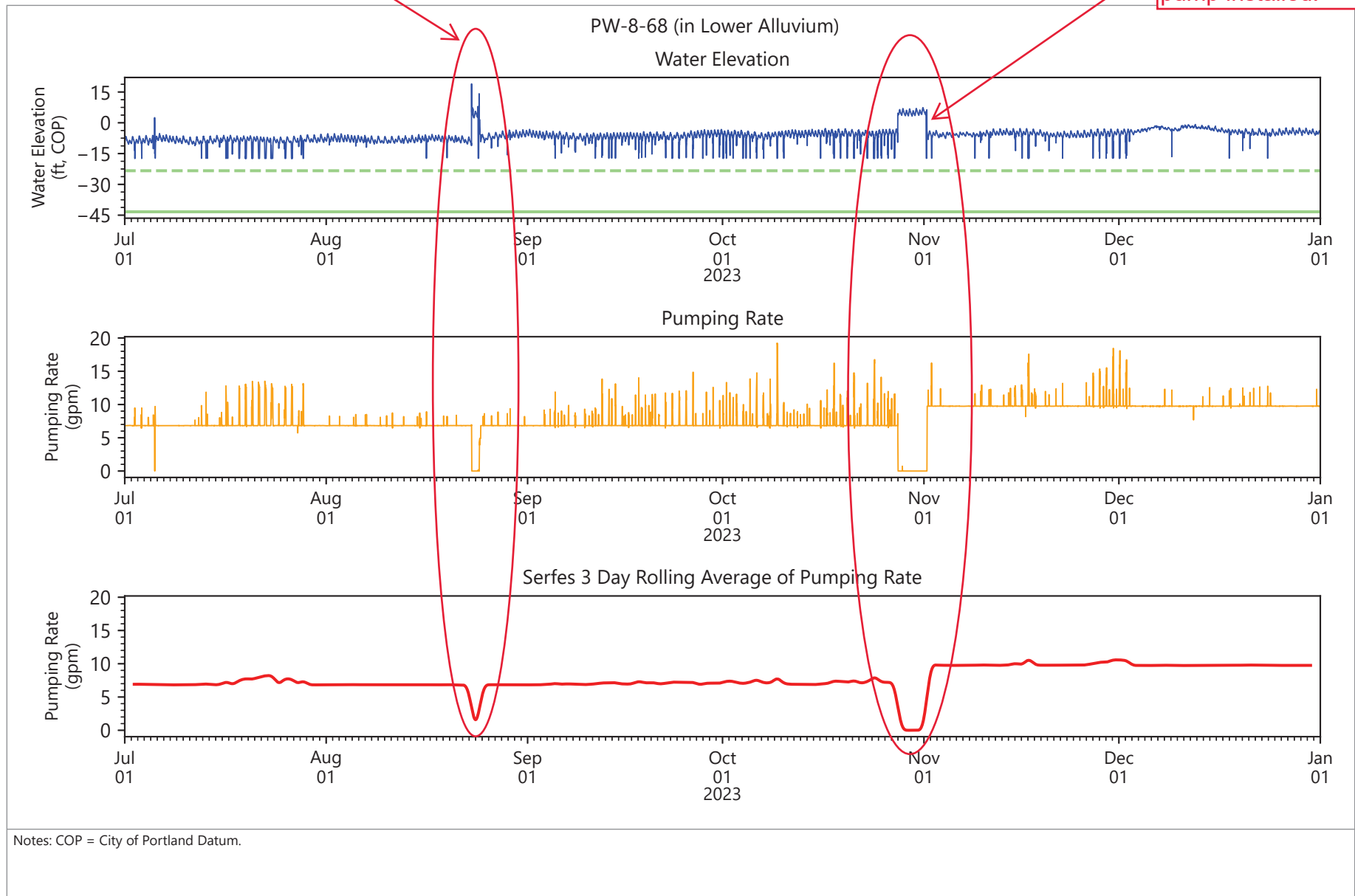


- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.23
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well screen
maintenance.

Pump fault. New
pump installed.



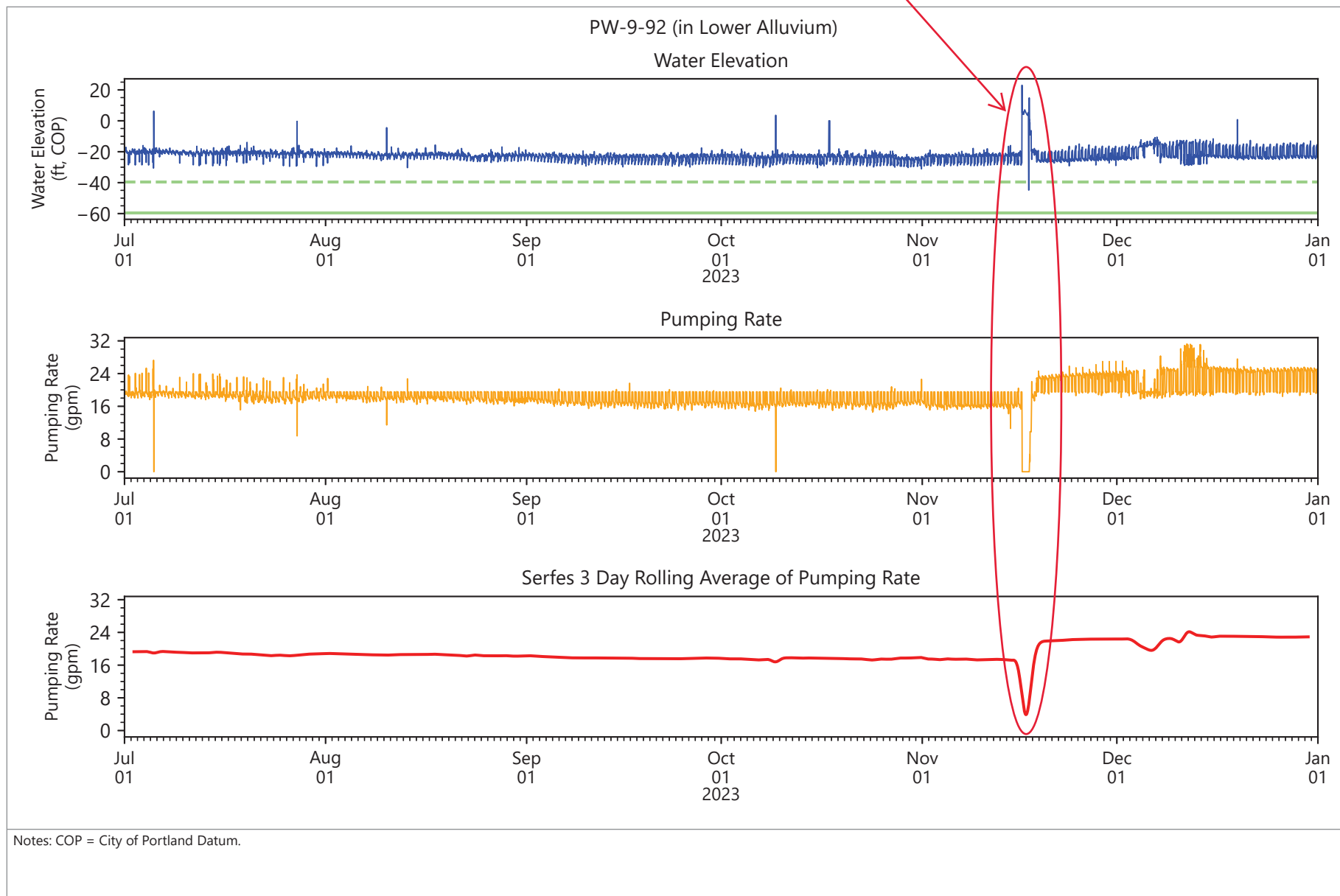
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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.24
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

Well screen
maintenance.

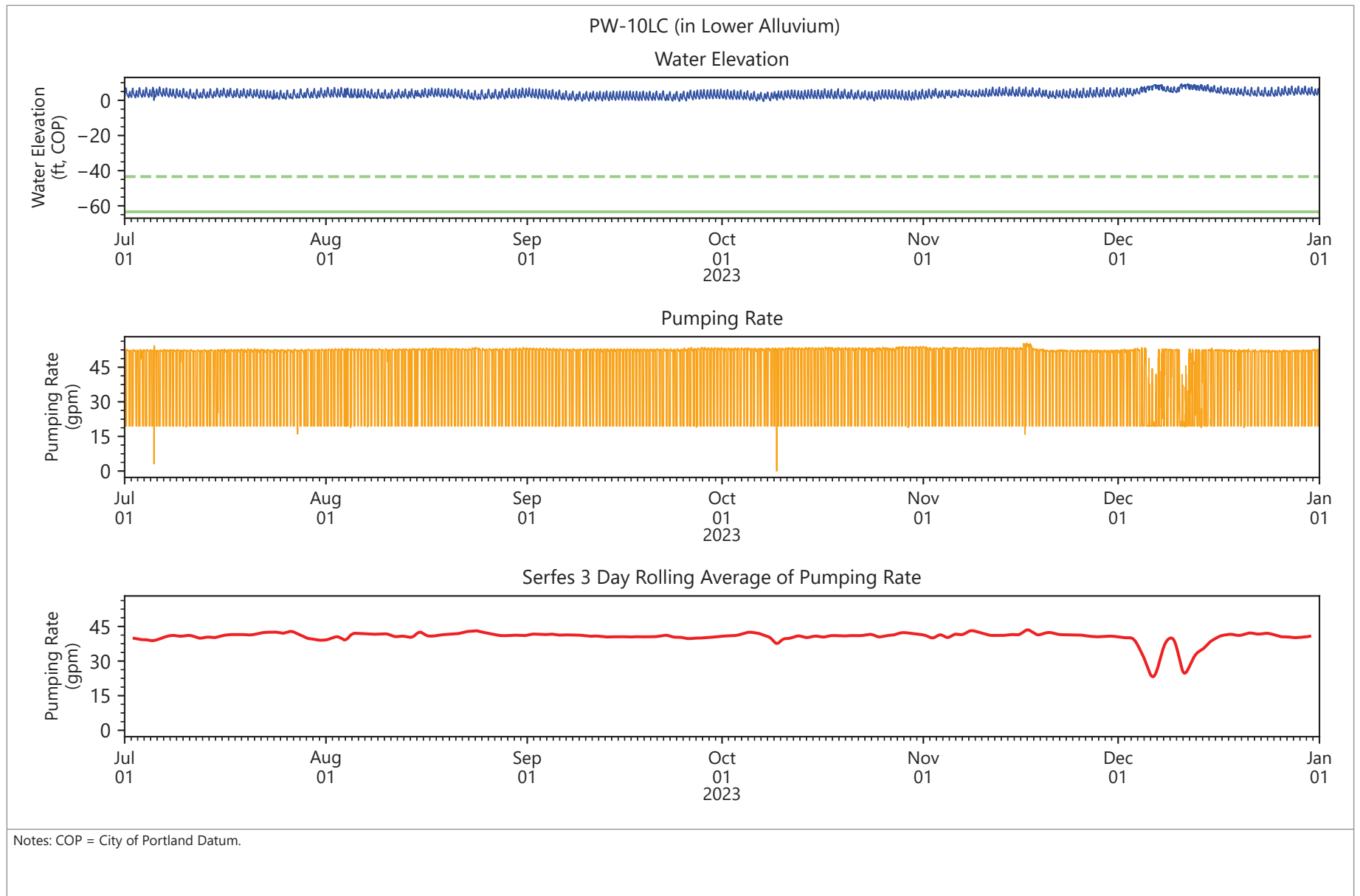


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- Groundwater Elevation
- Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.25
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

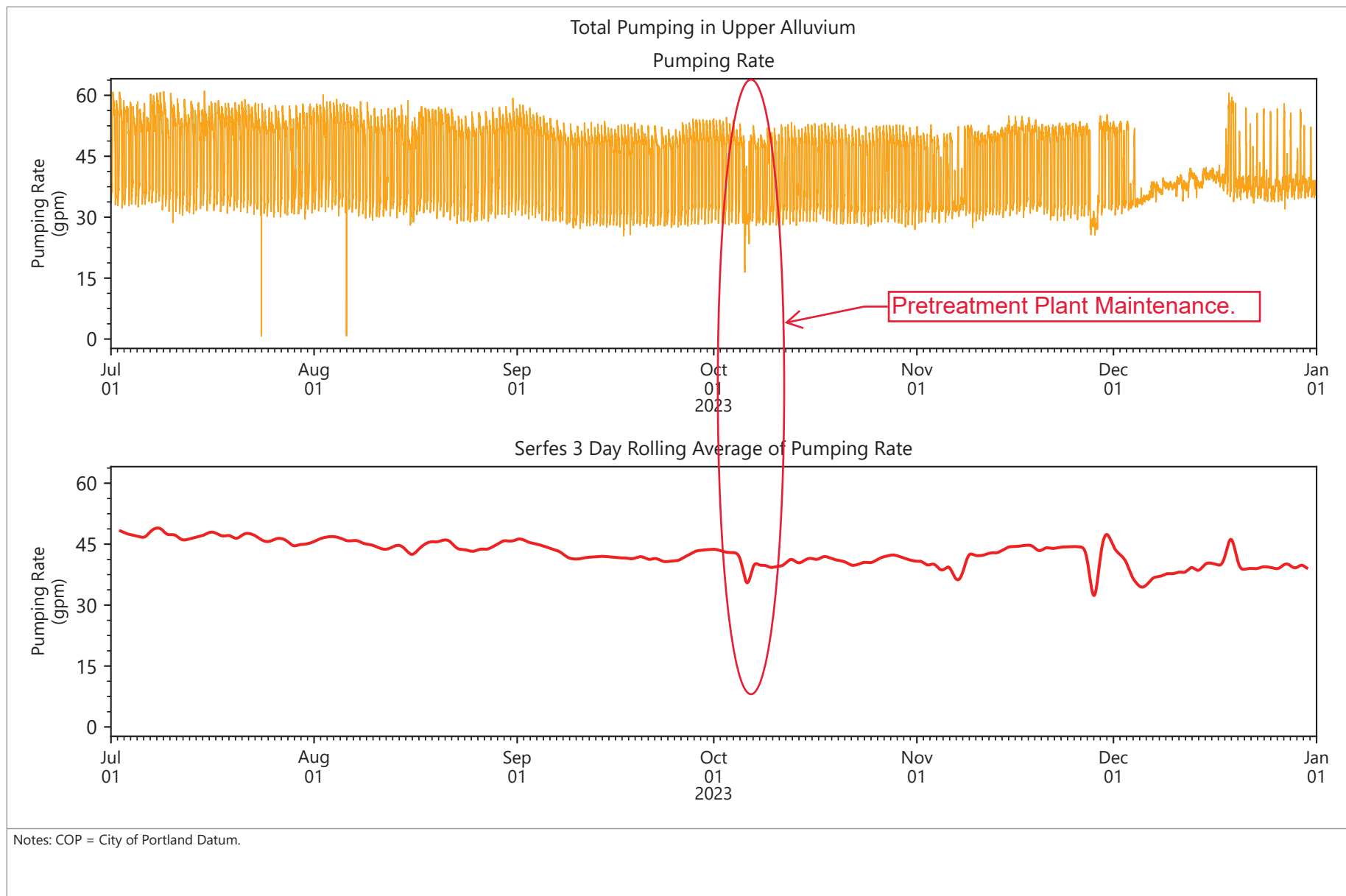


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- Groundwater Elevation
- - - Top of Screen Elevation
- Bottom of Screen Elevation
- Pumping Rate: 15-min Data
- Pumping Rate: Serfes Averages

Figure 7.26
Groundwater Elevations and Pumping Rates at Pumping Wells
NW Natural Gasco Site

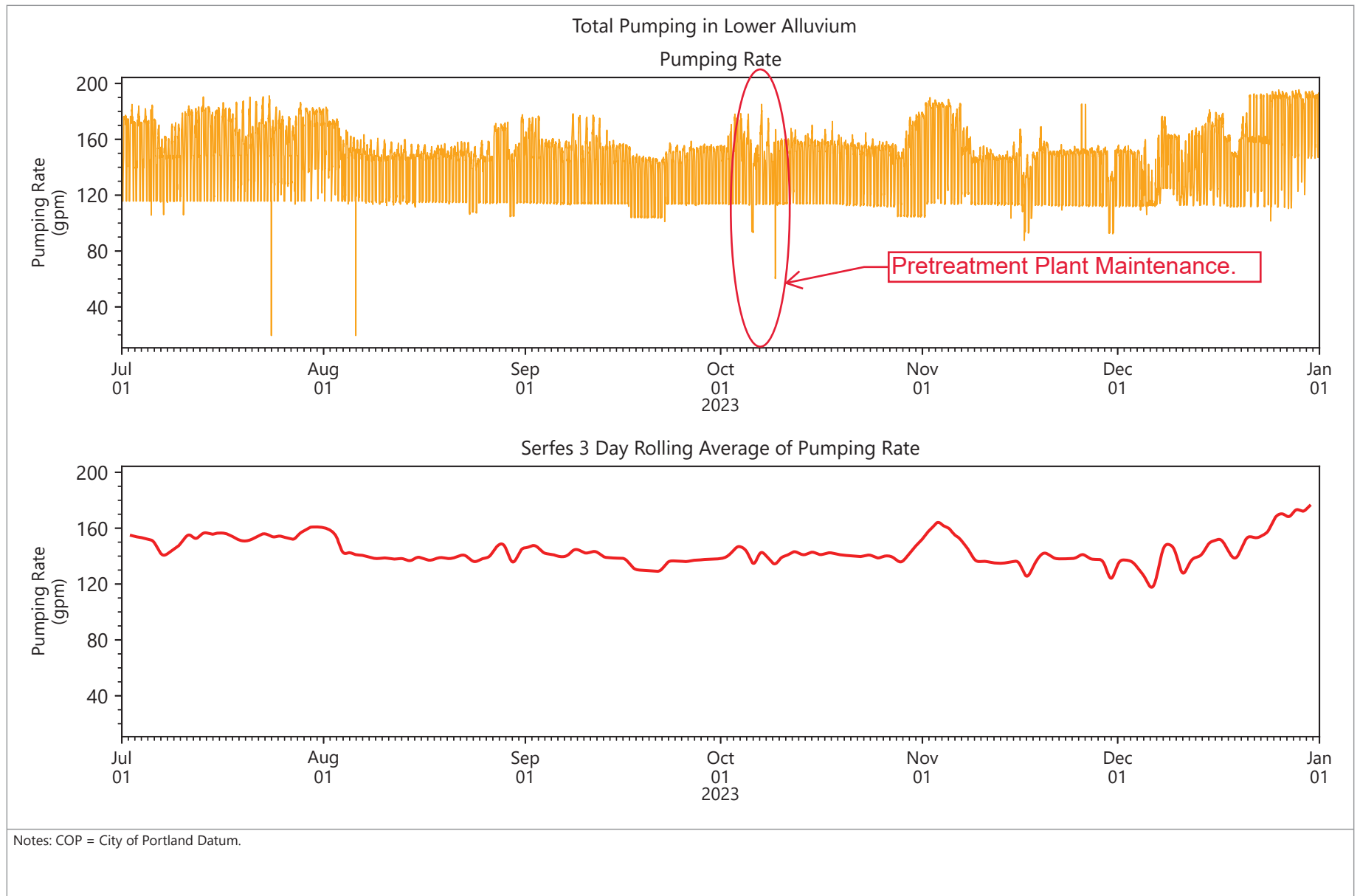


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— Pumping Rate: 15-min Data
 — Pumping Rate: Serfes Averages

Figure 7.27
Pumping Rates at Pumping Wells
 NW Natural Gasco Site

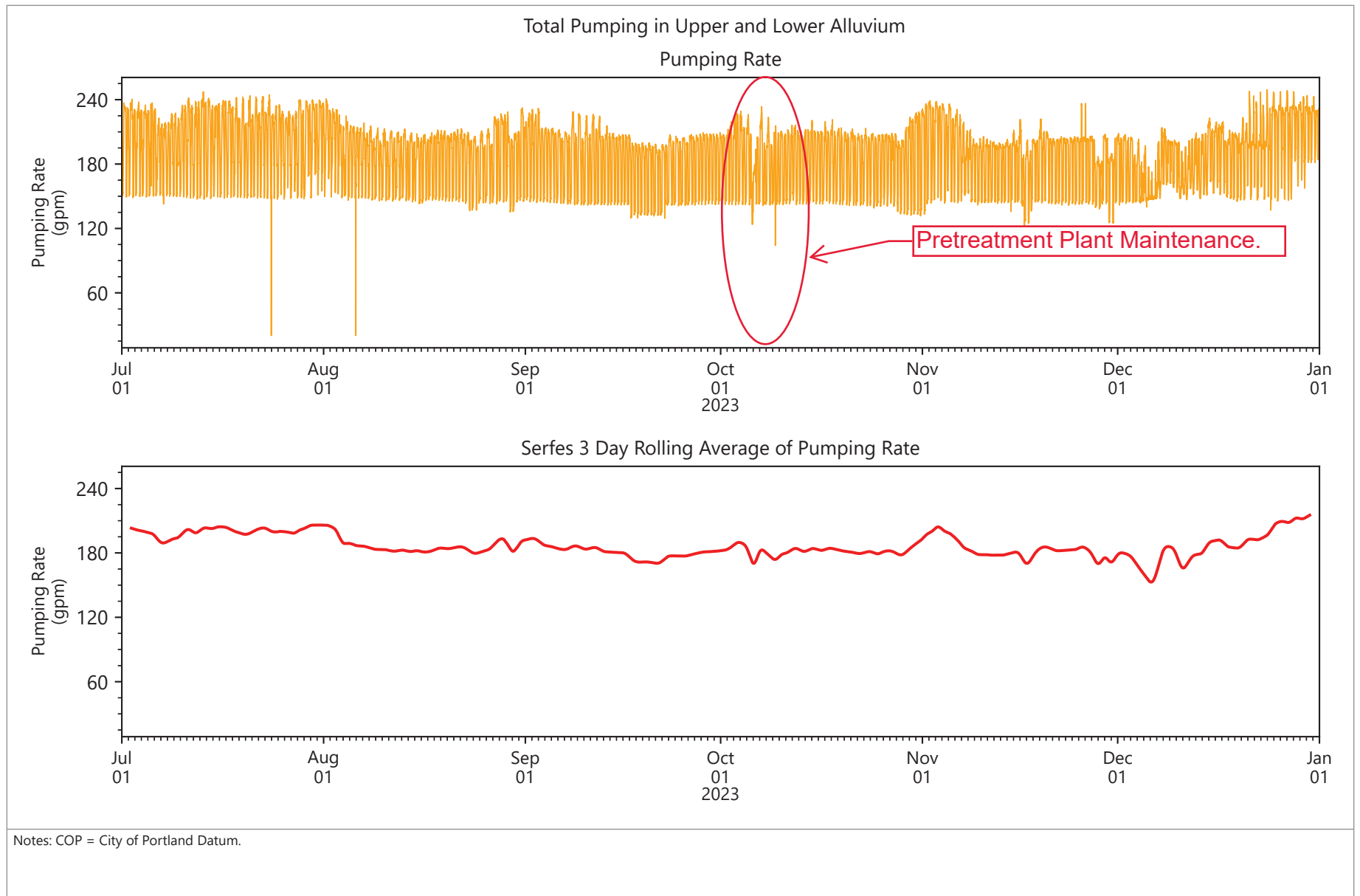


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— Pumping Rate: 15-min Data
— Pumping Rate: Serfes Averages

Figure 7.28
Pumping Rates at Pumping Wells
NW Natural Gasco Site



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— Pumping Rate: 15-min Data
— Pumping Rate: Serfes Averages

Figure 7.29
Pumping Rates at Pumping Wells
NW Natural Gasco Site

Appendix C

Groundwater Quality Monitoring

Appendix C1

Comprehensive Groundwater Framework

Comprehensive Well Network Description – NW Natural and Siltronic Properties
Data Collection Program and Sampling Schedule
Revision Date: May 20, 2024

Well Information							NW Natural MGP Data Collection Program					NW Natural Sampling Schedule
Well ID	Water-Bearing Zone	Nearshore (200 feet)/ Upland/River	Easting ¹	Northing ¹	Screened Interval (feet bgs)		Equipped with Transducer	DNAPL Monitoring	HC&C Control Well	Source Control Monitoring	RI/HERA and Data Trends	Integrated Monitoring ² with TPH-Dx, TPH-Gx
Monitoring Wells												
MW-1-22	Fill	Nearshore	7623089.8	705897.6	11	21	-	-	-	X	X	3Q
MW-1-55	Upper Alluvium	Nearshore	7623083.3	705869.1	45	55	X	-	-	X	X	-
MW-1-82	Lower Alluvium	Nearshore	7623095.0	705868.1	72	82	X	-	-	X	X	-
MW-2-32	Fill	Nearshore	7623338.8	705787.9	21.5	31.5	-	-	-	X	X	Quarterly
MW-2-61	Upper Alluvium	Nearshore	7623333.0	705792.2	50	60	-	-	-	X	X	-
MW-2-104	Lower Alluvium	Nearshore	7623343.6	705784.9	94	104	-	-	-	X	X	-
MW-3-26	Fill	Nearshore	7623842.6	705486.8	15	25	-	Semiannually	-	X	X	Quarterly
MW-3-56	Upper Alluvium	Nearshore	7623848.3	705485.4	45	55	X	Semiannually	-	X	X	-
MW-4-35	Fill	Nearshore	7624102.6	705378.2	24	34	-	Semiannually	-	X	X	Quarterly
MW-4-57	Upper Alluvium	Nearshore	7624107.4	705375.2	46	56	X	Semiannually	-	X	X	-
MW-4-101	Lower Alluvium	Nearshore	7624095.4	705380.3	89.5	99.5	-	Semiannually	-	X	X	-
MW-5-32	Upper Alluvium	Nearshore	7624346.9	705217.2	21	31	X	Semiannually	-	X	X	-
MW-5-100	Upper Alluvium	Nearshore	7624340.3	705213.1	88	98	-	Semiannually	-	X	X	-
MW-5-175	Deep Lower Alluvium	Nearshore	7624347.8	705207.6	163	173	X	Semiannually	-	X	X	3Q
MW-7-60	Upper Alluvium	Upland	7623510.3	705392.9	50.0	60.0	-	-	-	-	X	-
MW-8-29	Fill	Upland	7623959.0	705168.7	18.0	28.0	X	-	-	-	X	-
MW-8-56	Upper Alluvium	Upland	7623956.1	705170.8	45.0	55.0	-	-	-	-	X	-
MW-9-29	Fill/Alluvium	Upland	7623072.8	705017.3	18.0	28.0	X	-	-	-	X	-
MW-10-25	Fill	Upland	7623484.2	704943.6	14.0	24.0	X	-	-	-	-	-
MW-10-61	Upper Alluvium	Upland	7623481.4	704946.0	50.0	60.0	-	-	-	-	X	-
MW-11-32	Fill	Upland	7623854.1	704790.0	21.0	31.0	X	-	-	-	-	-
MW-12-36	Fill/Alluvium	Upland	7623621.3	704130.4	25.0	35.0	X	-	-	-	X	-
MW-14-110	Lower Alluvium	Upland	7623751.3	704881.7	98.0	108.0	-	-	-	-	X	-
MW-15-50	Upper Alluvium	Upland	7623699.5	704648.7	40.0	50.0	-	-	-	-	X	-
MW-15-66	Upper Alluvium	Upland	7623705.5	704639.7	60.5	65.5	-	-	-	-	X	-
MW-16-45	Upper Alluvium	Nearshore	7623944.8	705482.9	30	45	X	Monthly	-	-	X	-
MW-16-65	Upper Alluvium	Nearshore	7623950.4	705478.8	55	65	X	Semiannually	-	X	X	-
MW-18-30	Fill	Nearshore	7623922.4	705446.9	19	29	X	Monthly	-	-	X	-
MW-18-125	Lower Alluvium	Nearshore	7623935.8	705436.8	115	125	X	Semiannually	-	X	X	-
MW-18-180	Deep Lower Alluvium	Nearshore	7623930.4	705444.2	170	180	X	Semiannually	-	X	X	3Q
MW-19-22	Fill	Nearshore	7624251.0	705292.0	12	22	X	Semiannually	-	X	X	Quarterly
MW-19-125	Lower Alluvium	Nearshore	7624246.0	705295.0	115	125	X	Semiannually	-	X	X	-
MW-19-180	Deep Lower Alluvium	Nearshore	7624240.0	705298.0	170	180	X	Semiannually	-	X	X	3Q
MW-20-120	Lower Alluvium	Nearshore	7624360.0	705233.0	110	120	-	Semiannually	-	X	X	-
MW-21-12	Fill	Nearshore	7623633.5	705643.0	7	12	-	-	-	X	X	Quarterly
MW-21-75	Lower Alluvium	Nearshore	7623645.9	705635.6	65	75	X	-	X	X	X	-

Comprehensive Well Network Description – NW Natural and Siltronic Properties
Data Collection Program and Sampling Schedule
Revision Date: May 20, 2024

Well Information							NW Natural MGP Data Collection Program					NW Natural Sampling Schedule
Well ID	Water-Bearing Zone	Nearshore (200 feet)/ Upland/River	Easting ¹	Northing ¹	Screened Interval (feet bgs)		Equipped with Transducer	DNAPL Monitoring	HC&C Control Well	Source Control Monitoring	RI/HERA and Data Trends	Integrated Monitoring ² with TPH-Dx, TPH-Gx
MW-21-115	Lower Alluvium	Nearshore	7623653.4	705631.1	105.0	115.0	X	-	-	X	X	-
MW-21-165	Deep Lower Alluvium	Nearshore	7623661.9	705626.6	156.0	166.0	X	-	-	X	X	3Q
MW-21U	Upper Alluvium	Nearshore	7623643.7	705645.9	25	35	X	-	X	X	-	-
MW-22-80	Lower Alluvium	Nearshore	7623312.7	705869.2	69.9	79.9	X	-	X	-	X	-
MW-22U	Upper Alluvium	Nearshore	7623306.2	705875.4	45.0	55.0	X	-	X	X	-	-
MW-23-27	Fill	Nearshore	7623498.5	705734.9	17.7	27.7	-	-	-	X	X	Quarterly
MW-23-75	Lower Alluvium	Nearshore	7623494.4	705738.2	64.7	74.7	X	-	X	-	X	-
MW-23-123	Lower Alluvium	Nearshore	7623490.4	705740.6	113.3	123.3	-	-	-	X	X	-
MW-23U	Upper Alluvium	Nearshore	7623490.3	705734.9	40.0	50.0	X	-	X	X	X	-
MW-24-70	Upper Alluvium	Nearshore	7623865.8	705515.5	60.1	70.1	X	Semiannually	-	X	X	-
MW-24-130	Lower Alluvium	Nearshore	7623868.1	705513.3	120.1	130.1	X	Semiannually	X	-	-	-
MW-25L	Lower Alluvium	Nearshore	7623074.4	705972.6	54.0	64.0	X	-	-	-	-	-
MW-26U	Upper Alluvium	Nearshore	7623954.2	705459.8	38.5	48.5	X	Weekly	X	-	-	-
MW-27L	Lower Alluvium	Nearshore	7624002.7	705428.4	106.0	116.0	X	Semiannually	X	-	-	-
MW-27U	Upper Alluvium	Nearshore	7623998.7	705431.2	66.1	76.1	X	Monthly	-	X	-	-
MW-28L	Lower Alluvium	Nearshore	7624153.1	705328.7	109.8	119.8	X	Semiannually	X	-	-	-
MW-28U	Upper Alluvium	Nearshore	7624150.1	705330.3	75.0	85.0	X	Semiannually	-	X	-	-
MW-29U	Upper Alluvium	Nearshore	7624175.9	705316.5	46.0	56.0	X	Semiannually	X	-	-	-
MW-30U	Upper Alluvium	Nearshore	7624247.3	705280.1	40.1	50.1	X	Semiannually	X	-	-	-
MW-31L	Lower Alluvium	Nearshore	7624307.8	705260.7	105.0	115.0	X	Semiannually	X	-	-	-
MW-31U	Upper Alluvium	Nearshore	7624310.6	705259.0	84.9	94.9	X	Semiannually	-	X	-	-
MW-32U	Upper Alluvium	Nearshore	7624331.6	705247.5	39.9	49.9	X	Semiannually	X	-	-	-
MW-33U	Upper Alluvium	Nearshore	7624399.1	705212.2	38.0	48.0	X	Semiannually	X	-	-	-
MW-34L	Lower Alluvium	Nearshore	7624426.8	705198.0	99.0	109.0	X	Quarterly	X	-	-	-
MW-34U	Upper Alluvium	Nearshore	7624423.0	705199.7	63.3	73.3	X	Semiannually	-	X	-	-
MW-35U	Upper Alluvium	Nearshore	7624487.2	705194.3	54.0	64.0	X	Semiannually	X	-	-	-
MW-36U	Upper Alluvium	Nearshore	7624629.6	705117.8	44.0	54.0	X	Semiannually	X	-	-	-
MW-37U	Upper Alluvium	Nearshore	7624028.0	705410.2	40.1	50.1	X	Semiannually	X	-	-	-
MW-38U	Upper Alluvium	Nearshore	7624100.8	705356.9	50.1	60.1	X	Weekly	X	-	-	-
MW-39F	Fill	Nearshore	7623063.6	705973.0	11.8	16.8	-	-	-	-	X	1Q and 3Q
MW-40F	Fill	Upland	7622894.1	705792.6	21.6	26.6	X	-	-	-	X	1Q and 3Q
MW-41U	Upper Alluvium	Upland	7622721.4	705601.2	17.6	27.6	X	-	-	-	X	-
MW-42F	Fill	Nearshore	7624617.5	705151.9	26.0	31.0	-	Semiannually	-	-	X	1Q and 3Q
MW-43F	Fill	Upland	7623148.6	705258.5	7.0	17.0	X	Monthly	-	-	-	-
MW-44F	Fill	Upland	7623328.7	704799.5	6.0	16.0	X	Monthly	-	-	-	-
MW-45F	Fill	Upland	7623563.4	704499.7	7.0	17.0	X	Monthly	-	-	-	-
MW-46F	Fill	Upland	7623476.0	704733.0	6.1	16.1	X	-	-	-	-	Quarterly
MW-47F	Fill	Upland	7623719.2	705298.7	22.0	32.0	X	-	-	-	-	Quarterly

Comprehensive Well Network Description – NW Natural and Siltronic Properties
Data Collection Program and Sampling Schedule
Revision Date: May 20, 2024

Well Information							NW Natural MGP Data Collection Program					NW Natural Sampling Schedule
Well ID	Water-Bearing Zone	Nearshore (200 feet)/ Upland/River	Easting ¹	Northing ¹	Screened Interval (feet bgs)		Equipped with Transducer	DNAPL Monitoring	HC&C Control Well	Source Control Monitoring	RI/HERA and Data Trends	Integrated Monitoring ² with TPH-Dx, TPH-Gx
MW-48F	Fill	Upland	7623850.1	705158.8	15.6	25.6	X	-	-	-	-	Quarterly
MW-49F	Fill	Upland	7623476.8	705461.6	19.0	29.0	X	-	-	-	-	Quarterly
MW-50F	Fill	Upland	7623318.6	705313.8	14.1	23.8	X	-	-	-	-	Quarterly
MW-51F	Fill	Upland	7623427.4	705385.2	15.5	25.2	X	-	-	-	-	Quarterly
MW-52F	Fill	Upland	7623610.6	705430.3	5.8	10.5	X	-	-	-	-	Quarterly
MW-53F	Fill	Upland	7623770.1	705433.3	3.8	8.6	X	-	-	-	-	Quarterly
MW-PW-2L	Lower Alluvium	Nearshore	7624540.9	705179.9	119.8	139.8	-	Monthly	-	-	-	-
NWN-1-20	Fill	Upland	7623946.7	704240.4	10.0	20.0	X	-	-	-	X	-
NWN-2-20	Fill	Upland	7623940.1	703958.0	10.0	20.0	X	-	-	-	X	-
NWN-3-17	Fill	Upland	7624165.6	703613.0	7.0	17.0	-	-	-	-	X	-
NWN-4-15	Fill	Upland	7624417.0	703176.5	5.0	15.0	-	-	-	-	X	-
NWN-5-20	Fill	Upland	7624797.3	702900.2	10.0	20.0	-	-	-	-	X	-
NWN-6-31	Fill	Upland	7625094.4	702865.2	21.0	31.0	-	-	-	-	X	-
NWN-7-30	Fill	Upland	7624543.0	703893.5	20.0	30.0	X	-	-	-	X	-
NWN-8-30	Fill	Upland	7625491.7	703329.4	15.0	30.0	-	-	-	-	X	-
NWN-9-31	Fill	Nearshore	7625000.8	704896.3	16.0	31.0	-	-	-	-	X	1Q and 3Q
NWN-10-26	Fill	Nearshore	7625813.7	704369.3	11.0	26.0	-	-	-	-	X	-
NWN-11-24	Fill	Upland	7625080.5	704323.5	14.0	24.0	-	-	-	-	X	-
NWN-12-20	Fill	Upland	7625552.3	704097.9	10.0	20.0	-	-	-	-	X	-
NWN-13-23	Fill	Upland	7624041.9	704353.4	13.0	23.0	X	-	-	-	X	-
NWN-13-73	Upper Alluvium	Upland	7624031.8	704361.5	63.0	73.0	-	-	-	-	X	-
NWN-13-106	Lower Alluvium	Upland	7624023.9	704368.0	96.0	106.0	-	-	-	-	X	-
OW-1F	Fill	Nearshore	7624722.3	705044.2	30.0	35.0	X	-	-	X	-	
OW-2F	Fill	Nearshore	7624542.7	705172.5	25.6	30.6	X	Semiannually	-	X	-	
OW-5F	Fill	Nearshore	7624070.3	705366.7	28.5	33.5	X	Semiannually	-	X	-	
OW-7-17	Fill	Nearshore	7623753.3	705593.8	12.5	17.5	X	-	-	X	-	
OW-8-15	Fill	Nearshore	7623600.4	705685.4	10.1	15.1	X	-	-	X	-	
OW-8-28	Fill	Nearshore	7623623.5	705691.3	23.1	28.1	-	-	-	X	-	
OW-9-25	Fill	Nearshore	7623388.5	705812.5	20.0	25.0	X	-	-	X	-	
OW-10F	Fill	Nearshore	7623183.5	705929.8	20.7	25.7	X	-	-	X	-	
PW-01-80	Upper Alluvium	Nearshore	7624095.8	705353.7	39.5	79.5	-	Semiannually	-	-		-
PW-3-85	Upper Alluvium	Nearshore	7624367.0	705229.0	75.0	85.0	X	Semiannually	-	-		-
WS-8-33	Fill	Nearshore	7624854.1	704987.9	22.5	32.5	X	-	-	-	X	1Q and 3Q
WS-8-59	Upper Alluvium	Nearshore	7624858.3	704990.2	48.5	58.5	X	-	-	-	X	-
WS-9-34	Fill	Nearshore	7625261.8	704714.1	23.5	33.5	-	-	-	-	X	1Q and 3Q
WS-10-27	Fill	Upland	7624393.1	704306.6	11.0	26.0	-	-	-	-		-
WS-12-125	Lower Alluvium	Nearshore	7624836.2	704998.7	109.0	124.0	X	-	X	-	X	-
WS-12-161	Deep Lower Alluvium	Nearshore	7624836.2	704998.7	145.0	160.0	X	-	-	-	X	1Q and 3Q

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Well ID	Water-Bearing Zone	Nearshore (200 feet)/ Upland/River	Easting ¹	Northing ¹	Screened Interval (feet bgs)		Equipped with Transducer	DNAPL Monitoring	HC&C Control Well	Source Control Monitoring	RI/HERA and Data Trends	Integrated Monitoring ² with TPH-Dx, TPH-Gx
WS-13-69	Upper Alluvium	Upland	7624575.1	704633.4	52.6	67.6	-	-	-	-	X	-
WS-13-105	Lower Alluvium	Upland	7624575.1	704633.4	89.0	104.0	-	-	-	-	X	-
WS-16-125	Lower Alluvium	Upland	7624326.8	704965.0	109.0	124.0	-	-	-	-		-
WS-16-161	Deep Lower Alluvium	Upland	7624326.8	704965.0	145.0	160.0	-	-	-	-	X	1Q and 3Q
WS-17-52	Upper Alluvium	Upland	7624607.5	704484.3	41.0	51.0	-	-	-	-	X	-
WS-17-94	Lower Alluvium	Upland	7624607.5	704484.3	78.0	93.0	-	-	-	-	X	-
WS-19-71	Upper Alluvium	Upland	7624579.5	704675.8	60.0	70.0	-	-	-	-	-	-
WS-19-101	Lower Alluvium	Upland	7624575.9	704678.6	92.0	102.0	-	-	-		-	-
WS-21-112	Lower Alluvium	Nearshore	7624617.9	705091.1	94.5	109.5	X	Semiannually	X	-	X	-
WS-21-131	Lower Alluvium	Nearshore	7624622.6	705086.1	115.0	130.0	-	-	-	-	-	-
WS-23-116	Lower Alluvium	Upland	7624452.6	705097.3	100.0	115.0	-	-	-	-	-	-
WS-24-111	Lower Alluvium	Upland	7624532.1	705032.9	100.0	110.0	-	-	-	-	-	-
WS-24-155	Lower Alluvium	Upland	7624538.3	705037.4	99.0	109.6	-	-	-	-	-	-
WS-25-96	Upper Alluvium	Nearshore	7624670.2	705040.6	85.0	95.0	-	-	-	-	-	-
WS-25-111	Lower Alluvium	Nearshore	7624667.3	705042.8	100.0	110.0	-	-	-	-	-	-
WS-26-86	Upper Alluvium	Nearshore	7624747.8	704984.7	75.0	85.0	X	-	X	-	-	-
WS-26-116	Lower Alluvium	Nearshore	7624750.4	704982.4	105.0	115.0	-	-	-	-	-	-
WS-27-86	Upper Alluvium	Upland	7624754.5	704902.1	70.0	85.0	-	-	-	-	-	-
WS-30-96	Upper Alluvium	Upland	7624472.5	704758.7	85.0	95.0	-	-	-	-	-	-
WS-32-76	Upper Alluvium	Upland	7624524.7	704718.5	65.0	75.0	-	-	-	-	-	-
WS-34-71	Upper Alluvium	Upland	7624559.1	704675.8	60.0	70.0	-	-	-	-	-	-
WS-34-106	Lower Alluvium	Upland	7624563.5	704679.8	95.0	105.0	-	-	-	-	-	-
WS-35-76	Upper Alluvium	Upland	7624562.0	704701.3	65.0	75.0	-	-	-	-	-	-
WS-35-106	Lower Alluvium	Upland	7624561.0	704702.9	95.0	105.0	-	-	-	-	-	-
WS-36-81	Upper Alluvium	Upland	7624561.7	704714.7	70.0	80.0	-	-	-	-	-	-
WS-36-106	Lower Alluvium	Upland	7624564.7	704715.3	95.0	105.0	-	-	-	-	-	-
WS-37-51	Upper Alluvium	Upland	7624606.5	704653.5	40.0	50.0	-	-	-	-	-	-
WS-38-61	Upper Alluvium	Upland	7624598.9	704670.1	50.0	60.0	-	-	-	-	-	-
WS-39-101	Lower Alluvium	Upland	7624485.1	704777.6	90.0	100.0	-	-	-	-	-	-
WS-40-36	Fill	Upland	7624571.0	704690.2	25.8	35.8	-	-	-	-	-	-
WS-41-36	Fill	Upland	7624534.6	704635.5	26.3	36.3	-	-	-	-	-	-
WS-41-91	Upper Alluvium	Upland	7624530.2	704638.5	75.3	90.3	-	-	-	-	-	-
WS-42-36	Fill	Upland	7624596.5	704583.4	25.8	35.8	-	-	-	-	-	-
WS-43-36	Fill	Upland	7624570.3	704567.9	25.8	35.8	-	-	-	-	-	-
WS-44-29	Fill	Nearshore	7624504.6	705143.3	24.0	29.0	-	-	-	-	-	-

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WS-45-23	Fill	Upland	7624392.2	705054.5	18.0	23.0	-	-	-	-	-	-
WS-46-33	Fill	Upland	7624781.0	704876.3	28.5	33.5	-	-	-	-	-	-
WS-47-183	Deep Lower Alluvium	Nearshore	7624602.8	705154.3	172.0	182.0	X	Semiannually	-	-	-	1Q and 3Q
DNAPL Monitoring Wells												
DW-6U	Upper Alluvium	Nearshore	7623939.8	705466.0	36.3	48.3	-	Semiannually	-	-	-	-
DW-11U	Upper Alluvium	Nearshore	7624424.4	705169.8	21.7	33.7	-	Semiannually	-	-	-	-
DW-14U	Upper Alluvium	Nearshore	7623987.9	705421.1	31.8	46.8	-	Quarterly	-	-	-	-
MW-6-32	Fill	Nearshore	7623289.8	705412.1	21.0	31.0	-	Auto-recovery	-	-	X	-
MW-13-30	Fill	Upland	7623447.2	705432.9	19.0	29.0	-	Auto-recovery	-	-	X	-
Groundwater Extraction Wells												
PW-1Lb	Lower Alluvium	Nearshore	7624730.3	705046.4	101.9	131.9	X	-	-	X	-	-
PW-1Uc	Upper Alluvium	Nearshore	7624718.0	705053.1	65.0	85.0	X	-	-	-	-	-
PW-2L	Lower Alluvium	Nearshore	7624558.2	705165.7	120.1	140.1	X	Weekly	-	X	-	-
PW-2U	Upper Alluvium	Nearshore	7624548.9	705171.6	57.8	72.8	X	Semiannually	-	X	-	-
PW-3-118	Lower Alluvium	Nearshore	7624353.0	705238.0	108.0	118.0	X	Semiannually	-	X	-	-
PW-3U	Upper Alluvium	Nearshore	7624358.3	705216.9	42.8	57.8	X	Semiannually	-	X	-	-
PW-4L	Lower Alluvium	Nearshore	7624216.3	705309.2	105.4	125.4	X	Semiannually	-	X	-	-
PW-4U	Upper Alluvium	Nearshore	7624207.1	705313.8	47.2	62.2	X	Semiannually	-	X	-	-
PW-5L	Lower Alluvium	Nearshore	7624049.2	705380.6	105.7	125.7	X	Semiannually	-	X	-	-
PW-5U	Upper Alluvium	Nearshore	7624057.4	705374.2	49.9	64.9	X	Semiannually	-	X	-	-
PW-6L	Lower Alluvium	Nearshore	7623921.5	705497.0	103.7	123.7	X	Semiannually	-	X	-	-
PW-6U	Upper Alluvium	Nearshore	7623927.6	705487.4	49.4	64.4	X	Monthly	-	X	-	-
PW-7-93	Lower Alluvium	Nearshore	7623758.1	705591.0	73.5	93.5	X	-	-	X	-	-
PW-8Ub	Upper Alluvium	Nearshore	7623620.3	705648.5	20.0	35.0	X	-	-	-	-	1Q and 3Q
PW-8-68	Lower Alluvium	Nearshore	7623605.5	705682.9	48.0	68.0	X	-	-	X	-	-
PW-9-92	Lower Alluvium	Nearshore	7623393.5	705809.4	72.6	92.6	X	-	-	X	-	-
PW-10Lc	Lower Alluvium	Nearshore	7623183.7	705887.8	75.3	95.3	X	-	-	X	-	-
PW-10Ub	Upper Alluvium	Nearshore	7623222.1	705873.6	38.9	53.9	X	-	-	X	-	-
PW-11Ub	Upper Alluvium	Nearshore	7624435.7	705191.3	50.2	65.2	X	Weekly	-	X	-	-
PW-12U	Upper Alluvium	Nearshore	7624297.6	705265.9	47.8	62.8	X	Semiannually	-	X	-	-
PW-13U	Upper Alluvium	Nearshore	7624144.5	705333.4	57.6	72.6	X	Monthly	-	X	-	-
PW-14U	Upper Alluvium	Nearshore	7623986.8	705437.0	57.8	67.8	X	Monthly	-	X	-	-
PW-15U	Upper Alluvium	Nearshore	7623680.7	705639.0	35.1	55.1	X	-	-	X	-	-
PW-16U	Upper Alluvium	Nearshore	7623554.8	705713.3	30.4	50.4	X	-	-	X	-	-
Piezometers												
PZ1-5	Fill	River	7623598.3	705767.9	4.5	5.4	X	-	-	X	-	-
PZ1-20	Upper Alluvium	River	7623596.6	705766.9	19.3	20.2	X	-	-	X	-	-

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Well ID	Water-Bearing Zone	Nearshore (200 feet)/ Upland/River	Easting ¹	Northing ¹	Screened Interval (feet bgs)		Equipped with Transducer	DNAPL Monitoring	HC&C Control Well	Source Control Monitoring	RI/HERA and Data Trends	Integrated Monitoring ² with TPH-Dx, TPH-Gx
PZ1-50	Lower Alluvium	River	7623592.6	705764.4	45.1	50.1	X	-	-	X	-	-
PZ2-5	Fill	River	7623677.3	705819.3	5.5	6.4	X	-	-	X	-	-
PZ2-20	Upper Alluvium	River	7623676.5	705817.6	20.6	21.5	X	-	-	X	-	-
PZ2-43	Lower Alluvium	River	7623665.1	705810.2	38.3	43.3	X	-	-	X	-	-
PZ2-77	Lower Alluvium	River	7623670.3	705813.4	71.9	76.9	X	-	-	X	-	-
PZ4-12	Upper Alluvium	River	7623820.4	705775.4	6.7	11.7	X	-	-	X	-	-
PZ4-41	Lower Alluvium	River	7623816.5	705777.8	36.1	41.1	X	-	-	X	-	-
PZ5-5	Fill	River	7623645.7	705738.0	3.8	4.8	X	-	-	X	-	-
PZ5-20	Upper Alluvium	River	7623647.3	705735.8	15.0	20.0	X	-	-	X	-	-
PZ5-55	Lower Alluvium	River	7623648.8	705733.4	50.0	55.0	X	-	-	X	-	-
PZ5-85	Lower Alluvium	River	7623650.5	705731.0	79.9	84.9	X	-	-	X	-	-
PZ6-5	Fill	River	7623986.5	705532.4	3.9	4.9	X	Semiannually	-	X	-	-
PZ6-50	Upper Alluvium	River	7623989.1	705530.0	45.2	50.2	X	Semiannually	-	X	-	-
PZ6-115	Lower Alluvium	River	7623989.2	705536.4	110.1	115.1	X	Semiannually	-	X	-	-
PZ6-150	Deep Lower Alluvium	River	7623994.6	705532.7	145.4	150.4	X	Semiannually	-	X	-	1Q and 3Q
PZ7-5	Fill	River	7624284.1	705379.0	4.1	5.2	X	Semiannually	-	X	-	-
PZ7-50	Upper Alluvium	River	7624288.8	705377.5	43.2	48.2	X	Semiannually	-	X	-	-
PZ7-100	Lower Alluvium	River	7624285.4	705383.2	94.3	99.3	X	Semiannually	-	X	-	-
PZ7-150	Deep Lower Alluvium	River	7624290.9	705381.7	145.3	150.3	X	Semiannually	-	X	-	1Q and 3Q
PZ8-5	Fill	River	7623244.6	706008.2	4.5	5.4	X	-	-	X	-	-
PZ8-50	Upper Alluvium	River	7623249.0	706004.8	44.7	49.7	X	-	-	X	-	-
PZ9-5	Fill	River	7624596.3	705254.1	4.5	5.5	X	Semiannually	-	X	-	-
PZ9-50	Upper Alluvium	River	7624599.7	705256.9	45.4	50.4	X	Semiannually	-	X	-	-
PZ9-75	Lower Alluvium	River	7624606.4	705252.4	67.5	72.5	X	Semiannually	-	X	-	-
PZ9-110	Lower Alluvium	River	7624602.6	705255.0	105.6	110.6	X	Semiannually	-	X	-	-
PZ9-150	Deep Lower Alluvium	River	7624603.7	705248.3	146.1	151.1	X	Semiannually	-	X	-	1Q and 3Q

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Notes:
-: not applicable
1. Horizontal datum/coordinate system is NAD83/HARN 91, State Plane Oregon North, International Feet.
2. Analyses at all locations include PAHs or SVOCs (EPA 8270-SIM), VOCs (EPA 8260B), Total Cyanide (EPA 335.4), Free Cyanide (ASTM D-4282-02), Available Cyanide (OIA-1677), and Total Metals (EPA 6000 Series).** In addition, field measurements will be collected including DO, pH, conductivity, turbidity, temperature, and ORP.
**: aluminum, antimony, arsenic, barium, beryllium, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, selenium, silver, thallium, vanadium, and zinc

ASTM: ASTM International
bgs: below ground surface
DNAPL: dense nonaqueous phase liquid
DO: dissolved oxygen
EPA: U.S. Environmental Protection Agency
GW: groundwater
HARN: High Accuracy Reference Network
HC&C: hydraulic control and containment
MGP: manufactured gas plant
NAD83: North American Datum of 1983
ORP: oxidation-reduction potential
PAH: polycyclic aromatic hydrocarbon
RI/HERA: Remedial Investigation/Human Health Ecological Risk Assessment
Siltronic: Siltronic Corporation
SIM: selected ion monitoring
SVOC: semivolatile organic compound
TPH: total petroleum hydrocarbons
TPH-Dx: total petroleum hydrocarbons, diesel range
TPH-Gx: total petroleum hydrocarbons, gasoline range
VOC: volatile organic compound

Appendix C2

2023 Data Summary Table

Appendix C2
2023 Data Summary Table

	Source Control Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-01-22 GS-091423-22 9/14/2023 11 - 21 ft N WG 7623089.85 705897.648	Source Control Groundwater 2023 MW-01-55 GS-032323-60 3/23/2023 45 - 55 ft N WG 7623083.3 705869.1	Source Control Groundwater 2023 MW-02-32 GS-032323-56 3/23/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-32 GS-061623-18 6/16/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-32 GS-092723-35 9/27/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-32 GS-121323-11 12/13/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-61 GS-032323-55 3/23/2023 50 - 60 ft N WG 7623332.974 705792.178	Source Control Groundwater 2023 MW-03-26 GS-041223-65 4/12/2023 15 - 25 ft N WG 7623842.599 705486.817	Source Control Groundwater 2023 MW-03-26 GS-061523-13 6/15/2023 15 - 25 ft N WG 7623842.599 705486.817
Conventional Parameters (mg/L)										
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--	--
Cyanide	3.02	0.286	0.266	0.202	0.306	0.431	0.213	0.369	0.438	
Cyanide, available	0.0249	0.002 U	0.00155 J	0.00332	0.002 U	0.00476	0.00118 J	0.00234	0.0016 J	
Cyanide, free	0.0179	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--	--
Metals (µg/L)										
Aluminum	17200	1540	50 U	50 U	50 U	50 U	50 U	29.9 J	50 U	
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
Arsenic	3.59	1.96	1 U	1 U	0.556 J	0.519 J	2.36	1 U	0.869 J	
Barium	27.3	32	8.29	6.2	5.71	8.6	53.6	51	59.6	
Beryllium	0.655	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Calcium	--	--	--	--	28500	--	--	--	--	--
Chromium	5.37	9.91	2 U	2 U	2 U	2 U	2 U	2 U	2 U	
Copper	2 U	2.58	2 U	2 U	1.23 J	2 U	2 U	1.01 J	2 U	
Iron	19800	463000	505	219	269	533	22300	1010	10400	
Lead	0.2 U	0.613	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.186 U	0.2 U	
Magnesium	--	--	--	--	--	--	--	--	--	--
Manganese	511	20300	134	55.7	1150	153	880	1730	4170	
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	
Nickel	14.7	5.96	3.46	2.42	6.03	5.46	2 U	410	231	
Potassium	--	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Sodium	--	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	
Vanadium	14	4.4	1.35 J	2 U	2 U	1.1 J	2 U	76.9	103	
Zinc	5.47	4.04	5.04	5.68	5.25	4.79	3.32 J	4.84	8.63	
Metals, Dissolved (µg/L)										
Iron	--	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)										
1,1,1,2-Tetrachloroethane	2 U	0.4 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
1,1,1-Trichloroethane	2 U	0.4 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	

Appendix C2
2023 Data Summary Table

	Source Control Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-01-22 GS-091423-22 9/14/2023 11 - 21 ft N WG 7623089.85 705897.648	Source Control Groundwater 2023 MW-01-55 GS-032323-60 3/23/2023 45 - 55 ft N WG 7623083.3 705869.1	Source Control Groundwater 2023 MW-02-32 GS-032323-56 3/23/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-32 GS-061623-18 6/16/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-32 GS-092723-35 9/27/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-32 GS-121323-11 12/13/2023 21.5 - 31.5 ft N WG 7623338.778 705787.943	Source Control Groundwater 2023 MW-02-61 GS-032323-55 3/23/2023 50 - 60 ft N WG 7623332.974 705792.178	Source Control Groundwater 2023 MW-03-26 GS-041223-65 4/12/2023 15 - 25 ft N WG 7623842.599 705486.817	Source Control Groundwater 2023 MW-03-26 GS-061523-13 6/15/2023 15 - 25 ft N WG 7623842.599 705486.817
1,1,2,2-Tetrachloroethane		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane		2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene		0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene		10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene		10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane		25 U	5 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane		2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-		0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-		0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-		5 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane		5 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)		50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)		50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone		100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acrylonitrile		10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene		4.65	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	3.96	0.2 U
Bromobenzene		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)		5 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)		25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide		2160 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)		5 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane		25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane		25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

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2023 Data Summary Table

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Dibromochloromethane		5 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)		50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene		6.15	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)		25 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m,p-Xylene		4.65 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)		50 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene		2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene		1.95 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene		5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)		2 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene		5.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)		0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)		10 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride		0.5 U	0.4 U	0.4 U	0.4 U	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U
Polycyclic Aromatic Hydrocarbons (µg/L)										
1-Methylnaphthalene		32	0.0825 U	0.261 U	0.674 U	0.0647 U	0.065 U	0.0823 U	0.0783	0.373
2-Methylnaphthalene		42.5	0.0825 U	0.261 U	0.674 U	0.0647 U	0.065 U	0.0823 U	0.0712 U	0.0839 J
Acenaphthene		55.8	0.0773 UJ	0.13 U	0.796	0.0324 U	0.0325 U	0.0412 U	0.102	0.325
Acenaphthylene		2.08 U	0.0412 U	0.119 J	1.53	0.249	0.134	0.0694	1.41	2.32
Anthracene		2.13	0.0448	0.13 U	1.05	0.185	0.098	0.116	1.94	2.73
Benzo(a)anthracene		0.0952	0.0206 U	0.0652 U	0.169 U	0.0162 U	0.0163 U	0.0206 U	0.0654	0.067
Benzo(a)pyrene		0.0794	0.0206 U	0.0652 U	0.169 U	0.0162 U	0.0163 U	0.0206 U	0.0196	0.0211 U
Benzo(b,j)fluoranthene		--	0.0206 U	0.0652 U	0.169 U	0.0162 U	0.0163 U	0.0206 U	0.0365 J	0.0211 U
Benzo(g,h,i)perylene		0.0346	0.0412 U	0.13 U	0.337 U	0.0324 U	0.0325 U	0.0412 U	0.0654	0.0422 U
Benzo(k)fluoranthene		0.035 J	0.0206 U	0.0652 U	0.169 U	0.0162 U	0.0163 U	0.0206 U	0.0472 J	0.0792 U
Carbazole		--	0.0412 U	0.13 U	0.337 U	--	--	0.0412 U	0.112	0.145
Chrysene		0.108	0.0206 U	0.0652 U	0.169 U	0.0162 U	0.0163 U	0.0206 U	0.0142 J	0.0121 J
Dibenzo(a,h)anthracene		0.00854 J	0.0206 U	0.0652 U	0.169 U	0.0162 U	0.0163 U	0.0206 U	0.0178 U	0.0211 U
Dibenzofuran		5.01	0.0412 U	0.13 U	0.337 U	0.0324 U	0.0325 U	0.0412 U	0.0338 J	0.214
Fluoranthene		0.884	0.0412 U	0.13 U	0.337 U	0.0324 U	0.0325 U	0.0412 U	0.0489	0.1
Fluorene		40.1	0.0412 U	0.13 U	0.337 U	0.0556 U	0.0325 U	0.0412 U	0.128	0.584
Indeno(1,2,3-c,d)pyrene		0.0376	0.0206 U	0.0652 U	0.169 U	0.0162 U	0.0163 U	0.0206 U	0.0494	0.0211 U
Naphthalene		308	0.0825 U	0.261 U	0.674 U	0.0647 U	0.0577 J	0.116	0.172	0.183

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Phenanthrene		30.9	0.0825 U	0.261 U	0.674 U	0.0647 U	0.065 U	0.0823 U	0.174	0.962
Pyrene		0.766	0.0412 U	0.13 U	0.337 U	0.0324 U	0.0325 U	0.0412 U	0.0529	0.116
Pesticides (µg/L)										
4,4'-DDD (p,p'-DDD)		--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)		--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)		--	--	--	--	--	--	--	--	--
Aldrin		--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)		--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)		--	--	--	--	--	--	--	--	--
Dieldrin		--	--	--	--	--	--	--	--	--
Endosulfan sulfate		--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)		--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)		--	--	--	--	--	--	--	--	--
Endrin		--	--	--	--	--	--	--	--	--
Endrin aldehyde		--	--	--	--	--	--	--	--	--
Endrin ketone		--	--	--	--	--	--	--	--	--
Heptachlor		--	--	--	--	--	--	--	--	--
Heptachlor epoxide		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)		--	--	--	--	--	--	--	--	--
Methoxychlor		--	--	--	--	--	--	--	--	--
Toxaphene		--	--	--	--	--	--	--	--	--
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)		--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)		--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)		--	--	--	--	--	--	--	--	--
Dicamba		--	--	--	--	--	--	--	--	--
Dichloroprop		--	--	--	--	--	--	--	--	--
Dinoseb		--	--	--	--	--	--	--	--	--
Mecoprop (MCPP)		--	--	--	--	--	--	--	--	--
Mephanac (MCPA)		--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted		--	--	0.04 UJ	0.04 UJ	--	--	--	0.04 UJ	0.04 UJ
C10-C12 Aliphatics unadjusted		--	--	0.04 UJ	0.04 U	--	--	--	0.04 U	0.04 U
C12-C16 Aliphatics unadjusted		--	--	0.04 U	0.04 U	--	--	--	0.04 U	0.04 U
C16-C21 Aliphatics unadjusted		--	--	0.04 U	0.04 U	--	--	--	0.04 U	0.04 U
C21-C34 Aliphatics unadjusted		--	--	0.04 UJ	0.065	--	--	--	0.062	0.04 U

Appendix C2
2023 Data Summary Table

	Task	Source Control Groundwater 2023	Source Control Groundwater 2023	Source Control Groundwater 2023	Source Control Groundwater 2023	Source Control Groundwater 2023	Source Control Groundwater 2023	Source Control Groundwater 2023	Source Control Groundwater 2023	Source Control Groundwater 2023
	Location ID	MW-01-22	MW-01-55	MW-02-32	MW-02-32	MW-02-32	MW-02-32	MW-02-61	MW-03-26	MW-03-26
	Sample ID	GS-091423-22	GS-032323-60	GS-032323-56	GS-061623-18	GS-092723-35	GS-121323-11	GS-032323-55	GS-041223-65	GS-061523-13
	Sample Date	9/14/2023	3/23/2023	3/23/2023	6/16/2023	9/27/2023	12/13/2023	3/23/2023	4/12/2023	6/15/2023
	Depth	11 - 21 ft	45 - 55 ft	21.5 - 31.5 ft	21.5 - 31.5 ft	21.5 - 31.5 ft	21.5 - 31.5 ft	50 - 60 ft	15 - 25 ft	15 - 25 ft
	Sample Type	N	N	N	N	N	N	N	N	N
	Matrix	WG	WG	WG	WG	WG	WG	WG	WG	WG
	X	7623089.85	7623083.3	7623338.778	7623338.778	7623338.778	7623338.778	7623332.974	7623842.599	7623842.599
	Y	705897.648	705869.1	705787.943	705787.943	705787.943	705787.943	705792.178	705486.817	705486.817
C10-C12 Aromatics unadjusted	--	--	--	0.04 UJ	-99999 R	--	--	--	0.04 UJ	0.048 J
C8-C10 Aromatics unadjusted	--	--	--	0.04 U	0.04 U	--	--	--	0.04 U	0.04 U
C12-C16 Aromatics unadjusted	--	--	--	0.04 UJ	0.04 UJ	--	--	--	0.04 U	0.04 UJ
C16-C21 Aromatics unadjusted	--	--	--	0.04 U	0.04 U	--	--	--	0.04 U	0.04 U
C21-C34 Aromatics unadjusted	--	--	--	0.04 U	0.04 U	--	--	--	0.04 U	0.04 U
Volatile Petroleum Hydrocarbons (mg/L)										
n-Decane (C10)	--	--	--	0.005 U	0.005 U	--	--	--	0.005 U	0.005 U
n-Dodecane (C12)	--	--	--	0.005 U	0.005 U	--	--	--	0.005 U	0.005 U
n-Hexane (C6)	--	--	--	0.005 U	0.005 U	--	--	--	0.005 U	0.005 U
n-Octane (C8)	--	--	--	0.005 U	0.005 U	--	--	--	0.005 UJ	0.005 U
n-Pentane (C5)	--	--	--	0.005 U	0.005 U	--	--	--	0.005 U	0.005 U
C5-C6 Aliphatics unadjusted	--	--	--	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U
C6-C8 Aliphatics unadjusted	--	--	--	0.05 U	0.05 U	--	--	--	0.05 UJ	0.05 U
C8-C10 Aliphatics unadjusted	--	--	--	0.05 U	0.05 U	--	--	--	0.05 UJ	0.05 U
C10-C12 Aliphatics unadjusted	--	--	--	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U
C10-C12 Aromatics unadjusted	--	--	--	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U
C8-C10 Aromatics unadjusted	--	--	--	0.05 U	0.05 U	--	--	--	0.05 UJ	0.05 U
C12-C13 Aromatics unadjusted	--	--	--	0.05 U	0.05 U	--	--	--	0.05 U	0.05 U
Total Petroleum Hydrocarbons (mg/L)										
Diesel range hydrocarbons	1.77	0.194 UJ	0.192 UJ	0.194 J	0.279 J	0.198 U	0.157 J	0.421 J	0.82	
Gasoline range hydrocarbons	1.66	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	
Oil range organics	0.595	0.388 U	0.368 J	0.229 J	0.299 J	0.524	0.334 J	0.385 U	0.388 U	

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2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-03-26 GS-091323-15 9/13/2023 15 - 25 ft N WG 7623842.599 705486.817	Source Control Groundwater 2023 MW-03-26 GS-121223-06 12/12/2023 15 - 25 ft N WG 7623842.599 705486.817	Source Control Groundwater 2023 MW-04-35 GS-041223-68 4/12/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-04-35 GS-061523-16 6/15/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-04-35 GS-091323-20 9/13/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-04-35 GS-121423-15 12/14/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-05-175 GS-091423-21 9/14/2023 163 - 173 ft N WG 7624347.754 705207.625	Source Control Groundwater 2023 MW-18-180 GS-091323-19 9/13/2023 170 - 180 ft N WG 7623930.4 705444.23	Source Control Groundwater 2023 MW-19-180 GS-091323-17 9/13/2023 170 - 180 ft N WG 7624240 705298
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.434	0.389	0.152	0.112	0.283	0.169	0.0386	0.0226	0.0322
Cyanide, available	0.002 U	0.002 U	0.00259	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	66.5	25.6 J	50 U	50 U	50 U	50 U	684	228	38.6 J
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	0.876 J	1 U	1 U
Arsenic	1.14	1 U	1.94	1.78	3.35	2.54	4.62	0.649 J	1.03
Barium	54.3	50.1	117	114	130	116	33.6	28.5	34.5
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.205	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	1.83 J	1.12 J	16.6	2 U	1.12 J	2 U	2 U
Copper	2 U	2.11	2 U	2 U	2 U	2 U	3.36	2 U	2 U
Iron	7630	628	23300	20600	34200	25700	23600	5520	16300
Lead	0.161 J	0.13 J	0.2 U	0.161 J	0.2 U	0.2 U	2.26	0.236	0.2 U
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	5680	720	6740	5570	10600	7430	2150	197	668
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	253	388	1.14 J	2 U	9.94	2 U	2.4	2 U	2 U
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	1090	1060	2 U	2 U	2 U	2 U	2.97	2 U	2 U
Zinc	8.69	9.25	2.71 J	4.2	4 U	2.1 J	11.8	4 U	4 U
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

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1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.11	0.5 U
1,2-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acrylonitrile	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene	0.2 U	0.2 U	0.23	0.43	0.23	0.13 J	0.2 U	0.2 U	0.2 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

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Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
Dichloromethane (Methylene chloride)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m,p-Xylene	1 U	1 U	1 U	1 U	0.71 J	1 U	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.27 J	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.2 U	0.2 U	0.4 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	0.101	0.0608 J	0.738 U	0.905	2.96	1	0.0546 J	0.0748 U	0.076 U
2-Methylnaphthalene	0.0761 U	0.0425 J	0.738 U	0.0564 J	0.0788	0.0755 U	0.0485 J	0.0748 U	0.076 U
Acenaphthene	0.914	0.0741	26.5	24.5	59.7	38.8	0.0556	0.0828	0.0513 J
Acenaphthylene	1.71	0.937	2.08	1.75	4.03	2.83	0.038 U	0.0243 J	0.0233 J
Anthracene	1.99	1.59	0.9	1.41	2.63	1.82	0.0247 J	0.0267 J	0.0219 J
Benzo(a)anthracene	0.0523	0.0458	0.129 J	0.0798	0.187	0.134	0.0105 J	0.0187 U	0.019 U
Benzo(a)pyrene	0.0304	0.0271	0.185 U	0.0254	0.038	0.0278	0.019 U	0.0187 U	0.019 U
Benzo(b,j)fluoranthene	0.03 J	0.0275	0.185 U	0.0193	0.038	0.0354	0.019 U	0.0187 U	0.019 U
Benzo(g,h,i)perylene	0.0319 J	0.0685	0.369 U	0.0376 U	0.0375 U	0.0377 U	0.038 U	0.0374 U	0.038 U
Benzo(k)fluoranthene	0.0466 J	0.034	0.185 U	0.0141 J	0.0281 J	0.0179 J	0.019 U	0.0187 U	0.019 U
Carbazole	--	--	0.369 U	0.225	--	--	--	--	--
Chrysene	0.0204	0.0122 J	0.185 U	0.0888	0.17	0.138	0.0133 J	0.0187 U	0.019 U
Dibenzo(a,h)anthracene	0.019 U	0.0162 U	0.185 U	0.0188 U	0.0188 U	0.0189 U	0.019 U	0.0187 U	0.019 U
Dibenzofuran	0.038 U	0.0324 U	0.369 U	0.113	0.204	0.144	0.038 U	0.0374 U	0.038 U
Fluoranthene	0.0942	0.0348	2.78	3.22	6.77	4.46	0.0532	0.0187 J	0.038 U
Fluorene	0.286	0.0559	7.01	8.18	17.9	10.6	0.029 J	0.0262 J	0.028 J
Indeno(1,2,3-c,d)pyrene	0.0219	0.045	0.185 U	0.0188 U	0.0188 U	0.0189 U	0.019 U	0.0187 U	0.019 U
Naphthalene	0.129	0.12	0.738 U	0.933	1.03	0.269	0.076 U	0.0748 U	0.076 U

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Phenanthrene		0.256	0.0648	0.738 U	0.665	1.12	0.708	0.096	0.0748 U	0.076 U
Pyrene		0.154	0.0316 J	2.73	3.06	6.37	4.29	0.0684	0.0229 J	0.038 U
Pesticides (µg/L)										
4,4'-DDD (p,p'-DDD)		--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)		--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)		--	--	--	--	--	--	--	--	--
Aldrin		--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)		--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)		--	--	--	--	--	--	--	--	--
Dieldrin		--	--	--	--	--	--	--	--	--
Endosulfan sulfate		--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)		--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)		--	--	--	--	--	--	--	--	--
Endrin		--	--	--	--	--	--	--	--	--
Endrin aldehyde		--	--	--	--	--	--	--	--	--
Endrin ketone		--	--	--	--	--	--	--	--	--
Heptachlor		--	--	--	--	--	--	--	--	--
Heptachlor epoxide		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)		--	--	--	--	--	--	--	--	--
Methoxychlor		--	--	--	--	--	--	--	--	--
Toxaphene		--	--	--	--	--	--	--	--	--
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)		--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)		--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)		--	--	--	--	--	--	--	--	--
Dicamba		--	--	--	--	--	--	--	--	--
Dichloroprop		--	--	--	--	--	--	--	--	--
Dinoseb		--	--	--	--	--	--	--	--	--
Mecoprop (MCP)		--	--	--	--	--	--	--	--	--
Mephanac (MCPA)		--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted		--	--	0.04 UJ	0.04 UJ	--	--	--	--	--
C10-C12 Aliphatics unadjusted		--	--	0.04 U	0.04 U	--	--	--	--	--
C12-C16 Aliphatics unadjusted		--	--	0.04 U	0.04 U	--	--	--	--	--
C16-C21 Aliphatics unadjusted		--	--	0.04 U	0.04 U	--	--	--	--	--
C21-C34 Aliphatics unadjusted		--	--	0.057	0.152	--	--	--	--	--

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-03-26 GS-091323-15 9/13/2023 15 - 25 ft N WG 7623842.599 705486.817	Source Control Groundwater 2023 MW-03-26 GS-121223-06 12/12/2023 15 - 25 ft N WG 7623842.599 705486.817	Source Control Groundwater 2023 MW-04-35 GS-041223-68 4/12/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-04-35 GS-061523-16 6/15/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-04-35 GS-091323-20 9/13/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-04-35 GS-121423-15 12/14/2023 24 - 34 ft N WG 7624102.6 705378.2	Source Control Groundwater 2023 MW-05-175 GS-091423-21 9/14/2023 163 - 173 ft N WG 7624347.754 705207.625	Source Control Groundwater 2023 MW-18-180 GS-091323-19 9/13/2023 170 - 180 ft N WG 7623930.4 705444.23	Source Control Groundwater 2023 MW-19-180 GS-091323-17 9/13/2023 170 - 180 ft N WG 7624240 705298
	C10-C12 Aromatics unadjusted	--	--	0.04 UJ	-99999 R	--	--	--	--
	C8-C10 Aromatics unadjusted	--	--	0.04 U	0.04 U	--	--	--	--
	C12-C16 Aromatics unadjusted	--	--	0.04	0.04 UJ	--	--	--	--
	C16-C21 Aromatics unadjusted	--	--	0.049	0.04 U	--	--	--	--
	C21-C34 Aromatics unadjusted	--	--	0.04 U	0.04 U	--	--	--	--
	Volatile Petroleum Hydrocarbons (mg/L)								
	n-Decane (C10)	--	--	0.005 U	0.016 J	--	--	--	--
n-Dodecane (C12)	--	--	0.005 U	0.007 J	--	--	--	--	--
n-Hexane (C6)	--	--	0.005 U	0.005 U	--	--	--	--	--
n-Octane (C8)	--	--	0.005 UJ	0.007 J	--	--	--	--	--
n-Pentane (C5)	--	--	0.005 U	0.005 U	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	0.05 U	0.05 U	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	0.05 UJ	0.05 U	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	0.05 UJ	0.05 U	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	0.05 U	0.05 U	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	0.05 U	0.05 U	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	0.05 UJ	0.05 U	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	0.05 U	0.05 U	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	0.442	0.192 U	0.628 J	0.439	0.836	0.786	0.208 U	0.19 U	0.192 U
Gasoline range hydrocarbons	0.1 U	0.1 U	0.1 U	0.1 U	0.0655 J	0.0626 J	0.1 U	0.1 U	0.1 U
Oil range organics	0.259 J	0.912	0.385 U	0.401	0.385 U	0.385 U	0.417 U	0.381 U	0.385 U

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2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-19-22 GS-091323-16 9/13/2023 12 - 22 ft N WG 7624251 705292	Source Control Groundwater 2023 MW-21-12 GS-061623-17 6/16/2023 7 - 12 ft N WG 7623633.518 705643.011	Source Control Groundwater 2023 MW-21-12 GS-121323-12 12/13/2023 7 - 12 ft N WG 7623633.518 705643.011	Source Control Groundwater 2023 MW-21-165 GS-091323-18 9/13/2023 156 - 166 ft N WG 7623661.858 705626.589	Source Control Groundwater 2023 MW-22U GS-041123-62 4/11/2023 45 - 55 ft N WG 7623306.15 705875.446	Source Control Groundwater 2023 MW-23-27 GS-041123-61 4/11/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-061523-14 6/15/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-092123-33 9/21/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-121323-08 12/13/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.0533	0.0143	0.018	0.005 U	0.609	0.148	0.247	0.163	0.222
Cyanide, available	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.00139 J	0.002 U	0.00294
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	50 U	50 U	50 U	61.1	335	50 U	50 U	32.3 J	50 U
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	1.72	4.66	0.671 J	3.65	1.71	1 U	1 U	1 U	1 U
Barium	33.5	67.1	67.9	25.3	63.9	40.7	45.5	36.6	60.7
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	1.04 J	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	3.7	2 U	2 U	2 U	2 U	2 U	2 U	1.82 J
Iron	18500	26300	30800	11800	54500	27000	21400	20300	36000
Lead	0.2 U	2.44	0.223	0.125 J	0.191 U	0.2 U	0.2 U	0.112 J	0.144 J
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	2190	1730	1800	1550	1630	3240	2770	2480	4310
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	6.32	8.74	1.23 J	2 U	2 U	2 U	1 J	2 U	2.94
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	16.4	3.26	1.05 J	1.62 J	2 U	2 U	1.57 J	2 U
Zinc	3.47 J	3.36 J	4 U	3.5 J	3.73 J	4 U	3.96 J	3.39 J	2.77 J
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

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Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-19-22 GS-091323-16 9/13/2023 12 - 22 ft N WG 7624251 705292	Source Control Groundwater 2023 MW-21-12 GS-061623-17 6/16/2023 7 - 12 ft N WG 7623633.518 705643.011	Source Control Groundwater 2023 MW-21-12 GS-121323-12 12/13/2023 7 - 12 ft N WG 7623633.518 705643.011	Source Control Groundwater 2023 MW-21-165 GS-091323-18 9/13/2023 156 - 166 ft N WG 7623661.858 705626.589	Source Control Groundwater 2023 MW-22U GS-041123-62 4/11/2023 45 - 55 ft N WG 7623306.15 705875.446	Source Control Groundwater 2023 MW-23-27 GS-041123-61 4/11/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-061523-14 6/15/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-092123-33 9/21/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-121323-08 12/13/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acrylonitrile	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene	5.13	1.32	0.12 J	0.2 U	0.2 U	0.33	0.2	0.15 J	0.18 J
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

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Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	0.34 J	0.8	0.5 U	0.5 U	0.5 U	0.67	0.49 J	0.43 J	0.37 J
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	1 U	4.09	3.02	1 U	1 U	22.2	14.5	9.67	17
m,p-Xylene	0.85 J	0.53 J	1 U	1 U	1 U	1.56	0.69 J	0.79 J	1 U
Methyl ethyl ketone (2-Butanone)	10 U	40.6	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	1 U	1.4	0.92 J	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	0.5 U	1.59	1.18	0.5 U	0.5 U	6.48	4.54	3.44	4.61
o-Xylene	2.09	1.17	0.86	0.5 U	0.5 U	1.22	0.62	0.71	0.79
sec-Butylbenzene	1 U	1.36	0.74 J	1 U	1 U	0.93 J	0.57 J	1 U	0.57 J
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	1.09	1 U	1 U	1 U	1 U	0.67 J	0.54 J	1 U	0.5 J
Trichloroethene (TCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.2 U	0.4 U	0.2 U	0.2 U	0.4 U	0.4 U	0.4 U	0.2 U	0.2 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	27.5	2.19	1.44	0.0878 U	0.0812 U	28.4	25.9	33.5	24.1
2-Methylnaphthalene	3.76 J	0.795 U	0.889 U	0.0878 U	0.19 U	0.751 U	0.715 U	8.95 U	0.709 U
Acenaphthene	59.7 J	13.2	13.8	0.0439 U	0.0406 U	43.8	42.1	37.6	50.4
Acenaphthylene	8.25	1.12 U	1.81 U	0.0439 U	0.0639	1.5	1.68	4.48 U	5.65
Anthracene	12.2	0.398 U	0.445 U	0.0439 U	0.132	1.08	0.934	4.48 U	1.2
Benzo(a)anthracene	1.69 U	0.129 J	0.222 U	0.0219 U	0.0132 J	0.117 J	0.179 U	2.24 U	0.0886 J
Benzo(a)pyrene	1.69 U	0.199 U	0.222 U	0.0219 U	0.0203 U	0.188 U	0.179 U	2.24 U	0.177 U
Benzo(b,j)fluoranthene	1.69 U	0.199 U	0.222 U	0.0219 U	0.0203 U	0.188 U	0.179 U	2.24 U	0.177 U
Benzo(g,h,i)perylene	3.38 U	0.398 U	0.445 U	0.0439 U	0.0406 U	0.376 U	0.357 U	4.48 U	0.354 U
Benzo(k)fluoranthene	1.69 U	0.199 U	0.222 U	0.0219 U	0.0203 U	0.188 U	0.179 U	2.24 U	0.177 U
Carbazole	--	0.398 U	--	--	0.0406 U	0.376 U	0.357 U	--	--
Chrysene	1.69 U	0.134 J	0.222 U	0.0219 U	0.0203 U	0.188 U	0.103 J	2.24 U	0.102 J
Dibenzo(a,h)anthracene	1.69 U	0.199 U	0.222 U	0.0219 U	0.0203 U	0.188 U	0.179 U	2.24 U	0.177 U
Dibenzofuran	3.26 J	0.994 U	0.834 U	0.0439 U	0.0406 U	0.376 U	0.357 U	4.48 U	0.354 U
Fluoranthene	20	0.219 J	0.445 U	0.0439 U	0.0406 U	1.09	1.14	4.48 U	1.15
Fluorene	31.3	8.44	6.58	0.0439 U	0.0406 U	7.08	6.88	6.16	7.58
Indeno(1,2,3-c,d)pyrene	1.69 U	0.104 J	0.222 U	0.0219 U	0.0203 U	0.188 U	0.179 U	2.24 U	0.177 U
Naphthalene	25.5	1.61 U	0.889 U	0.0878 U	0.0447 U	0.695 U	1.18	8.95 U	0.912

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-19-22 GS-091323-16 9/13/2023 12 - 22 ft N WG 7624251 705292	Source Control Groundwater 2023 MW-21-12 GS-061623-17 6/16/2023 7 - 12 ft N WG 7623633.518 705643.011	Source Control Groundwater 2023 MW-21-12 GS-121323-12 12/13/2023 7 - 12 ft N WG 7623633.518 705643.011	Source Control Groundwater 2023 MW-21-165 GS-091323-18 9/13/2023 156 - 166 ft N WG 7623661.858 705626.589	Source Control Groundwater 2023 MW-22U GS-041123-62 4/11/2023 45 - 55 ft N WG 7623306.15 705875.446	Source Control Groundwater 2023 MW-23-27 GS-041123-61 4/11/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-061523-14 6/15/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-092123-33 9/21/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	Source Control Groundwater 2023 MW-23-27 GS-121323-08 12/13/2023 17.7 - 27.73 ft N WG 7623498.533 705734.949	
	Phenanthrene	46.6	0.795 U	0.889 U	0.0878 U	0.0812 U	0.751 U	0.715 U	8.95 U	0.709 U
	Pyrene	22.4	0.348 J	0.25 J	0.0439 U	0.0406 U	1.3	1.37	4.48 U	1.46
	Pesticides (µg/L)									
	4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
	4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
	4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
	Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--	
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	--	--	--	--	--	
Endosulfan sulfate	--	--	--	--	--	--	--	--	--	
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--	
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--	
Endrin	--	--	--	--	--	--	--	--	--	
Endrin aldehyde	--	--	--	--	--	--	--	--	--	
Endrin ketone	--	--	--	--	--	--	--	--	--	
Heptachlor	--	--	--	--	--	--	--	--	--	
Heptachlor epoxide	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--	
Methoxychlor	--	--	--	--	--	--	--	--	--	
Toxaphene	--	--	--	--	--	--	--	--	--	
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--	
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--	
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--	
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--	
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--	
Dicamba	--	--	--	--	--	--	--	--	--	
Dichloroprop	--	--	--	--	--	--	--	--	--	
Dinoseb	--	--	--	--	--	--	--	--	--	
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--	
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--	
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted	--	0.04 UJ	--	--	--	0.04 UJ	0.04 UJ	--	--	
C10-C12 Aliphatics unadjusted	--	0.16	--	--	--	0.514	0.491	--	--	
C12-C16 Aliphatics unadjusted	--	0.512	--	--	--	0.04 U	0.098	--	--	
C16-C21 Aliphatics unadjusted	--	0.352	--	--	--	0.04 U	0.04 U	--	--	
C21-C34 Aliphatics unadjusted	--	0.064	--	--	--	0.054	0.059	--	--	

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	C10-C12 Aromatics unadjusted	--	0.052 J	--	--	0.04 UJ	-99999 R	--	--
	C8-C10 Aromatics unadjusted	--	0.04 U	--	--	0.047	0.042	--	--
	C12-C16 Aromatics unadjusted	--	0.248 J	--	--	0.139	0.079 J	--	--
	C16-C21 Aromatics unadjusted	--	0.242	--	--	0.092	0.079	--	--
	C21-C34 Aromatics unadjusted	--	0.04 U	--	--	0.04 U	0.04 U	--	--
	Volatile Petroleum Hydrocarbons (mg/L)								
	n-Decane (C10)	--	0.005 U	--	--	0.005 U	0.005 U	--	--
n-Dodecane (C12)	--	0.015	--	--	--	0.011	0.005 U	--	--
n-Hexane (C6)	--	0.005 U	--	--	--	0.005 U	0.005 U	--	--
n-Octane (C8)	--	0.005 U	--	--	--	0.005 UJ	0.005 U	--	--
n-Pentane (C5)	--	0.005 U	--	--	--	0.005 U	0.005 U	--	--
C5-C6 Aliphatics unadjusted	--	0.05 U	--	--	--	0.05 U	0.05 U	--	--
C6-C8 Aliphatics unadjusted	--	0.05 U	--	--	--	0.05 UJ	0.05 U	--	--
C8-C10 Aliphatics unadjusted	--	0.05 U	--	--	--	0.05 UJ	0.05 U	--	--
C10-C12 Aliphatics unadjusted	--	0.05 U	--	--	--	0.541	0.452	--	--
C10-C12 Aromatics unadjusted	--	0.23	--	--	--	1.24	0.7	--	--
C8-C10 Aromatics unadjusted	--	0.051	--	--	--	0.052 J	0.05 U	--	--
C12-C13 Aromatics unadjusted	--	0.32	--	--	--	0.194	0.143	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	1.42	974	5.62	0.192 U	0.216 J	2.15 J	1.84	2.26	2.12
Gasoline range hydrocarbons	0.174	0.72	0.786	0.1 U	0.1 U	4.48 J	3.43	2.89	3.91
Oil range organics	0.385 U	19.3 U	0.44 U	0.26 J	0.344 J	0.385 U	0.396 U	0.392 U	0.333 J

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Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-40F GS-031323-11 3/13/2023 21.6 - 26.6 ft N WG 7622894.055 705792.624	Source Control Groundwater 2023 MW-40F GS-091123-01 9/11/2023 21.6 - 26.6 ft N WG 7622894.055 705792.624	Source Control Groundwater 2023 MW-42F GS-032023-35 3/20/2023 26 - 31 ft N WG 7624617.491 705151.924	Source Control Groundwater 2023 MW-42F GS-091823-24 9/18/2023 26 - 31 ft N WG 7624617.491 705151.924	Source Control Groundwater 2023 MW-42F GS-091823-25 9/18/2023 26 - 31 ft FD WG 7624617.491 705151.924	Source Control Groundwater 2023 MW-46F GS-031323-10 3/13/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02	Source Control Groundwater 2023 MW-46F GS-061323-01 6/13/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02	Source Control Groundwater 2023 MW-46F GS-091123-02 9/11/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02	Source Control Groundwater 2023 MW-46F GS-121323-09 12/13/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.0154	0.0665	0.177	0.155	0.155	0.0123	0.0069	0.0284	0.0431
Cyanide, available	0.002 U	0.105	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.0312	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	50 U	50 U	50 U	50 U	50 U	204	50 U	62.5	50 U
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	1 U	1 U	24.1	23.2	22.3	0.839 J	0.842 J	1.8	1 U
Barium	20.1	42.9	74.9	69.1	67.2	8.87	12	8.47	13.4
Beryllium	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2.9	2 U	2 U
Copper	2 U	2 U	2 U	2 U	2 U	1.38 J	1.05 J	2.51	1.01 J
Iron	348	5100	77500	72800	71600	5100	4380	4280	4700
Lead	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.345	0.2 U	0.167 J	0.2 U
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	23.1	105	3010	2850	2720	289	325	284	512
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	2 U	1.99 J	2.15	2.28	3.65	6	5.31	7.63
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	2 U	2 U	2 U	2 U	2.42	1.3 J	2.67	1.13 J
Zinc	4 U	4 U	3.64 J	4 U	4 U	2.39 J	4 U	2.24 J	4 U
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	20 U	20 U	0.4 U
1,1,1-Trichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	20 U	20 U	0.4 U

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1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
1,1-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	20 U	20 U	0.4 U
1,1-Dichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	0.5 U	0.5 U	0.4 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	200 U	100 U	100 U	2 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	200 U	100 U	100 U	2 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	3.66 J
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	500 U	250 U	250 U	5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
1,2-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	20 U	20 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	0.5 U	0.5 U	0.4 U
1,2-Dichloroethene, trans-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	0.5 U	0.5 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1.35
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
1,3-Dichloropropene, cis-	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
1,3-Dichloropropene, trans-	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	10 U	10 U	10 U	10 U	1000 U	500 U	500 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	10 U	10 U	10 U	10 U	1000 U	500 U	500 U	10 U
Acetone	20 U	20 U	20 U	20 U	20 U	2000 U	1000 U	1000 U	20 U
Acrylonitrile	2 U	2 U	2 U	2 U	2 U	200 U	100 U	100 U	2 U
Benzene	0.2 U	0.16 J	0.2 U	0.2 U	0.2 U	10200	6850	5230	4580
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Bromoform (Tribromomethane)	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Bromomethane (Methyl bromide)	5 U	5 U	5 U	5 U	5 U	500 U	250 U	250 U	5 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	1000 U	500 U	500 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	500 U	250 U	250 U	5 U
Chloroform	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Chloromethane	5 UJ	5 U	5 U	5 U	5 U	500 UJ	250 U	250 UJ	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U

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Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Dichlorodifluoromethane	1 UJ	1 U	1 U	1 U	1 U	100 UJ	50 U	50 U	1 U
Dichloromethane (Methylene chloride)	10 U	10 U	10 U	10 U	10 U	1000 U	500 U	500 U	10 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	38 J	31.5	28.5	29.6
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	5 U	5 U	5 U	5 U	500 U	250 U	250 U	5 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	2.21 J
m,p-Xylene	1 U	1 U	1 U	1 U	1 U	132	78	66	122
Methyl ethyl ketone (2-Butanone)	10 U	10 U	10 U	10 U	10 U	1000 U	500 U	500 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
n-Butylbenzene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	50 U	25 U	25 U	0.26 J
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	59	30.5	30	55.7
sec-Butylbenzene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	0.61 J
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	100 U	50 U	50 U	1 U
Tetrachloroethene (PCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	20 U	20 U	0.4 U
Toluene	1 U	1 U	1 U	1 U	1 U	965	546	480	422
Trichloroethene (TCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	40 U	0.5 U	0.5 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	2 U	2 U	2 U	2 U	200 U	100 U	100 U	2 U
Vinyl chloride	0.4 U	0.2 U	0.4 U	0.2 U	0.11 J	40 U	0.5 U	0.5 U	0.2 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	0.0698 U	0.0702 U	0.872 U	1.37	1.35	4.64	4.68 J	4.8 J	6.82
2-Methylnaphthalene	0.0698 U	0.0702 U	0.872 U	0.752 U	0.756 U	3.8	6.62 U	6.51 U	3.08
Acenaphthene	0.215	0.0851	110	220	213	4.73	5.18 U	5.29 J	6.95 J
Acenaphthylene	0.0349 U	0.0351 U	4.99	10.4	10.4	1.59 J	3.31 U	1.71 J	1.24 U
Anthracene	0.0818 U	0.0531	0.49	0.86	0.741	2.05	1.9 J	2.52 J	1.63
Benzo(a)anthracene	0.0175 U	0.0176 U	0.218 U	0.179 J	0.146 J	0.893 U	1.66 U	1.63 U	0.332 U
Benzo(a)pyrene	0.0175 U	0.0176 U	0.218 U	0.188 U	0.189 U	0.893 U	1.66 U	0.813 J	0.332 U
Benzo(b,j)fluoranthene	0.0175 U	0.0176 U	0.218 U	0.188 U	0.189 U	0.893 U	1.66 U	0.813 J	0.332 U
Benzo(g,h,i)perylene	0.0349 U	0.0351 U	0.436 U	0.376 U	0.378 U	1.21 J	3.31 U	3.25 U	0.365 J
Benzo(k)fluoranthene	0.0175 U	0.0176 U	0.218 U	0.188 U	0.189 U	0.893 U	1.66 U	1.63 U	0.332 U
Carbazole	0.0175 J	--	0.436 U	--	--	8.08	6.62	--	--
Chrysene	0.0175 U	0.0176 U	0.218 U	0.188 J	0.161 J	0.893 U	1.66 U	1.63 U	0.332 U
Dibenzo(a,h)anthracene	0.0175 U	0.0176 U	0.218 U	0.188 U	0.189 U	0.893 U	1.66 U	1.63 U	0.332 U
Dibenzofuran	0.0349 U	0.0351 U	0.436 U	0.376 U	0.378 U	1.12 J	3.31 U	3.25 U	1.33
Fluoranthene	0.124	0.0922	1.56	4.25	3.94	1.34 J	3.31 U	2.36 J	1.26
Fluorene	0.208	0.0544	0.967 UJ	9.62	9.06	1.99	2.03 J	2.77 J	2.79
Indeno(1,2,3-c,d)pyrene	0.0175 U	0.0176 U	0.218 U	0.188 U	0.189 U	0.782 J	1.66 U	0.854 J	0.274 J
Naphthalene	0.0402 U	0.0382 J	0.872 U	0.752 U	0.756 U	207	173	235	84.5

Appendix C2
2023 Data Summary Table

	Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-40F GS-031323-11 3/13/2023 21.6 - 26.6 ft N WG 7622894.055 705792.624	Source Control Groundwater 2023 MW-40F GS-091123-01 9/11/2023 21.6 - 26.6 ft N WG 7622894.055 705792.624	Source Control Groundwater 2023 MW-42F GS-032023-35 3/20/2023 26 - 31 ft N WG 7624617.491 705151.924	Source Control Groundwater 2023 MW-42F GS-091823-24 9/18/2023 26 - 31 ft N WG 7624617.491 705151.924	Source Control Groundwater 2023 MW-42F GS-091823-25 9/18/2023 26 - 31 ft FD WG 7624617.491 705151.924	Source Control Groundwater 2023 MW-46F GS-031323-10 3/13/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02	Source Control Groundwater 2023 MW-46F GS-061323-01 6/13/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02	Source Control Groundwater 2023 MW-46F GS-091123-02 9/11/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02	Source Control Groundwater 2023 MW-46F GS-121323-09 12/13/2023 6.1 - 16.1 ft N WG 7623476.04 704733.02
Phenanthrene		0.0698 U	0.0702 U	0.872 U	0.978	0.911	4.02	3.31 J	4.31 J	4.47
Pyrene		0.0611	0.0535	3.69	8.69	8	1.32 J	3.31 U	2.52 J	1.26
Pesticides (µg/L)										
4,4'-DDD (p,p'-DDD)		--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)		--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)		--	--	--	--	--	--	--	--	--
Aldrin		--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)		--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)		--	--	--	--	--	--	--	--	--
Dieldrin		--	--	--	--	--	--	--	--	--
Endosulfan sulfate		--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)		--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)		--	--	--	--	--	--	--	--	--
Endrin		--	--	--	--	--	--	--	--	--
Endrin aldehyde		--	--	--	--	--	--	--	--	--
Endrin ketone		--	--	--	--	--	--	--	--	--
Heptachlor		--	--	--	--	--	--	--	--	--
Heptachlor epoxide		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)		--	--	--	--	--	--	--	--	--
Methoxychlor		--	--	--	--	--	--	--	--	--
Toxaphene		--	--	--	--	--	--	--	--	--
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)		--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)		--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)		--	--	--	--	--	--	--	--	--
Dicamba		--	--	--	--	--	--	--	--	--
Dichloroprop		--	--	--	--	--	--	--	--	--
Dinoseb		--	--	--	--	--	--	--	--	--
Mecoprop (MCP)		--	--	--	--	--	--	--	--	--
Mephanac (MCPA)		--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted		0.04 UJ	--	0.04 UJ	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted		0.04 UJ	--	0.04 UJ	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted		0.04 U	--	0.04 U	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted		0.04 U	--	0.04 U	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted		0.04 U	--	0.08	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	MW-40F	MW-40F	MW-42F	MW-42F	MW-42F	MW-46F	MW-46F	MW-46F
	Sample Date	GS-031323-11	GS-091123-01	GS-032023-35	GS-091823-24	GS-091823-25	GS-031323-10	GS-061323-01	GS-091123-02
	Depth	3/13/2023	9/11/2023	3/20/2023	9/18/2023	9/18/2023	3/13/2023	6/13/2023	9/11/2023
	Sample Type	21.6 - 26.6 ft	21.6 - 26.6 ft	26 - 31 ft	26 - 31 ft	26 - 31 ft	6.1 - 16.1 ft	6.1 - 16.1 ft	6.1 - 16.1 ft
	Matrix	N	N	N	N	FD	N	N	N
	X	WG	WG	WG	WG	WG	WG	WG	WG
	Y	7622894.055	7622894.055	7624617.491	7624617.491	7624617.491	7623476.04	7623476.04	7623476.04
		705792.624	705792.624	705151.924	705151.924	705151.924	704733.02	704733.02	704733.02
C10-C12 Aromatics unadjusted		0.04 UJ	--	0.04 U	--	--	--	--	--
C8-C10 Aromatics unadjusted		0.04 U	--	0.04 U	--	--	--	--	--
C12-C16 Aromatics unadjusted		0.04 UJ	--	0.12	--	--	--	--	--
C16-C21 Aromatics unadjusted		0.04 U	--	0.053	--	--	--	--	--
C21-C34 Aromatics unadjusted		0.04 U	--	0.04 U	--	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)		0.005 U	--	0.005 U	--	--	--	--	--
n-Dodecane (C12)		0.005 U	--	0.005 U	--	--	--	--	--
n-Hexane (C6)		0.005 U	--	0.005 U	--	--	--	--	--
n-Octane (C8)		0.005 U	--	0.005 U	--	--	--	--	--
n-Pentane (C5)		0.005 U	--	0.005 U	--	--	--	--	--
C5-C6 Aliphatics unadjusted		0.05 U	--	0.05 U	--	--	--	--	--
C6-C8 Aliphatics unadjusted		0.05 U	--	0.05 U	--	--	--	--	--
C8-C10 Aliphatics unadjusted		0.05 U	--	0.05 U	--	--	--	--	--
C10-C12 Aliphatics unadjusted		0.05 U	--	0.05 U	--	--	--	--	--
C10-C12 Aromatics unadjusted		0.05 U	--	0.05 U	--	--	--	--	--
C8-C10 Aromatics unadjusted		0.05 U	--	0.05 U	--	--	--	--	--
C12-C13 Aromatics unadjusted		0.05 U	--	0.05 U	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons		0.189 U	0.192 U	0.522 J	0.717	0.733	--	--	0.902 J
Gasoline range hydrocarbons		0.1 U	0.1 U	0.1 U	0.0614 J	0.0681 J	--	--	19.3
Oil range organics		0.377 U	0.335 J	0.511	0.381 U	0.377 U	--	--	0.381 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-47F GS-030823-04 3/8/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-061323-04 6/13/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-091123-07 9/11/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-121223-05 12/12/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-48F GS-030923-08 3/9/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-02 6/13/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-03 6/13/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-04 9/11/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-05 9/11/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.269 J	0.261	0.207	0.0547	0.386	0.489	0.497	0.264	0.258
Cyanide, available	0.002 U	0.00274	0.00185 J	0.002 U	0.00177 J	0.00317	0.00329	0.00171 J	0.00132 J
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	25.8 J	50 U	50 U	50 U	44.3 J	50 U	50 U	50 U	50 U
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	0.796 J	0.698 J	0.661 J	0.633 J	6.65	7.29	7.25	7.58	7.84
Barium	31.6	28.3	26.9	29	108	145	145	149	150
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Iron	34500	28900	27800	30800	29300	41400	41700	41200	41200
Lead	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	4100	3350	3400	3770	3860	5300	5190	5610	5630
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	2 U	2 U	2 U	2 U	1.06 J	1.23 J	2 U	2 U
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	2 U	1.17 J	2 U	1.14 J	1.14 J	1.13 J	2 U	2 U
Zinc	3.25 J	2.81 J	2.38 J	4 U	4 U	2.63 J	3.71 J	4 U	4 U
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	20 U	20 U	20 U	20 U	20 U	4 U	4 U	4 U	4 U
1,1,1-Trichloroethane	20 U	20 U	20 U	20 U	20 U	4 U	4 U	4 U	4 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-47F GS-030823-04 3/8/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-061323-04 6/13/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-091123-07 9/11/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-121223-05 12/12/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-48F GS-030923-08 3/9/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-02 6/13/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-03 6/13/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-04 9/11/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-05 9/11/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82
1,1,2,2-Tetrachloroethane	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	20 U	20 U	20 U	20 U	20 U	4 U	4 U	4 U	4 U
1,1-Dichloroethene	20 U	0.5 U	0.5 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
1,2,3-Trichlorobenzene	100 U	100 U	100 U	100 U	100 U	20 U	20 U	20 U	20 U
1,2,3-Trichloropropane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene	100 U	100 U	100 U	100 U	100 U	20 U	20 U	20 U	20 U
1,2,4-Trimethylbenzene	161	106	122	73	61.5	15	12.8	10.9	11
1,2-Dibromo-3-chloropropane	250 U	250 U	250 U	250 U	250 U	50 U	50 U	50 U	50 U
1,2-Dichlorobenzene	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	20 U	20 U	20 U	20 U	20 U	4 U	4 U	4 U	4 U
1,2-Dichloroethene, cis-	20 U	0.5 U	0.5 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, trans-	20 U	0.5 U	0.5 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene (Mesitylene)	59.5	47.5 J	55	31 J	50 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
1,3-Dichloropropane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
1,3-Dichloropropene, cis-	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
1,3-Dichloropropene, trans-	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
2,2-Dichloropropane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
2-Hexanone (Methyl butyl ketone)	500 U	500 U	500 U	500 U	500 U	100 U	100 U	100 U	100 U
4-Chlorotoluene	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	500 U	500 U	500 U	500 U	500 U	100 U	100 U	100 U	100 U
Acetone	1000 U	1000 U	1000 U	1000 U	1000 U	200 U	200 U	200 U	200 U
Acrylonitrile	100 U	100 U	100 U	100 U	100 U	20 U	20 U	20 U	20 U
Benzene	10500	9900	5850	5100	9240	1310	1230	1260	1300
Bromobenzene	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
Bromochloromethane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Bromodichloromethane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Bromoform (Tribromomethane)	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Bromomethane (Methyl bromide)	250 UJ	250 U	250 U	250 U	250 UJ	50 U	50 U	50 U	50 U
Carbon disulfide	500 U	500 U	500 U	500 U	500 U	100 U	100 U	100 U	100 U
Carbon tetrachloride (Tetrachloromethane)	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Chlorobenzene	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
Chloroethane	250 U	250 U	250 U	250 U	250 U	50 U	50 U	50 U	50 U
Chloroform	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Chloromethane	250 U	250 U	250 UJ	250 U	250 U	50 U	50 U	50 U	50 U
Cymene, p- (4-Isopropyltoluene)	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-47F GS-030823-04 3/8/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-061323-04 6/13/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-091123-07 9/11/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-121223-05 12/12/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-48F GS-030923-08 3/9/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-02 6/13/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-03 6/13/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-04 9/11/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-05 9/11/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82
Dibromochloromethane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Dibromomethane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Dichlorodifluoromethane	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Dichloromethane (Methylene chloride)	500 U	500 U	500 U	500 U	500 U	100 U	100 U	100 U	100 U
Ethylbenzene	654	563	682	625	208	29.5	26	26.3	27
Ethylene dibromide (1,2-Dibromoethane)	25 U	25 U	25 U	25 U	25 U	5 U	5 U	5 U	5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	250 U	250 U	250 U	250 U	250 U	50 U	50 U	50 U	50 U
Isopropylbenzene (Cumene)	34 J	50 U	35 J	50 U	50 U	10 U	10 U	10 U	10 U
m,p-Xylene	374	332	296	192	180	30.2	24	14.2	14.4
Methyl ethyl ketone (2-Butanone)	500 U	500 U	500 U	500 U	500 U	100 U	100 U	100 U	100 U
Methyl tert-butyl ether (MTBE)	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
n-Butylbenzene	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
n-Propylbenzene	28.5	25.5	29	19 J	25 U	5 U	5 U	5 U	5 U
o-Xylene	244	209	192	124	87.5	19.8	16.4	13.2	13.6
sec-Butylbenzene	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Styrene	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
tert-Butylbenzene	50 U	50 U	50 U	50 U	50 U	10 U	10 U	10 U	10 U
Tetrachloroethene (PCE)	20 U	20 U	20 U	20 U	20 U	4 U	4 U	4 U	4 U
Toluene	53.5	59.5	48 J	34.5 J	478	16.9	14.6	14.4	15.9
Trichloroethene (TCE)	20 U	0.5 U	0.5 U	20 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane (Fluorotrichloromethane)	100 U	100 U	100 U	100 U	100 U	20 U	20 U	20 U	20 U
Vinyl chloride	20 U	0.5 U	0.5 U	10 U	20 U	0.5 U	0.5 U	0.5 U	0.5 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	590	819	706	764	170	73.1	70.2	64.3	63.7
2-Methylnaphthalene	840	1140	958	1000	232	71.4	67.1	59.5	58.9
Acenaphthene	212	267	245	251 J	145	70.7	71.6	70.5	73.9
Acenaphthylene	10.5 U	20	13.2 U	19.3 U	19.3 U	6.62	8.59	6.75	6.64
Anthracene	8.47	9.05	7.13	7.82	19.3 U	3.77	3.79	3.24 J	3.34 J
Benzo(a)anthracene	1.89 U	1.85 U	1.91 U	1.93 U	9.66 U	1.84 U	1.76 U	1.83 U	1.86 U
Benzo(a)pyrene	1.89 U	1.85 U	1.91 U	1.93 U	9.66 U	1.84 U	1.76 U	1.83 U	1.86 U
Benzo(b,j)fluoranthene	1.89 U	1.85 U	1.91 U	1.93 U	9.66 U	1.84 U	1.76 U	1.83 U	1.86 U
Benzo(g,h,i)perylene	3.78 U	3.69 U	3.83 U	3.86 U	19.3 U	3.68 U	3.52 U	3.65 U	3.71 U
Benzo(k)fluoranthene	1.89 U	1.85 U	1.91 U	1.93 U	9.66 U	1.84 U	1.76 U	1.83 U	1.86 U
Carbazole	128	115	--	--	44.2	23.6	23.4	--	--
Chrysene	1.89 U	1.85 U	1.91 U	1.93 U	9.66 U	1.84 U	1.76 U	1.83 U	1.86 U
Dibenzo(a,h)anthracene	1.89 U	1.85 U	1.91 U	1.93 U	9.66 U	1.84 U	1.76 U	1.83 U	1.86 U
Dibenzofuran	18.7	20.1	18	18.5	19.3 U	7.31	7.35	7.07	7.43
Fluoranthene	10.2	12.6	13	14.5	19.3 U	3.68 U	3.52 U	3.65 U	3.71 U
Fluorene	61.5	72.8	67.1	66.7	30	16.7	16.2	15.2	15.4
Indeno(1,2,3-c,d)pyrene	1.89 U	1.85 U	1.91 U	1.93 U	9.66 U	1.84 U	1.76 U	1.83 U	1.86 U
Naphthalene	1310	1280	718	758	2920	628	637	624	640

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-47F GS-030823-04 3/8/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-061323-04 6/13/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-091123-07 9/11/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-47F GS-121223-05 12/12/2023 22 - 33 ft N WG 7623719.23 705298.71	Source Control Groundwater 2023 MW-48F GS-030923-08 3/9/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-02 6/13/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-061323-03 6/13/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-04 9/11/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-48F GS-091123-05 9/11/2023 15.6 - 25.6 ft FD WG 7623850.06 705158.82
Phenanthrene	83.4	92.5	85.2	86.2	44.9	13.6	14.9	13.8	13.6
Pyrene	10.1	13.2	13.5	15.3	19.3 U	3.68 U	3.52 U	3.65 U	3.71 U
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--
Endrin	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--	--	--
Endrin ketone	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--	--
Dichloroprop	--	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--	--
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	MW-47F	MW-47F	MW-47F	MW-47F	MW-48F	MW-48F	MW-48F	MW-48F
	Sample Date	GS-030823-04	GS-061323-04	GS-091123-07	GS-121223-05	GS-030923-08	GS-061323-02	GS-061323-03	GS-091123-04
	Depth	3/8/2023	6/13/2023	9/11/2023	12/12/2023	3/9/2023	6/13/2023	6/13/2023	9/11/2023
	Sample Type	22 - 33 ft	22 - 33 ft	22 - 33 ft	22 - 33 ft	15.6 - 25.6 ft	15.6 - 25.6 ft	15.6 - 25.6 ft	15.6 - 25.6 ft
	Matrix	N	N	N	N	N	N	FD	N
	X	WG	WG	WG	WG	WG	WG	WG	WG
	Y	7623719.23	7623719.23	7623719.23	7623719.23	7623850.06	7623850.06	7623850.06	7623850.06
		705298.71	705298.71	705298.71	705298.71	705158.82	705158.82	705158.82	705158.82
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)	--	--	--	--	--	--	--	--	--
n-Dodecane (C12)	--	--	--	--	--	--	--	--	--
n-Hexane (C6)	--	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	--	--	7.22 J	6.73 J	--	--	--	2.96 J	3.18 J
Gasoline range hydrocarbons	--	--	34	27.3	--	--	--	7.78	8.02
Oil range organics	--	--	0.437	0.392 U	--	--	--	0.381 U	0.381 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-48F GS-121223-01 12/12/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-49F GS-030923-06 3/9/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-061423-09 6/14/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-091123-06 9/11/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-121223-07 12/12/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-51F GS-030923-07 3/9/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-061523-12 6/15/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-091123-03 9/11/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-121423-18 12/14/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.269	0.148	0.127	0.105	0.0525	0.0412 J	0.0387	0.0362	0.044
Cyanide, available	0.002 U	0.002 U	0.00199 J	0.00201	0.002 U	0.002 U	0.002 U	0.00618	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	50 U	51.4	50 U	50 U	50 U	50 U	224	50 U	50 U
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	6.76	4.54	3.97	4.75	5.06	5.41	5.3	5.14	5.08
Barium	92.5	69.7	64.3	22.4	238	35	30	36.4	40.3
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	10.4	4.97	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.04 J
Iron	32400	32400	29000	17000	143000	40000	32800	45900	50400
Lead	0.2 U	0.5	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	3250	1870	1620	830	7830	1710	1560	1510	1720
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	5.25	7.02	2 U	2.01	2 U	1.02 J	2 U	2 U
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	1.19 J	1.43 J	1.02 J	2.28	2 U	2 U	1.12 J	2 U	2 U
Zinc	4 U	2.62 J	2.76 J	2.1 J	2.23 J	3.77 J	3.4 J	4 U	2.8 J
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	20 U	4 U	0.4 U	2 U	0.4 U	2 U	0.8 U	20 U	20 U
1,1,1-Trichloroethane	20 U	4 U	0.4 U	2 U	0.4 U	2 U	0.8 U	20 U	20 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-48F GS-121223-01 12/12/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-49F GS-030923-06 3/9/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-061423-09 6/14/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-091123-06 9/11/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-121223-07 12/12/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-51F GS-030923-07 3/9/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-061523-12 6/15/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-091123-03 9/11/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-121423-18 12/14/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198
1,1,2,2-Tetrachloroethane	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
1,1,2-Trichloroethane	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
1,1-Dichloroethane	20 U	4 U	0.4 U	2 U	0.4 U	2 U	0.8 U	20 U	20 U
1,1-Dichloroethene	20 U	0.5 U	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U	0.5 U	20 U
1,1-Dichloropropene	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
1,2,3-Trichlorobenzene	100 U	20 U	2 U	10 U	2 U	10 U	4 U	100 U	100 U
1,2,3-Trichloropropane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
1,2,4-Trichlorobenzene	100 U	20 U	2 U	10 U	2 U	10 U	4 U	100 U	100 U
1,2,4-Trimethylbenzene	42 J	20.3	8.09	12.5	5.75	97.8	75.7	37 J	27.5 J
1,2-Dibromo-3-chloropropane	250 U	50 U	5 U	25 U	5 U	25 U	10 U	250 U	250 U
1,2-Dichlorobenzene	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
1,2-Dichloroethane	20 U	4 U	0.4 U	2 U	0.4 U	2 U	0.8 U	20 U	20 U
1,2-Dichloroethene, cis-	20 U	0.5 U	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U	0.5 U	20 U
1,2-Dichloroethene, trans-	20 U	0.5 U	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U	0.5 U	20 U
1,2-Dichloropropane	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
1,3,5-Trimethylbenzene (Mesitylene)	50 U	10 U	1.6	3.15 J	0.59 J	15.7	14.4	50 U	50 U
1,3-Dichlorobenzene	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
1,3-Dichloropropane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
1,3-Dichloropropene, cis-	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
1,3-Dichloropropene, trans-	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
1,4-Dichlorobenzene	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
2,2-Dichloropropane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
2-Chlorotoluene	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
2-Hexanone (Methyl butyl ketone)	500 U	100 U	10 U	50 U	10 U	50 U	20 U	500 U	500 U
4-Chlorotoluene	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	500 U	100 U	10 U	50 U	10 U	50 U	20 U	500 U	500 U
Acetone	1000 U	200 U	20 U	100 U	20 U	100 U	40 U	1000 U	1000 U
Acrylonitrile	100 U	20 U	2 U	10 U	2 U	10 U	4 U	100 U	100 U
Benzene	40300	34.3	54.5	14.3	8.37	108	101	182	188
Bromobenzene	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
Bromochloromethane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Bromodichloromethane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Bromoform (Tribromomethane)	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Bromomethane (Methyl bromide)	250 U	50 UJ	5 U	25 U	5 U	25 UJ	10 U	250 U	250 U
Carbon disulfide	500 U	100 U	10 U	50 U	10 U	50 U	20 U	500 U	500 U
Carbon tetrachloride (Tetrachloromethane)	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Chlorobenzene	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
Chloroethane	250 U	50 U	5 U	25 U	5 U	25 U	10 U	250 U	250 U
Chloroform	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Chloromethane	250 U	50 U	5 U	25 U	5 U	25 U	10 U	250 UJ	250 U
Cymene, p- (4-Isopropyltoluene)	50 U	10 U	1 U	5 U	1 U	14.5 J	12.3 J	50 U	50 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-48F GS-121223-01 12/12/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-49F GS-030923-06 3/9/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-061423-09 6/14/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-091123-06 9/11/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-121223-07 12/12/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-51F GS-030923-07 3/9/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-061523-12 6/15/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-091123-03 9/11/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-121423-18 12/14/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198
Dibromochloromethane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Dibromomethane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Dichlorodifluoromethane	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
Dichloromethane (Methylene chloride)	500 U	100 U	10 U	50 U	10 U	50 U	20 U	500 U	500 U
Ethylbenzene	723	75.9	18.7	62.9	16.6	381	275	180	195
Ethylene dibromide (1,2-Dibromoethane)	25 U	5 U	0.5 U	2.5 U	0.5 U	2.5 U	1 U	25 U	25 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	250 U	50 U	5 U	25 U	5 U	25 U	10 U	250 U	250 U
Isopropylbenzene (Cumene)	50 U	18.6	17.8	15.9	9.88	80.3	83.7	66.5	35.5 J
m,p-Xylene	592	8.5 J	4.94	9.4	2.13	39.2	30.3	32 J	50 U
Methyl ethyl ketone (2-Butanone)	500 U	100 U	10 U	50 U	10 U	50 U	20 U	500 U	500 U
Methyl tert-butyl ether (MTBE)	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
n-Butylbenzene	50 U	10 U	1.27	5 U	0.6 J	4.6 J	3.56	50 U	50 U
n-Propylbenzene	25 U	8.5	6.16	7.1	2.77	42.2	36	54	26.5
o-Xylene	236	14.8	8.07	21.4	7.37	114	91	53.5	42
sec-Butylbenzene	50 U	10 U	1.37	5 U	0.81 J	8.6	7.78	50 U	50 U
Styrene	50 U	10 U	1 U	5 U	1 U	5 U	2 U	50 U	50 U
tert-Butylbenzene	50 U	10 U	1 U	5 U	1 U	10 UJ	5.4 U	50 U	50 U
Tetrachloroethene (PCE)	20 U	4 U	0.4 U	2 U	0.4 U	2 U	0.8 U	20 U	20 U
Toluene	6110	10 U	0.84 J	5 U	1 U	5 U	2.56	50 U	50 U
Trichloroethene (TCE)	20 U	0.5 U	0.4 U	0.5 U	0.4 U	0.5 U	0.5 U	0.5 U	20 U
Trichlorofluoromethane (Fluorotrichloromethane)	100 U	20 U	2 U	10 U	2 U	10 U	4 U	100 U	100 U
Vinyl chloride	7.5 J	0.5 U	0.4 U	0.5 U	0.2 U	0.5 U	0.5 U	0.5 U	10 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	255	217	237	248	152	567	496	632	520
2-Methylnaphthalene	388	38.6	16.5	70.6	7.78 J	597	529	677	494
Acenaphthene	137	160	168	169	103	194	224	240	204 J
Acenaphthylene	13.6 U	12.7 UJ	22	8.99 U	10.3 U	14.2 UJ	8.53 U	4.16 U	19 U
Anthracene	9.28	6.1 J	5.92	6.02	4.52	8.72	5.79	8.7	7.41
Benzo(a)anthracene	1.98 U	4.07 U	1.88 U	1.8 U	2.01 U	0.505 U	0.455 U	0.0291	1.9 U
Benzo(a)pyrene	1.98 U	4.07 U	1.88 U	1.8 U	2.01 U	0.505 U	0.455 U	0.0114 J	1.9 U
Benzo(b,j)fluoranthene	1.98 U	4.07 U	1.88 U	1.8 U	2.01 U	0.505 U	0.455 U	0.0104 J	1.9 U
Benzo(g,h,i)perylene	3.97 U	8.14 U	3.76 U	3.6 U	4.01 U	1.01 U	0.91 U	0.0416 U	3.8 U
Benzo(k)fluoranthene	1.98 U	4.07 U	1.88 U	1.8 U	2.01 U	0.505 U	0.455 U	0.0135 J	1.9 U
Carbazole	--	46.3	39.6	--	--	192	161	--	--
Chrysene	1.98 U	4.07 U	1.88 U	1.8 U	2.01 U	0.505 U	0.455 U	0.0265	1.9 U
Dibenzo(a,h)anthracene	1.98 U	4.07 U	1.88 U	1.8 U	2.01 U	0.505 U	0.455 U	0.014 J	1.9 U
Dibenzofuran	10.1	7.12 J	6.95	6.43	5.12	17.6	13.7	18.9	13.1
Fluoranthene	6	8.14 U	2.68 J	2.88 J	2.11 J	2.41	1.22	2.99	2.23 J
Fluorene	34	30.2	37.3	40.4	29.9	66.5	62.2	69.9	50.7
Indeno(1,2,3-c,d)pyrene	1.98 U	4.07 U	1.88 U	1.8 U	2.01 U	0.505 U	0.455 U	0.0208 U	1.9 U
Naphthalene	6600	1070	183	548	149	172	164	394	242

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-48F GS-121223-01 12/12/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-49F GS-030923-06 3/9/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-061423-09 6/14/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-091123-06 9/11/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-121223-07 12/12/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-51F GS-030923-07 3/9/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-061523-12 6/15/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-091123-03 9/11/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-121423-18 12/14/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	
	Phenanthrene	43.2	22.2	20.7	25.2	20.4	67.3	46.6	70.3	61.5
	Pyrene	6.35	8.14 U	2.3 J	2.11 J	4.01 U	2.03	1.05	2.64	2.04 J
	Pesticides (µg/L)									
	4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
	4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
	4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
	Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--	
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	--	--	--	--	--	
Endosulfan sulfate	--	--	--	--	--	--	--	--	--	
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--	
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--	
Endrin	--	--	--	--	--	--	--	--	--	
Endrin aldehyde	--	--	--	--	--	--	--	--	--	
Endrin ketone	--	--	--	--	--	--	--	--	--	
Heptachlor	--	--	--	--	--	--	--	--	--	
Heptachlor epoxide	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--	
Methoxychlor	--	--	--	--	--	--	--	--	--	
Toxaphene	--	--	--	--	--	--	--	--	--	
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--	
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--	
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--	
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--	
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--	
Dicamba	--	--	--	--	--	--	--	--	--	
Dichloroprop	--	--	--	--	--	--	--	--	--	
Dinoseb	--	--	--	--	--	--	--	--	--	
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--	
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--	
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	

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2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-48F GS-121223-01 12/12/2023 15.6 - 25.6 ft N WG 7623850.06 705158.82	Source Control Groundwater 2023 MW-49F GS-030923-06 3/9/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-061423-09 6/14/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-091123-06 9/11/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-49F GS-121223-07 12/12/2023 19 - 29 ft N WG 7623476.81 705461.64	Source Control Groundwater 2023 MW-51F GS-030923-07 3/9/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-061523-12 6/15/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-091123-03 9/11/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198	Source Control Groundwater 2023 MW-51F GS-121423-18 12/14/2023 15.5 - 25.2 ft N WG 7623427.421 705385.198
	C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--
	Volatile Petroleum Hydrocarbons (mg/L)								
	n-Decane (C10)	--	--	--	--	--	--	--	--
	n-Dodecane (C12)	--	--	--	--	--	--	--	--
	n-Hexane (C6)	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	17.6 J	--	--	3.08 J	2.35	--	--	5.42 J	8.94
Gasoline range hydrocarbons	127	--	--	6.48	2.93	--	--	17.3	16.2
Oil range organics	0.4 U	--	--	0.377 U	0.392 U	--	--	0.377 U	0.385 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-52F GS-030823-02 3/8/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-030823-03 3/8/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-061423-07 6/14/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-091223-12 9/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-03 12/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-04 12/12/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-53F GS-030823-01 3/8/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-061423-06 6/14/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-091223-10 9/12/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.0562	0.0487	0.0625	0.106	0.0469	0.252	0.704	0.542	0.28
Cyanide, available	0.002 U	0.002 U	0.00164 J	0.002 U	0.002 U	0.002 U	0.002 U	0.00252	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	50 U	50 U	50 U	91.4	50 U	50 U	50 U	50 U	50 U
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	1.09	1.14	1.35	0.812 J	0.748 J	0.704 J	1.21	1.16	1.48
Barium	35.4	36.5	58.7	57.1	32.6	33.8	68.2	76.6	63
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Iron	28700	29100	26100	11000	26500	26800	35400	32500	36700
Lead	0.2 U	0.2 U	0.2 U	0.145 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	2070	2070	1790	1720	1490	1520	3030	3070	3740
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	2 U	2 U	1.08 J	2 U	1.17 J	2 U	2 U	2 U
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	1.01 J	1.06 J	2 U	2 U	2 U	1.45 J	1.46 J	2 U
Zinc	2.54 J	4.03	3.1 J	4.11	3.5 J	3.41 J	2.22 J	3.66 J	2.48 J
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	20 U	20 U	40 U	20 U	2 U	2 U	2 U	4 U	2 U
1,1,1-Trichloroethane	20 U	20 U	40 U	20 U	2 U	2 U	2 U	4 U	2 U

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Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-52F GS-030823-02 3/8/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-030823-03 3/8/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-061423-07 6/14/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-091223-12 9/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-03 12/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-04 12/12/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-53F GS-030823-01 3/8/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-061423-06 6/14/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-091223-10 9/12/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306
1,1,2,2-Tetrachloroethane	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
1,1,2-Trichloroethane	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
1,1-Dichloroethane	20 U	20 U	40 U	20 U	2 U	2 U	2 U	4 U	2 U
1,1-Dichloroethene	20 U	20 U	40 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
1,2,3-Trichlorobenzene	100 U	100 U	200 U	100 U	10 U	10 U	10 U	20 U	10 U
1,2,3-Trichloropropane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
1,2,4-Trichlorobenzene	100 U	100 U	200 U	100 U	10 U	10 U	10 U	20 U	10 U
1,2,4-Trimethylbenzene	165	176	123	92	15.6	16.3	13.1	10.3	20.9
1,2-Dibromo-3-chloropropane	250 U	250 U	500 U	250 U	25 U	25 U	25 U	50 U	25 U
1,2-Dichlorobenzene	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
1,2-Dichloroethane	20 U	20 U	40 U	20 U	2 U	2 U	1.6 J	4 U	2 U
1,2-Dichloroethene, cis-	20 U	20 U	40 U	0.5 U	0.508	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethene, trans-	20 U	20 U	40 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
1,3,5-Trimethylbenzene (Mesitylene)	39.5 J	41 J	100 U	50 U	5 U	5 U	4.85 J	7 J	12.2
1,3-Dichlorobenzene	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
1,3-Dichloropropane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
1,3-Dichloropropene, cis-	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
1,3-Dichloropropene, trans-	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
1,4-Dichlorobenzene	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
2,2-Dichloropropane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
2-Chlorotoluene	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
2-Hexanone (Methyl butyl ketone)	500 U	500 U	1000 U	500 U	50 U	50 U	50 U	100 U	50 U
4-Chlorotoluene	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	500 U	500 U	1000 U	500 U	50 U	50 U	50 U	100 U	50 U
Acetone	1000 U	1000 U	2000 U	1000 U	100 U	100 U	100 U	200 U	100 U
Acrylonitrile	100 U	100 U	200 U	100 U	10 U	10 U	10 U	20 U	10 U
Benzene	8710	8980	14100	2620	743	811	674	923	689
Bromobenzene	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
Bromochloromethane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Bromodichloromethane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Bromoform (Tribromomethane)	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Bromomethane (Methyl bromide)	250 UJ	250 UJ	500 U	250 U	25 U	25 U	25 UJ	50 U	25 U
Carbon disulfide	500 U	500 U	1000 U	500 U	50 U	50 U	50 U	100 U	50 U
Carbon tetrachloride (Tetrachloromethane)	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Chlorobenzene	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
Chloroethane	250 U	250 U	500 U	250 U	25 U	25 U	25 U	50 U	25 U
Chloroform	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Chloromethane	250 U	250 U	500 U	250 UJ	25 U	25 U	25 U	50 U	25 U
Cymene, p- (4-Isopropyltoluene)	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-52F GS-030823-02 3/8/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-030823-03 3/8/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-061423-07 6/14/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-091223-12 9/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-03 12/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-04 12/12/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-53F GS-030823-01 3/8/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-061423-06 6/14/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-091223-10 9/12/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306
Dibromochloromethane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Dibromomethane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Dichlorodifluoromethane	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Dichloromethane (Methylene chloride)	500 U	500 U	1000 U	500 U	50 U	50 U	50 U	100 U	50 U
Ethylbenzene	659	678	490	175	12	12.8	4.45	3.3 J	3.05
Ethylene dibromide (1,2-Dibromoethane)	25 U	25 U	50 U	25 U	2.5 U	2.5 U	2.5 U	5 U	2.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	250 U	250 U	500 U	250 U	25 U	25 U	25 U	50 U	25 U
Isopropylbenzene (Cumene)	32.5 J	32 J	100 U	50 U	4.45 J	4.6 J	12.8	12.5	10.2
m,p-Xylene	656	676	575	170	3.65 J	3.8 J	8.4	7.6 J	3.65 J
Methyl ethyl ketone (2-Butanone)	500 U	500 U	1000 U	500 U	50 U	50 U	50 U	100 U	50 U
Methyl tert-butyl ether (MTBE)	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
n-Butylbenzene	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
n-Propylbenzene	18 J	18.5 J	50 U	25 U	2.95	3	6.4	9.3	7.9
o-Xylene	336	346	265	87.5	4.45	4.7	12.2	7.8	5.05
sec-Butylbenzene	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Styrene	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
tert-Butylbenzene	50 U	50 U	100 U	50 U	5 U	5 U	5 U	10 U	5 U
Tetrachloroethene (PCE)	20 U	20 U	40 U	20 U	2 U	2 U	2 U	12	2 U
Toluene	196	202	180	50 U	5 U	5 U	5.65	10 U	3 J
Trichloroethene (TCE)	20 U	20 U	40 U	0.5 U	1.31	0.341 J	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane (Fluorotrichloromethane)	100 U	100 U	200 U	100 U	10 U	10 U	10 U	20 U	10 U
Vinyl chloride	20 U	20 U	40 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	213	196	265	200	80.5	87.5	64.3	169	138
2-Methylnaphthalene	154	139	220	160	41	44	9.12 U	5.89 J	6.77 J
Acenaphthene	97.4	95	109	99.4	36.9	42.4	186	241	272
Acenaphthylene	6.51	6.4	13.3	5.18 U	3.7 U	5.45 U	11.5	25	9.94 U
Anthracene	3.35 J	3.12 J	4.45	3.5 J	3.7 U	3.49 U	4.73	6.42	4.94
Benzo(a)anthracene	1.89 U	2.08 U	1.7 U	2.12 U	1.85 U	1.74 U	2.28 U	1.77 U	2.15 U
Benzo(a)pyrene	1.89 U	2.08 U	1.7 U	2.12 U	1.85 U	1.74 U	2.28 U	1.77 U	2.15 U
Benzo(b,j)fluoranthene	1.89 U	2.08 U	1.7 U	2.12 U	1.85 U	1.74 U	2.28 U	1.77 U	2.15 U
Benzo(g,h,i)perylene	3.77 U	4.17 U	3.39 U	4.25 U	3.7 U	3.49 U	4.56 U	3.54 U	4.3 U
Benzo(k)fluoranthene	1.89 U	2.08 U	1.7 U	2.12 U	1.85 U	1.74 U	2.28 U	1.77 U	2.15 U
Carbazole	42.8	40.4	41.8	--	--	--	15.8	37.9	--
Chrysene	1.89 U	2.08 U	1.7 U	2.12 U	1.85 U	1.74 U	2.28 U	1.77 U	2.15 U
Dibenzo(a,h)anthracene	1.89 U	2.08 U	1.7 U	2.12 U	1.85 U	1.74 U	2.28 U	1.77 U	2.15 U
Dibenzofuran	3.91	3.49 J	4.79	2.97 J	3.7 U	3.49 U	6.84	9.12	8.16
Fluoranthene	9.57	9.58	11.4	12.3	5.28	5.58	3.02 J	4.65	3.92 J
Fluorene	16.6	16.1	22.3	17.8	8.15	9.32	25.8	39.9	37.3
Indeno(1,2,3-c,d)pyrene	1.89 U	2.08 U	1.7 U	2.12 U	1.85 U	1.74 U	2.28 U	1.77 U	2.15 U
Naphthalene	4060	4500	4840	4160	587	707	24.8	18.1	37.3

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-52F GS-030823-02 3/8/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-030823-03 3/8/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-061423-07 6/14/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-091223-12 9/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-03 12/12/2023 5.8 - 10.5 ft N WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-52F GS-121223-04 12/12/2023 5.8 - 10.5 ft FD WG 7623610.623 705430.281	Source Control Groundwater 2023 MW-53F GS-030823-01 3/8/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-061423-06 6/14/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 MW-53F GS-091223-10 9/12/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306
Phenanthrene	11.6	11.5	17.2	17.3	5.6 J	6.45 J	13.2	21.8	19.1
Pyrene	11	11.5	13.5	13.8	6.44	6.67	2.79 J	4.38	3.17 J
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--
Endrin	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--	--	--
Endrin ketone	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--	--
Dichloroprop	--	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--	--
Mecoprop (MCPP)	--	--	--	--	--	--	--	--	--
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	MW-52F	MW-52F	MW-52F	MW-52F	MW-52F	MW-52F	MW-53F	MW-53F
	Sample Date	GS-030823-02	GS-030823-03	GS-061423-07	GS-091223-12	GS-121223-03	GS-121223-04	GS-030823-01	GS-061423-06
	Depth	3/8/2023	3/8/2023	6/14/2023	9/12/2023	12/12/2023	12/12/2023	3/8/2023	6/14/2023
	Sample Type	5.8 - 10.5 ft	5.8 - 10.5 ft	5.8 - 10.5 ft	5.8 - 10.5 ft	5.8 - 10.5 ft	5.8 - 10.5 ft	3.8 - 8.6 ft	3.8 - 8.6 ft
	Matrix	N	FD	N	N	N	FD	N	N
	X	WG	WG	WG	WG	WG	WG	WG	WG
	Y	7623610.623	7623610.623	7623610.623	7623610.623	7623610.623	7623610.623	7623770.055	7623770.055
		705430.281	705430.281	705430.281	705430.281	705430.281	705430.281	705433.306	705433.306
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)	--	--	--	--	--	--	--	--	--
n-Dodecane (C12)	--	--	--	--	--	--	--	--	--
n-Hexane (C6)	--	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	--	--	--	6.31 J	2.12	1.76	--	--	3.02 J
Gasoline range hydrocarbons	--	--	--	24.1	5.65	5.94	--	--	5.52
Oil range organics	--	--	--	0.5	0.385 U	0.385 U	--	--	0.385 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-53F GS-121223-02 12/12/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 NWN-02-20 GS-032223-50 3/22/2023 10 - 20 ft N WG 7623940.1 703958	Source Control Groundwater 2023 NWN-03-17 GS-032223-49 3/22/2023 7 - 17 ft N WG 7624165.6 703613	Source Control Groundwater 2023 NWN-07-30 GS-032223-52 3/22/2023 20 - 30 ft N WG 7624543 703893.5	Source Control Groundwater 2023 NWN-09-31 GS-032123-39 3/21/2023 16 - 31 ft N WG 7625000.8 704896.3	Source Control Groundwater 2023 NWN-09-31 GS-032123-40 3/21/2023 16 - 31 ft FD WG 7625000.8 704896.3	Source Control Groundwater 2023 NWN-09-31 GS-091923-27 9/19/2023 16 - 31 ft N WG 7625000.8 704896.3	Source Control Groundwater 2023 NWN-11-24 GS-032223-51 3/22/2023 14 - 24 ft N WG 7625080.53 704323.49	Source Control Groundwater 2023 NWN-13-106 GS-032123-45 3/21/2023 96 - 106 ft N WG 7624023.89 704367.99
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.617	2.56	0.481	3.22	0.0847	0.0775	0.113	5.21	0.005 U
Cyanide, available	0.002 U	0.00454 J	0.00108 J	0.00189 J	0.002 U	0.002 U	0.002 U	0.00452 J	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	50 U	390	50 U	50 U	566 J	157 J	50 U	50 U	178
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	1.64	2.39	7.65	13	27.2	25.9	27.2	4.17	1.76
Barium	70.2	30.7	49.9	128	159	149	145	163	37.9
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.122 J	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	2	2 U	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2 U	1.55 J	2 U	2 U	2 U	2 U
Iron	42400	16300	26800	96500	101000	97500	101000	52500	7300
Lead	0.2 U	3.31	0.2 U	0.2 U	0.924 J	0.276 J	0.2 U	0.2 U	0.11 J
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	4620	3560	6230	2670	5320	5160	5580	6280	4750
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	2.39	3	2 U	5.08	4.12	4.05	2 U	2 U
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	1.06 J	3.41	2 U	2.17	3.89	2.4	2.14	2 U	1.57 J
Zinc	2.61 J	26.5	2.1 J	4.59	10.1 J	5.81 J	6.09	2.27 J	3.48 J
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.8 U	0.4 U	0.4 U	0.8 U	0.4 U	0.4 U	0.4 U	8 UJ	20 U
1,1,1-Trichloroethane	0.8 U	0.4 U	0.4 U	0.8 U	0.4 U	0.4 U	0.4 U	8 UJ	20 U

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Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 MW-53F GS-121223-02 12/12/2023 3.8 - 8.6 ft N WG 7623770.055 705433.306	Source Control Groundwater 2023 NWN-02-20 GS-032223-50 3/22/2023 10 - 20 ft N WG 7623940.1 703958	Source Control Groundwater 2023 NWN-03-17 GS-032223-49 3/22/2023 7 - 17 ft N WG 7624165.6 703613	Source Control Groundwater 2023 NWN-07-30 GS-032223-52 3/22/2023 20 - 30 ft N WG 7624543 703893.5	Source Control Groundwater 2023 NWN-09-31 GS-032123-39 3/21/2023 16 - 31 ft N WG 7625000.8 704896.3	Source Control Groundwater 2023 NWN-09-31 GS-032123-40 3/21/2023 16 - 31 ft FD WG 7625000.8 704896.3	Source Control Groundwater 2023 NWN-09-31 GS-091923-27 9/19/2023 16 - 31 ft N WG 7625000.8 704896.3	Source Control Groundwater 2023 NWN-11-24 GS-032223-51 3/22/2023 14 - 24 ft N WG 7625080.53 704323.49	Source Control Groundwater 2023 NWN-13-106 GS-032123-45 3/21/2023 96 - 106 ft N WG 7624023.89 704367.99
1,1,2,2-Tetrachloroethane	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
1,1,2-Trichloroethane	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
1,1-Dichloroethane	0.8 U	0.4 U	0.4 U	0.8 U	0.4 U	0.4 U	0.4 U	8 U	20 U
1,1-Dichloroethene	0.5 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U	0.5 U	20 U
1,1-Dichloropropene	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
1,2,3-Trichlorobenzene	4 U	2 U	2 U	4 U	2 U	2 U	2 U	40 U	100 U
1,2,3-Trichloropropane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
1,2,4-Trichlorobenzene	4 U	2 U	2 U	4 U	2 U	2 U	2 U	40 U	100 U
1,2,4-Trimethylbenzene	7.68	1 U	1 U	2 U	2.8	2.89	3.9	20.8	50 U
1,2-Dibromo-3-chloropropane	10 U	5 U	5 U	10 U	5 U	5 U	5 U	100 UJ	250 U
1,2-Dichlorobenzene	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
1,2-Dichloroethane	0.8 U	0.4 U	0.4 U	0.8 U	0.4 U	0.4 U	0.4 U	8 U	20 U
1,2-Dichloroethene, cis-	0.5 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U	0.5 U	20 U
1,2-Dichloroethene, trans-	0.5 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U	0.5 U	20 U
1,2-Dichloropropane	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
1,3,5-Trimethylbenzene (Mesitylene)	3.86	1 U	1 U	2 U	0.82 J	0.82 J	1.09	20 U	50 U
1,3-Dichlorobenzene	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
1,3-Dichloropropane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
1,3-Dichloropropene, cis-	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 UJ	50 U
1,3-Dichloropropene, trans-	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 UJ	50 U
1,4-Dichlorobenzene	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
2,2-Dichloropropane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 UJ	50 U
2-Chlorotoluene	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
2-Hexanone (Methyl butyl ketone)	20 U	10 U	10 U	20 U	10 U	10 U	10 U	200 U	500 U
4-Chlorotoluene	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	20 U	10 U	10 U	20 U	10 U	10 U	10 U	200 U	500 U
Acetone	40 U	20 U	20 U	40 U	20 U	20 U	20 U	400 U	1000 U
Acrylonitrile	4 U	2 U	2 U	4 U	2 U	2 U	2 U	40 U	100 U
Benzene	313	6.32	0.2 U	0.4 U	0.83	0.72	1.38	61	13500
Bromobenzene	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
Bromochloromethane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
Bromodichloromethane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
Bromoform (Tribromomethane)	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 UJ	50 U
Bromomethane (Methyl bromide)	10 U	5 U	5 U	10 U	5 U	5 U	5 U	100 UJ	250 U
Carbon disulfide	20 U	10 U	10 U	20 U	10 U	10 U	10 U	200 U	500 U
Carbon tetrachloride (Tetrachloromethane)	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 UJ	50 U
Chlorobenzene	1 U	0.5 U	0.5 U	1.34	0.5 U	0.5 U	0.5 U	10 U	25 U
Chloroethane	10 U	5 U	5 U	10 U	5 U	5 U	5 U	100 U	250 U
Chloroform	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
Chloromethane	10 U	5 U	5 U	10 U	5 U	5 U	5 U	100 U	250 U
Cymene, p- (4-Isopropyltoluene)	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U

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Dibromochloromethane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 UJ	50 U
Dibromomethane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
Dichlorodifluoromethane	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
Dichloromethane (Methylene chloride)	20 U	10 U	10 U	20 U	10 U	10 U	10 U	200 U	500 U
Ethylbenzene	1.94	0.5 U	0.5 U	0.64 J	2.42	2.43	3.67	55	196
Ethylene dibromide (1,2-Dibromoethane)	1 U	0.5 U	0.5 U	1 U	0.5 U	0.5 U	0.5 U	10 U	25 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	10 U	5 U	5 U	10 U	5 U	5 U	5 U	100 U	250 U
Isopropylbenzene (Cumene)	6.76	0.52 J	1 U	8.1	1 U	1 U	0.63 J	20 U	50 U
m,p-Xylene	2.72	1 U	1 U	1 J	1.43	1.48	1.89	18.4 J	202
Methyl ethyl ketone (2-Butanone)	20 U	10 U	10 U	20 U	10 U	10 U	10 U	200 U	500 U
Methyl tert-butyl ether (MTBE)	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
n-Butylbenzene	1.08 J	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
n-Propylbenzene	3.4	0.42 J	0.5 U	0.94 J	0.5 U	0.5 U	0.5 U	10 U	25 U
o-Xylene	6.5	0.33 J	0.5 U	2.3	2.14	2.21	2.93	25.8	116
sec-Butylbenzene	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
Styrene	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
tert-Butylbenzene	2 U	1 U	1 U	2 U	1 U	1 U	1 U	20 U	50 U
Tetrachloroethene (PCE)	--	0.4 U	0.4 U	0.8 U	0.4 U	0.4 U	0.4 U	8 U	20 U
Toluene	1.5 J	1 U	1 U	2 U	1 U	1 U	1 U	20 U	58.5
Trichloroethene (TCE)	0.5 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U	0.5 U	20 U
Trichlorofluoromethane (Fluorotrichloromethane)	4 U	2 U	2 U	4 U	2 U	2 U	2 U	40 U	100 U
Vinyl chloride	0.5 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.21	0.5 U	20 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	127	4.06	0.0705 U	1.69	6.02	6.38	10.7	94.8	16.4 J
2-Methylnaphthalene	18.2	0.741 U	0.0705 U	0.892 U	6.57	7.11	11.3	48	5.97 J
Acenaphthene	244	19.1	1.49	109	15.3	18.1	11.7	76.8	56
Acenaphthylene	12.7	1.97 U	0.168	7.04	1.21 J	1.77 J	1.78	4.93 U	3.12 J
Anthracene	6.27	5.82	0.28	1.55	0.897	1.1	1.06	7.91	4.23 U
Benzo(a)anthracene	0.145 J	0.523	0.0115 J	0.223 U	0.0716 J	0.128 J	0.195 U	1.13 U	2.11 U
Benzo(a)pyrene	0.193 U	0.144 J	0.0176 U	0.223 U	0.0819 U	0.196 U	0.195 U	1.13 U	2.11 U
Benzo(b,j)fluoranthene	0.193 U	0.19	0.0176 U	0.223 U	0.0819 U	0.196 U	0.195 U	1.13 U	2.11 U
Benzo(g,h,i)perylene	0.387 U	0.371 U	0.0353 U	0.446 U	0.164 U	0.393 U	0.39 U	2.25 U	4.23 U
Benzo(k)fluoranthene	0.193 U	0.185 U	0.0176 U	0.223 U	0.0819 U	0.196 U	0.195 U	1.13 U	2.11 U
Carbazole	--	0.463	0.0353 U	0.446 U	0.164 U	0.393 U	--	59.5	15.4
Chrysene	0.193 U	0.695	0.0176 U	0.223 U	0.0675 J	0.0982 J	0.195 U	1.13 U	2.11 U
Dibenzo(a,h)anthracene	0.193 U	0.185 U	0.0176 U	0.223 U	0.0819 U	0.196 U	0.195 U	1.13 U	2.11 U
Dibenzofuran	8.4	0.964	0.0353 U	0.574	0.227	0.295 J	0.386 J	5.77	5.29
Fluoranthene	3.72	7.3	0.0476	0.914	1.14	1.34	1.31	4	4.23 U
Fluorene	42.2	9.91	0.0353 U	4.65	4.38	4.83	3.78	28.9	9.94
Indeno(1,2,3-c,d)pyrene	0.193 U	0.185 U	0.0176 U	0.223 U	0.0819 U	0.196 U	0.195 U	1.13 U	2.11 U
Naphthalene	57	0.755 U	0.0511 U	0.546 U	16	17.7	29.1	737	355

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Phenanthrene		14.1	13.1	0.0361 J	1.56	3.28	4.05	4.44	28	7.35 J
Pyrene		3.32	9.07	0.0965	0.847	1.31	1.59	1.59	3.91	4.23 U
Pesticides (µg/L)										
4,4'-DDD (p,p'-DDD)		--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)		--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)		--	--	--	--	--	--	--	--	--
Aldrin		--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)		--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)		--	--	--	--	--	--	--	--	--
Dieldrin		--	--	--	--	--	--	--	--	--
Endosulfan sulfate		--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)		--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)		--	--	--	--	--	--	--	--	--
Endrin		--	--	--	--	--	--	--	--	--
Endrin aldehyde		--	--	--	--	--	--	--	--	--
Endrin ketone		--	--	--	--	--	--	--	--	--
Heptachlor		--	--	--	--	--	--	--	--	--
Heptachlor epoxide		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)		--	--	--	--	--	--	--	--	--
Methoxychlor		--	--	--	--	--	--	--	--	--
Toxaphene		--	--	--	--	--	--	--	--	--
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)		--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)		--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)		--	--	--	--	--	--	--	--	--
Dicamba		--	--	--	--	--	--	--	--	--
Dichloroprop		--	--	--	--	--	--	--	--	--
Dinoseb		--	--	--	--	--	--	--	--	--
Mecoprop (MCP)		--	--	--	--	--	--	--	--	--
Mephanac (MCPA)		--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted		--	0.04 UJ	--	--	0.04 UJ	0.04 UJ	--	--	--
C10-C12 Aliphatics unadjusted		--	0.04 UJ	--	--	0.04 UJ	0.04 UJ	--	--	--
C12-C16 Aliphatics unadjusted		--	0.04 U	--	--	0.04 U	0.04 U	--	--	--
C16-C21 Aliphatics unadjusted		--	0.04 U	--	--	0.04 U	0.04 U	--	--	--
C21-C34 Aliphatics unadjusted		--	0.04 UJ	--	--	0.046	0.046	--	--	--

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C10-C12 Aromatics unadjusted		--	0.04 UJ	--	--	0.04 U	0.04 U	--	--	--
C8-C10 Aromatics unadjusted		--	0.04 U	--	--	0.04 U	0.04 U	--	--	--
C12-C16 Aromatics unadjusted		--	0.067 J	--	--	0.066	0.066	--	--	--
C16-C21 Aromatics unadjusted		--	0.145	--	--	0.04 U	0.04 U	--	--	--
C21-C34 Aromatics unadjusted		--	0.052	--	--	0.04 U	0.04 U	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)										
n-Decane (C10)		--	0.005 U	--	--	0.005 U	0.005 U	--	--	--
n-Dodecane (C12)		--	0.005 U	--	--	0.005 U	0.005 U	--	--	--
n-Hexane (C6)		--	0.005 U	--	--	0.005 U	0.005 U	--	--	--
n-Octane (C8)		--	0.005 U	--	--	0.005 U	0.005 U	--	--	--
n-Pentane (C5)		--	0.005 U	--	--	0.005 U	0.005 U	--	--	--
C5-C6 Aliphatics unadjusted		--	0.05 U	--	--	0.05 U	0.05 U	--	--	--
C6-C8 Aliphatics unadjusted		--	0.05 U	--	--	0.05 U	0.05 U	--	--	--
C8-C10 Aliphatics unadjusted		--	0.05 U	--	--	0.05 U	0.05 U	--	--	--
C10-C12 Aliphatics unadjusted		--	0.05 U	--	--	0.069	0.071	--	--	--
C10-C12 Aromatics unadjusted		--	0.057	--	--	0.126	0.125	--	--	--
C8-C10 Aromatics unadjusted		--	0.05 U	--	--	0.05 U	0.05 U	--	--	--
C12-C13 Aromatics unadjusted		--	0.05 U	--	--	0.056	0.059	--	--	--
Total Petroleum Hydrocarbons (mg/L)										
Diesel range hydrocarbons		5.34	1.04 J	0.136 J	2.85 J	0.627 J	0.627 J	0.801	2.93 J	1.65 J
Gasoline range hydrocarbons		3.92	0.242	0.1 U	3.99	0.6	0.601	0.872	5.61	38.4
Oil range organics		0.392 U	0.385 U	0.394 J	0.388 U	0.381 U	0.458	0.79	0.385 U	0.379 J

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2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 NWN-13-23 GS-032123-42 3/21/2023 13 - 23 ft N WG 7624041.9 704353.4	Source Control Groundwater 2023 NWN-13-73 GS-032123-44 3/21/2023 63 - 73 ft N WG 7624031.76 704361.46	Source Control Groundwater 2023 OW-1F GS-032123-41 3/21/2023 30 - 35 ft N WG 7624722.31 705044.17	Source Control Groundwater 2023 OW-1F GS-092023-29 9/20/2023 30 - 35 ft N WG 7624722.31 705044.17	Source Control Groundwater 2023 OW-2F GS-032023-37 3/20/2023 25.6 - 30.6 ft N WG 7624542.71 705172.45	Source Control Groundwater 2023 OW-5F GS-031323-09 3/13/2023 28.5 - 33.5 ft N WG 7624070.282 705366.661	Source Control Groundwater 2023 OW-5F GS-061423-08 6/14/2023 28.5 - 33.5 ft N WG 7624070.282 705366.661	Source Control Groundwater 2023 OW-5F GS-092723-36 9/27/2023 28.5 - 33.5 ft N WG 7624070.282 705366.661	Source Control Groundwater 2023 OW-5F GS-121423-13 12/14/2023 28.5 - 33.5 ft N WG 7624070.282 705366.661
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	44.9	0.2	0.159	0.477	0.172	0.304	0.155	0.713	0.194
Cyanide, available	0.0434	0.0045	0.002 U	0.002 U	0.002 UJ	0.002 U	0.00177 J	0.002 U	0.00151 J
Cyanide, free	0.0187	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	52.7	37.5 J	54.2	6120	50 U	50 U	50 U	50 U	50 U
Antimony	1 U	1 U	1 U	11.4	1 U	1 U	1 U	1 U	1 U
Arsenic	0.786 J	4.28	8.82	21.6	2.49	5.18	5.87	6.38	4.64
Barium	172	186	58.3	214	175	91.2	89.6	96.2	89.3
Beryllium	0.2 U	0.2 U	0.2 U	0.687	0.2 UJ	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.595	0.2 U	0.242	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	170000	--
Chromium	4.09	2 U	2 U	15.3	2 U	2 U	2 U	2 U	2 U
Copper	2 U	1.06 J	2 U	17.6	2 U	2 U	2 U	2 U	2 U
Iron	11900	274	60200	75800	37600	22700	23800	25300	21200
Lead	0.331	0.2 U	0.2 U	12.8	0.116 J	0.2 U	0.2 U	0.135 J	0.2 U
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	2010	21500	2440	7420	2570	1460	1400	1710	1290
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	5.64	2.29	30.2	3	1.62 J	2.36	2.15	1.28 J
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.137 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.392	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	1.29 J	15.7	2 U	23.5	2 U	2 U	2 U	2 U	2 U
Zinc	16.2	4.8	4 U	187	87.2	3.77 J	4 U	2.41 J	3.45 J
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

Appendix C2
2023 Data Summary Table

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1,1,2,2-Tetrachloroethane	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	6.7 J	1 U	1.32	1 U	3.27	6.84	2.64	4.81	3.08
1,2-Dibromo-3-chloropropane	50 UJ	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	10 U	1 U	0.76 J	1 U	1.04	2.51	1.23	1.78	1.19
1,3-Dichlorobenzene	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	10 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	10 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
2-Chlorotoluene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	200 U	20 U	20 U	20 U	20 U	20.3 UJ	20 U	20 U	20 U
Acrylonitrile	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene	140	0.2 U	4.18	0.2 U	37	1.85	0.77	0.91	1.05
Bromobenzene	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	50 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	831	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	50 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	50 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

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Dibromochloromethane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	10 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
Dichloromethane (Methylene chloride)	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	75.6	0.5 U	0.5 U	0.5 U	10	1.33	0.67	0.75	0.66
Ethylene dibromide (1,2-Dibromoethane)	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	50 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	10 U	1 U	1.03	1 U	0.59 J	0.77 J	1 U	0.58 J	1 U
m,p-Xylene	17.8	1 U	1.16	1 U	5.43	1.77	1.13	1.29	1.43
Methyl ethyl ketone (2-Butanone)	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	5 U	0.5 U	0.37 J	0.5 U	0.5 U	0.45 J	0.5 U	0.35 J	0.29 J
o-Xylene	18.3	0.5 U	2.04	0.5 U	4.83	1.69	1.16	1.28	1.24
sec-Butylbenzene	10 U	1 U	0.7 J	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	5.6 J	1 U	1 U	1 U	0.58 J	0.67 J	0.56 J	0.55 J	0.6 J
Trichloroethene (TCE)	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	20 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.5 U	0.4 U	0.4 U	0.2 U	0.4 U	0.4 U	0.4 U	0.2 U	0.2 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	12 J	0.0678 U	3.19	0.0913 U	12.6	51.1	44.9	58	50.5
2-Methylnaphthalene	10.9 J	0.0678 U	0.428 J	0.0913 U	18.9	27.7	18.9	27	25.3
Acenaphthene	3.41 J	0.0339 U	165	0.452	26.1	122	113	129	114
Acenaphthylene	0.44 UJ	0.0339 U	6.19	0.508	1.41 UJ	5.51	17	12.8	9.7
Anthracene	1.21 J	0.0339 U	4.31	1.26	3.19	8.94	9.13	8.68	8.48
Benzo(a)anthracene	0.149 J	0.0169 U	0.325	0.0473	0.194	0.517	2.04 U	2.25 U	0.494
Benzo(a)pyrene	0.0681 J	0.0169 U	0.206 U	0.0177 J	0.0282	0.222 U	2.04 U	2.25 U	0.196 U
Benzo(b,j)fluoranthene	0.0945 J	0.0169 U	0.206 U	0.0171 J	0.0298 J	0.222 U	2.04 U	2.25 U	0.196 U
Benzo(g,h,i)perylene	0.176 UJ	0.0339 U	0.412 U	0.0456 U	0.041 U	0.445 U	4.08 U	4.51 U	0.392 U
Benzo(k)fluoranthene	0.0505 J	0.0169 U	0.206 U	0.0188 J	0.0159 J	0.222 U	2.04 U	2.25 U	0.196 U
Carbazole	1.19 J	0.0339 U	0.412 U	--	5.61	10	5.92	--	--
Chrysene	0.193 J	0.0169 U	0.304	0.0183 J	0.19	0.384	2.04 U	2.25 U	0.411
Dibenzo(a,h)anthracene	0.0879 UJ	0.0169 U	0.206 U	0.0228 U	0.0205 U	0.222 U	2.04 U	2.25 U	0.196 U
Dibenzofuran	0.646 J	0.0339 U	0.412 U	0.0456 U	1.14	4.34	3.88 J	4.51	4.05
Fluoranthene	2 J	0.0339 U	4.74	0.141	4.23	14.2	17.5	17	17.2
Fluorene	2.87 J	0.0339 U	39.3	0.213 J	10.4	31.7	31.8	32.5	31.3
Indeno(1,2,3-c,d)pyrene	0.0835 J	0.0169 U	0.206 U	0.0228 U	0.0205 U	0.222 U	2.04 U	2.25 U	0.196 U
Naphthalene	326	0.0534 J	1.45	0.073 J	185	21.8	15.8	10.9	13.4

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Phenanthrene	8.07 J	0.0678 U	4.16	0.116	13.5	54.6	54.3	54.9	55.4
Pyrene	1.63 J	0.0178 J	5.19	0.139	4.42	14.7	18.8	17.6	18.1
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--
Endrin	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--	--	--
Endrin ketone	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--	--
Dichloroprop	--	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--	--
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	0.04 UJ	--	0.04 UJ	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	0.04 UJ	--	0.04 UJ	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	0.04 U	--	0.04 U	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	0.04 U	--	0.04 U	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	0.04 U	--	0.084	--	--	--	--

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C10-C12 Aromatics unadjusted	--	--	0.04 U	--	0.153	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	0.04 U	--	0.04 U	--	--	--	--
C12-C16 Aromatics unadjusted	--	--	0.247	--	0.069	--	--	--	--
C16-C21 Aromatics unadjusted	--	--	0.118	--	0.062	--	--	--	--
C21-C34 Aromatics unadjusted	--	--	0.04 U	--	0.04 U	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)	--	--	0.005 U	--	0.005 U	--	--	--	--
n-Dodecane (C12)	--	--	0.007	--	0.005 U	--	--	--	--
n-Hexane (C6)	--	--	0.005 U	--	0.005 U	--	--	--	--
n-Octane (C8)	--	--	0.005 U	--	0.005 U	--	--	--	--
n-Pentane (C5)	--	--	0.005 U	--	0.005 U	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	0.05 U	--	0.05 U	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	0.05 U	--	0.05 U	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	0.05 U	--	0.05 U	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	0.05 U	--	0.05 U	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	0.104	--	0.329	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	0.05 U	--	0.05 U	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	0.116	--	0.095	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	1.24 J	0.189 U	1.09 J	0.253	0.888 J	--	--	2.17	1.78
Gasoline range hydrocarbons	2.39	0.1 U	0.53	0.1 U	1.19	--	--	0.49	0.42
Oil range organics	0.327 J	0.766	0.381 U	0.43 U	0.354 J	--	--	0.385 U	0.385 U

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2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 OW-7-17 GS-041223-67 4/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-061523-11 6/15/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-091223-08 9/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-121423-16 12/14/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-8-15 GS-041223-66 4/12/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-061523-10 6/15/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-121423-14 12/14/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-9-25 GS-041123-63 4/11/2023 20 - 25 ft N WG 7623388.523 705812.544	Source Control Groundwater 2023 OW-9-25 GS-061423-05 6/14/2023 20 - 25 ft N WG 7623388.523 705812.544
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.0119	0.0372	0.0191	0.0153	0.0519	0.0483	0.07	0.257	0.587
Cyanide, available	0.00146 J	0.002 U	0.002 U	0.002 U	0.00138 J	0.00181 J	0.002 U	0.00154 J	0.00757
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	108	71.6	62.7	50 U	50 U	214	50 U	34.9 J	50 U
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.803 J	0.903 J
Barium	15.9	87.5	67.2	12.6	21.4	30.6	33.1	23	26
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	2 U	2.28	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2.08	1.02 J	1.51 J	1.04 J	2 U	2 U
Iron	509	26900	17700	134	673	1300	124	122	246
Lead	0.257	0.21	0.224	0.12 J	0.2 U	0.296	0.2 U	0.2 U	0.2 U
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	91.9	3810	2660	65.6	41.6	17.1	7.77	10.9	2.84
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	11.4	15.5	23.7	22.5	17.4	35.9	39.7	129	90.2
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	97.7	16.3	13.8	57.6	11.7	41.8	22.4	60.4	122
Zinc	3.17 J	6.93	7.5	4.53	3.08 J	8.49	5.06	8.32	9.63
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 OW-7-17 GS-041223-67 4/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-061523-11 6/15/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-091223-08 9/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-121423-16 12/14/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-8-15 GS-041223-66 4/12/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-061523-10 6/15/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-121423-14 12/14/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-9-25 GS-041123-63 4/11/2023 20 - 25 ft N WG 7623388.523 705812.544	Source Control Groundwater 2023 OW-9-25 GS-061423-05 6/14/2023 20 - 25 ft N WG 7623388.523 705812.544
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acrylonitrile	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene	0.2 U	0.12 J	0.14 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 OW-7-17 GS-041223-67 4/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-061523-11 6/15/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-091223-08 9/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-121423-16 12/14/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-8-15 GS-041223-66 4/12/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-061523-10 6/15/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-121423-14 12/14/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-9-25 GS-041123-63 4/11/2023 20 - 25 ft N WG 7623388.523 705812.544	Source Control Groundwater 2023 OW-9-25 GS-061423-05 6/14/2023 20 - 25 ft N WG 7623388.523 705812.544
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m,p-Xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.4 U	0.4 U	0.2 U	0.2 U	0.4 U	0.4 U	0.2 U	0.4 U	0.4 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	0.0701 U	0.752 U	0.959 U	0.0669 U	0.0686 U	0.0807 U	0.0701 U	0.0702 U	0.0685 U
2-Methylnaphthalene	0.0701 U	0.752 U	0.959 U	0.0669 U	0.0686 U	0.0807 U	0.0701 U	0.0702 U	0.0685 U
Acenaphthene	0.681	23.5	29.6	0.855	0.0343 U	0.0403 U	0.0351 U	0.0351 U	0.0223 J
Acenaphthylene	0.092	1.44	1.49	0.122	0.109	0.058	0.0605	0.172	0.124
Anthracene	0.0789	0.353 J	0.479	0.0753	0.158	0.139	0.121	0.132	0.0749
Benzo(a)anthracene	0.0175 U	0.188 U	0.24 U	0.0167 U	0.0172 U	0.0202 U	0.0175 U	0.0175 U	0.0171 U
Benzo(a)pyrene	0.021	0.188 U	0.24 U	0.00878 J	0.0172 U	0.0202 U	0.0175 U	0.0175 U	0.0171 U
Benzo(b,j)fluoranthene	0.0206 J	0.188 U	0.24 U	0.00962 J	0.0172 U	0.0202 U	0.0175 U	0.0175 U	0.0171 U
Benzo(g,h,i)perylene	0.0377	0.376 U	0.479 U	0.0205 J	0.0343 U	0.0403 U	0.0351 U	0.0351 U	0.0342 U
Benzo(k)fluoranthene	0.0175 U	0.188 U	0.24 U	0.0167 U	0.0172 U	0.0202 U	0.0175 U	0.0175 U	0.0171 U
Carbazole	0.035 U	0.376 U	--	--	0.0343 U	0.0403 U	--	0.0351 U	0.0342 U
Chrysene	0.0175 U	0.188 U	0.24 U	0.0167 U	0.0172 U	0.0202 U	0.0175 U	0.0175 U	0.0171 U
Dibenzo(a,h)anthracene	0.0175 U	0.188 U	0.24 U	0.00878 J	0.0172 U	0.0202 U	0.0175 U	0.0175 U	0.0171 U
Dibenzofuran	0.035 U	0.376 U	0.479 U	0.0334 U	0.0343 U	0.0403 U	0.0351 U	0.0351 U	0.0342 U
Fluoranthene	0.0705	0.781	1.86	0.0732	0.0343 U	0.0403 U	0.0351 U	0.0351 U	0.0342 U
Fluorene	0.0258 J	1.01	0.935	0.0293 J	0.0343 U	0.0403 U	0.0351 U	0.0351 U	0.0342 U
Indeno(1,2,3-c,d)pyrene	0.0293	0.188 U	0.24 U	0.0176	0.0172 U	0.0111 J	0.0175 U	0.0175 U	0.0171 U
Naphthalene	0.0355 J	0.752 U	0.959 U	0.0669 U	0.0386 J	0.0807 U	0.0701 U	0.0465 U	0.0419 J

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2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 OW-7-17 GS-041223-67 4/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-061523-11 6/15/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-091223-08 9/12/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-7-17 GS-121423-16 12/14/2023 12.5 - 17.5 ft N WG 7623753.29 705593.81	Source Control Groundwater 2023 OW-8-15 GS-041223-66 4/12/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-061523-10 6/15/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-8-15 GS-121423-14 12/14/2023 10.1 - 15.1 ft N WG 7623600.35 705685.36	Source Control Groundwater 2023 OW-9-25 GS-041123-63 4/11/2023 20 - 25 ft N WG 7623388.523 705812.544	Source Control Groundwater 2023 OW-9-25 GS-061423-05 6/14/2023 20 - 25 ft N WG 7623388.523 705812.544
Phenanthrene	0.0701 U	0.752 U	0.959 U	0.0669 U	0.0686 U	0.0807 U	0.0701 U	0.0702 U	0.0685 U
Pyrene	0.053	0.437	1.07	0.0406	0.0343 U	0.0403 U	0.0351 U	0.0351 U	0.0342 U
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--
Endrin	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--	--	--
Endrin ketone	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--	--
Dichloroprop	--	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--	--
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	OW-7-17	OW-7-17	OW-7-17	OW-7-17	OW-8-15	OW-8-15	OW-8-15	OW-9-25
	Sample Date	GS-041223-67	GS-061523-11	GS-091223-08	GS-121423-16	GS-041223-66	GS-061523-10	GS-121423-14	GS-041123-63
	Depth	4/12/2023	6/15/2023	9/12/2023	12/14/2023	4/12/2023	6/15/2023	12/14/2023	4/11/2023
	Sample Type	12.5 - 17.5 ft	12.5 - 17.5 ft	12.5 - 17.5 ft	12.5 - 17.5 ft	10.1 - 15.1 ft	10.1 - 15.1 ft	10.1 - 15.1 ft	20 - 25 ft
	Matrix	N	N	N	N	N	N	N	N
	X	WG	WG	WG	WG	WG	WG	WG	WG
	Y	7623753.29	7623753.29	7623753.29	7623753.29	7623600.35	7623600.35	7623600.35	7623388.523
		705593.81	705593.81	705593.81	705593.81	705685.36	705685.36	705685.36	705812.544
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)	--	--	--	--	--	--	--	--	--
n-Dodecane (C12)	--	--	--	--	--	--	--	--	--
n-Hexane (C6)	--	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	--	--	0.669	0.167 J	--	--	0.164 J	--	--
Gasoline range hydrocarbons	--	--	0.0658 J	0.1 U	--	--	0.1 U	--	--
Oil range organics	--	--	0.366 J	0.396 U	--	--	0.392 U	--	--

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 OW-9-25 GS-121323-10 12/13/2023 20 - 25 ft N WG 7623388.523 705812.544	Source Control Groundwater 2023 PW-01Lb GS-032323-53 3/23/2023 101.9 - 131.9 ft N WG 7624756.27 705024.78	Source Control Groundwater 2023 PW-01U GS-032323-57 3/23/2023 55.1 - 70.1 ft N WG 7624717.968 705053.095	Source Control Groundwater 2023 PW-02L GS-032323-59 3/23/2023 120.1 - 140.1 ft N WG 7624558.245 705165.657	Source Control Groundwater 2023 PW-02U GS-032323-58 3/23/2023 57.8 - 72.8 ft N WG 7624548.91 705171.55	Source Control Groundwater 2023 PW-03-118 GS-041323-70 4/13/2023 108 - 118 ft N WG 7624353 705238	Source Control Groundwater 2023 PW-03-118 GS-041323-71 4/13/2023 108 - 118 ft FD WG 7624353 705238	Source Control Groundwater 2023 PW-03U GS-041323-69 4/13/2023 42.8 - 57.8 ft N WG 7624358.26 705216.9	Source Control Groundwater 2023 PW-04L GS-041723-77 4/17/2023 105.4 - 125.4 ft N WG 7624216.273 705309.196
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	277	443	219	268	218	218	273	204
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Alkalinity, total as calcium carbonate (CaCO ₃)	--	277	443	219	268	218	218	273	204
Chloride	--	37.3	8.61	258	18	138	138	17.7	92.9
Cyanide	0.309	0.276	0.21	0.0363	0.252	0.0775	0.0757	0.22	0.0657
Cyanide, available	0.00145 J	0.00135 J	0.00117 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Sulfate	--	3.21	1 U	2.2	1 U	39.4	39	1 U	54.9
Metals (µg/L)									
Aluminum	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Antimony	0.906 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	0.557 J	4.62	1.91	6.42	2	5.22	5.24	3.01	4.56
Barium	38.4	50.5	68.7	95.3	44.2	101	102	47.8	79.2
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.149 J	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	49900	76000	95500	41700	86000	85300	48300	74100
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2 U	1.12 J	2 U	2 U	2 U	2 U
Iron	136	30200	33300	33500	21800	35500	35300	31800	33500
Lead	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.118 J	0.2 U
Magnesium	--	34900	48100	41700	34500	31400	31200	30000	28400
Manganese	17.8	1110	1110	3250	724	3660	3580	2190	3090
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	762	2.18	10.7	2 U	1.88 J	2 U	2 U	2 U	2 U
Potassium	--	2480	2650	5170	2210	4680	4630	2390	4710
Selenium	1.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	19700	37500	72300	21100	27200	27000	16600	28600
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	1040	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Zinc	38.1	4 U	13.9	4 U	11.7	2.21 J	2.06 J	18.2	4 U
Metals, Dissolved (µg/L)									
Iron	--	32000	38900	35100	22500	34900	34800	30800	31100
Magnesium	--	31200	44200	36000	29500	32000	31900	29900	28900
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	0.4 U	0.4 U	40 UJ	0.4 U	20 U	20 U	4 U	0.4 U
1,1,1-Trichloroethane	0.4 U	0.4 U	0.4 U	40 UJ	0.4 U	20 U	20 U	4 U	0.4 U

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1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
1,1-Dichloroethane	0.4 U	0.4 U	0.4 U	40 U	0.4 U	20 U	20 U	4 U	0.4 U
1,1-Dichloroethene	0.4 U	0.4 U	0.4 U	40 U	0.4 U	0.5 U	0.5 U	0.5 U	0.4 U
1,1-Dichloropropene	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	200 U	2 U	100 U	100 U	20 U	2 U
1,2,3-Trichloropropane	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	200 U	2 U	100 U	100 U	20 U	2 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	146	1.71	50 U	50 U	9.4 J	1 U
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	500 UJ	5 U	250 U	250 U	50 U	5 U
1,2-Dichlorobenzene	0.5 U	1.38	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.93
1,2-Dichloroethane	0.4 U	0.4 U	0.4 U	40 U	0.4 U	20 U	20 U	4 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	3.64	0.35 J	40 U	3.25	2.24	1.8	0.5 U	2.99
1,2-Dichloroethene, trans-	0.4 U	0.4 U	0.4 U	40 U	0.4 U	0.5 U	0.5 U	0.5 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
1,3-Dichloropropane	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
1,3-Dichloropropene, cis-	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
1,3-Dichloropropene, trans-	1 U	1 U	1 U	100 UJ	1 U	50 U	50 U	10 U	1 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
2,2-Dichloropropane	1 U	1 U	1 U	100 UJ	1 U	50 U	50 U	10 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	10 U	10 U	1000 U	10 U	500 U	500 U	100 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	10 U	10 U	1000 U	10 U	500 U	500 U	100 U	10 U
Acetone	20 U	20 U	20 U	2000 U	20 U	1000 U	1000 U	200 U	20 U
Acrylonitrile	2 U	2 U	2 U	200 U	2 U	100 U	100 U	20 U	2 U
Benzene	0.2 U	24.5	0.37	278	46.8	147	147	295	0.97
Bromobenzene	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
Bromodichloromethane	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
Bromoform (Tribromomethane)	1 U	1 U	1 U	100 UJ	1 U	50 U	50 U	10 U	1 U
Bromomethane (Methyl bromide)	5 U	5 U	5 U	500 U	5 U	250 U	250 U	50 U	5 U
Carbon disulfide	10 U	10 U	10 U	1000 U	10 U	500 U	500 U	100 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	1 U	1 U	100 UJ	1 U	50 U	50 U	10 U	1 U
Chlorobenzene	0.5 U	0.78	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.27 J
Chloroethane	5 U	5 U	5 U	500 U	5 U	250 U	250 U	50 U	5 U
Chloroform	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
Chloromethane	5 U	5 U	5 U	500 U	5 U	250 U	250 U	50 U	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U

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Dibromochloromethane	1 U	1 U	1 U	100 UJ	1 U	50 U	50 U	10 U	1 U
Dibromomethane	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
Dichloromethane (Methylene chloride)	10 U	10 U	10 U	1000 U	10 U	500 U	500 U	100 U	10 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	427	5.06	87	85.5	29.1	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	5 U	5 U	500 U	5 U	250 U	250 U	50 U	5 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
m,p-Xylene	1 U	1 U	1 U	302	1.73	50 U	50 U	10 U	1 U
Methyl ethyl ketone (2-Butanone)	10 U	10 U	10 U	1000 U	10 U	500 U	500 U	100 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	4.45	1 U	100 U	1 U	50 U	50 U	10 U	1 U
n-Butylbenzene	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	50 U	0.5 U	25 U	25 U	5 U	0.5 U
o-Xylene	0.5 U	0.35 J	0.5 U	166	2.89	18 J	18.5 J	6.3	0.5 U
sec-Butylbenzene	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
Styrene	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	100 U	1 U	50 U	50 U	10 U	1 U
Tetrachloroethene (PCE)	0.4 U	0.4 U	0.4 U	40 U	0.4 U	20 U	20 U	4 U	0.4 U
Toluene	1 U	1 U	1 U	100 U	1.11	50 U	50 U	10 U	1 U
Trichloroethene (TCE)	0.4 U	0.46	0.4 U	40 U	0.4 U	0.5 U	0.5 U	1 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	2 U	2 U	200 U	2 U	100 U	100 U	20 U	2 U
Vinyl chloride	0.2 U	13.1	0.87	40 U	18.3	1.63	1.37	0.5 U	5.4
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	0.0657 U	0.0703 J	0.224	522	5.62	114	111	34.2	0.0834 U
2-Methylnaphthalene	0.0657 U	0.0786 U	0.0823 U	814	6.33	66.8	63	36.3	0.0834 U
Acenaphthene	0.0328 U	0.107	3.23	199	3.63	71.1	66.6	15.1	0.0417 U
Acenaphthylene	0.172	0.185	0.198	11.5 U	0.518 U	6.53 U	6.81 U	3.95 U	0.0261 J
Anthracene	0.195	0.19	0.616	13.8	0.171	4.42	4.11	3.95 U	0.0417 U
Benzo(a)anthracene	0.0164 U	0.0197 U	0.0499	2.3 U	0.0207 U	1.9 U	1.98 U	1.97 U	0.0209 U
Benzo(a)pyrene	0.0164 U	0.0197 U	0.0206 U	2.3 U	0.0207 U	1.9 U	1.98 U	1.97 U	0.0209 U
Benzo(b,j)fluoranthene	0.0164 U	0.0197 U	0.0149 J	2.3 U	0.0207 U	1.9 U	1.98 U	1.97 U	0.0209 U
Benzo(g,h,i)perylene	0.0328 U	0.0393 U	0.0411 U	4.61 U	0.0414 U	3.8 U	3.96 U	3.95 U	0.0417 U
Benzo(k)fluoranthene	0.0164 U	0.0197 U	0.0206 U	2.3 U	0.0207 U	1.9 U	1.98 U	1.97 U	0.0209 U
Carbazole	--	0.0393 U	0.0411 U	159	1.39	45.9	43.1	10.1	0.0417 U
Chrysene	0.0164 U	0.0197 U	0.0437	2.3 U	0.0207 U	1.9 U	1.98 U	1.97 U	0.0209 U
Dibenzo(a,h)anthracene	0.0164 U	0.0197 U	0.0206 U	2.3 U	0.0207 U	1.9 U	1.98 U	1.97 U	0.0209 U
Dibenzofuran	0.0328 U	0.0393 U	0.196	13.5	0.0932	4.75	4.71	3.95 U	0.0417 U
Fluoranthene	0.0242 J	0.0393 U	0.511	6.33	0.0388 J	3.8 U	3.96 U	3.95 U	0.0417 U
Fluorene	0.0242 J	0.0393 U	1.41	58.7	0.474	18.8	17.7	2.22 J	0.0417 U
Indeno(1,2,3-c,d)pyrene	0.0164 U	0.0197 U	0.0206 U	2.3 U	0.0207 U	1.9 U	1.98 U	1.97 U	0.0209 U
Naphthalene	0.0657 U	0.319	0.0941	7330	47.3	1590	1560	583	0.0626 J

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Phenanthrene	0.0657 U	0.0786 U	0.358	82.1	0.241	21.9	20.7	7.9 U	0.0834 U
Pyrene	0.0328 U	0.0393 U	0.637	6.05	0.0477	3.8 U	3.96 U	3.95 U	0.0417 U
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	0.01 U	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	0.01 U	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	0.01 U	--	--	--	--	--	--	--
Aldrin	--	0.01 U	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	0.01 U	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	0.01 U	--	--	--	--	--	--	--
Dieldrin	--	0.01 U	--	--	--	--	--	--	--
Endosulfan sulfate	--	0.01 U	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	0.01 U	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	0.01 U	--	--	--	--	--	--	--
Endrin	--	0.01 U	--	--	--	--	--	--	--
Endrin aldehyde	--	0.01 U	--	--	--	--	--	--	--
Endrin ketone	--	0.01 U	--	--	--	--	--	--	--
Heptachlor	--	0.01 U	--	--	--	--	--	--	--
Heptachlor epoxide	--	0.01 U	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	0.01 U	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	0.01 U	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	0.01 U	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	0.01 U	--	--	--	--	--	--	--
Methoxychlor	--	0.025 U	--	--	--	--	--	--	--
Toxaphene	--	0.6 U	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	0.86 UJ	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	0.036 J	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	0.2 UJ	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	0.4 UJ	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	0.28 J	--	--	--	--	--	--	--
Dicamba	--	0.2 UJ	--	--	--	--	--	--	--
Dichloroprop	--	0.4 UJ	--	--	--	--	--	--	--
Dinoseb	--	0.2 UJ	--	--	--	--	--	--	--
Mecoprop (MCPP)	--	100 UJ	--	--	--	--	--	--	--
Mephanac (MCPA)	--	100 UJ	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 OW-9-25 GS-121323-10 12/13/2023 20 - 25 ft N WG 7623388.523 705812.544	Source Control Groundwater 2023 PW-01Lb GS-032323-53 3/23/2023 101.9 - 131.9 ft N WG 7624756.27 705024.78	Source Control Groundwater 2023 PW-01U GS-032323-57 3/23/2023 55.1 - 70.1 ft N WG 7624717.968 705053.095	Source Control Groundwater 2023 PW-02L GS-032323-59 3/23/2023 120.1 - 140.1 ft N WG 7624558.245 705165.657	Source Control Groundwater 2023 PW-02U GS-032323-58 3/23/2023 57.8 - 72.8 ft N WG 7624548.91 705171.55	Source Control Groundwater 2023 PW-03-118 GS-041323-70 4/13/2023 108 - 118 ft N WG 7624353 705238	Source Control Groundwater 2023 PW-03-118 GS-041323-71 4/13/2023 108 - 118 ft FD WG 7624353 705238	Source Control Groundwater 2023 PW-03U GS-041323-69 4/13/2023 42.8 - 57.8 ft N WG 7624358.26 705216.9	Source Control Groundwater 2023 PW-04L GS-041723-77 4/17/2023 105.4 - 125.4 ft N WG 7624216.273 705309.196
	C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--
	Volatile Petroleum Hydrocarbons (mg/L)								
	n-Decane (C10)	--	--	--	--	--	--	--	--
	n-Dodecane (C12)	--	--	--	--	--	--	--	--
	n-Hexane (C6)	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	0.192 U	--	--	--	--	--	--	--	--
Gasoline range hydrocarbons	0.1 U	--	--	--	--	--	--	--	--
Oil range organics	0.349 J	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PW-04U GS-041723-76 4/17/2023 47.2 - 62.2 ft N WG 7624207.066 705313.835	Source Control Groundwater 2023 PW-05L GS-041723-79 4/17/2023 105.7 - 125.7 ft N WG 7624049.247 705380.561	Source Control Groundwater 2023 PW-05U GS-041723-78 4/17/2023 49.9 - 64.9 ft N WG 7624057.4 705374.24	Source Control Groundwater 2023 PW-06L GS-041923-88 4/19/2023 103.7 - 123.7 ft N WG 7623921.52 705497.031	Source Control Groundwater 2023 PW-06L GS-041923-89 4/19/2023 103.7 - 123.7 ft FD WG 7623921.52 705497.031	Source Control Groundwater 2023 PW-06U GS-041923-90 4/19/2023 49.4 - 64.4 ft N WG 7623927.56 705487.41	Source Control Groundwater 2023 PW-07-93 GS-041823-86 4/18/2023 73.5 - 93.5 ft N WG 7623758.1 705590.96	Source Control Groundwater 2023 PW-08-68 GS-041823-83 4/18/2023 48 - 68 ft N WG 7623605.53 705682.87	Source Control Groundwater 2023 PW-09-92 GS-041823-81 4/18/2023 72.6 - 92.6 ft N WG 7623393.471 705809.388
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	290	146	310	109	106	274	145	126	125
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Alkalinity, total as calcium carbonate (CaCO ₃)	290	146	310	109	106	274	145	126	125
Chloride	28.9	89.7	48	308	302	7.22	368	439	414
Cyanide	0.386	0.0257	0.42	0.0415	0.0368	0.1	0.0656	0.0539	0.0693
Cyanide, available	0.00108 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
Sulfate	0.796 J	112	27	138	135	4.58	165	179	232
Metals (µg/L)									
Aluminum	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	5.44	7.31	3.78	7.1	7.11	3.13	12.3	9.89	7.44
Barium	51.2	74.5	58.7	163	162	36.3	220	228	185
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	60900	78900	66400	138000	149000	41100	138000	136000	124000
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2 U	2 U	2 U	1.96 J	2.21	1.2 J
Iron	32900	31100	32800	58700	63800	19600	61800	69600	47000
Lead	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.111 J	0.2 U
Magnesium	29300	26600	41000	48200	47900	34900	44500	46100	43900
Manganese	2370	2370	2080	5050	5480	1050	5900	6980	4450
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.03 J	2 U
Potassium	2650	4600	2830	7090	7040	2280	9430	8510	7110
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	17000	16500	30700	31600	31600	17400	131000	151000	156000
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Zinc	18.2	4 U	4 U	4 U	4 U	4 U	16	6.24	7.44
Metals, Dissolved (µg/L)									
Iron	31400	29300	32900	52500	52500	18200	6400	7790	44500
Magnesium	30800	27700	39900	47300	47900	35400	47200	49200	45500
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	2 U	0.4 U	20 U	0.4 U	0.4 U	20 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	2 U	0.4 U	20 U	0.4 U	0.4 U	20 U	0.4 U	0.4 U	0.4 U

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1,1,2,2-Tetrachloroethane	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2 U	0.4 U	20 U	0.4 U	0.4 U	20 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.5 U	0.4 U	20 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	10 U	2 U	100 U	2 U	2 U	100 U	2 U	2 U	2 U
1,2,3-Trichloropropane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	10 U	2 U	100 U	2 U	2 U	100 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	16.9	1 U	26.5 J	0.93 J	0.82 J	50	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	25 U	5 U	250 U	5 U	5 U	250 U	5 U	5 U	5 U
1,2-Dichlorobenzene	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	2 U	0.4 U	20 U	0.4 U	0.4 U	20 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.5 U	0.4 U	20 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-	0.5 U	0.4 U	20 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	6	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
1,3-Dichlorobenzene	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
1,4-Dichlorobenzene	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
2-Chlorotoluene	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	50 U	10 U	500 U	10 U	10 U	500 U	10 U	10 U	10 U
4-Chlorotoluene	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	50 U	10 U	500 U	10 U	10 U	500 U	10 U	10 U	10 U
Acetone	100 U	20 U	1000 U	20 U	20 U	1000 U	20 U	22	20 U
Acrylonitrile	10 U	2 U	100 U	2 U	2 U	100 U	2 U	2 U	2 U
Benzene	313	0.2 U	5920	0.62	0.6	256	0.2 U	11.4	0.2 U
Bromobenzene	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Bromodichloromethane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	25 U	5 U	250 U	5 U	5 U	250 U	5 UJ	5 UJ	5 UJ
Carbon disulfide	50 U	10 U	500 U	10 U	10 U	500 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Chlorobenzene	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
Chloroethane	25 U	5 U	250 U	5 U	5 U	250 U	5 U	5 U	5 U
Chloroform	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Chloromethane	25 U	5 U	250 U	5 U	5 U	250 U	5 UJ	5 UJ	5 UJ
Cymene, p- (4-Isopropyltoluene)	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U

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Dibromochloromethane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Dibromomethane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Dichlorodifluoromethane	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)	50 U	10 U	500 U	10 U	10 U	500 U	10 U	10 U	10 U
Ethylbenzene	15.3	0.5 U	224	1.28	1.27	90	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	2.5 U	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	25 U	5 U	250 U	5 U	5 U	250 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
m,p-Xylene	15.2	1 U	50 U	1.02	1.01	73	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)	50 U	10 U	500 U	10 U	10 U	500 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
n-Butylbenzene	4.35 J	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
n-Propylbenzene	4.85	0.5 U	25 U	0.5 U	0.5 U	25 U	0.5 U	0.5 U	0.5 U
o-Xylene	5.85	0.5 U	32	0.69	0.6	40.5	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Styrene	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
tert-Butylbenzene	5 U	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	2 U	0.4 U	20 U	0.4 U	0.4 U	20 U	0.4 U	0.4 U	0.4 U
Toluene	8.85	1 U	50 U	1 U	1 U	50 U	1 U	1 U	1 U
Trichloroethene (TCE)	0.5 U	0.4 U	20 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	10 U	2 U	100 U	2 U	2 U	100 U	2 U	2 U	2 U
Vinyl chloride	0.5 U	0.4 U	20 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	5.78	0.0831 U	60.1 J	11.6	13.4	288	0.0768 U	0.115	1.21
2-Methylnaphthalene	2.88	0.0831 U	48.4 J	17.1	19.1	438	0.0768 U	0.0773 U	0.0857 U
Acenaphthene	3.86	0.0416 U	34.9 J	4.49	4.57	120	0.0773	1.37	1.47
Acenaphthylene	1.47	0.0421	38.8 U	0.497 U	0.497 U	37.9 U	0.0816	0.149	0.164
Anthracene	0.379	0.0416 U	38.8 U	0.924	0.986	37.9 U	0.0226 J	0.0367 J	0.0428 U
Benzo(a)anthracene	0.0195 U	0.0208 U	19.4 U	0.0646	0.0611	18.9 U	0.0192 U	0.0126 J	0.0214 U
Benzo(a)pyrene	0.0195 U	0.0208 U	19.4 U	0.0149 J	0.0139 J	18.9 U	0.0192 U	0.0193 U	0.0214 U
Benzo(b,j)fluoranthene	0.0195 U	0.0208 U	19.4 U	0.0209	0.0238	18.9 U	0.0192 U	0.0193 U	0.0214 U
Benzo(g,h,i)perylene	0.039 U	0.0416 U	38.8 U	0.0397 U	0.0397 U	37.9 U	0.0384 U	0.0387 U	0.0428 U
Benzo(k)fluoranthene	0.0195 U	0.0208 U	19.4 U	0.0199 U	0.0199 U	18.9 U	0.0192 U	0.0193 U	0.0214 U
Carbazole	0.951	0.0416 U	38.8 U	1.33	1.29	49.2	0.0384 U	0.121	0.0225 J
Chrysene	0.0195 U	0.0208 U	19.4 U	0.0656	0.0681	18.9 U	0.0192 U	0.0193 U	0.0214 U
Dibenzo(a,h)anthracene	0.0195 U	0.0208 U	19.4 U	0.0199 U	0.0199 U	18.9 U	0.0192 U	0.0193 U	0.0214 U
Dibenzofuran	0.0449	0.0416 U	38.8 U	0.566	0.549	37.9 U	0.0302 J	0.0396	0.0428 U
Fluoranthene	0.0478	0.0416 U	38.8 U	0.784	0.817	37.9 U	0.0302 J	0.0744	0.0428 U
Fluorene	0.305	0.0416 U	38.8 U	2.8	2.7	54	0.0422	0.203	0.0268 J
Indeno(1,2,3-c,d)pyrene	0.0195 U	0.0208 U	19.4 U	0.0199 U	0.0199 U	18.9 U	0.0192 U	0.0193 U	0.0214 U
Naphthalene	39.5	0.138	2160	44.4	42.5	3100	0.0869	0.0773	0.991

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PW-04U	Source Control Groundwater 2023 PW-05L	Source Control Groundwater 2023 PW-05U	Source Control Groundwater 2023 PW-06L	Source Control Groundwater 2023 PW-06L	Source Control Groundwater 2023 PW-06U	Source Control Groundwater 2023 PW-07-93	Source Control Groundwater 2023 PW-08-68	Source Control Groundwater 2023 PW-09-92
	GS-041723-76	GS-041723-79	GS-041723-78	GS-041923-88	GS-041923-89	GS-041923-90	GS-041823-86	GS-041823-83	GS-041823-81
	4/17/2023	4/17/2023	4/17/2023	4/19/2023	4/19/2023	4/19/2023	4/18/2023	4/18/2023	4/18/2023
	47.2 - 62.2 ft	105.7 - 125.7 ft	49.9 - 64.9 ft	103.7 - 123.7 ft	103.7 - 123.7 ft	49.4 - 64.4 ft	73.5 - 93.5 ft	48 - 68 ft	72.6 - 92.6 ft
	N	N	N	N	N	N	N	N	N
	WG	WG	WG	WG	WG	WG	WG	WG	WG
	7624207.066	7624049.247	7624057.4	7623921.52	7623921.52	7623927.56	7623758.1	7623605.53	7623393.471
	705313.835	705380.561	705374.24	705497.031	705497.031	705487.41	705590.96	705682.87	705809.388
Phenanthrene	0.55	0.0831 U	77.5 U	5.81	6.13	133	0.0389 J	0.0773 U	0.0857 U
Pyrene	0.0541	0.0416 U	38.8 U	0.97	0.954	22.7 J	0.0226 J	0.0517	0.0428 U
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--
Endrin	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--	--	--
Endrin ketone	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--	--
Dichloroprop	--	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--	--
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	PW-04U	PW-05L	PW-05U	PW-06L	PW-06L	PW-06U	PW-07-93	PW-08-68
	Sample Date	GS-041723-76	GS-041723-79	GS-041723-78	GS-041923-88	GS-041923-89	GS-041923-90	GS-041823-86	GS-041823-83
	Depth	4/17/2023	4/17/2023	4/17/2023	4/19/2023	4/19/2023	4/19/2023	4/18/2023	4/18/2023
	Sample Type	47.2 - 62.2 ft	105.7 - 125.7 ft	49.9 - 64.9 ft	103.7 - 123.7 ft	103.7 - 123.7 ft	49.4 - 64.4 ft	73.5 - 93.5 ft	48 - 68 ft
	Matrix	N	N	N	N	FD	N	N	N
		WG	WG	WG	WG	WG	WG	WG	WG
X		7624207.066	7624049.247	7624057.4	7623921.52	7623921.52	7623927.56	7623758.1	7623605.53
Y		705313.835	705380.561	705374.24	705497.031	705497.031	705487.41	705590.96	705682.87
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)	--	--	--	--	--	--	--	--	--
n-Dodecane (C12)	--	--	--	--	--	--	--	--	--
n-Hexane (C6)	--	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	--	--	--	--	--	--	--	--	--
Gasoline range hydrocarbons	--	--	--	--	--	--	--	--	--
Oil range organics	--	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PW-10Lb GS-041823-80 4/18/2023 76 - 96 ft N WG 7623183.683 705887.8351	Source Control Groundwater 2023 PW-11U GS-041323-72 4/13/2023 49.8 - 64.8 ft N WG 7624435.734 705191.274	Source Control Groundwater 2023 PW-12U GS-041723-75 4/17/2023 47.8 - 62.8 ft N WG 7624297.598 705265.903	Source Control Groundwater 2023 PW-13U GS-041923-91 4/19/2023 57.6 - 72.6 ft N WG 7624144.462 705333.359	Source Control Groundwater 2023 PW-14U GS-041923-92 4/19/2023 57.8 - 67.8 ft N WG 7623986.846 705437.044	Source Control Groundwater 2023 PW-15U GS-041823-85 4/18/2023 35.1 - 55.1 ft N WG 7623680.686 705639.013	Source Control Groundwater 2023 PW-16U GS-041823-84 4/18/2023 30.4 - 50.4 ft N WG 7623554.777 705713.301	Source Control Groundwater 2023 PZ5-20 GS-031523-21 3/15/2023 15 - 20 ft N WG 7623647.33 705735.82	Source Control Groundwater 2023 PZ5-5 GS-031523-20 3/15/2023 3.8 - 4.8 ft N WG 7623645.73 705737.97
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	140	240	279	206	284	281	271	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	20 U	20 U	20 U	20 U	20 U	20 U	20 U	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	20 U	20 U	20 U	20 U	20 U	20 U	20 U	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	140	240	279	206	284	281	271	--	--
Chloride	197	64.5	21.9	67.4	21.6	23.5	69.2	--	--
Cyanide	0.145	0.104	0.307	0.232	0.24	0.0627	0.177	0.0189	0.0703 J
Cyanide, available	0.002 U	0.002 U	0.002 U	0.00111 J	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U	--	--
Sulfate	262	1 U	1 U	21	4.1	8.84	27.9	--	--
Metals (µg/L)									
Aluminum	50 U	50 U	50 U	50 U	50 U	50 U	50 U	238	35.3 J
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	2.19	3.12	4.9	3.15	4.67	4.18	2.19	1.81	1 U
Barium	101	63.4	49.9	49.3	51.2	42.5	61.9	64.4	25
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	97600	63300	52100	55500	48100	50000	68100	--	--
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	3.09	2.52	2 U	2 U	2 U	2 U	2 U	1.27 J
Iron	95500	42000	32300	29700	25600	18100	40700	18500	1210
Lead	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.186 J	0.2 U
Magnesium	43400	27300	30700	30400	32100	35700	40100	--	--
Manganese	4180	2560	1870	2310	1430	1020	2830	1930	34.9
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.66 J	1.12 J
Potassium	5210	2510	2350	2840	2800	2640	2470	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	79700	14600	16300	18500	25900	19500	28000	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Zinc	4 U	27.9	15.1	3.15 J	12.8	12.2	2.93 J	8.58	5.94
Metals, Dissolved (µg/L)									
Iron	11200	41600	25100	27100	21000	21800	35500	--	--
Magnesium	44500	28200	34200	30400	32900	35900	38600	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	20 U	20 U	20 U	20 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	0.4 U	20 U	20 U	20 U	20 U	0.4 U	0.4 U	0.4 U	0.4 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PW-10Lb GS-041823-80 4/18/2023 76 - 96 ft N WG 7623183.683 705887.8351	Source Control Groundwater 2023 PW-11U GS-041323-72 4/13/2023 49.8 - 64.8 ft N WG 7624435.734 705191.274	Source Control Groundwater 2023 PW-12U GS-041723-75 4/17/2023 47.8 - 62.8 ft N WG 7624297.598 705265.903	Source Control Groundwater 2023 PW-13U GS-041923-91 4/19/2023 57.6 - 72.6 ft N WG 7624144.462 705333.359	Source Control Groundwater 2023 PW-14U GS-041923-92 4/19/2023 57.8 - 67.8 ft N WG 7623986.846 705437.044	Source Control Groundwater 2023 PW-15U GS-041823-85 4/18/2023 35.1 - 55.1 ft N WG 7623680.686 705639.013	Source Control Groundwater 2023 PW-16U GS-041823-84 4/18/2023 30.4 - 50.4 ft N WG 7623554.777 705713.301	Source Control Groundwater 2023 PZ5-20 GS-031523-21 3/15/2023 15 - 20 ft N WG 7623647.33 705735.82	Source Control Groundwater 2023 PZ5-5 GS-031523-20 3/15/2023 3.8 - 4.8 ft N WG 7623645.73 705737.97
1,1,2,2-Tetrachloroethane	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.4 U	20 U	20 U	20 U	20 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.4 U	20 U	0.5 U	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	2 U	100 U	100 U	100 U	100 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	2 U	100 U	100 U	100 U	100 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	1 U	56.5	50 U	102	45 J	1.46	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	5 U	250 U	250 U	250 U	250 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.4 U	20 U	20 U	20 U	20 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	20 U	0.5 U	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-	0.4 U	20 U	0.5 U	0.398 J	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	50 U	50 U	38 J	50 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	500 U	500 U	500 U	500 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	500 U	500 U	500 U	500 U	10 U	10 U	10 U	10 U
Acetone	20 U	1000 U	1000 U	1000 U	1000 U	20 U	20 U	23.8	24.4
Acrylonitrile	2 U	100 U	100 U	100 U	100 U	2 U	2 U	2 U	2 U
Benzene	0.2 U	181	1420	4080	4400	86	20.5	0.2 U	0.2 U
Bromobenzene	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	5 UJ	250 U	250 U	250 U	250 U	5 UJ	5 UJ	5 U	5 U
Carbon disulfide	10 U	500 U	500 U	500 U	500 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Chlorobenzene	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5 U	250 U	250 U	250 U	250 U	5 U	5 U	5 U	5 U
Chloroform	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Chloromethane	5 UJ	250 U	250 U	250 U	250 U	5 UJ	5 UJ	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U

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Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PW-10Lb GS-041823-80 4/18/2023 76 - 96 ft N WG 7623183.683 705887.8351	Source Control Groundwater 2023 PW-11U GS-041323-72 4/13/2023 49.8 - 64.8 ft N WG 7624435.734 705191.274	Source Control Groundwater 2023 PW-12U GS-041723-75 4/17/2023 47.8 - 62.8 ft N WG 7624297.598 705265.903	Source Control Groundwater 2023 PW-13U GS-041923-91 4/19/2023 57.6 - 72.6 ft N WG 7624144.462 705333.359	Source Control Groundwater 2023 PW-14U GS-041923-92 4/19/2023 57.8 - 67.8 ft N WG 7623986.846 705437.044	Source Control Groundwater 2023 PW-15U GS-041823-85 4/18/2023 35.1 - 55.1 ft N WG 7623680.686 705639.013	Source Control Groundwater 2023 PW-16U GS-041823-84 4/18/2023 30.4 - 50.4 ft N WG 7623554.777 705713.301	Source Control Groundwater 2023 PZ5-20 GS-031523-21 3/15/2023 15 - 20 ft N WG 7623647.33 705735.82	Source Control Groundwater 2023 PZ5-5 GS-031523-20 3/15/2023 3.8 - 4.8 ft N WG 7623645.73 705737.97
Dibromochloromethane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)	10 U	500 U	500 U	500 U	500 U	10 U	10 U	10 U	10 U
Ethylbenzene	0.5 U	154	66	688	164	0.51	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	250 U	250 U	250 U	250 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	1 U	50 U	50 U	50 U	50 U	1.24	1.04	1 U	1 U
m,p-Xylene	1 U	51.5	50 U	245	57	0.76 J	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)	10 U	500 U	500 U	500 U	500 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
n-Butylbenzene	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
n-Propylbenzene	0.5 U	25 U	25 U	25 U	25 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	47.5	25 U	136	44.5	0.46 J	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Styrene	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	0.4 U	20 U	20 U	20 U	20 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	1 U	50 U	50 U	67.5	50 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	0.4 U	20 U	0.5 U	0.5 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	100 U	100 U	100 U	100 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.4 U	20 U	0.5 U	0.723	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	0.571	466	26.9	274	167	60.7	0.798	0.0625 J	0.0779 U
2-Methylnaphthalene	0.0789 U	713	34.2	371	171	93.4	0.0668 J	0.0746 U	0.0779 U
Acenaphthene	3.73	305	10.1	184	86.6	76.7	13.3	0.0993	0.822
Acenaphthylene	0.308	25.9 U	4.29 U	40.1 U	38.3 U	1.83 U	0.931	0.221	0.213
Anthracene	0.0266 J	21.3	4.29 U	40.1 U	38.3 U	3.41	0.341	0.228	0.219
Benzo(a)anthracene	0.0197 U	2.07 U	2.14 U	20 U	19.1 U	0.39	0.0812	0.0187 U	0.0136 J
Benzo(a)pyrene	0.0197 U	2.07 U	2.14 U	20 U	19.1 U	0.023	0.0214 U	0.0187 U	0.0195 U
Benzo(b,j)fluoranthene	0.0197 U	2.07 U	2.14 U	20 U	19.1 U	0.0622	0.0235	0.0187 U	0.0195 U
Benzo(g,h,i)perylene	0.0395 U	4.15 U	4.29 U	40.1 U	38.3 U	0.0418 U	0.0427 U	0.0373 U	0.039 U
Benzo(k)fluoranthene	0.0197 U	2.07 U	2.14 U	20 U	19.1 U	0.0272 J	0.0118 J	0.0187 U	0.0195 U
Carbazole	0.0478	120	9.49	58.1	22 J	18.3	0.0689	0.0373 U	0.039 U
Chrysene	0.0197 U	2.07 U	2.14 U	20 U	19.1 U	0.191	0.0956	0.0187 U	0.0195 U
Dibenzo(a,h)anthracene	0.0197 U	2.07 U	2.14 U	20 U	19.1 U	0.0209 U	0.0214 U	0.0187 U	0.0195 U
Dibenzofuran	0.0395 U	18.8	4.29 U	40.1 U	38.3 U	34.3	0.107 U	0.0373 U	0.039 U
Fluoranthene	0.0395 U	13.9	4.29 U	40.1 U	38.3 U	6.92	0.806	0.0373 U	0.039 U
Fluorene	0.0434	76	4.29 U	33.6 J	28.2 J	37.1	1.25	0.0373 U	0.039 U
Indeno(1,2,3-c,d)pyrene	0.0197 U	2.07 U	2.14 U	20 U	19.1 U	0.0209 U	0.0214 U	0.0187 U	0.0195 U
Naphthalene	0.532	7240	1130	7390	174	150	0.307 U	0.146	0.11

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PW-10Lb GS-041823-80 4/18/2023 76 - 96 ft N WG 7623183.683 705887.8351	Source Control Groundwater 2023 PW-11U GS-041323-72 4/13/2023 49.8 - 64.8 ft N WG 7624435.734 705191.274	Source Control Groundwater 2023 PW-12U GS-041723-75 4/17/2023 47.8 - 62.8 ft N WG 7624297.598 705265.903	Source Control Groundwater 2023 PW-13U GS-041923-91 4/19/2023 57.6 - 72.6 ft N WG 7624144.462 705333.359	Source Control Groundwater 2023 PW-14U GS-041923-92 4/19/2023 57.8 - 67.8 ft N WG 7623986.846 705437.044	Source Control Groundwater 2023 PW-15U GS-041823-85 4/18/2023 35.1 - 55.1 ft N WG 7623680.686 705639.013	Source Control Groundwater 2023 PW-16U GS-041823-84 4/18/2023 30.4 - 50.4 ft N WG 7623554.777 705713.301	Source Control Groundwater 2023 PZ5-20 GS-031523-21 3/15/2023 15 - 20 ft N WG 7623647.33 705735.82	Source Control Groundwater 2023 PZ5-5 GS-031523-20 3/15/2023 3.8 - 4.8 ft N WG 7623645.73 705737.97
Phenanthrene	0.0789 U	137	8.58 U	66.1 J	82.8	42.9	0.397	0.0452 J	0.0779 U
Pyrene	0.0395 U	14.3	4.29 U	40.1 U	38.3 U	4.27	0.992	0.0322 J	0.039 U
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--
Endrin	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--	--	--
Endrin ketone	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--	--
Dichloroprop	--	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--	--
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	PW-10Lb	PW-11U	PW-12U	PW-13U	PW-14U	PW-15U	PW-16U	PZ5-20
	Sample Date	GS-041823-80	GS-041323-72	GS-041723-75	GS-041923-91	GS-041923-92	GS-041823-85	GS-041823-84	GS-031523-21
	Depth	4/18/2023	4/13/2023	4/17/2023	4/19/2023	4/19/2023	4/18/2023	4/18/2023	3/15/2023
	Sample Type	76 - 96 ft	49.8 - 64.8 ft	47.8 - 62.8 ft	57.6 - 72.6 ft	57.8 - 67.8 ft	35.1 - 55.1 ft	30.4 - 50.4 ft	15 - 20 ft
	Matrix	N	N	N	N	N	N	N	N
	X	WG	WG	WG	WG	WG	WG	WG	WG
	Y	7623183.683	7624435.734	7624297.598	7624144.462	7623986.846	7623680.686	7623554.777	7623647.33
		705887.8351	705191.274	705265.903	705333.359	705437.044	705639.013	705713.301	705735.82
C10-C12 Aromatics unadjusted		--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted		--	--	--	--	--	--	--	--
C12-C16 Aromatics unadjusted		--	--	--	--	--	--	--	--
C16-C21 Aromatics unadjusted		--	--	--	--	--	--	--	--
C21-C34 Aromatics unadjusted		--	--	--	--	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)		--	--	--	--	--	--	--	--
n-Dodecane (C12)		--	--	--	--	--	--	--	--
n-Hexane (C6)		--	--	--	--	--	--	--	--
n-Octane (C8)		--	--	--	--	--	--	--	--
n-Pentane (C5)		--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted		--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted		--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted		--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted		--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted		--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted		--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted		--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons		--	--	--	--	--	--	--	--
Gasoline range hydrocarbons		--	--	--	--	--	--	--	--
Oil range organics		--	--	--	--	--	--	--	--

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ5-55 GS-031423-13 3/14/2023 50 - 55 ft N WG 7623648.81 705733.4	Source Control Groundwater 2023 PZ5-85 GS-031423-12 3/14/2023 79.9 - 84.9 ft N WG 7623650.52 705730.99	Source Control Groundwater 2023 PZ6-115 GS-031423-17 3/14/2023 110.1 - 115.1 ft N WG 7623989.201 705536.406	Source Control Groundwater 2023 PZ6-150 GS-031423-16 3/14/2023 145.4 - 150.4 ft N WG 7623994.577 705532.725	Source Control Groundwater 2023 PZ6-150 GS-091223-09 9/12/2023 145.4 - 150.4 ft N WG 7623994.577 705532.725	Source Control Groundwater 2023 PZ6-5 GS-031423-14 3/14/2023 3.9 - 4.9 ft N WG 7623986.53 705532.354	Source Control Groundwater 2023 PZ6-50 GS-031423-15 3/14/2023 45.2 - 50.2 ft N WG 7623989.149 705529.954	Source Control Groundwater 2023 PZ7-100 GS-031523-24 3/15/2023 94.3 - 99.3 ft N WG 7624285.369 705383.238	Source Control Groundwater 2023 PZ7-100 GS-031523-25 3/15/2023 94.3 - 99.3 ft FD WG 7624285.369 705383.238
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.026	0.0633	0.0241	0.0255	0.0238	0.0473	0.0726	0.042 J	0.0341 J
Cyanide, available	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	56.6	73.9	182	157	85.8	50 U	196	140 J	143 J
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	0.682 J
Arsenic	1.45	2.27	1 U	1 U	1 U	1.56	4.21	0.974 J	1.01
Barium	62.1	117	152	19.5	25.5	67.1	46.8	109 J	110 J
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	2 U	2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Copper	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Iron	7270	31500	4560	1710	1050	6390	17100	21300 J	21000 J
Lead	0.124 J	0.125 J	0.25	0.274	0.2 U	0.2 U	0.155 J	0.2 UJ	0.246 J
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	1990	6370	4560	642	521	871	2980	4590 J	4640 J
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 UJ
Nickel	1.13 J	1.85 J	9.31	2.54	3.82	19.4	1.38 J	2.18 J	2.2 J
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	2 U	1.1 J	1.28 J	2 U	1.87 J	1.11 J	2 U	2 U
Zinc	5.94	11	11.4	5.61	4.69	3.7 J	7.03	9.56 J	9.56 J
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

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2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ5-55 GS-031423-13 3/14/2023 50 - 55 ft N WG 7623648.81 705733.4	Source Control Groundwater 2023 PZ5-85 GS-031423-12 3/14/2023 79.9 - 84.9 ft N WG 7623650.52 705730.99	Source Control Groundwater 2023 PZ6-115 GS-031423-17 3/14/2023 110.1 - 115.1 ft N WG 7623989.201 705536.406	Source Control Groundwater 2023 PZ6-150 GS-031423-16 3/14/2023 145.4 - 150.4 ft N WG 7623994.577 705532.725	Source Control Groundwater 2023 PZ6-150 GS-091223-09 9/12/2023 145.4 - 150.4 ft N WG 7623994.577 705532.725	Source Control Groundwater 2023 PZ6-5 GS-031423-14 3/14/2023 3.9 - 4.9 ft N WG 7623986.53 705532.354	Source Control Groundwater 2023 PZ6-50 GS-031423-15 3/14/2023 45.2 - 50.2 ft N WG 7623989.149 705529.954	Source Control Groundwater 2023 PZ7-100 GS-031523-24 3/15/2023 94.3 - 99.3 ft N WG 7624285.369 705383.238	Source Control Groundwater 2023 PZ7-100 GS-031523-25 3/15/2023 94.3 - 99.3 ft FD WG 7624285.369 705383.238
1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acrylonitrile	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.19 J	0.2 U	0.2 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ5-55 GS-031423-13 3/14/2023 50 - 55 ft N WG 7623648.81 705733.4	Source Control Groundwater 2023 PZ5-85 GS-031423-12 3/14/2023 79.9 - 84.9 ft N WG 7623650.52 705730.99	Source Control Groundwater 2023 PZ6-115 GS-031423-17 3/14/2023 110.1 - 115.1 ft N WG 7623989.201 705536.406	Source Control Groundwater 2023 PZ6-150 GS-031423-16 3/14/2023 145.4 - 150.4 ft N WG 7623994.577 705532.725	Source Control Groundwater 2023 PZ6-150 GS-091223-09 9/12/2023 145.4 - 150.4 ft N WG 7623994.577 705532.725	Source Control Groundwater 2023 PZ6-5 GS-031423-14 3/14/2023 3.9 - 4.9 ft N WG 7623986.53 705532.354	Source Control Groundwater 2023 PZ6-50 GS-031423-15 3/14/2023 45.2 - 50.2 ft N WG 7623989.149 705529.954	Source Control Groundwater 2023 PZ7-100 GS-031523-24 3/15/2023 94.3 - 99.3 ft N WG 7624285.369 705383.238	Source Control Groundwater 2023 PZ7-100 GS-031523-25 3/15/2023 94.3 - 99.3 ft FD WG 7624285.369 705383.238
Dibromochloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U
Dichloromethane (Methylene chloride)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m,p-Xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.59 J	0.63 J
n-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.4 U	0.4 U	0.4 U	0.4 U	0.2 U	0.4 U	0.4 U	0.4 U	0.4 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	0.081 U	0.0834 U	0.0696 U	0.0723 U	0.0686 U	1.27	0.0442 J	0.0734 U	0.0774 U
2-Methylnaphthalene	0.081 U	0.0834 U	0.0696 U	0.0723 U	0.0686 U	0.0786 J	0.0736 U	0.0734 U	0.0774 U
Acenaphthene	0.0592	0.0417 U	0.0174 J	0.0361 U	0.0343 U	11.5	0.0368 U	0.0367 U	0.0387 U
Acenaphthylene	0.0405 U	0.0417 U	0.0209 J	0.0488	0.0339 J	0.557	0.145	0.0367 U	0.0387 U
Anthracene	0.0405 U	0.0417 U	0.0348 U	0.0307 J	0.0227 J	0.636	0.0759	0.0367 U	0.0387 U
Benzo(a)anthracene	0.0202 U	0.0208 U	0.0157 J	0.0181 U	0.0171 U	0.0526	0.0184 U	0.0184 U	0.0193 U
Benzo(a)pyrene	0.0202 U	0.0208 U	0.0217	0.0181 U	0.00857 J	0.0141 J	0.0184 U	0.0184 U	0.0193 U
Benzo(b,j)fluoranthene	0.0202 U	0.0208 U	0.02	0.0181 U	0.00943 J	0.0146 J	0.0184 U	0.0184 U	0.0193 U
Benzo(g,h,i)perylene	0.0405 U	0.0417 U	0.0209 J	0.0361 U	0.0343 U	0.0434 U	0.0368 U	0.0367 U	0.0387 U
Benzo(k)fluoranthene	0.0202 U	0.0208 U	0.0174 U	0.0181 U	0.0171 U	0.0217 U	0.0184 U	0.0184 U	0.0193 U
Carbazole	0.0405 U	0.0417 U	0.0348 U	0.0361 U	--	0.908	0.0368 U	0.0367 U	0.0387 U
Chrysene	0.0202 U	0.0208 U	0.0209	0.0181 U	0.0171 U	0.039 J	0.0184 U	0.0184 U	0.0193 U
Dibenzo(a,h)anthracene	0.0202 U	0.0208 U	0.0174 U	0.0181 U	0.0171 U	0.0217 U	0.0184 U	0.0184 U	0.0193 U
Dibenzofuran	0.0405 U	0.0417 U	0.0348 U	0.0361 U	0.0343 U	0.261	0.0368 U	0.0367 U	0.0387 U
Fluoranthene	0.0405 U	0.0417 U	0.033 J	0.0361 U	0.0343 U	2.05	0.0189 J	0.0367 U	0.0387 U
Fluorene	0.0248 J	0.0417 U	0.0348 U	0.0361 U	0.0343 U	3.02	0.0244 J	0.0367 U	0.0387 U
Indeno(1,2,3-c,d)pyrene	0.0202 U	0.0208 U	0.0187	0.0181 U	0.00857 J	0.0217 U	0.0184 U	0.0184 U	0.0193 U
Naphthalene	0.081 U	0.0834 U	0.0578 J	0.0723 U	0.0549 J	6.4	0.0736 U	0.0734 U	0.0774 U

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Phenanthrene	0.081 U	0.0834 U	0.0696 U	0.0723 U	0.0686 U	2.06	0.0598 J	0.0734 U	0.0774 U
Pyrene	0.0405 U	0.0417 U	0.0839	0.0271 J	0.018 J	2.09	0.0262 J	0.0367 U	0.0387 U
Pesticides (µg/L)									
4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--
Dieldrin	--	--	--	--	--	--	--	--	--
Endosulfan sulfate	--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--
Endrin	--	--	--	--	--	--	--	--	--
Endrin aldehyde	--	--	--	--	--	--	--	--	--
Endrin ketone	--	--	--	--	--	--	--	--	--
Heptachlor	--	--	--	--	--	--	--	--	--
Heptachlor epoxide	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--
Toxaphene	--	--	--	--	--	--	--	--	--
Herbicides (µg/L)									
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--
Dicamba	--	--	--	--	--	--	--	--	--
Dichloroprop	--	--	--	--	--	--	--	--	--
Dinoseb	--	--	--	--	--	--	--	--	--
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)									
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--

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	C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--
	C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--
	Volatile Petroleum Hydrocarbons (mg/L)								
	n-Decane (C10)	--	--	--	--	--	--	--	--
n-Dodecane (C12)	--	--	--	--	--	--	--	--	--
n-Hexane (C6)	--	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	--	--	--	--	0.142 J	--	--	--	--
Gasoline range hydrocarbons	--	--	--	--	0.1 U	--	--	--	--
Oil range organics	--	--	--	--	0.385 U	--	--	--	--

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ7-150 GS-031523-26 3/15/2023 145.3 - 150.3 ft N WG 7624290.945 705381.665	Source Control Groundwater 2023 PZ7-150 GS-091223-11 9/12/2023 145.3 - 150.3 ft N WG 7624290.945 705381.665	Source Control Groundwater 2023 PZ7-5 GS-031523-23 3/15/2023 4.1 - 5.2 ft N WG 7624284.059 705378.986	Source Control Groundwater 2023 PZ7-50 GS-031523-22 3/15/2023 43.2 - 48.2 ft N WG 7624288.837 705377.543	Source Control Groundwater 2023 PZ8-5 GS-031523-19 3/15/2023 44.7 - 49.7 ft N WG 7623244.605 706008.241	Source Control Groundwater 2023 PZ8-50 GS-031523-18 3/15/2023 44.7 - 49.7 ft N WG 7623248.987 706004.846	Source Control Groundwater 2023 PZ9-110 GS-031623-27 3/16/2023 105.6 - 110.6 ft N WG 7624602.558 705255.014	Source Control Groundwater 2023 PZ9-150 GS-031623-31 3/16/2023 146.1 - 151.1 ft N WG 7624603.692 705248.282	Source Control Groundwater 2023 PZ9-150 GS-091223-13 9/12/2023 146.1 - 151.1 ft N WG 7624603.692 705248.282
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.102 J	0.099	0.009	0.0524	1.32 J	0.952 J	0.0204	0.0444 J	0.0461
Cyanide, available	0.002 U	0.00628	0.002 U	0.002 U	0.00414	0.002 U	0.002 U	0.002 U	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.00493 J	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	262	108	553	120	541	149	2780	668	620
Antimony	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U
Arsenic	1 U	1 U	1 U	7.61	1 U	2.16	1.02	1 U	1 U
Barium	19.8	24.7	37.9	32.8	23.9	27.3	177	60.5	75.9
Beryllium	0.2 U	0.2 U	0.2 U	0.2 U	0.291	2 U	2 UJ	0.2 UJ	0.2 U
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	4.91	2 U	3.23	2 U	2 U
Copper	2 U	2 U	2 U	2 U	2 U	2 U	5.39	1.38 J	1.66 J
Iron	604	456	2030	26700	13600	559000	12000	6570	1920
Lead	0.139 J	0.2 U	0.165 J	0.2 U	0.2 U	0.2 U	1.83	0.374	0.37
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	248	293	1030	2600	409	8520	3940	2580	1870
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	1.01 J	2 U	2 U	1.07 J	2 U	1.98 J	11	1.86 J	2.44
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	2 U	2 U	2 U	18.4	2 U	10.2	2.16	1.59 J
Zinc	4 U	2 J	5.93	4.03	4.97	5.07	37.6	6.63	6.47
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	0.4 U	0.4 U	0.4 U	0.4 U	8 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	8 U	0.4 U	0.4 U	0.4 U	0.4 U

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1,1,2,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	8 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.4 U	0.4 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	2 U	2 U	2 U	2 U	40 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	2 U	2 U	2 U	2 U	40 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	5 U	5 U	5 U	5 U	100 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	2.3	2.97
1,2-Dichloroethane	0.4 U	0.4 U	0.4 U	0.4 U	8 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.4 U	0.4 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.46	0.66
1,2-Dichloroethene, trans-	0.4 U	0.4 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	2.21	2.47
2,2-Dichloropropane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	10 U	10 U	10 U	10 U	200 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	10 U	10 U	10 U	10 U	200 U	10 U	10 U	10 U	10 U
Acetone	20 U	20 U	20 U	20 U	400 U	20 U	20 U	20 U	20 U
Acrylonitrile	2 U	2 U	2 U	2 U	40 U	2 U	2 U	2 U	2 U
Benzene	0.2 U	0.2 U	0.2 U	0.2 U	13.4	0.2 U	0.2 U	0.1 J	0.2 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Bromodichloromethane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	5 U	5 U	5 U	5 U	100 U	5 U	5 U	5 U	5 U
Carbon disulfide	10 U	10 U	10 U	10 U	200 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.81
Chloroethane	5 U	5 U	5 U	5 U	100 U	5 U	5 U	5 U	5 U
Chloroform	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Chloromethane	5 U	5 U	5 U	5 U	100 U	5 U	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ7-150 GS-031523-26 3/15/2023 145.3 - 150.3 ft N WG 7624290.945 705381.665	Source Control Groundwater 2023 PZ7-150 GS-091223-11 9/12/2023 145.3 - 150.3 ft N WG 7624290.945 705381.665	Source Control Groundwater 2023 PZ7-5 GS-031523-23 3/15/2023 4.1 - 5.2 ft N WG 7624284.059 705378.986	Source Control Groundwater 2023 PZ7-50 GS-031523-22 3/15/2023 43.2 - 48.2 ft N WG 7624288.837 705377.543	Source Control Groundwater 2023 PZ8-5 GS-031523-19 3/15/2023 44.7 - 49.7 ft N WG 7623244.605 706008.241	Source Control Groundwater 2023 PZ8-50 GS-031523-18 3/15/2023 44.7 - 49.7 ft N WG 7623248.987 706004.846	Source Control Groundwater 2023 PZ9-110 GS-031623-27 3/16/2023 105.6 - 110.6 ft N WG 7624602.558 705255.014	Source Control Groundwater 2023 PZ9-150 GS-031623-31 3/16/2023 146.1 - 151.1 ft N WG 7624603.692 705248.282	Source Control Groundwater 2023 PZ9-150 GS-091223-13 9/12/2023 146.1 - 151.1 ft N WG 7624603.692 705248.282
Dibromochloromethane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Dibromomethane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)	10 U	10 U	10 U	10 U	200 U	10 U	10 U	10 U	10 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	5 U	5 U	5 U	5 U	100 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
m,p-Xylene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)	10 U	10 U	10 U	10 U	200 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	1 U	1 U	1 U	1 U	20 U	1 U	5.73	2.56	1.99
n-Butylbenzene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	10 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.42 J	10 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Styrene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	0.4 U	0.4 U	0.4 U	0.4 U	8 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	1 U	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	0.4 U	0.4 U	0.4 U	0.4 U	0.5 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	2 U	2 U	2 U	2 U	40 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.4 U	0.2 U	0.4 U	0.4 U	0.5 U	0.4 U	1.99	0.4 U	0.2 U
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	0.0647 U	0.0651 U	0.0705 U	0.0735 U	37.7	0.0739 U	0.129 U	0.0704 U	0.0789 U
2-Methylnaphthalene	0.0647 U	0.0651 U	0.0705 U	0.0735 U	21	0.0739 U	0.129 U	0.0704 U	0.0789 U
Acenaphthene	0.0323 U	0.0326 U	0.0612	0.27	17.3	0.0369 U	0.0643 U	0.0352 U	0.0395 U
Acenaphthylene	0.0323 U	0.0326 U	0.0841	0.441	7.07 U	0.231	0.0643 U	0.0352 U	0.0395 U
Anthracene	0.0279 J	0.024 J	0.222	0.119	7.07 U	0.117	0.0643 U	0.0242 J	0.0222 J
Benzo(a)anthracene	0.0162 U	0.0163 U	0.0551 UJ	0.0184 U	3.53 U	0.0185 U	0.0321 U	0.0176 U	0.0197 U
Benzo(a)pyrene	0.0162 U	0.0163 U	0.0176 U	0.0184 U	3.53 U	0.0185 U	0.0321 U	0.0176 U	0.0197 U
Benzo(b,j)fluoranthene	0.0162 U	0.0163 U	0.00969 J	0.0184 U	3.53 U	0.0185 U	0.0321 U	0.0176 U	0.0197 U
Benzo(g,h,i)perylene	0.0323 U	0.0326 U	0.0352 U	0.0367 U	7.07 U	0.0369 U	0.0643 U	0.0352 U	0.0395 U
Benzo(k)fluoranthene	0.0162 U	0.0163 U	0.0176 U	0.0184 U	3.53 U	0.0185 U	0.0321 U	0.0176 U	0.0197 U
Carbazole	0.0323 U	--	0.0352 U	0.0367 U	12.4	0.0369 U	0.041 J	0.0352 U	--
Chrysene	0.0162 U	0.0163 U	0.0176 U	0.0184 U	3.53 U	0.0185 U	0.0321 U	0.0176 U	0.0197 U
Dibenzo(a,h)anthracene	0.0162 U	0.0163 U	0.0176 U	0.0184 U	3.53 U	0.0185 U	0.0321 U	0.0176 U	0.0197 U
Dibenzofuran	0.0323 U	0.0326 U	0.0352 U	0.0367 U	7.07 U	0.0369 U	0.0643 U	0.0352 U	0.0395 U
Fluoranthene	0.0323 U	0.0326 U	0.556	0.0514	7.07 U	0.0369 U	0.0643 U	0.0233 J	0.0237 J
Fluorene	0.0323 U	0.0326 U	0.0234 J	0.108	14.5	0.0369 U	0.0643 U	0.0352 U	0.0395 U
Indeno(1,2,3-c,d)pyrene	0.0162 U	0.0163 U	0.0176 U	0.0184 U	3.53 U	0.0185 U	0.0321 U	0.0176 U	0.0197 U
Naphthalene	0.0647 U	0.0651 U	0.0705 U	0.057 J	1100	0.0739 U	0.249 U	0.0814 U	0.0814

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ7-150 GS-031523-26 3/15/2023 145.3 - 150.3 ft N WG 7624290.945 705381.665	Source Control Groundwater 2023 PZ7-150 GS-091223-11 9/12/2023 145.3 - 150.3 ft N WG 7624290.945 705381.665	Source Control Groundwater 2023 PZ7-5 GS-031523-23 3/15/2023 4.1 - 5.2 ft N WG 7624284.059 705378.986	Source Control Groundwater 2023 PZ7-50 GS-031523-22 3/15/2023 43.2 - 48.2 ft N WG 7624288.837 705377.543	Source Control Groundwater 2023 PZ8-5 GS-031523-19 3/15/2023 44.7 - 49.7 ft N WG 7623244.605 706008.241	Source Control Groundwater 2023 PZ8-50 GS-031523-18 3/15/2023 44.7 - 49.7 ft N WG 7623248.987 706004.846	Source Control Groundwater 2023 PZ9-110 GS-031623-27 3/16/2023 105.6 - 110.6 ft N WG 7624602.558 705255.014	Source Control Groundwater 2023 PZ9-150 GS-031623-31 3/16/2023 146.1 - 151.1 ft N WG 7624603.692 705248.282	Source Control Groundwater 2023 PZ9-150 GS-091223-13 9/12/2023 146.1 - 151.1 ft N WG 7624603.692 705248.282	
	Phenanthrene	0.0647 U	0.0651 U	0.0705 U	0.128	13.9 J	0.0739 U	0.129 U	0.0704 U	0.0789 U
	Pyrene	0.0323 U	0.0326 U	1.35	0.0593	7.07 U	0.0369 U	0.0643 U	0.0339 J	0.035 J
	Pesticides (µg/L)									
	4,4'-DDD (p,p'-DDD)	--	--	--	--	--	--	--	--	--
	4,4'-DDE (p,p'-DDE)	--	--	--	--	--	--	--	--	--
	4,4'-DDT (p,p'-DDT)	--	--	--	--	--	--	--	--	--
	Aldrin	--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)	--	--	--	--	--	--	--	--	--	
Chlordane, beta- (Chlordane, trans-)	--	--	--	--	--	--	--	--	--	
Dieldrin	--	--	--	--	--	--	--	--	--	
Endosulfan sulfate	--	--	--	--	--	--	--	--	--	
Endosulfan, alpha- (I)	--	--	--	--	--	--	--	--	--	
Endosulfan, beta (II)	--	--	--	--	--	--	--	--	--	
Endrin	--	--	--	--	--	--	--	--	--	
Endrin aldehyde	--	--	--	--	--	--	--	--	--	
Endrin ketone	--	--	--	--	--	--	--	--	--	
Heptachlor	--	--	--	--	--	--	--	--	--	
Heptachlor epoxide	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), alpha-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), beta-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), delta-	--	--	--	--	--	--	--	--	--	
Hexachlorocyclohexane (BHC), gamma- (Lindane)	--	--	--	--	--	--	--	--	--	
Methoxychlor	--	--	--	--	--	--	--	--	--	
Toxaphene	--	--	--	--	--	--	--	--	--	
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)	--	--	--	--	--	--	--	--	--	
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--	
2,4,5-TP (Silvex)	--	--	--	--	--	--	--	--	--	
2,4-D (2,4-Dichlorophenoxyacetic acid)	--	--	--	--	--	--	--	--	--	
2,4-DB (2,4-D derivative)	--	--	--	--	--	--	--	--	--	
Dicamba	--	--	--	--	--	--	--	--	--	
Dichloroprop	--	--	--	--	--	--	--	--	--	
Dinoseb	--	--	--	--	--	--	--	--	--	
Mecoprop (MCP)	--	--	--	--	--	--	--	--	--	
Mephanac (MCPA)	--	--	--	--	--	--	--	--	--	
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C12-C16 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C16-C21 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	
C21-C34 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--	

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	PZ7-150	PZ7-150	PZ7-5	PZ7-50	PZ8-5	PZ8-50	PZ9-110	PZ9-150
	Sample Date	GS-031523-26	GS-091223-11	GS-031523-23	GS-031523-22	GS-031523-19	GS-031523-18	GS-031623-27	GS-031623-31
	Depth	3/15/2023	9/12/2023	3/15/2023	3/15/2023	3/15/2023	3/15/2023	3/16/2023	3/16/2023
	Sample Type	145.3 - 150.3 ft	145.3 - 150.3 ft	4.1 - 5.2 ft	43.2 - 48.2 ft	44.7 - 49.7 ft	44.7 - 49.7 ft	105.6 - 110.6 ft	146.1 - 151.1 ft
	Matrix	N	N	N	N	N	N	N	N
	X	WG	WG	WG	WG	WG	WG	WG	WG
	Y	7624290.945	7624290.945	7624284.059	7624288.837	7623244.605	7623248.987	7624602.558	7624603.692
		705381.665	705381.665	705378.986	705377.543	706008.241	706004.846	705255.014	705248.282
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C16 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C16-C21 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C21-C34 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)	--	--	--	--	--	--	--	--	--
n-Dodecane (C12)	--	--	--	--	--	--	--	--	--
n-Hexane (C6)	--	--	--	--	--	--	--	--	--
n-Octane (C8)	--	--	--	--	--	--	--	--	--
n-Pentane (C5)	--	--	--	--	--	--	--	--	--
C5-C6 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C6-C8 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aliphatics unadjusted	--	--	--	--	--	--	--	--	--
C10-C12 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C8-C10 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
C12-C13 Aromatics unadjusted	--	--	--	--	--	--	--	--	--
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	--	0.192 U	--	--	--	--	--	--	0.192 U
Gasoline range hydrocarbons	--	0.1 U	--	--	--	--	--	--	0.06 J
Oil range organics	--	0.385 U	--	--	--	--	--	--	0.385 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ9-5 GS-031623-29 3/16/2023 45.4 - 50.4 ft N WG 7624596.338 705254.123	Source Control Groundwater 2023 PZ9-50 GS-031623-28 3/16/2023 45.4 - 50.4 ft N WG 7624599.739 705256.867	Source Control Groundwater 2023 PZ9-75 GS-031623-30 3/16/2023 67.5 - 72.5 ft N WG 7624606.427 705252.394	Source Control Groundwater 2023 WS-08-33 GS-032023-36 3/20/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-33 GS-091923-26 9/19/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-59 GS-032023-38 3/20/2023 48.5 - 58.5 ft N WG 7624858.335 704990.171	Source Control Groundwater 2023 WS-09-34 GS-032123-43 3/21/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-09-34 GS-092023-30 9/20/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-12-125 GS-032023-34 3/20/2023 109 - 124 ft N WG 7624836.249 704998.746
Conventional Parameters (mg/L)									
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)	--	--	--	--	--	--	--	--	--
Chloride	--	--	--	--	--	--	--	--	--
Cyanide	0.0961 J	0.0105	0.163 J	0.927	0.679	0.851	0.0341	0.0417	0.13
Cyanide, available	0.002 U	0.002 U	0.002 U	0.00116 J	0.00119 J	0.00116 J	0.002 U	0.002 U	0.002 U
Cyanide, free	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen	--	--	--	--	--	--	--	--	--
Sulfate	--	--	--	--	--	--	--	--	--
Metals (µg/L)									
Aluminum	33.2 J	141	155	50 U	50 U	284	50 U	77	848
Antimony	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Arsenic	1.05	1.48	4.74	8.76	7.75	5.48	5.52	9.82	3.88
Barium	44.9	19.7	61.6	135	104	71.8	49.5	73.9	45
Beryllium	0.2 UJ	0.2 UJ	0.2 UJ	0.2 UJ	0.2 U	0.2 UJ	0.2 U	0.2 U	0.2 UJ
Cadmium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium	--	--	--	--	--	--	--	--	--
Chromium	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.13 J
Copper	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	1.64 J
Iron	74400	3310	39300	85100	80400	65400	44600	54100	28300
Lead	0.2 U	0.122 J	0.259	0.2 U	0.2 U	0.163 J	0.2 U	0.139 J	0.731
Magnesium	--	--	--	--	--	--	--	--	--
Manganese	3290	415	2430	4130	3470	4100	1580	1680	1080
Mercury	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel	2 U	1.64 J	2.15	1.96 J	1.96 J	1.62 J	2 U	2.03	1.72 J
Potassium	--	--	--	--	--	--	--	--	--
Selenium	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Silver	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium	--	--	--	--	--	--	--	--	--
Thallium	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium	2 U	1.49 J	2 U	2.18	1.93 J	1.29 J	1.05 J	1 J	2.82
Zinc	2.22 J	11.6	4.06	7.22	5.72	10.1	3.53 J	3.95 J	4.62
Metals, Dissolved (µg/L)									
Iron	--	--	--	--	--	--	--	--	--
Magnesium	--	--	--	--	--	--	--	--	--
Volatile Organics (µg/L)									
1,1,1,2-Tetrachloroethane	4 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane	4 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ9-5 GS-031623-29 3/16/2023 45.4 - 50.4 ft N WG 7624596.338 705254.123	Source Control Groundwater 2023 PZ9-50 GS-031623-28 3/16/2023 45.4 - 50.4 ft N WG 7624599.739 705256.867	Source Control Groundwater 2023 PZ9-75 GS-031623-30 3/16/2023 67.5 - 72.5 ft N WG 7624606.427 705252.394	Source Control Groundwater 2023 WS-08-33 GS-032023-36 3/20/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-33 GS-091923-26 9/19/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-59 GS-032023-38 3/20/2023 48.5 - 58.5 ft N WG 7624858.335 704990.171	Source Control Groundwater 2023 WS-09-34 GS-032123-43 3/21/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-09-34 GS-092023-30 9/20/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-12-125 GS-032023-34 3/20/2023 109 - 124 ft N WG 7624836.249 704998.746
1,1,2,2-Tetrachloroethane	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	4 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene	0.5 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	20 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	20 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene	19.4 J	12.5	1 U	7.14	4.35	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane	50 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ	5 U	5 U
1,2-Dichlorobenzene	5 UJ	0.5 U	0.5 U	0.57	0.43 J	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	4 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-	0.5 UJ	0.54	0.4 U	0.21 J	0.4 U	0.4 U	0.4 U	0.4 U	0.45
1,2-Dichloroethene, trans-	0.5 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	7.3 J	2.61	1 U	3.25	2.11	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-	10 UJ	1 U	1 U	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U
1,4-Dichlorobenzene	5 UJ	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	10 UJ	1 UJ	1 U	1 UJ	1 U	1 UJ	1 UJ	1 U	1 U
2-Chlorotoluene	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)	100 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)	100 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	200 UJ	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
Acrylonitrile	20 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Benzene	162 J	120	42.8	28.3	15.3	10.9	0.2 U	0.2 U	0.12 J
Bromobenzene	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)	50 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	100 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	50 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	50 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ9-5 GS-031623-29 3/16/2023 45.4 - 50.4 ft N WG 7624596.338 705254.123	Source Control Groundwater 2023 PZ9-50 GS-031623-28 3/16/2023 45.4 - 50.4 ft N WG 7624599.739 705256.867	Source Control Groundwater 2023 PZ9-75 GS-031623-30 3/16/2023 67.5 - 72.5 ft N WG 7624606.427 705252.394	Source Control Groundwater 2023 WS-08-33 GS-032023-36 3/20/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-33 GS-091923-26 9/19/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-59 GS-032023-38 3/20/2023 48.5 - 58.5 ft N WG 7624858.335 704990.171	Source Control Groundwater 2023 WS-09-34 GS-032123-43 3/21/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-09-34 GS-092023-30 9/20/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-12-125 GS-032023-34 3/20/2023 109 - 124 ft N WG 7624836.249 704998.746
Dibromochloromethane	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)	100 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	46.3 J	20	0.5 U	0.83	0.55	0.5 U	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)	5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)	50 UJ	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)	6.2 J	4.51	1 U	3.26	2.28	1 U	1 U	1 U	1 U
m,p-Xylene	13.5 J	10.5	1 U	6.9	4.08	1 U	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)	100 UJ	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)	10 UJ	1 U	0.89 J	1 U	1 U	1 U	1 U	1 U	8.07
n-Butylbenzene	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	5 UJ	0.34 J	0.5 U	1.54	1.17	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	16.7 J	13.3	0.3 J	5.12	3.56	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	10 UJ	0.51 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Styrene	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene	10 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	4 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene	10 UJ	6.17	1 U	0.8 J	0.52 J	1 U	1 U	1 U	1 U
Trichloroethene (TCE)	0.5 UJ	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)	20 UJ	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride	0.5 UJ	0.95	0.21 J	0.57	0.35	0.4 U	0.4 U	0.2 U	0.4 J
Polycyclic Aromatic Hydrocarbons (µg/L)									
1-Methylnaphthalene	124	1.29	0.082 U	42.6	32.3	0.0784 U	0.179	0.786 U	0.077 U
2-Methylnaphthalene	138	0.14	0.082 U	2.03	1.5 J	0.0784 U	0.0774 U	0.786 U	0.077 U
Acenaphthene	212	0.0424	0.041 U	87.1	90.2	0.0466	27.8	33	0.0698
Acenaphthylene	5.37 UJ	0.144	0.217	4.6 UJ	3.68 U	0.232	1.12	1.2	0.249
Anthracene	7.77	0.036	0.0405 J	6.06	6.21	0.176	0.689	0.501	0.18
Benzo(a)anthracene	0.409 U	0.016 U	0.0205 U	0.176 J	0.491 U	0.0196 U	0.0624	0.197 U	0.0193 U
Benzo(a)pyrene	0.409 U	0.016 U	0.0205 U	0.18 U	0.491 U	0.0196 U	0.0194 U	0.197 U	0.0193 U
Benzo(b,j)fluoranthene	0.409 U	0.016 U	0.0205 U	0.18 U	0.491 U	0.0196 U	0.0194 U	0.197 U	0.0193 U
Benzo(g,h,i)perylene	0.819 U	0.032 U	0.041 U	0.361 U	0.981 U	0.0392 U	0.0387 U	0.393 U	0.0385 U
Benzo(k)fluoranthene	0.409 U	0.016 U	0.0205 U	0.18 U	0.491 U	0.0196 U	0.0194 U	0.197 U	0.0193 U
Carbazole	56.1	0.016 J	0.0236 J	0.505	--	0.0392 U	0.0387 U	--	0.0385 U
Chrysene	0.409 U	0.016 U	0.0205 U	0.14 J	0.491 U	0.0196 U	0.0711	0.197 U	0.0193 U
Dibenzo(a,h)anthracene	0.409 U	0.016 U	0.0205 U	0.18 U	0.491 U	0.0196 U	0.0194 U	0.197 U	0.0193 U
Dibenzofuran	9.15	0.032 U	0.041 U	2.85	2.43	0.0392 U	0.0847 U	0.393 U	0.0385 U
Fluoranthene	3.26	0.032 U	0.041 U	3.73	5.35	0.0421	2.13	1.26	0.0366 J
Fluorene	44.7	0.032 U	0.041 U	23.6	26.5	0.0392 U	9.57	8.52	0.0385 U
Indeno(1,2,3-c,d)pyrene	0.409 U	0.016 U	0.0205 U	0.18 U	0.491 U	0.0196 U	0.0194 U	0.197 U	0.0193 U
Naphthalene	1300	319	0.0999 U	2.65	1.67 J	0.111	0.242 U	0.786 U	0.0664 J

Appendix C2
2023 Data Summary Table

	Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ9-5 GS-031623-29 3/16/2023 45.4 - 50.4 ft N WG 7624596.338 705254.123	Source Control Groundwater 2023 PZ9-50 GS-031623-28 3/16/2023 45.4 - 50.4 ft N WG 7624599.739 705256.867	Source Control Groundwater 2023 PZ9-75 GS-031623-30 3/16/2023 67.5 - 72.5 ft N WG 7624606.427 705252.394	Source Control Groundwater 2023 WS-08-33 GS-032023-36 3/20/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-33 GS-091923-26 9/19/2023 22.5 - 32.5 ft N WG 7624854.144 704987.857	Source Control Groundwater 2023 WS-08-59 GS-032023-38 3/20/2023 48.5 - 58.5 ft N WG 7624858.335 704990.171	Source Control Groundwater 2023 WS-09-34 GS-032123-43 3/21/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-09-34 GS-092023-30 9/20/2023 23.5 - 33.5 ft N WG 7625261.758 704714.064	Source Control Groundwater 2023 WS-12-125 GS-032023-34 3/20/2023 109 - 124 ft N WG 7624836.249 704998.746
Phenanthrene		54.5	0.064 U	0.082 U	31.7	30	0.106	7.36	10.7	0.0404 J
Pyrene		2.96	0.032 U	0.041 U	3.65	4.74	0.0701	2.15	1.03	0.0433
Pesticides (µg/L)										
4,4'-DDD (p,p'-DDD)		--	--	--	--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)		--	--	--	--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)		--	--	--	--	--	--	--	--	--
Aldrin		--	--	--	--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)		--	--	--	--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)		--	--	--	--	--	--	--	--	--
Dieldrin		--	--	--	--	--	--	--	--	--
Endosulfan sulfate		--	--	--	--	--	--	--	--	--
Endosulfan, alpha- (I)		--	--	--	--	--	--	--	--	--
Endosulfan, beta (II)		--	--	--	--	--	--	--	--	--
Endrin		--	--	--	--	--	--	--	--	--
Endrin aldehyde		--	--	--	--	--	--	--	--	--
Endrin ketone		--	--	--	--	--	--	--	--	--
Heptachlor		--	--	--	--	--	--	--	--	--
Heptachlor epoxide		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-		--	--	--	--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)		--	--	--	--	--	--	--	--	--
Methoxychlor		--	--	--	--	--	--	--	--	--
Toxaphene		--	--	--	--	--	--	--	--	--
Herbicides (µg/L)										
2,2-Dichloropropionic acid (Dalapon)		--	--	--	--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4,5-TP (Silvex)		--	--	--	--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)		--	--	--	--	--	--	--	--	--
2,4-DB (2,4-D derivative)		--	--	--	--	--	--	--	--	--
Dicamba		--	--	--	--	--	--	--	--	--
Dichloroprop		--	--	--	--	--	--	--	--	--
Dinoseb		--	--	--	--	--	--	--	--	--
Mecoprop (MCP)		--	--	--	--	--	--	--	--	--
Mephanac (MCPA)		--	--	--	--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)										
C8-C10 Aliphatics unadjusted		--	--	--	0.04 UJ	--	--	0.04 UJ	--	0.04 UJ
C10-C12 Aliphatics unadjusted		--	--	--	0.04 UJ	--	--	0.04 UJ	--	0.04 UJ
C12-C16 Aliphatics unadjusted		--	--	--	0.04 U	--	--	0.04 U	--	0.04 UJ
C16-C21 Aliphatics unadjusted		--	--	--	0.04 U	--	--	0.04 U	--	0.04 UJ
C21-C34 Aliphatics unadjusted		--	--	--	0.255	--	--	0.059	--	0.04 UJ

Appendix C2
2023 Data Summary Table

Task Location ID Sample ID Sample Date Depth Sample Type Matrix X Y	Source Control Groundwater 2023 PZ9-5	Source Control Groundwater 2023 PZ9-50	Source Control Groundwater 2023 PZ9-75	Source Control Groundwater 2023 WS-08-33	Source Control Groundwater 2023 WS-08-33	Source Control Groundwater 2023 WS-08-59	Source Control Groundwater 2023 WS-09-34	Source Control Groundwater 2023 WS-09-34	Source Control Groundwater 2023 WS-12-125
	GS-031623-29	GS-031623-28	GS-031623-30	GS-032023-36	GS-091923-26	GS-032023-38	GS-032123-43	GS-092023-30	GS-032023-34
	3/16/2023	3/16/2023	3/16/2023	3/20/2023	9/19/2023	3/20/2023	3/21/2023	9/20/2023	3/20/2023
	45.4 - 50.4 ft	45.4 - 50.4 ft	67.5 - 72.5 ft	22.5 - 32.5 ft	22.5 - 32.5 ft	48.5 - 58.5 ft	23.5 - 33.5 ft	23.5 - 33.5 ft	109 - 124 ft
	N	N	N	N	N	N	N	N	N
	WG	WG	WG	WG	WG	WG	WG	WG	WG
	7624596.338	7624599.739	7624606.427	7624854.144	7624854.144	7624858.335	7625261.758	7625261.758	7624836.249
	705254.123	705256.867	705252.394	704987.857	704987.857	704990.171	704714.064	704714.064	704998.746
C10-C12 Aromatics unadjusted	--	--	--	0.04 U	--	--	0.04 U	--	0.04 UJ
C8-C10 Aromatics unadjusted	--	--	--	0.04 U	--	--	0.04 U	--	0.04 UJ
C12-C16 Aromatics unadjusted	--	--	--	0.185	--	--	0.05	--	0.04 UJ
C16-C21 Aromatics unadjusted	--	--	--	0.127	--	--	0.04	--	0.04 UJ
C21-C34 Aromatics unadjusted	--	--	--	0.04 U	--	--	0.04 U	--	0.04 UJ
Volatile Petroleum Hydrocarbons (mg/L)									
n-Decane (C10)	--	--	--	0.005 U	--	--	0.005 U	--	0.005 U
n-Dodecane (C12)	--	--	--	0.007	--	--	0.005 U	--	0.005 U
n-Hexane (C6)	--	--	--	0.005 U	--	--	0.005 U	--	0.005 U
n-Octane (C8)	--	--	--	0.005 U	--	--	0.005 U	--	0.005 U
n-Pentane (C5)	--	--	--	0.005 U	--	--	0.005 U	--	0.005 U
C5-C6 Aliphatics unadjusted	--	--	--	0.05 U	--	--	0.05 U	--	0.05 U
C6-C8 Aliphatics unadjusted	--	--	--	0.05 U	--	--	0.05 U	--	0.05 U
C8-C10 Aliphatics unadjusted	--	--	--	0.05 U	--	--	0.05 U	--	0.05 U
C10-C12 Aliphatics unadjusted	--	--	--	0.139	--	--	0.05 U	--	0.05 U
C10-C12 Aromatics unadjusted	--	--	--	0.146	--	--	0.05 U	--	0.05 U
C8-C10 Aromatics unadjusted	--	--	--	0.056	--	--	0.05 U	--	0.05 U
C12-C13 Aromatics unadjusted	--	--	--	0.132	--	--	0.05 U	--	0.05 U
Total Petroleum Hydrocarbons (mg/L)									
Diesel range hydrocarbons	--	--	--	1.48 J	1.34	0.105 J	0.357 J	0.267	0.192 UJ
Gasoline range hydrocarbons	--	--	--	0.956	0.756	0.1 U	0.1 U	0.0747 J	0.1 U
Oil range organics	--	--	--	1.2	1.16	0.949	0.381 U	0.355 J	0.385 U

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	WS-12-161	WS-12-161	WS-16-161	WS-16-161	WS-47-183	WS-47-183
	Sample Date	GS-032223-48	GS-092123-32	GS-032223-47	GS-092123-31	GS-032023-33	GS-091823-23
	Depth	3/22/2023	9/21/2023	3/22/2023	9/21/2023	3/20/2023	9/18/2023
	Sample Type	145 - 160 ft	145 - 160 ft	145 - 160 ft	145 - 160 ft	172 - 182 ft	172 - 182 ft
	Matrix	N	N	N	N	N	N
	X	WG	WG	WG	WG	WG	WG
	Y	7624836.249	7624836.249	7624326.815	7624326.815	7624602.8	7624602.8
		704998.746	704998.746	704965.043	704965.043	705154.333	705154.333
Conventional Parameters (mg/L)							
Alkalinity, bicarbonate as calcium carbonate (CaCO ₃)		--	--	--	--	--	--
Alkalinity, carbonate as calcium carbonate (CaCO ₃)		--	--	--	--	--	--
Alkalinity, hydroxide as calcium carbonate (CaCO ₃)		--	--	--	--	--	--
Alkalinity, total as calcium carbonate (CaCO ₃)		--	--	--	--	--	--
Chloride		--	--	--	--	--	--
Cyanide		0.005 U	0.0051	0.005 U	0.005 U	0.0248	0.0271
Cyanide, available		0.002 UJ	0.002 U	0.002 UJ	0.002 U	0.002 U	0.002 U
Cyanide, free		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Nitrate as nitrogen		--	--	--	--	--	--
Sulfate		--	--	--	--	--	--
Metals (µg/L)							
Aluminum		26.4 J	50 UJ	218	416 J	50 U	29.4 J
Antimony		1 U	1 U	1 U	1 U	1 U	1 U
Arsenic		0.735 J	0.659 J	7.88	8.05	1.85	2.16
Barium		45.5	46.6	40.8	43.9	38.6	40.1
Beryllium		0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 U
Cadmium		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Calcium		--	--	--	--	--	--
Chromium		2 U	2 U	2 U	2 U	2 U	2 U
Copper		2 U	2 U	2 U	2 U	2 U	2 U
Iron		17000	17500	26100	27700	18400	19300
Lead		0.2 U	0.2 U	0.22	0.366	0.2 U	0.2 U
Magnesium		--	--	--	--	--	--
Manganese		2020	2060	3000	3000	1370	1490
Mercury		0.08 U	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
Nickel		2 U	2 U	1.6 J	2.18	2 U	2 U
Potassium		--	--	--	--	--	--
Selenium		1 U	1 U	1 U	1 U	1 U	1 U
Silver		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Sodium		--	--	--	--	--	--
Thallium		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Vanadium		2 U	2 U	2 U	1.01 J	2 U	2 U
Zinc		4 U	4 U	7.7	12.4	2.81 J	4 U
Metals, Dissolved (µg/L)							
Iron		--	--	--	--	--	--
Magnesium		--	--	--	--	--	--
Volatile Organics (µg/L)							
1,1,1,2-Tetrachloroethane		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1,1-Trichloroethane		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	WS-12-161	WS-12-161	WS-16-161	WS-16-161	WS-47-183	WS-47-183
	Sample Date	GS-032223-48	GS-092123-32	GS-032223-47	GS-092123-31	GS-032023-33	GS-091823-23
	Depth	3/22/2023	9/21/2023	3/22/2023	9/21/2023	3/20/2023	9/18/2023
	Sample Type	145 - 160 ft	145 - 160 ft	145 - 160 ft	145 - 160 ft	172 - 182 ft	172 - 182 ft
	Matrix	N	N	N	N	N	N
	X	WG	WG	WG	WG	WG	WG
	Y	7624836.249	7624836.249	7624326.815	7624326.815	7624602.8	7624602.8
		704998.746	704998.746	704965.043	704965.043	705154.333	705154.333
1,1,2,2-Tetrachloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloroethene		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,1-Dichloropropene		1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene		2 U	2 U	2 U	2 U	2 U	2 U
1,2,3-Trichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene		2 U	2 U	2 U	2 U	2 U	2 U
1,2,4-Trimethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dibromo-3-chloropropane		5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichlorobenzene		4.18	3.88	0.5 U	0.5 U	24.9	28
1,2-Dichloroethane		0.2 J	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, cis-		0.77	0.78	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloroethene, trans-		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
1,2-Dichloropropane		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene		0.5 U	0.5 U	0.5 U	0.5 U	0.8	0.83
1,3-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, cis-		1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichloropropene, trans-		1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene		0.5 U	0.5 U	0.5 U	0.5 U	10.9	10.9
2,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U
2-Hexanone (Methyl butyl ketone)		10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene		1 U	1 U	1 U	1 U	1 U	1 U
4-Methyl-2-pentanone (Methyl isobutyl ketone)		10 U	10 U	10 U	10 U	10 U	10 U
Acetone		20 U	20 U	20 U	20 U	20 U	20 U
Acrylonitrile		2 U	2 U	2 U	2 U	2 U	2 U
Benzene		0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U
Bromobenzene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane		1 U	1 U	1 U	1 U	1 U	1 U
Bromodichloromethane		1 U	1 U	1 U	1 U	1 U	1 U
Bromoform (Tribromomethane)		1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane (Methyl bromide)		5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide		10 U	10 U	10 U	10 U	10 U	10 U
Carbon tetrachloride (Tetrachloromethane)		1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene		3.94	3.73	0.5 U	0.5 U	7.2	7.73
Chloroethane		5 U	5 U	5 U	5 U	5 U	5 U
Chloroform		1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane		5 U	5 U	5 U	5 U	5 U	5 U
Cymene, p- (4-Isopropyltoluene)		1 U	1 U	1 U	1 U	1 U	1 U

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	WS-12-161	WS-12-161	WS-16-161	WS-16-161	WS-47-183	WS-47-183
	Sample Date	GS-032223-48	GS-092123-32	GS-032223-47	GS-092123-31	GS-032023-33	GS-091823-23
	Depth	3/22/2023	9/21/2023	3/22/2023	9/21/2023	3/20/2023	9/18/2023
	Sample Type	145 - 160 ft	145 - 160 ft	145 - 160 ft	145 - 160 ft	172 - 182 ft	172 - 182 ft
	Matrix	N	N	N	N	N	N
	X	WG	WG	WG	WG	WG	WG
	Y	7624836.249	7624836.249	7624326.815	7624326.815	7624602.8	7624602.8
		704998.746	704998.746	704965.043	704965.043	705154.333	705154.333
Dibromochloromethane		1 U	1 U	1 U	1 U	1 U	1 U
Dibromomethane		1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane		1 U	1 U	1 U	1 U	1 U	1 U
Dichloromethane (Methylene chloride)		10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylene dibromide (1,2-Dibromoethane)		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene (Hexachloro-1,3-butadiene)		5 U	5 U	5 U	5 U	5 U	5 U
Isopropylbenzene (Cumene)		1 U	1 U	1 U	1 U	1 U	1 U
m,p-Xylene		1 U	1 U	1 U	1 U	1 U	1 U
Methyl ethyl ketone (2-Butanone)		10 U	10 U	10 U	10 U	10 U	10 U
Methyl tert-butyl ether (MTBE)		9.33	9.34	1 U	1 U	4.52	4.42
n-Butylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
Styrene		1 U	1 U	1 U	1 U	1 U	1 U
tert-Butylbenzene		1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Toluene		1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene (TCE)		0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U
Trichlorofluoromethane (Fluorotrichloromethane)		2 U	2 U	2 U	2 U	2 U	2 U
Vinyl chloride		0.4 U	0.2 U	0.4 U	0.2 U	0.4 U	0.2 U
Polycyclic Aromatic Hydrocarbons (µg/L)							
1-Methylnaphthalene		0.0936 U	0.077 U	0.0968 U	0.0885 U	0.0855 U	0.0755 U
2-Methylnaphthalene		0.0936 U	0.077 U	0.0968 U	0.0885 U	0.0855 U	0.0755 U
Acenaphthene		0.0468 U	0.0385 U	0.029 J	0.0288 J	0.0428 U	0.0378 U
Acenaphthylene		0.0468 U	0.0385 U	0.0484 U	0.0443 U	0.0428 U	0.0378 U
Anthracene		0.0468 U	0.0385 U	0.0484 U	0.0443 U	0.0235 J	0.0378 U
Benzo(a)anthracene		0.0234 U	0.0193 U	0.0242 U	0.0221 U	0.0214 U	0.0189 U
Benzo(a)pyrene		0.0234 U	0.0193 U	0.0242 U	0.0221 U	0.0214 U	0.0189 U
Benzo(b,j)fluoranthene		0.0234 U	0.0193 U	0.0242 U	0.0221 U	0.0214 U	0.0189 U
Benzo(g,h,i)perylene		0.0468 U	0.0385 U	0.0484 U	0.0443 U	0.0428 U	0.0378 U
Benzo(k)fluoranthene		0.0234 U	0.0193 U	0.0242 U	0.0221 U	0.0214 U	0.0189 U
Carbazole		0.0468 U	--	0.0484 U	--	0.0428 U	--
Chrysene		0.0234 U	0.0193 U	0.0242 U	0.0221 U	0.0214 U	0.0189 U
Dibenzo(a,h)anthracene		0.0234 U	0.0193 U	0.0242 U	0.0221 U	0.0214 U	0.0189 U
Dibenzofuran		0.0468 U	0.0385 U	0.0484 U	0.0443 U	0.0428 U	0.0378 U
Fluoranthene		0.0468 U	0.0385 U	0.0478 J	0.0625	0.0428 U	0.0378 U
Fluorene		0.0468 U	0.0385 U	0.0484 U	0.0443 U	0.0428 U	0.0378 U
Indeno(1,2,3-c,d)pyrene		0.0234 U	0.0193 U	0.0242 U	0.0221 U	0.0214 U	0.0189 U
Naphthalene		0.0936 U	0.077 U	0.0968 U	0.0885 U	0.162 UJ	0.0755 U

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	WS-12-161	WS-12-161	WS-16-161	WS-16-161	WS-47-183	WS-47-183
	Sample Date	GS-032223-48	GS-092123-32	GS-032223-47	GS-092123-31	GS-032023-33	GS-091823-23
	Depth	3/22/2023	9/21/2023	3/22/2023	9/21/2023	3/20/2023	9/18/2023
	Sample Type	145 - 160 ft	145 - 160 ft	145 - 160 ft	145 - 160 ft	172 - 182 ft	172 - 182 ft
	Matrix	N	N	N	N	N	N
	X	WG	WG	WG	WG	WG	WG
	Y	7624836.249	7624836.249	7624326.815	7624326.815	7624602.8	7624602.8
		704998.746	704998.746	704965.043	704965.043	705154.333	705154.333
Phenanthrene		0.0936 U	0.077 U	0.119	0.127	0.0855 U	0.0755 U
Pyrene		0.0468 U	0.0385 U	0.0496	0.057	0.0428 U	0.0378 U
Pesticides (µg/L)							
4,4'-DDD (p,p'-DDD)		--	--	--	--	--	--
4,4'-DDE (p,p'-DDE)		--	--	--	--	--	--
4,4'-DDT (p,p'-DDT)		--	--	--	--	--	--
Aldrin		--	--	--	--	--	--
Chlordane, alpha- (Chlordane, cis-)		--	--	--	--	--	--
Chlordane, beta- (Chlordane, trans-)		--	--	--	--	--	--
Dieldrin		--	--	--	--	--	--
Endosulfan sulfate		--	--	--	--	--	--
Endosulfan, alpha- (I)		--	--	--	--	--	--
Endosulfan, beta (II)		--	--	--	--	--	--
Endrin		--	--	--	--	--	--
Endrin aldehyde		--	--	--	--	--	--
Endrin ketone		--	--	--	--	--	--
Heptachlor		--	--	--	--	--	--
Heptachlor epoxide		--	--	--	--	--	--
Hexachlorocyclohexane (BHC), alpha-		--	--	--	--	--	--
Hexachlorocyclohexane (BHC), beta-		--	--	--	--	--	--
Hexachlorocyclohexane (BHC), delta-		--	--	--	--	--	--
Hexachlorocyclohexane (BHC), gamma- (Lindane)		--	--	--	--	--	--
Methoxychlor		--	--	--	--	--	--
Toxaphene		--	--	--	--	--	--
Herbicides (µg/L)							
2,2-Dichloropropionic acid (Dalapon)		--	--	--	--	--	--
2,4,5-T (2,4,5-Trichlorophenoxyacetic acid)		--	--	--	--	--	--
2,4,5-TP (Silvex)		--	--	--	--	--	--
2,4-D (2,4-Dichlorophenoxyacetic acid)		--	--	--	--	--	--
2,4-DB (2,4-D derivative)		--	--	--	--	--	--
Dicamba		--	--	--	--	--	--
Dichloroprop		--	--	--	--	--	--
Dinoseb		--	--	--	--	--	--
Mecoprop (MCP)		--	--	--	--	--	--
Mephanac (MCPA)		--	--	--	--	--	--
Extractable Petroleum Hydrocarbons (mg/L)							
C8-C10 Aliphatics unadjusted		--	--	--	--	0.04 UJ	--
C10-C12 Aliphatics unadjusted		--	--	--	--	0.04 UJ	--
C12-C16 Aliphatics unadjusted		--	--	--	--	0.04 UJ	--
C16-C21 Aliphatics unadjusted		--	--	--	--	0.04 UJ	--
C21-C34 Aliphatics unadjusted		--	--	--	--	0.1 J	--

Appendix C2
2023 Data Summary Table

	Task	Source Control	Source Control	Source Control	Source Control	Source Control	Source Control
	Location ID	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023	Groundwater 2023
	Sample ID	WS-12-161	WS-12-161	WS-16-161	WS-16-161	WS-47-183	WS-47-183
	Sample Date	GS-032223-48	GS-092123-32	GS-032223-47	GS-092123-31	GS-032023-33	GS-091823-23
	Depth	3/22/2023	9/21/2023	3/22/2023	9/21/2023	3/20/2023	9/18/2023
	Sample Type	145 - 160 ft	145 - 160 ft	145 - 160 ft	145 - 160 ft	172 - 182 ft	172 - 182 ft
	Matrix	N	N	N	N	N	N
		WG	WG	WG	WG	WG	WG
X		7624836.249	7624836.249	7624326.815	7624326.815	7624602.8	7624602.8
Y		704998.746	704998.746	704965.043	704965.043	705154.333	705154.333
C10-C12 Aromatics unadjusted		--	--	--	--	0.04 U	--
C8-C10 Aromatics unadjusted		--	--	--	--	0.04 U	--
C12-C16 Aromatics unadjusted		--	--	--	--	0.04 U	--
C16-C21 Aromatics unadjusted		--	--	--	--	0.04 U	--
C21-C34 Aromatics unadjusted		--	--	--	--	0.04 U	--
Volatile Petroleum Hydrocarbons (mg/L)							
n-Decane (C10)		--	--	--	--	0.005 U	--
n-Dodecane (C12)		--	--	--	--	0.005 U	--
n-Hexane (C6)		--	--	--	--	0.005 U	--
n-Octane (C8)		--	--	--	--	0.005 U	--
n-Pentane (C5)		--	--	--	--	0.005 U	--
C5-C6 Aliphatics unadjusted		--	--	--	--	0.05 U	--
C6-C8 Aliphatics unadjusted		--	--	--	--	0.05 U	--
C8-C10 Aliphatics unadjusted		--	--	--	--	0.05 U	--
C10-C12 Aliphatics unadjusted		--	--	--	--	0.05 U	--
C10-C12 Aromatics unadjusted		--	--	--	--	0.05 U	--
C8-C10 Aromatics unadjusted		--	--	--	--	0.05 U	--
C12-C13 Aromatics unadjusted		--	--	--	--	0.05 U	--
Total Petroleum Hydrocarbons (mg/L)							
Diesel range hydrocarbons		0.192 U	0.198 U	0.192 U	0.192 U	0.192 UJ	0.19 U
Gasoline range hydrocarbons		0.1 U	0.0708 J	0.1 U	0.1 U	0.112 J	0.167
Oil range organics		0.385 U	0.396 U	0.385 U	0.385 U	0.335 J	0.381 U

Appendix C2
2023 Data Summary Report

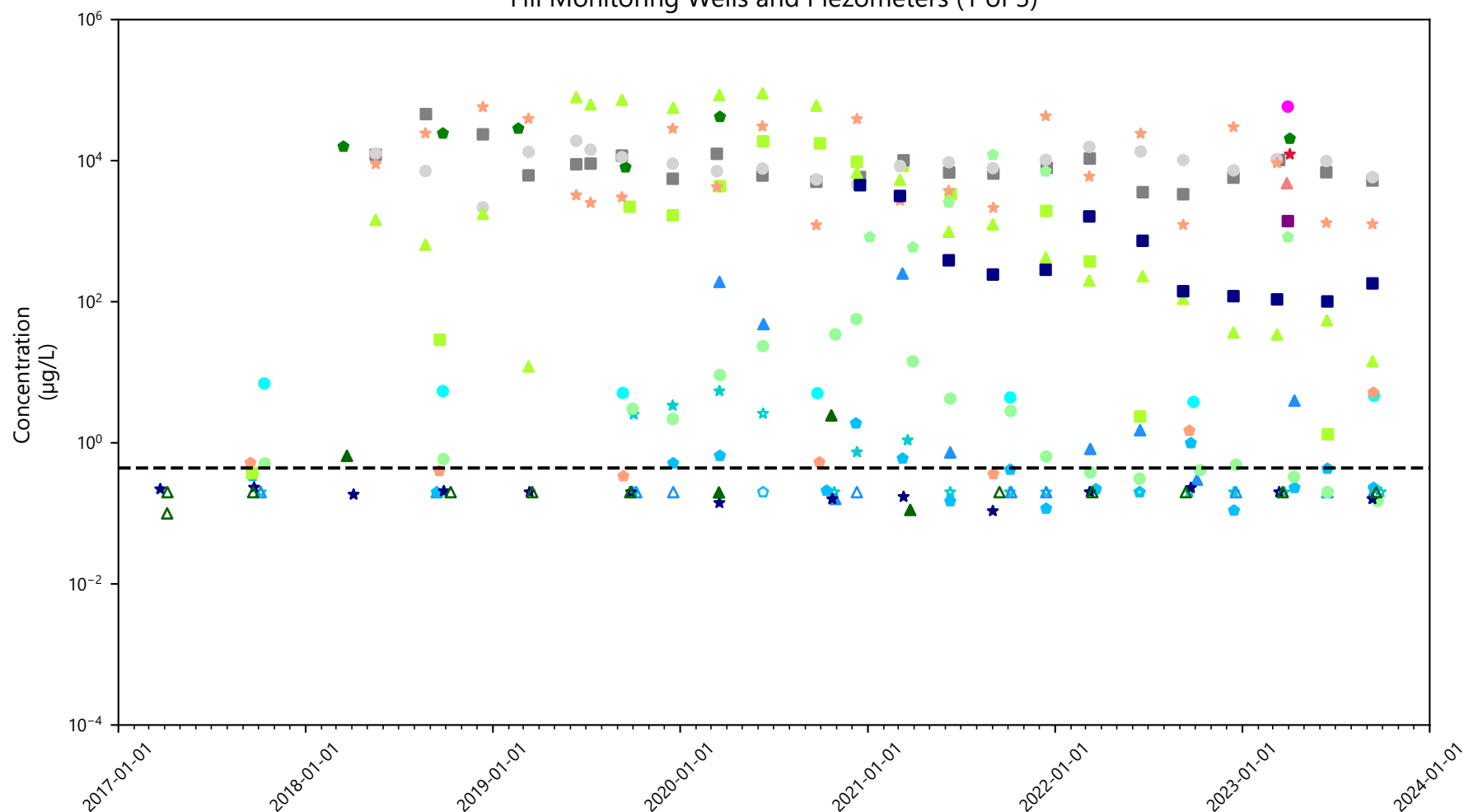
Notes:
Bold: Detected result
--: not applicable
Calculated values have been rounded to laboratory-reported significant digits
J: Estimated value
R: Rejected
U: Compound analyzed for, but not detected above detection limit
UJ: Compound analyzed for, but not detected above estimated detection limit

µg/L: microgram per liter
ft: foot
mg/L: milligram per liter

Appendix C3

Concentrations of Contaminants by WBZ

Fill Monitoring Wells and Piezometers (1 of 3)



Notes:
 1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Only wells sampled in 2023 are shown.
 3. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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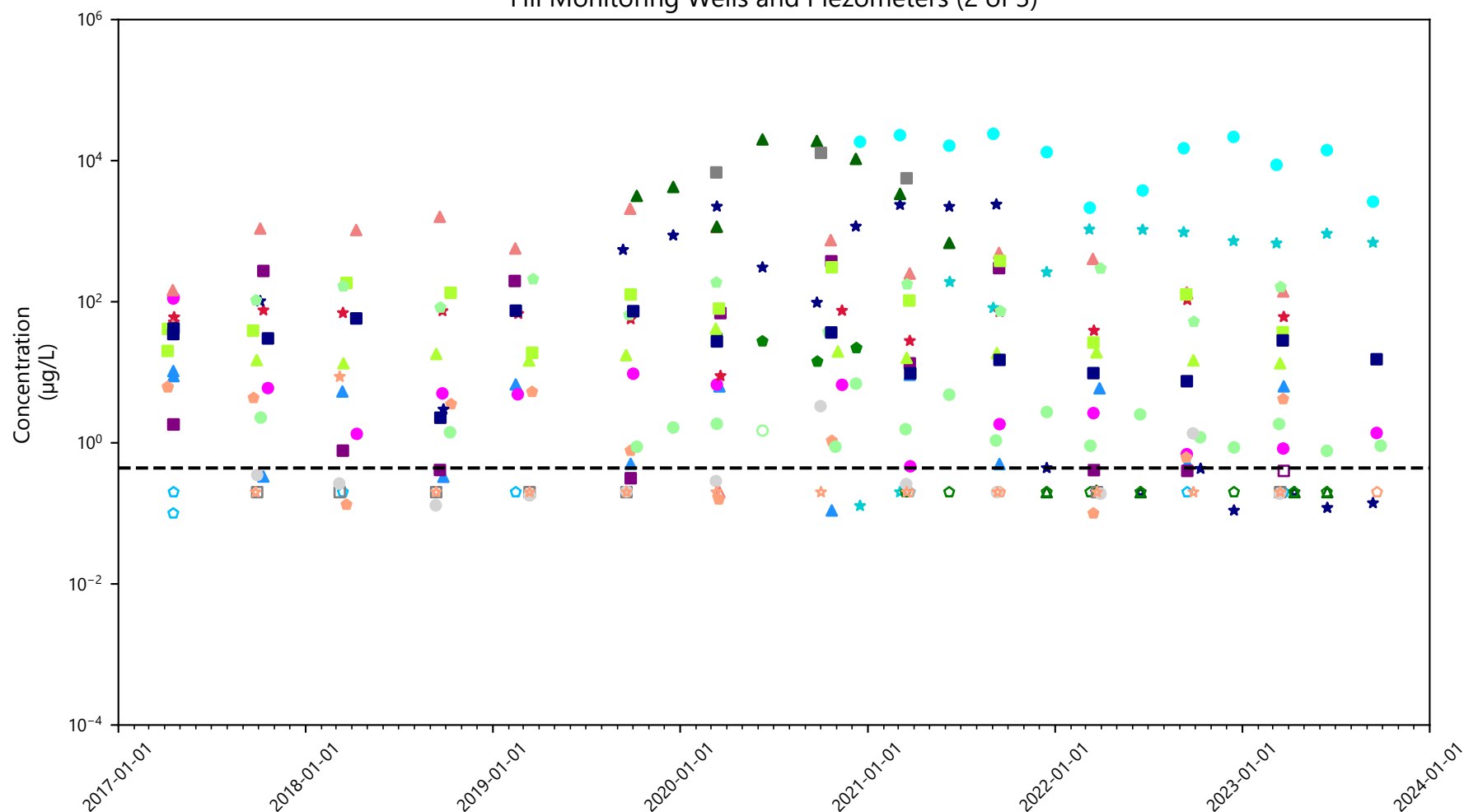
\\fuji\anchor\Projects\NW Natural\Gasco\Source_Control_OPMDR\HC&C Annual Rpt\2023\2. Analyses\TimeSeriesConcentrationPlots\Water_Chemistry_OneChemical_AllWells.py



— Benzene CUL	■ MW-06-32	● MW-19-22	▲ MW-42F	★ MW-48F
● MW-01-22	● MW-10-25	■ MW-21-12	◆ MW-45F	▲ MW-49F
★ MW-02-32	★ MW-11-32	● MW-23-27	■ MW-46F	● MW-50F
▲ MW-03-26	▲ MW-18-30	★ MW-40F	● MW-47F	■ MW-51F
● MW-04-35				

C.3.a.1
Benzene Concentration
 2023 HC&C System Annual Report
 Gasco OU

Fill Monitoring Wells and Piezometers (2 of 3)



Notes:
 1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Only wells sampled in 2023 are shown.
 3. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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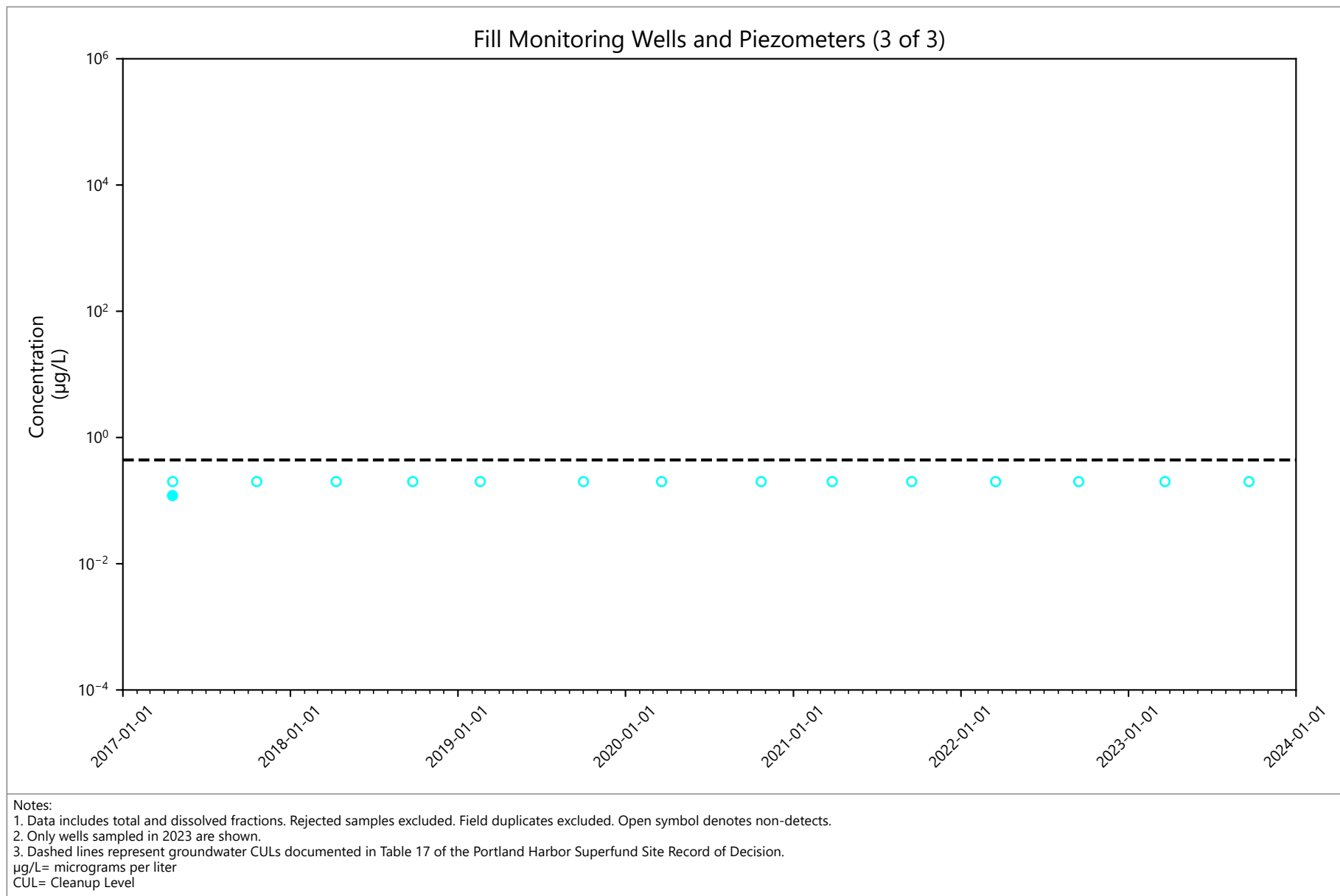


— Benzene CUL	■ NWN-07-30	● OW-1F	▲ OW-8-15	★ PZ7-5
● MW-52F	● NWN-09-31	■ OW-2F	● OW-9-25	▲ PZ8-5
★ MW-53F	★ NWN-11-24	● OW-5F	■ PZ5-5	● PZ9-5
▲ NWN-02-20	▲ NWN-13-23	★ OW-7-17	● PZ6-5	■ WS-08-33
● NWN-03-17				

C.3.a.2

Benzene Concentration

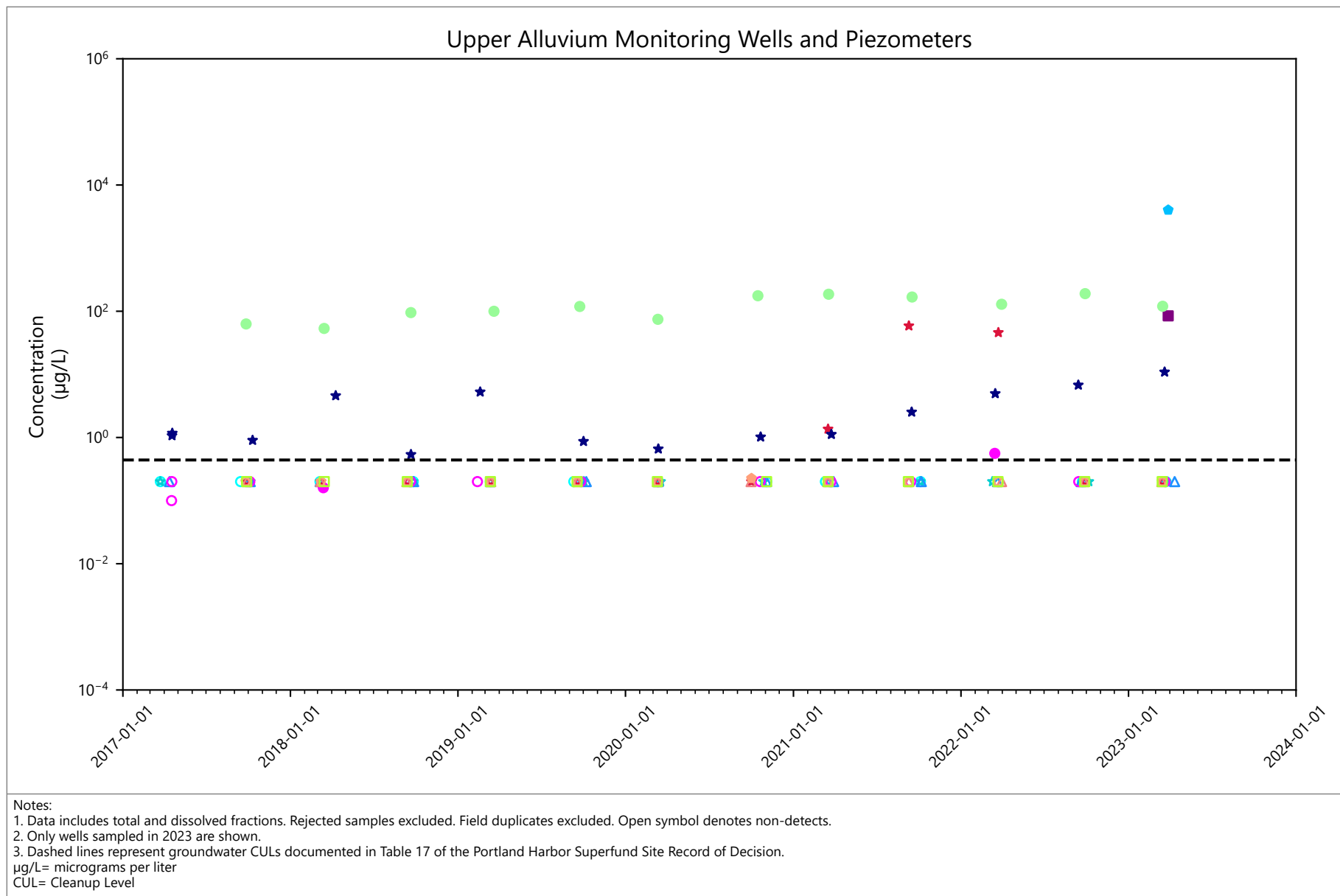
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--- Benzene CUL ● WS-09-34



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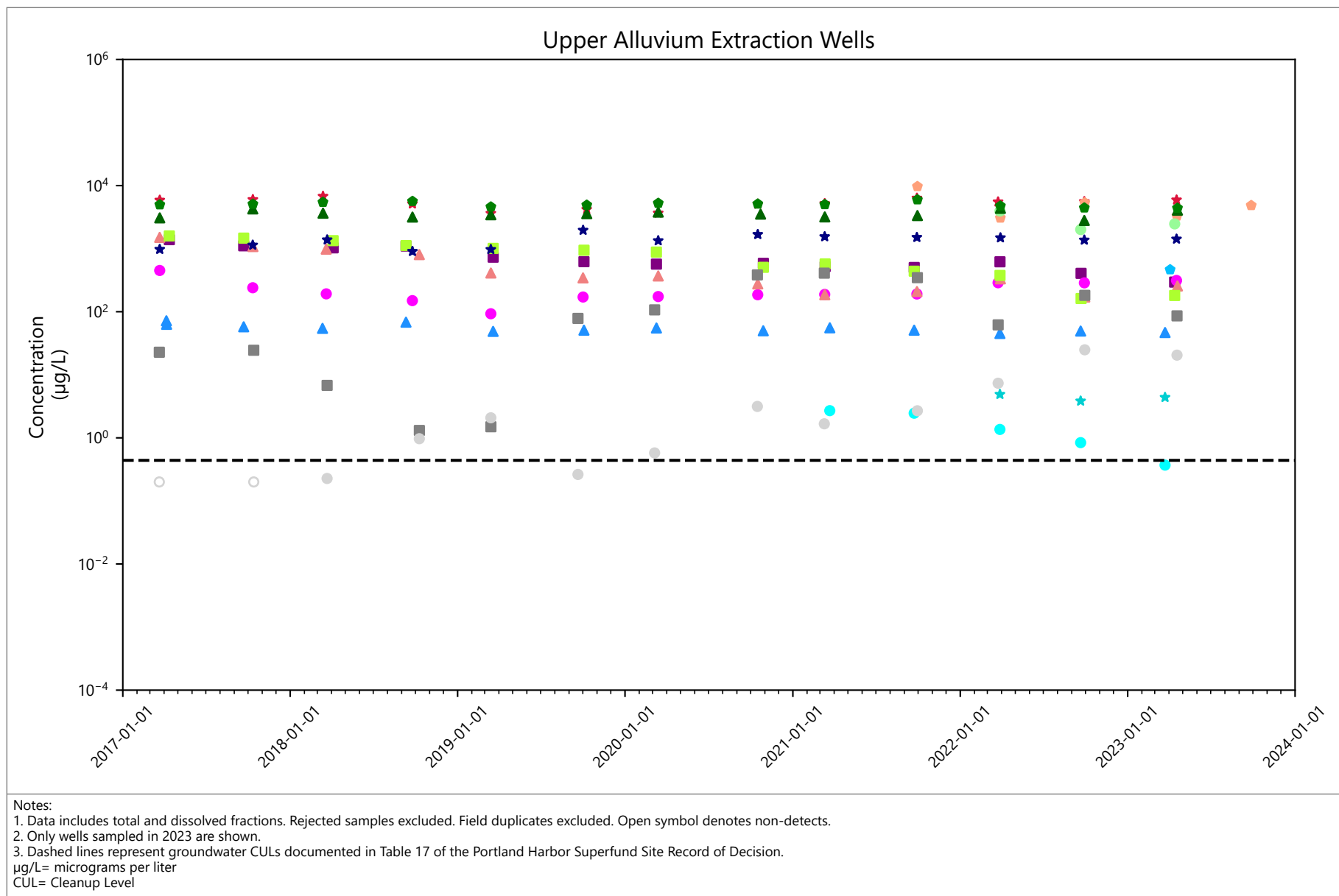


— Benzene CUL	▲ MW-22U	● NWN-13-73	◆ PZ7-50	● PZ9-50
● MW-01-55	▲ MW-26U	★ PZ5-20	■ PZ8-50	★ WS-08-59
★ MW-02-61	■ MW-38U	▲ PZ6-50		

C.3.a.4

Benzene Concentration

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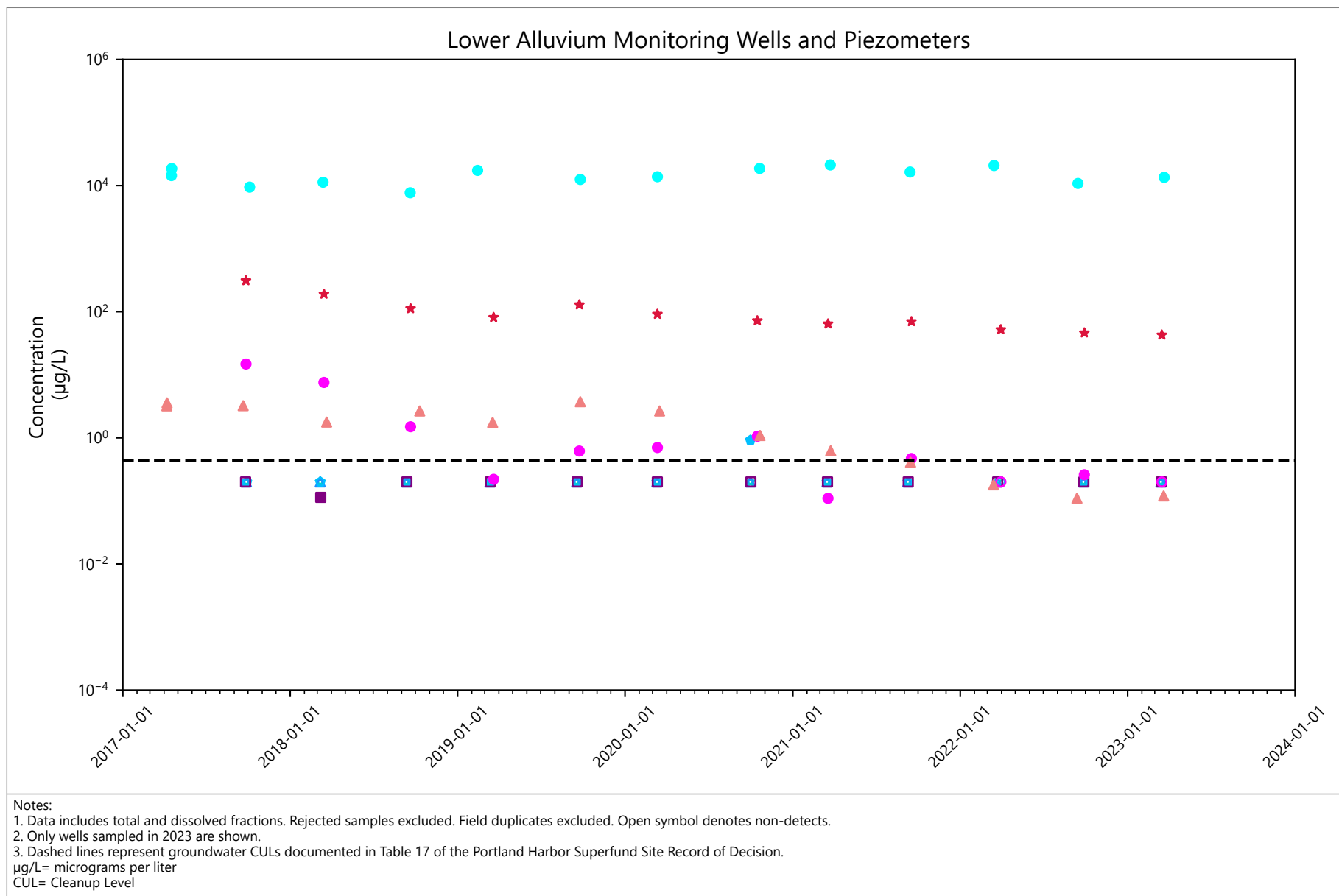


— Benzene CUL	PW-03-85	PW-06U	PW-11Ub	PW-14U
PW-01U	PW-03U	PW-08Ub	PW-12U	PW-15U
PW-01Uc	PW-04U	PW-11U	PW-13U	PW-16U
PW-02U	PW-05U			

C.3.a.5

Benzene Concentration

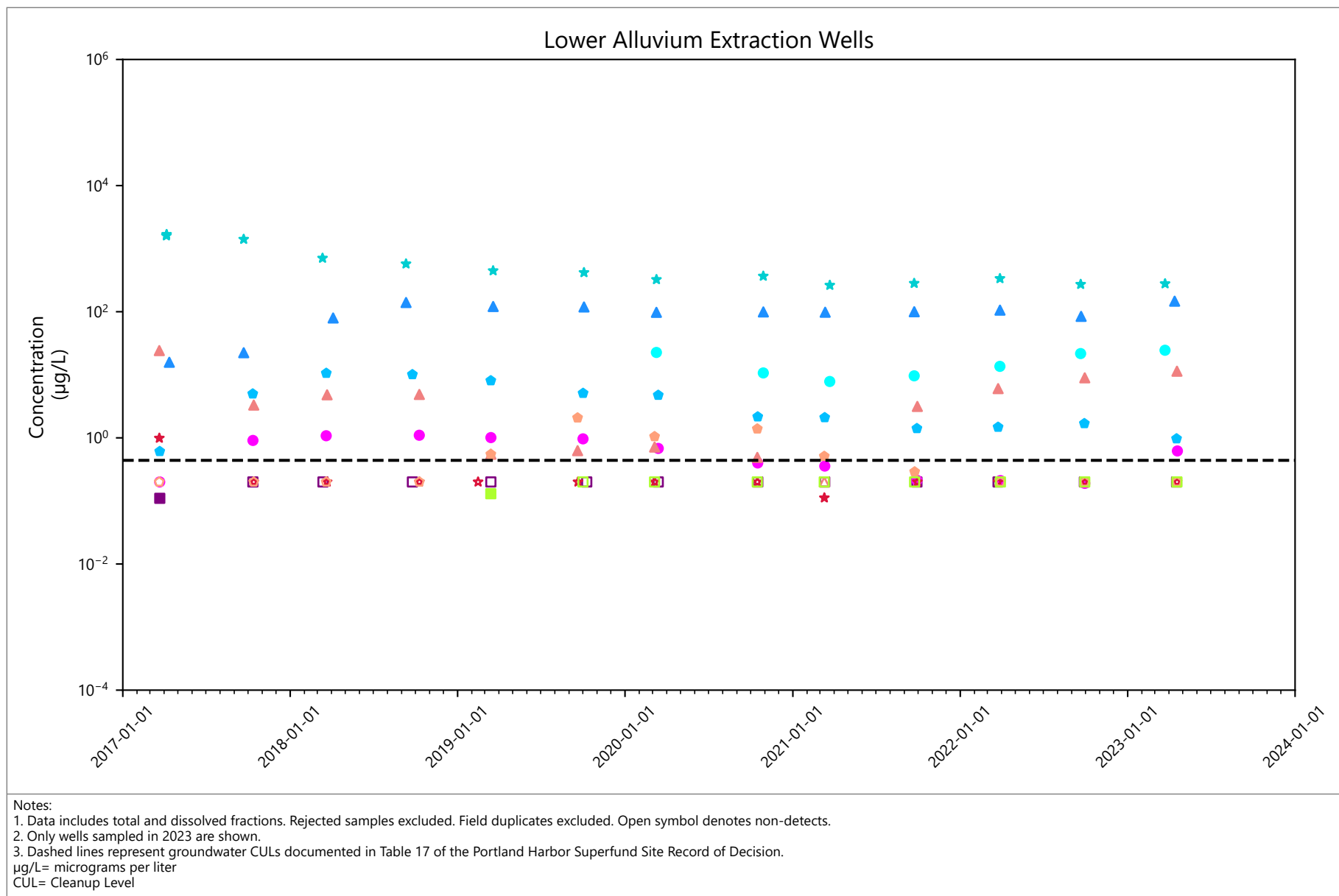
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— Benzene CUL	★ PZ5-55	⬠ PZ6-115	● PZ9-110	▲ WS-12-125
● NWN-13-106	▲ PZ5-85	■ PZ7-100	★ PZ9-75	



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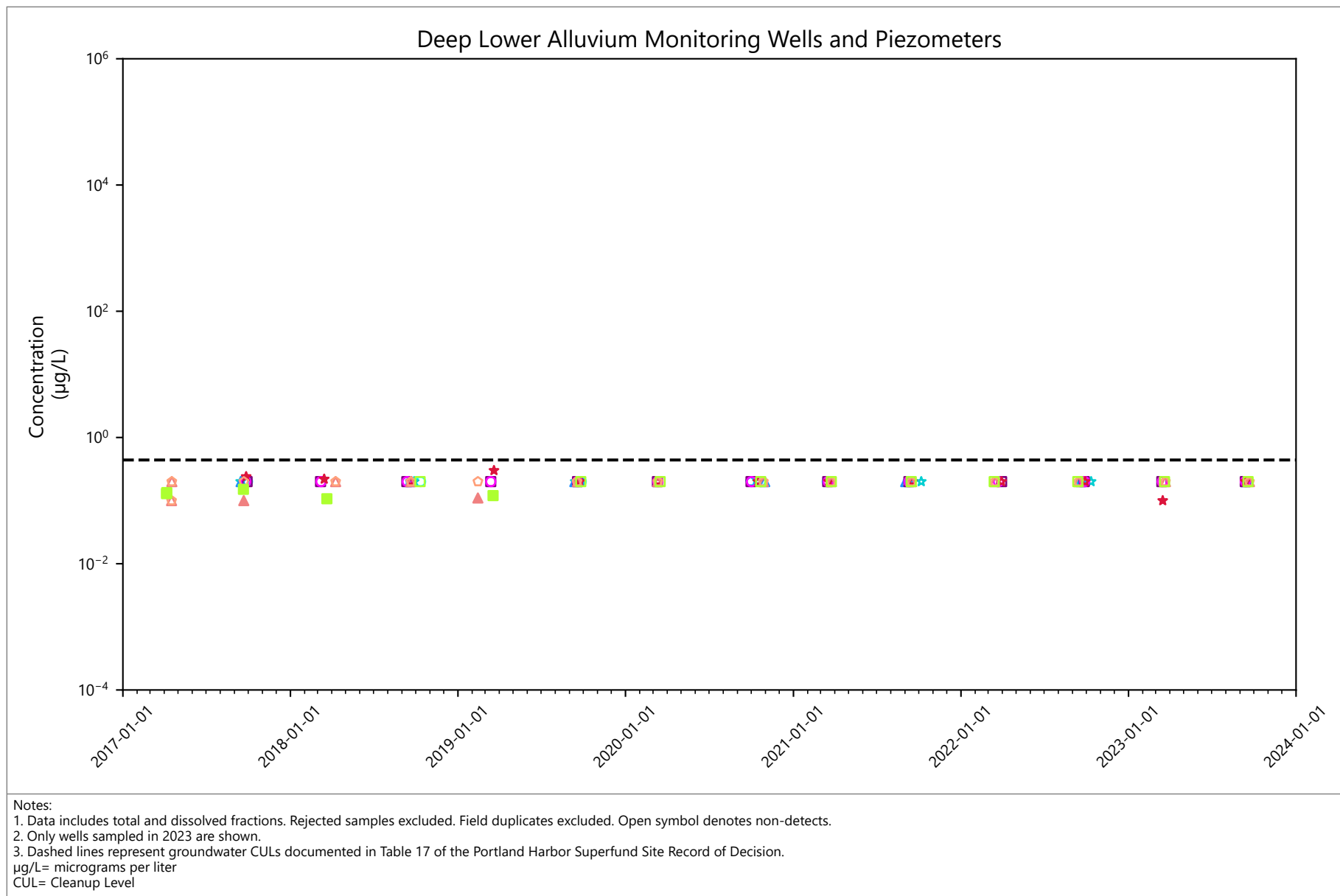


— Benzene CUL	▲ PW-03-118	■ PW-05L	★ PW-07-93	◆ PW-09-92
● PW-01Lb	⬢ PW-04L	● PW-06L	▲ PW-08-68	■ PW-10Lb
★ PW-02L				

C.3.a.7

Benzene Concentration

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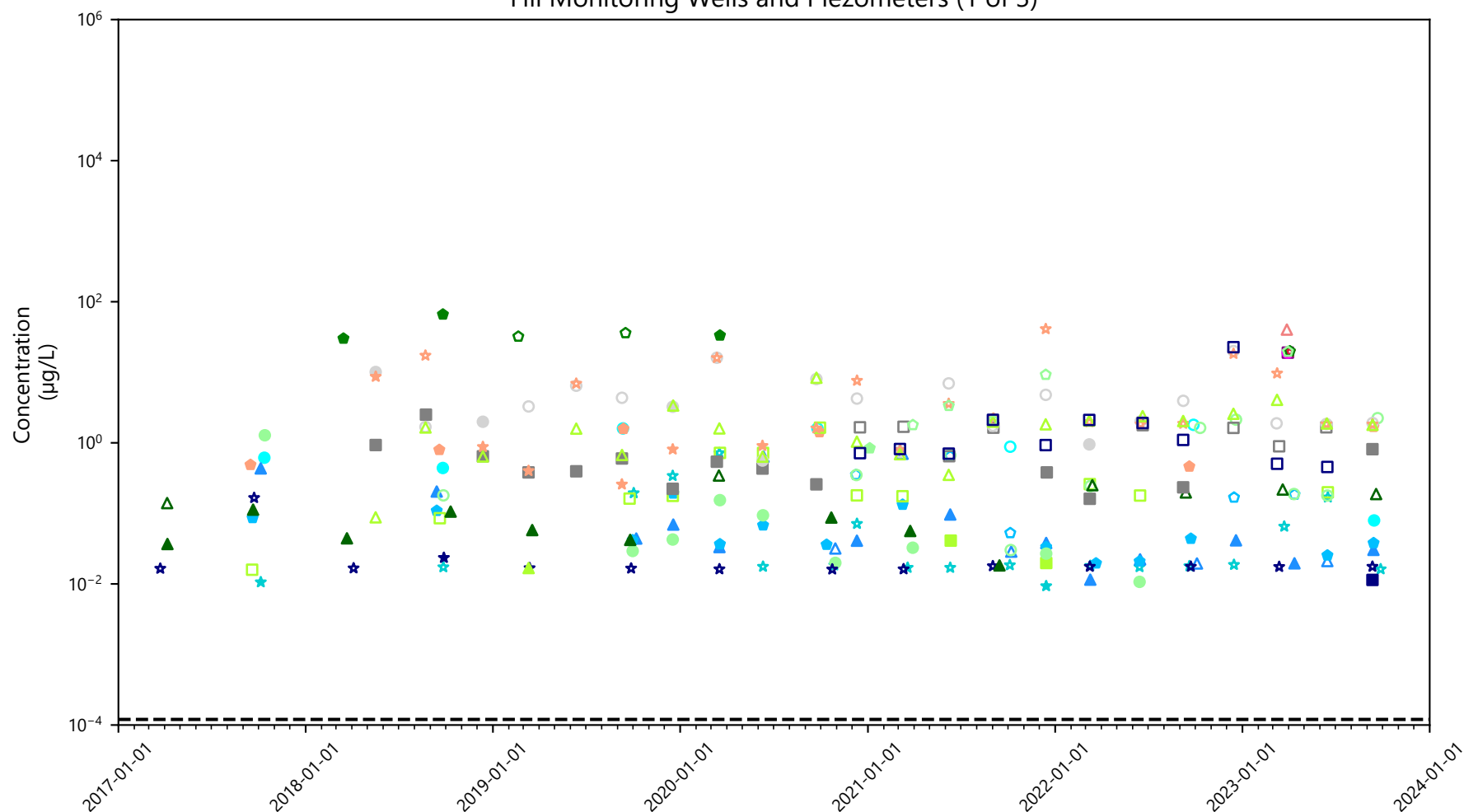
— Benzene CUL	▲ MW-19-180	■ PZ6-150	★ PZ9-150	◈ WS-16-161
● MW-05-175	● MW-21-165	● PZ7-150	▲ WS-12-161	■ WS-47-183
★ MW-18-180				

C.3.a.8

Benzene Concentration

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Fill Monitoring Wells and Piezometers (1 of 3)



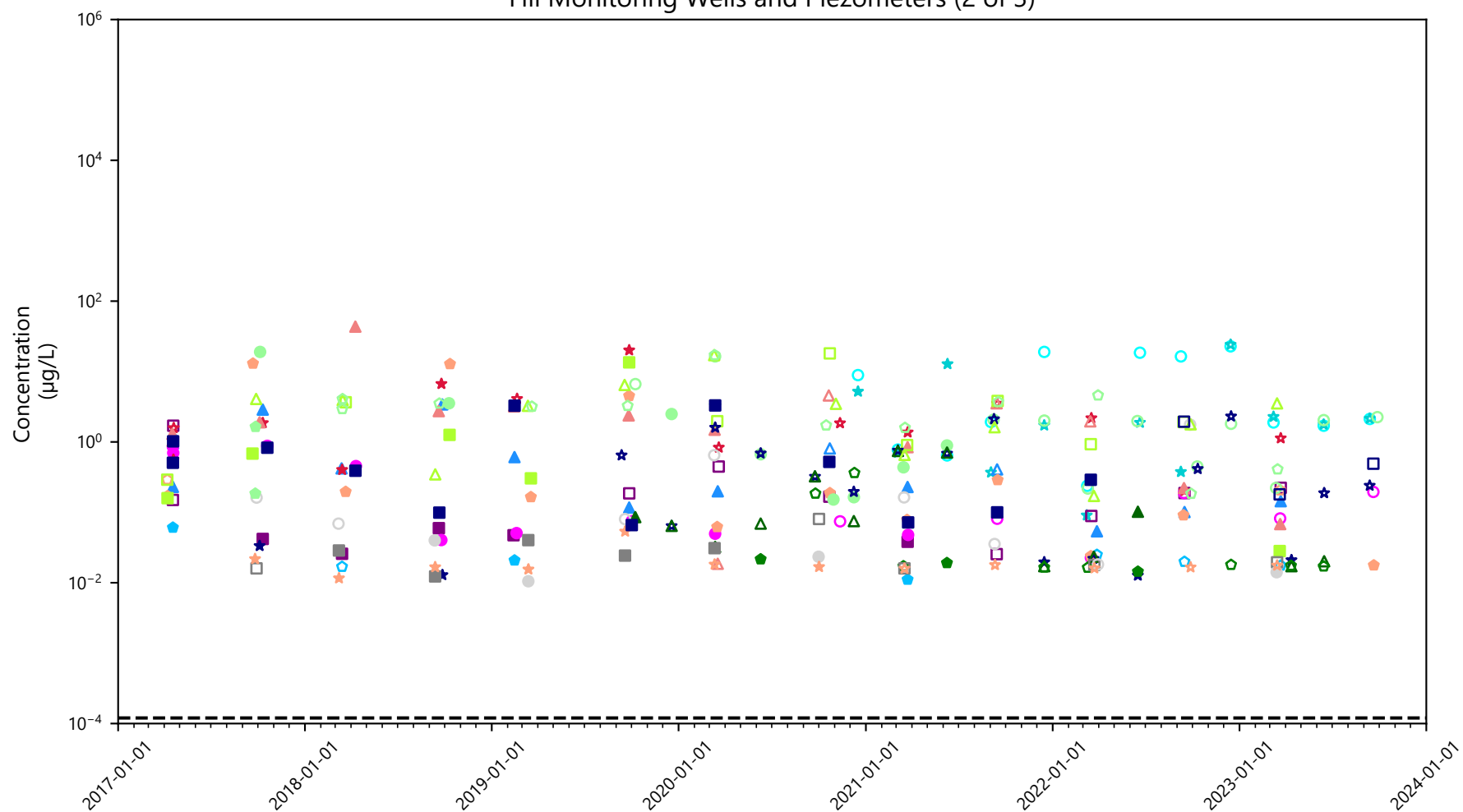
Notes:
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— Benzo(a)pyrene CUL	■ MW-06-32	■ MW-19-22	▲ MW-42F	★ MW-48F
● MW-01-22	● MW-10-25	■ MW-21-12	◆ MW-45F	▲ MW-49F
★ MW-02-32	★ MW-11-32	● MW-23-27	■ MW-46F	◆ MW-50F
▲ MW-03-26	▲ MW-18-30	★ MW-40F	● MW-47F	■ MW-51F
● MW-04-35				

Fill Monitoring Wells and Piezometers (2 of 3)



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Only wells sampled in 2023 are shown.
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CUL= Cleanup Level

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--- Benzo(a)pyrene CUL
 ● MW-52F
 ★ MW-53F
 ▲ NWN-02-20
 ◆ NWN-03-17

■ NWN-07-30
 ● NWN-09-31
 ★ NWN-11-24
 ▲ NWN-13-23

◆ OW-1F
 ■ OW-2F
 ● OW-5F
 ★ OW-7-17

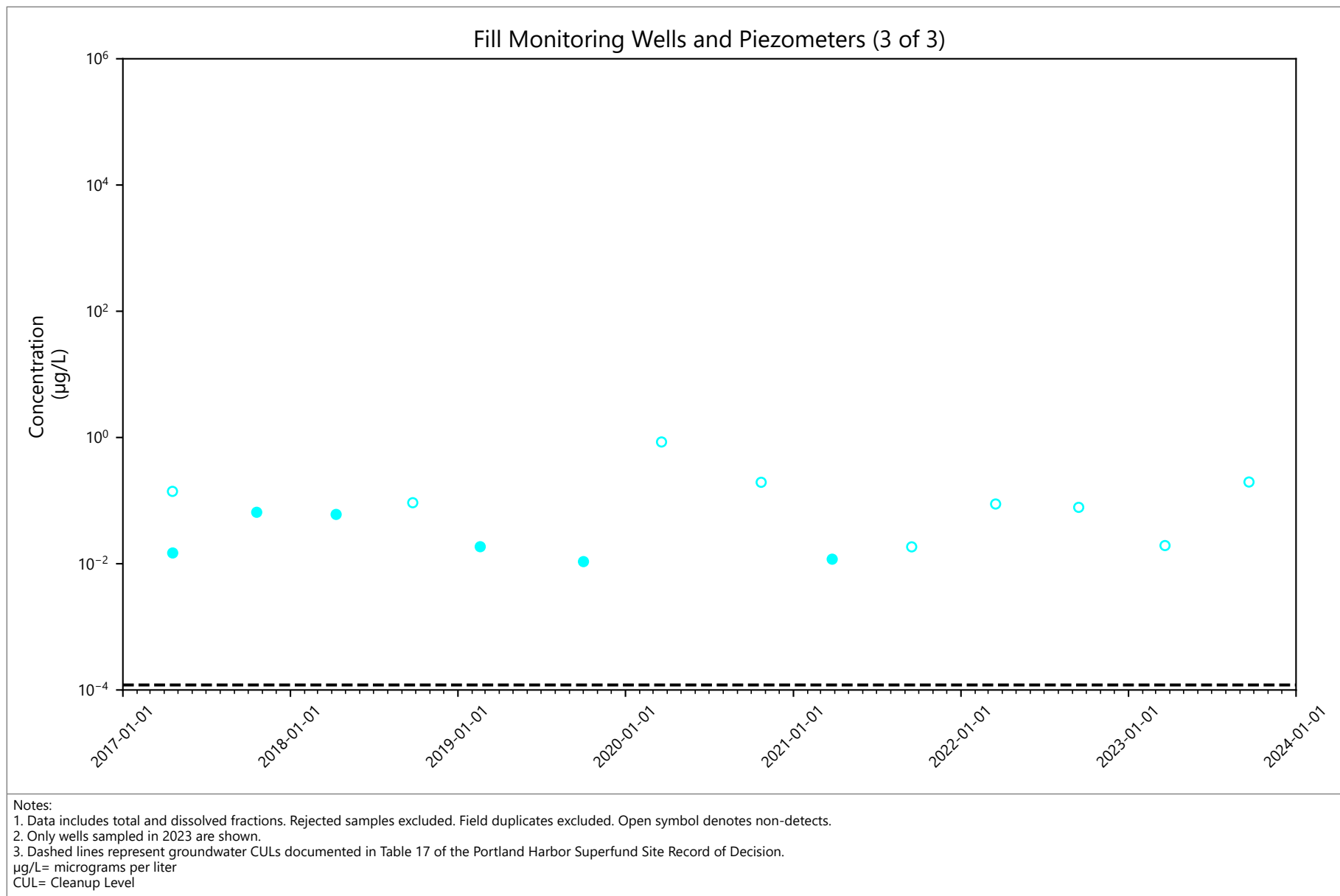
▲ OW-8-15
 ◆ OW-9-25
 ■ PZ5-5
 ● PZ6-5

★ PZ7-5
 ▲ PZ8-5
 ● PZ9-5
 ■ WS-08-33

C.3.b.2

Benzo(a)pyrene Concentration

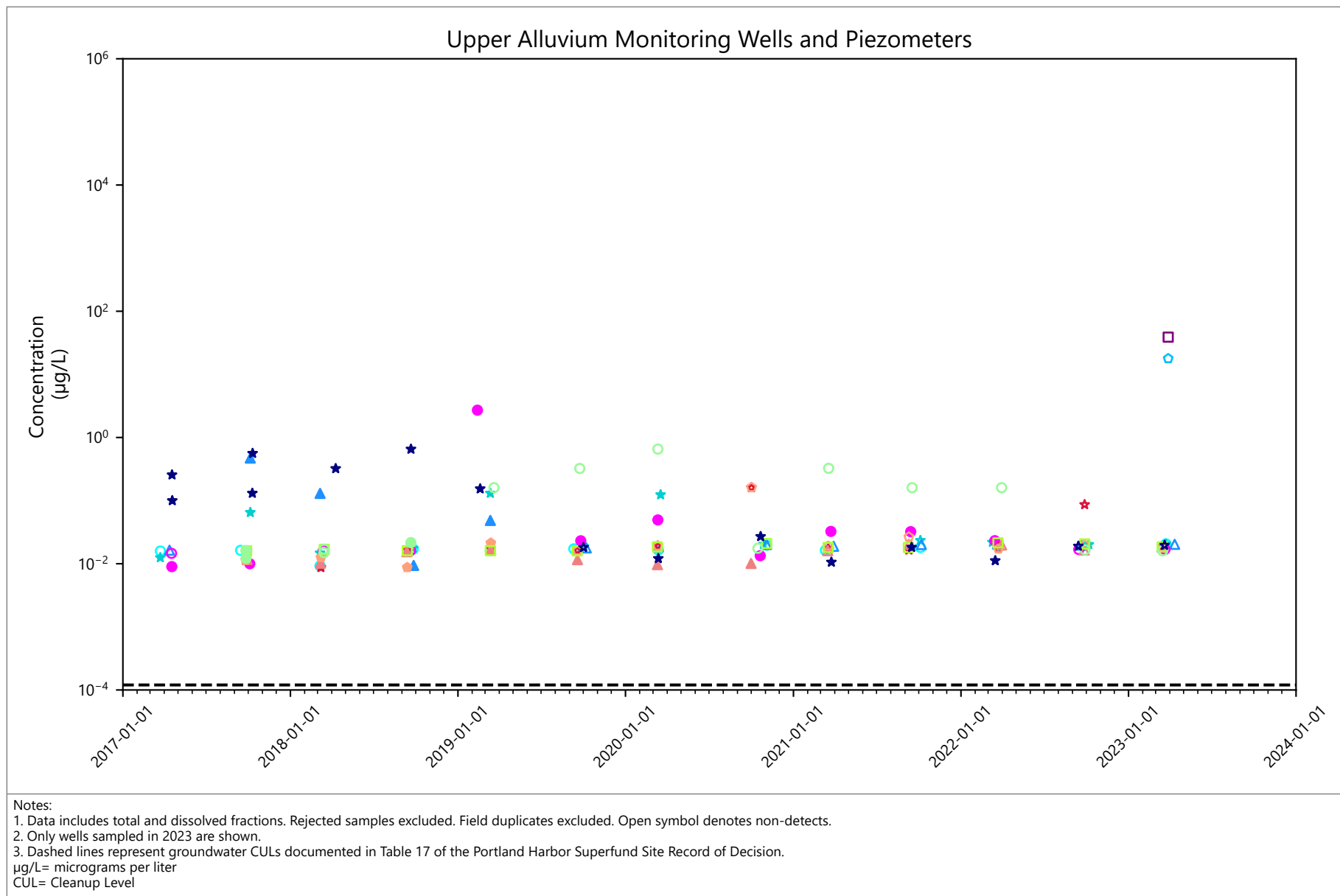
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--- Benzo(a)pyrene CUL ● WS-09-34

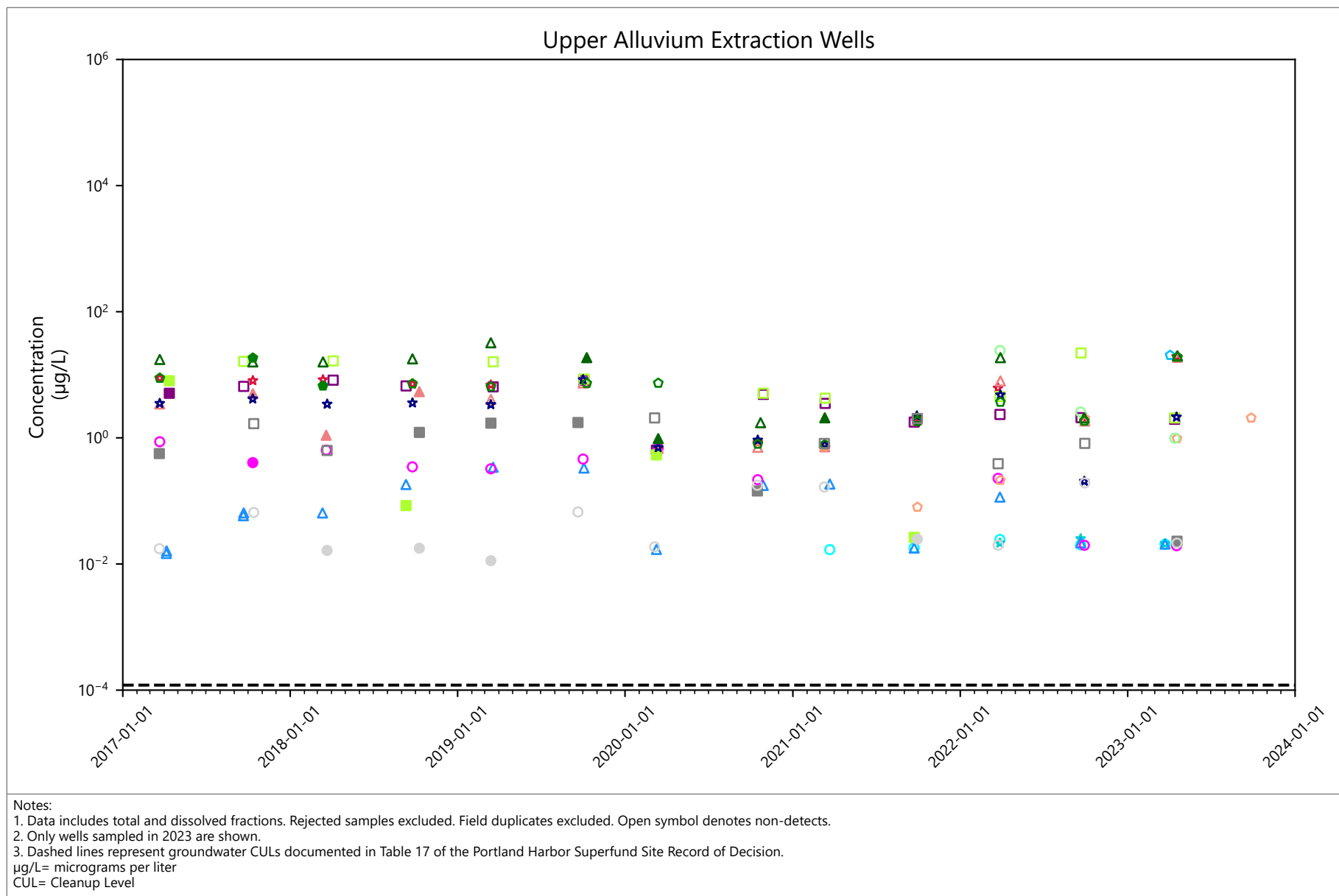


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— Benzo(a)pyrene CUL	▲ MW-22U	● NWN-13-73	● PZ7-50	● PZ9-50
● MW-01-55	● MW-26U	★ PZ5-20	■ PZ8-50	★ WS-08-59
★ MW-02-61	■ MW-38U	▲ PZ6-50		



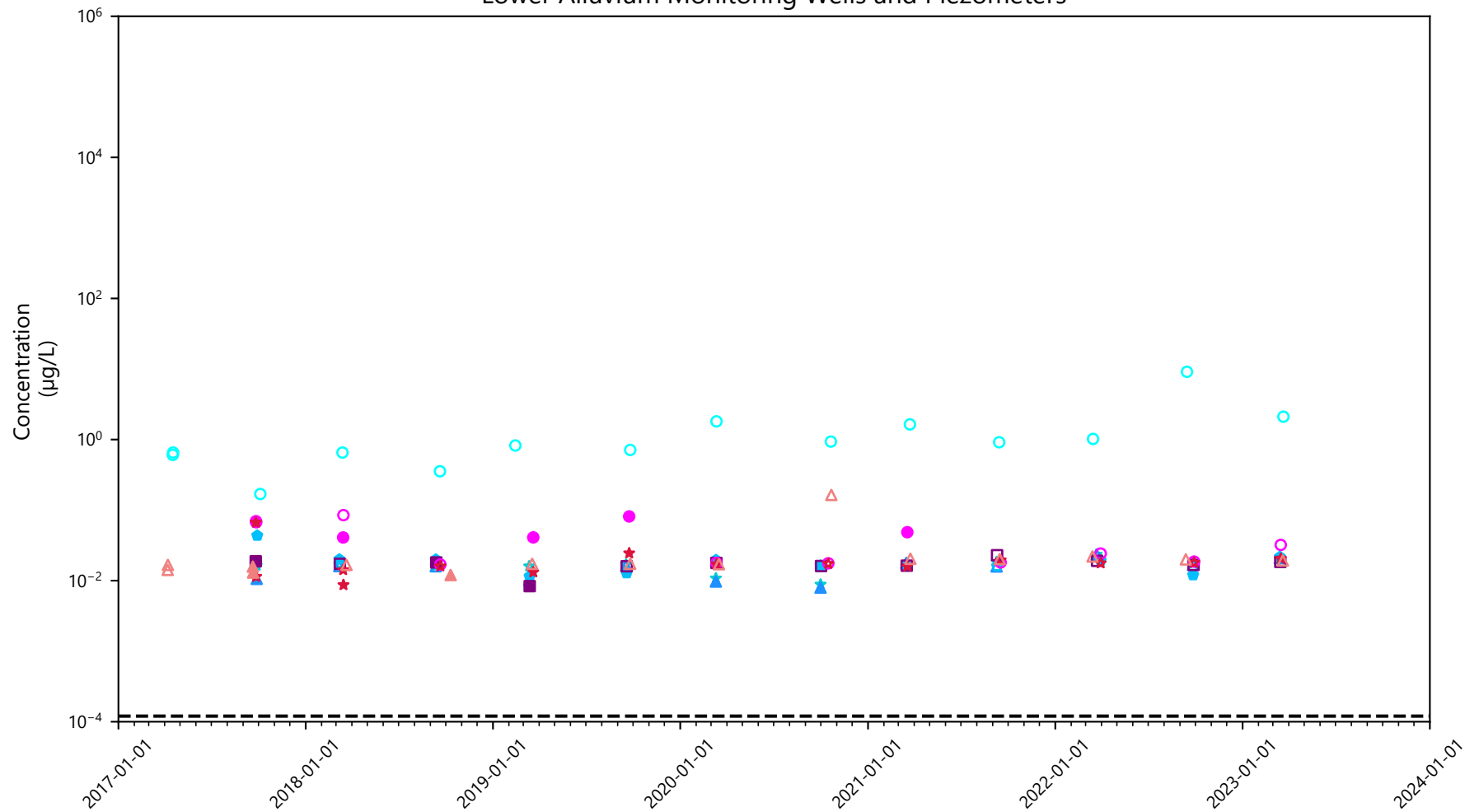
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— Benzo(a)pyrene CUL	● PW-03-85	▲ PW-06U	● PW-11Ub	● PW-14U
● PW-01U	■ PW-03U	● PW-08Ub	★ PW-12U	■ PW-15U
★ PW-01Uc	● PW-04U	■ PW-11U	▲ PW-13U	● PW-16U
▲ PW-02U	★ PW-05U			

Lower Alluvium Monitoring Wells and Piezometers

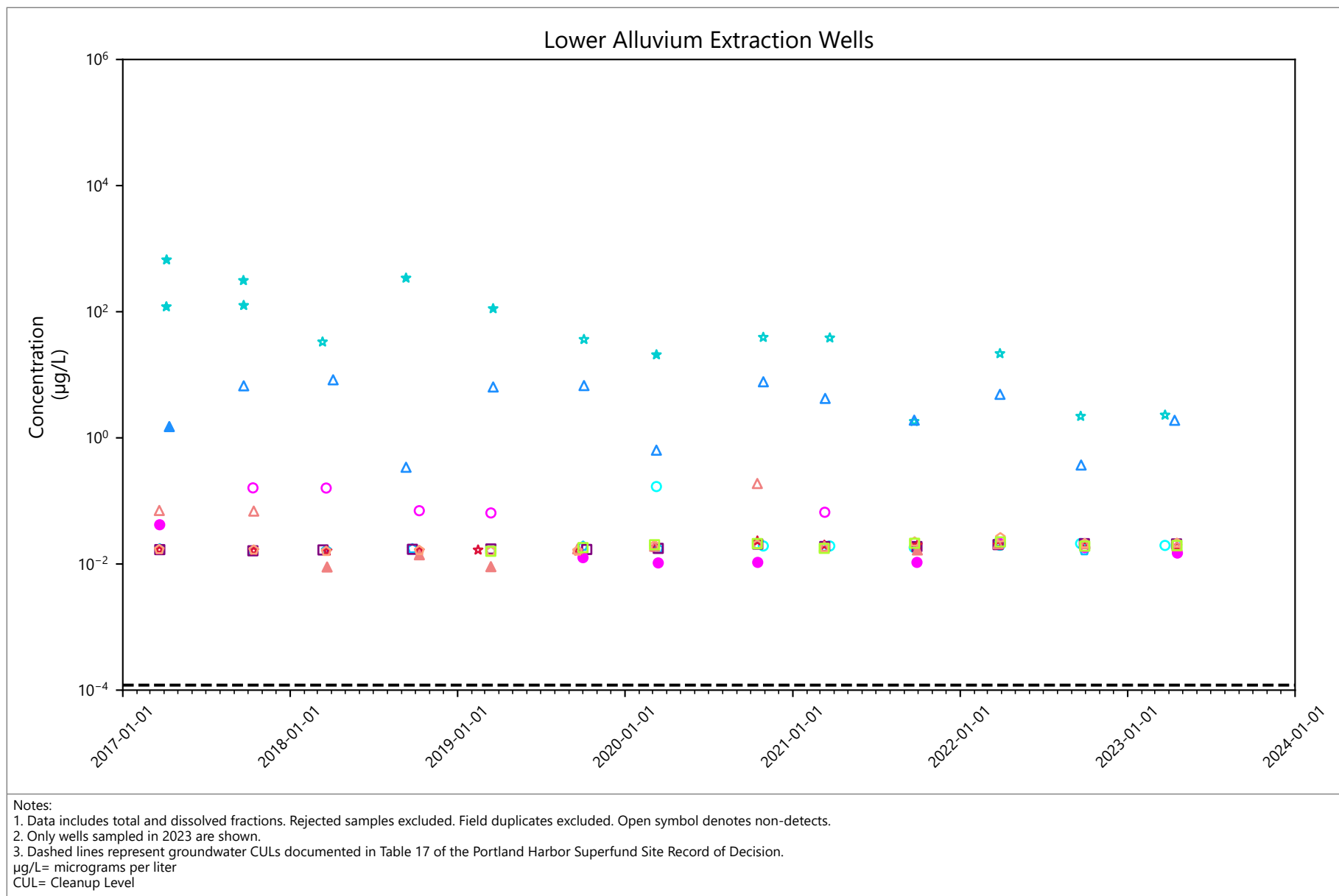


Notes:
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--- Benzo(a)pyrene CUL	★ PZ5-55	⬠ PZ6-115	● PZ9-110	▲ WS-12-125
● NWN-13-106	▲ PZ5-85	■ PZ7-100	★ PZ9-75	

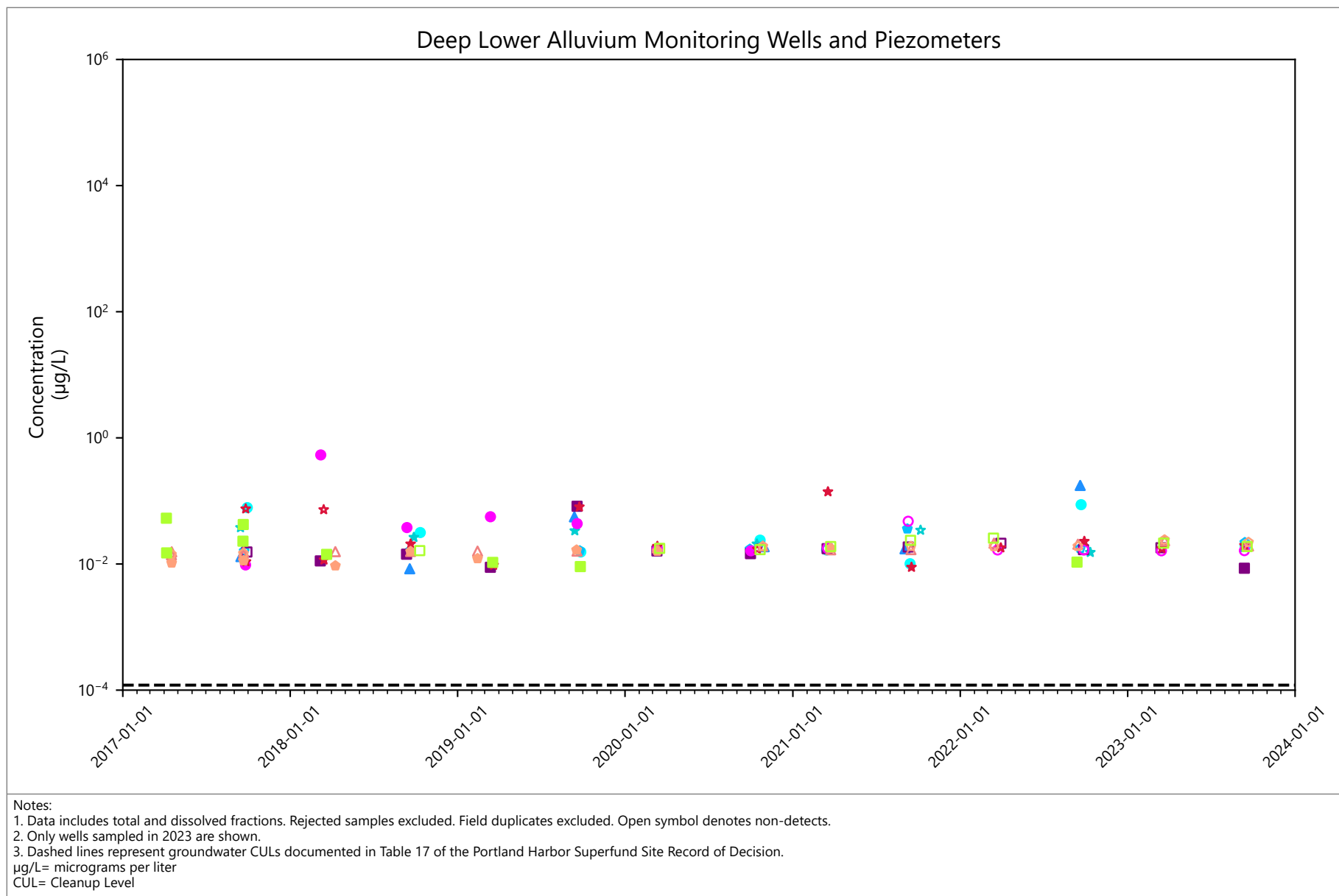


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— Benzo(a)pyrene CUL	▲ PW-03-118	■ PW-05L	★ PW-07-93	◊ PW-09-92
● PW-01Lb	● PW-04L	● PW-06L	▲ PW-08-68	■ PW-10Lb
★ PW-02L				

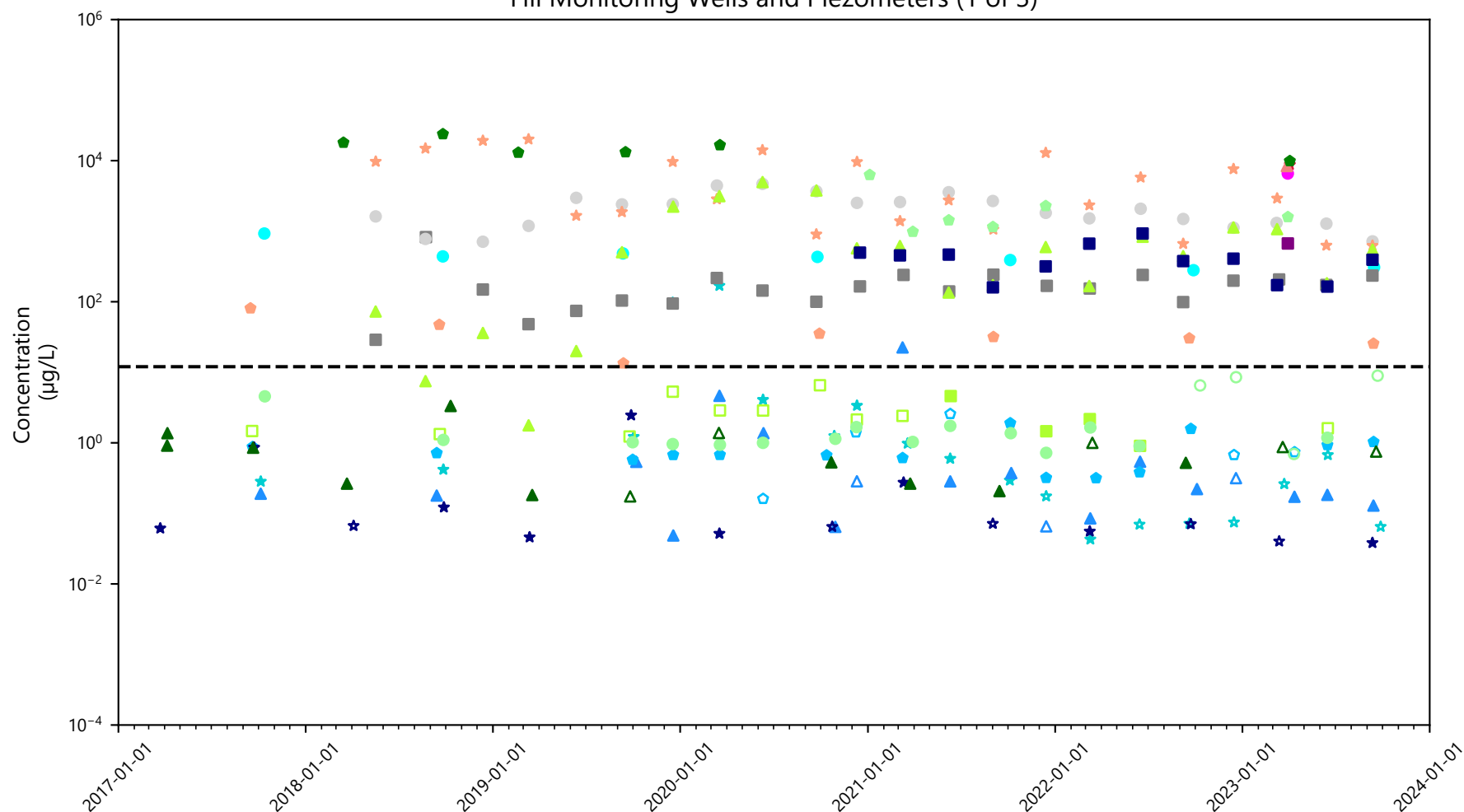


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— Benzo(a)pyrene CUL	▲ MW-19-180	■ PZ6-150	★ PZ9-150	◊ WS-16-161
● MW-05-175	● MW-21-165	● PZ7-150	▲ WS-12-161	■ WS-47-183
★ MW-18-180				

Fill Monitoring Wells and Piezometers (1 of 3)



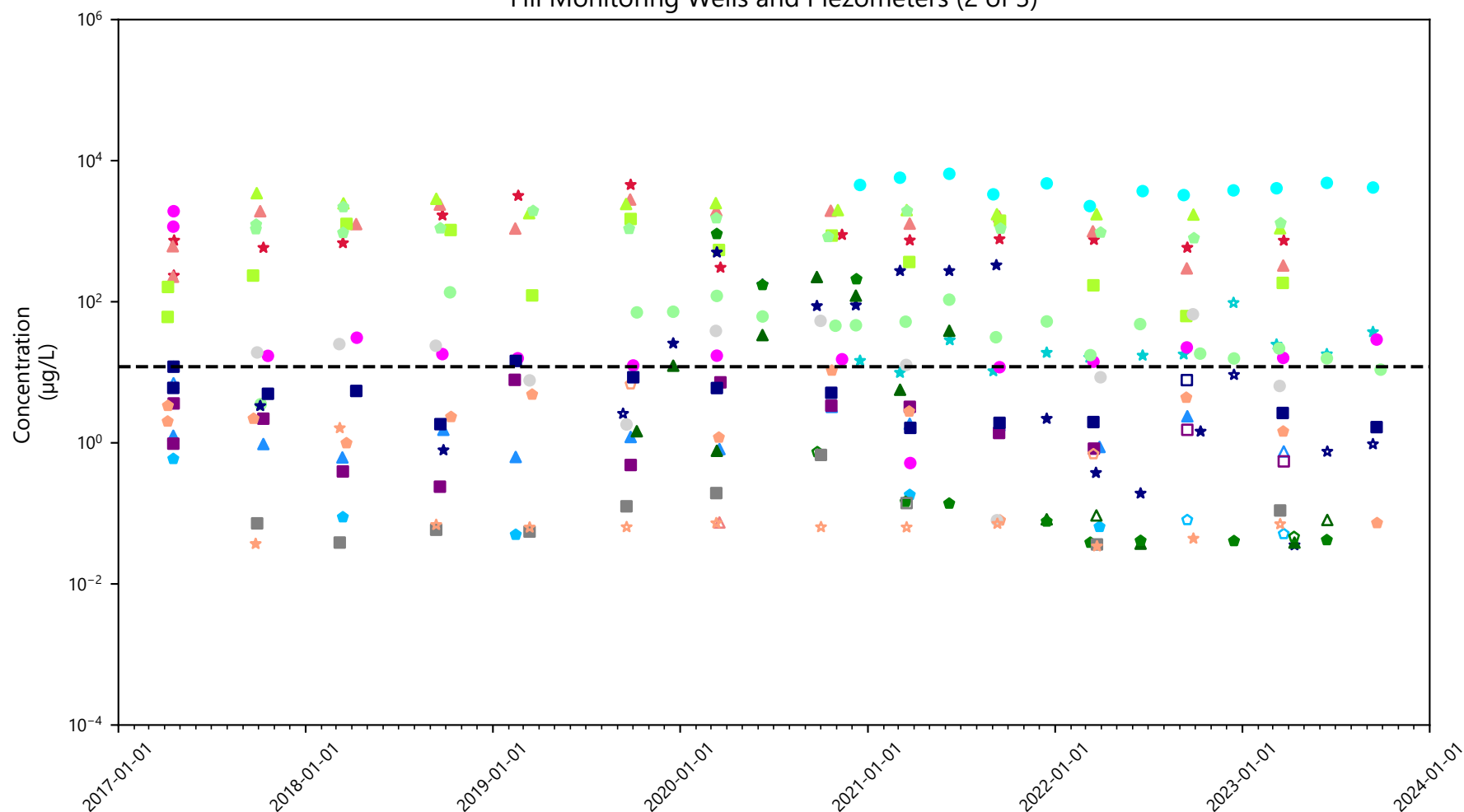
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— Naphthalene CUL	MW-06-32	MW-19-22	MW-42F	MW-48F
MW-01-22	MW-10-25	MW-21-12	MW-45F	MW-49F
MW-02-32	MW-11-32	MW-23-27	MW-46F	MW-50F
MW-03-26	MW-18-30	MW-40F	MW-47F	MW-51F
MW-04-35				

Fill Monitoring Wells and Piezometers (2 of 3)



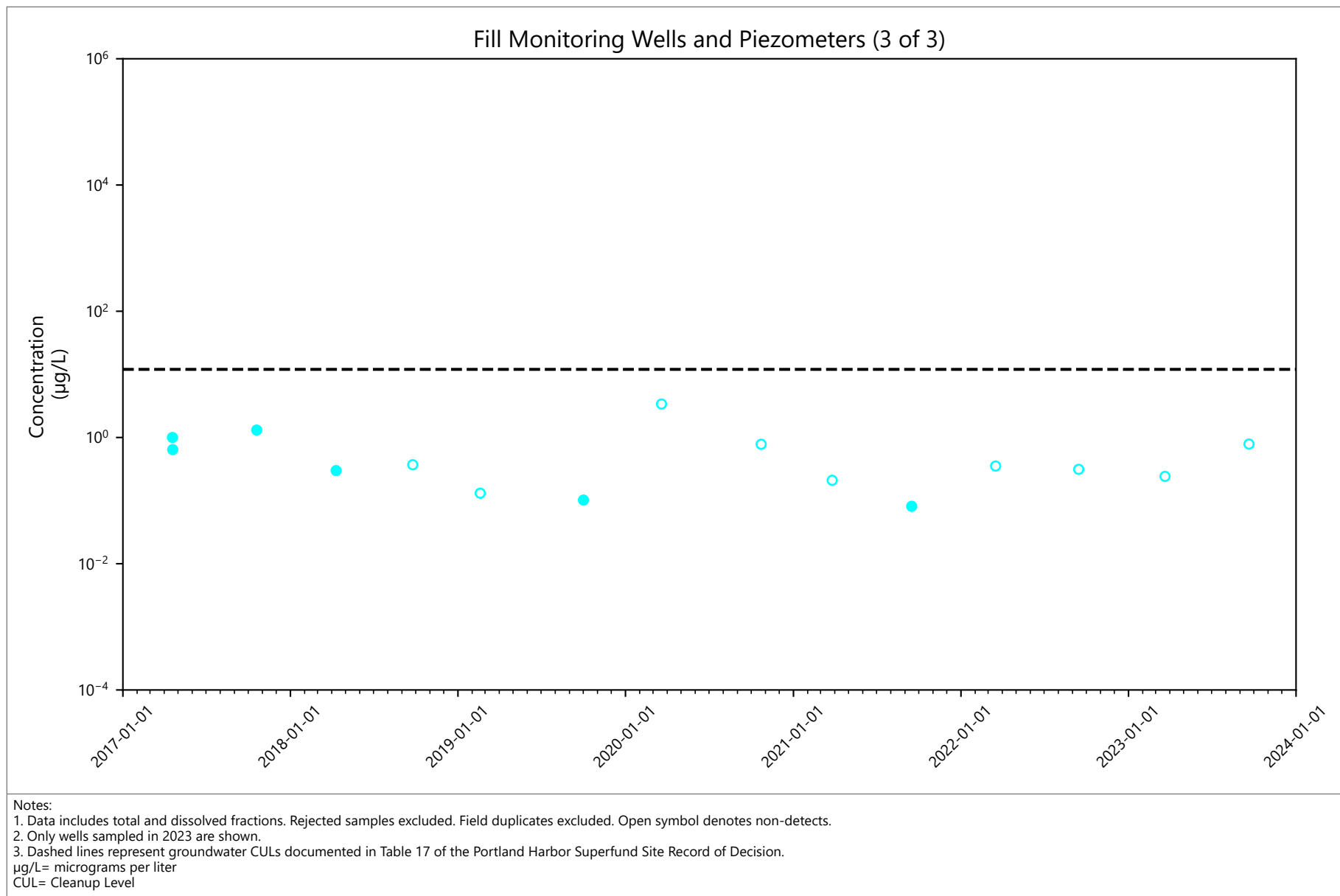
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— Naphthalene CUL	■ NWN-07-30	★ OW-1F	▲ OW-8-15	★ PZ7-5
● MW-52F	● NWN-09-31	■ OW-2F	● OW-9-25	▲ PZ8-5
★ MW-53F	★ NWN-11-24	● OW-5F	■ PZ5-5	● PZ9-5
▲ NWN-02-20	▲ NWN-13-23	★ OW-7-17	● PZ6-5	■ WS-08-33
● NWN-03-17				

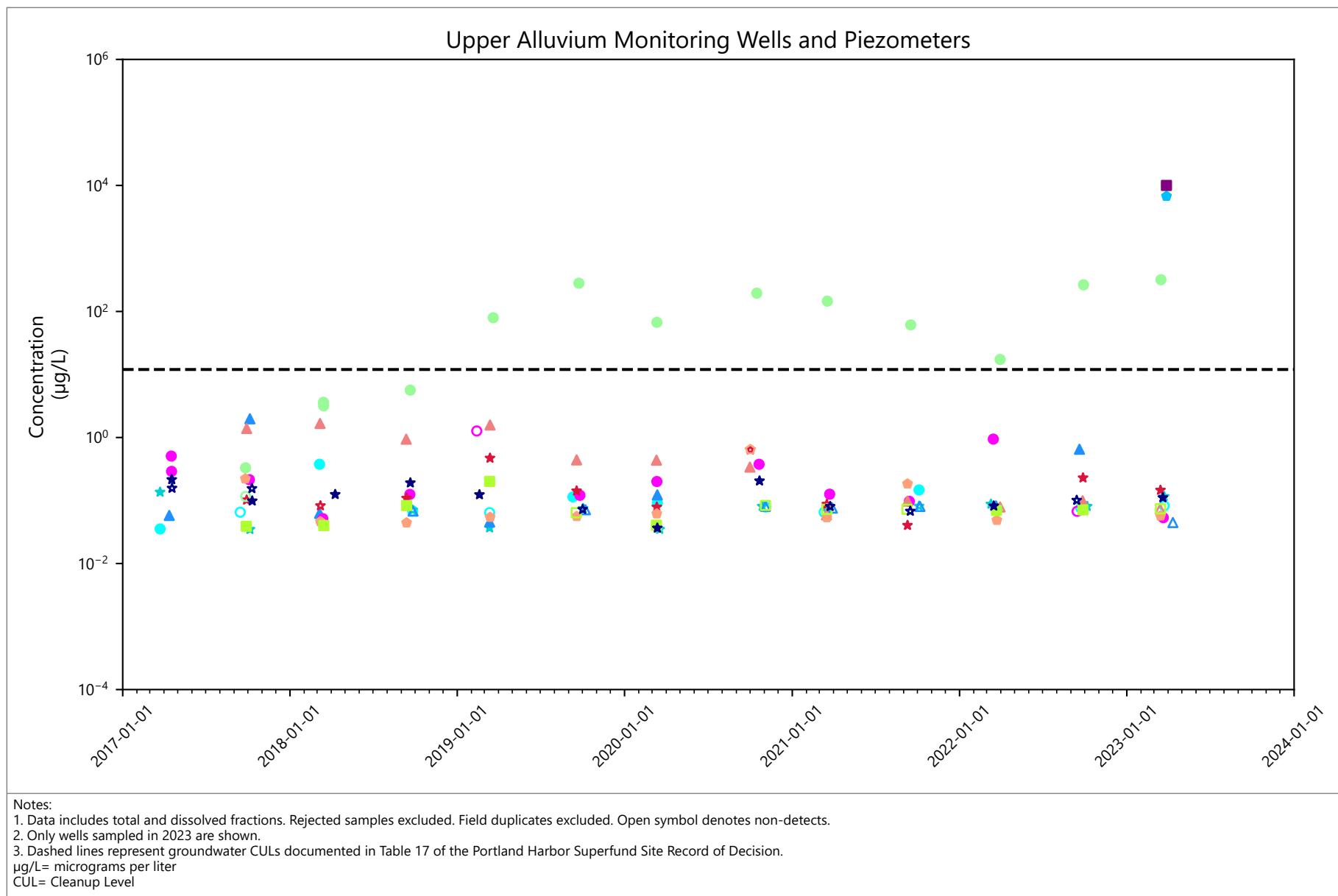


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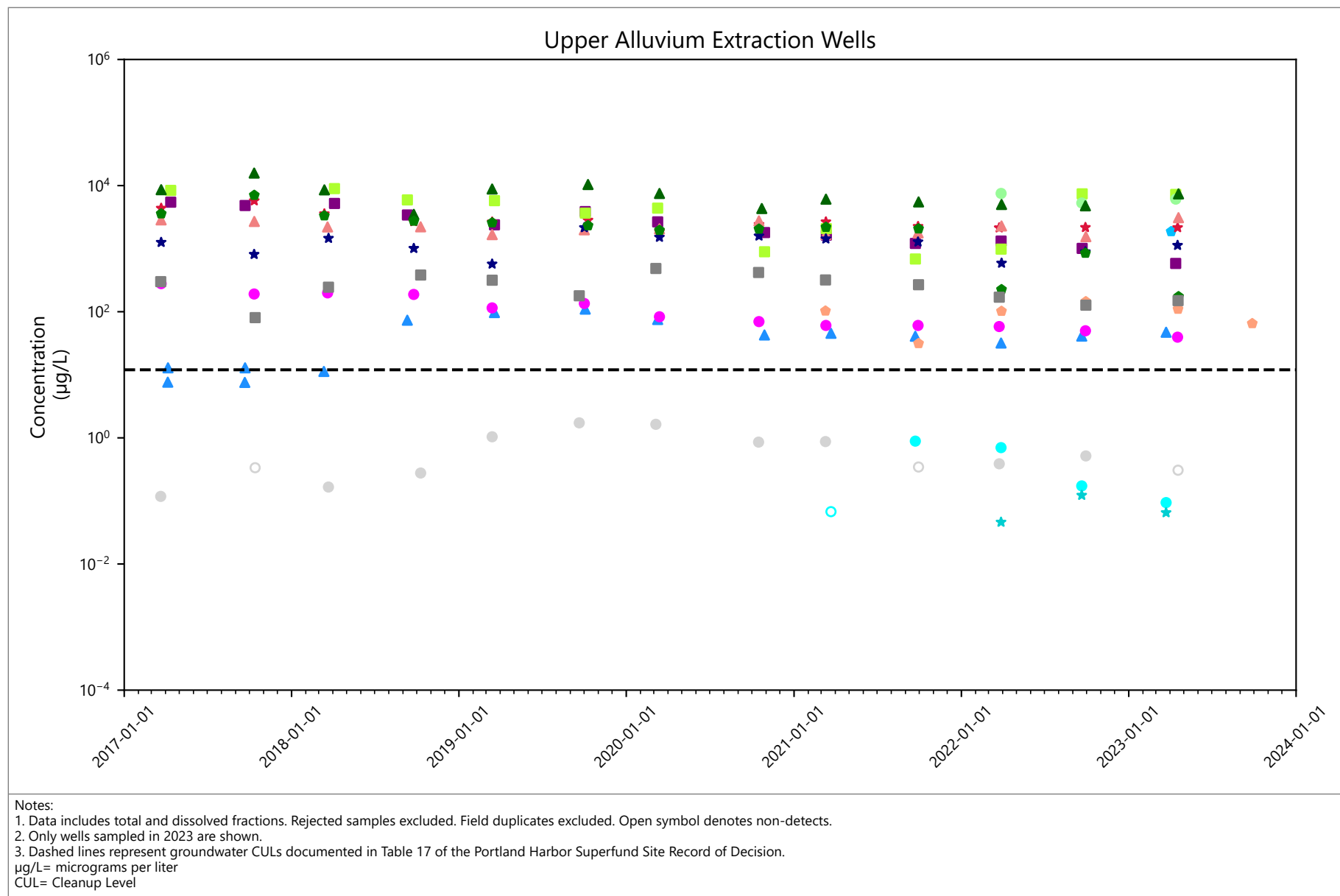
--- Naphthalene CUL ● WS-09-34



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— Naphthalene CUL	▲ MW-22U	● NWN-13-73	● PZ7-50	● PZ9-50
● MW-01-55	● MW-26U	★ PZ5-20	■ PZ8-50	★ WS-08-59
★ MW-02-61	■ MW-38U	▲ PZ6-50		

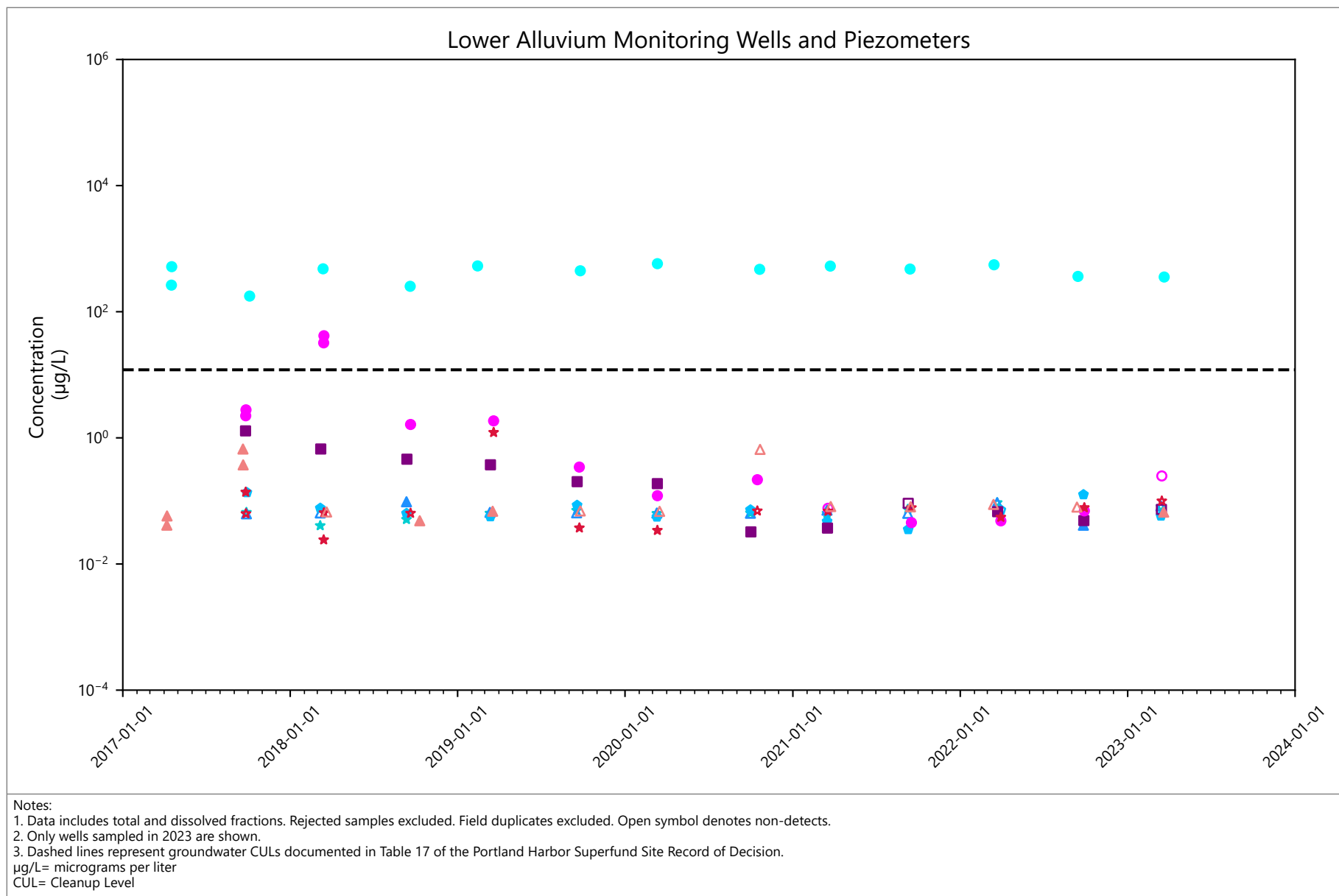


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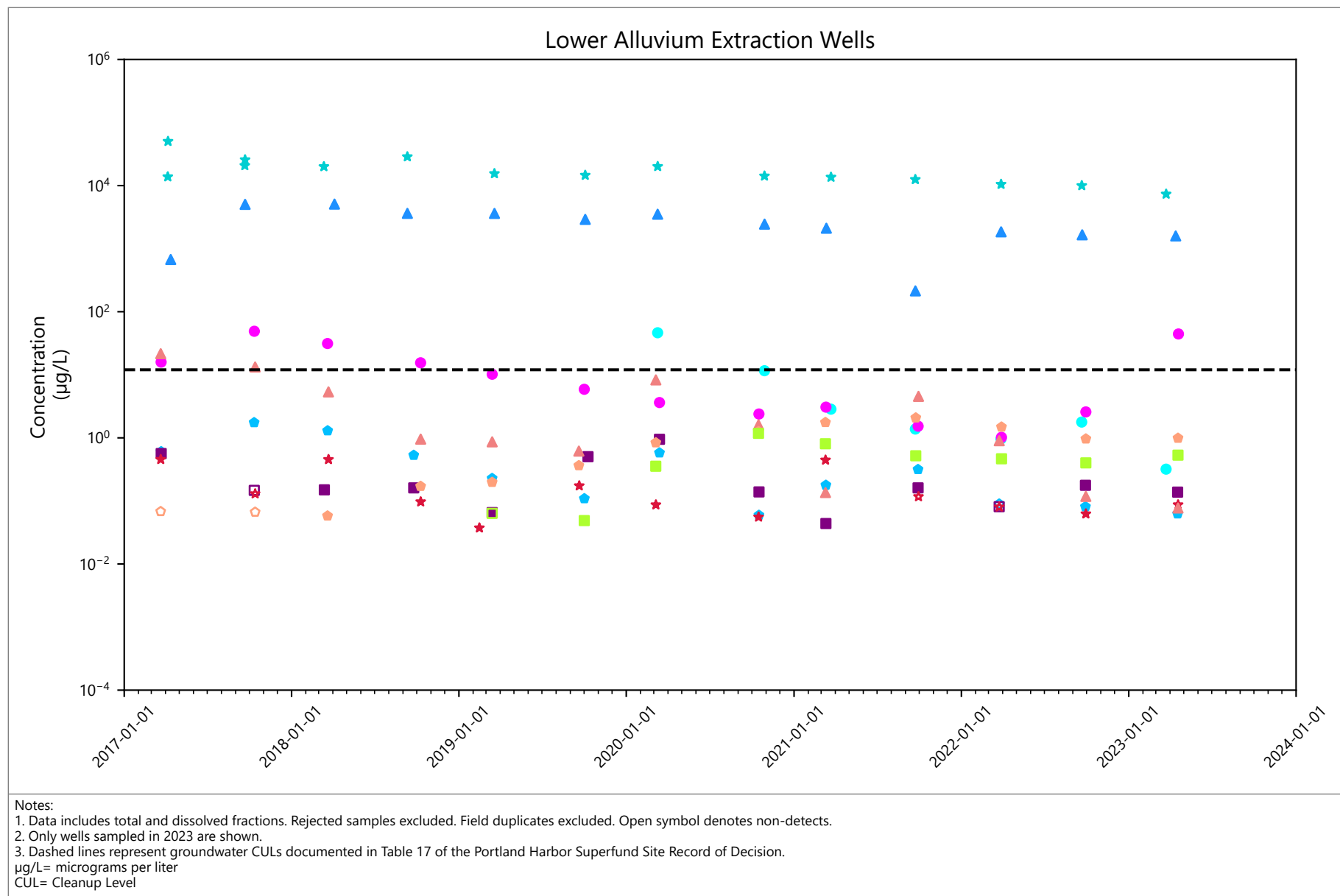
— Naphthalene CUL	PW-03-85	PW-06U	PW-11Ub	PW-14U
PW-01U	PW-03U	PW-08Ub	PW-12U	PW-15U
PW-01Uc	PW-04U	PW-11U	PW-13U	PW-16U
PW-02U	PW-05U			



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— Naphthalene CUL	★ PZ5-55	◆ PZ6-115	● PZ9-110	▲ WS-12-125
● NWN-13-106	▲ PZ5-85	■ PZ7-100	★ PZ9-75	



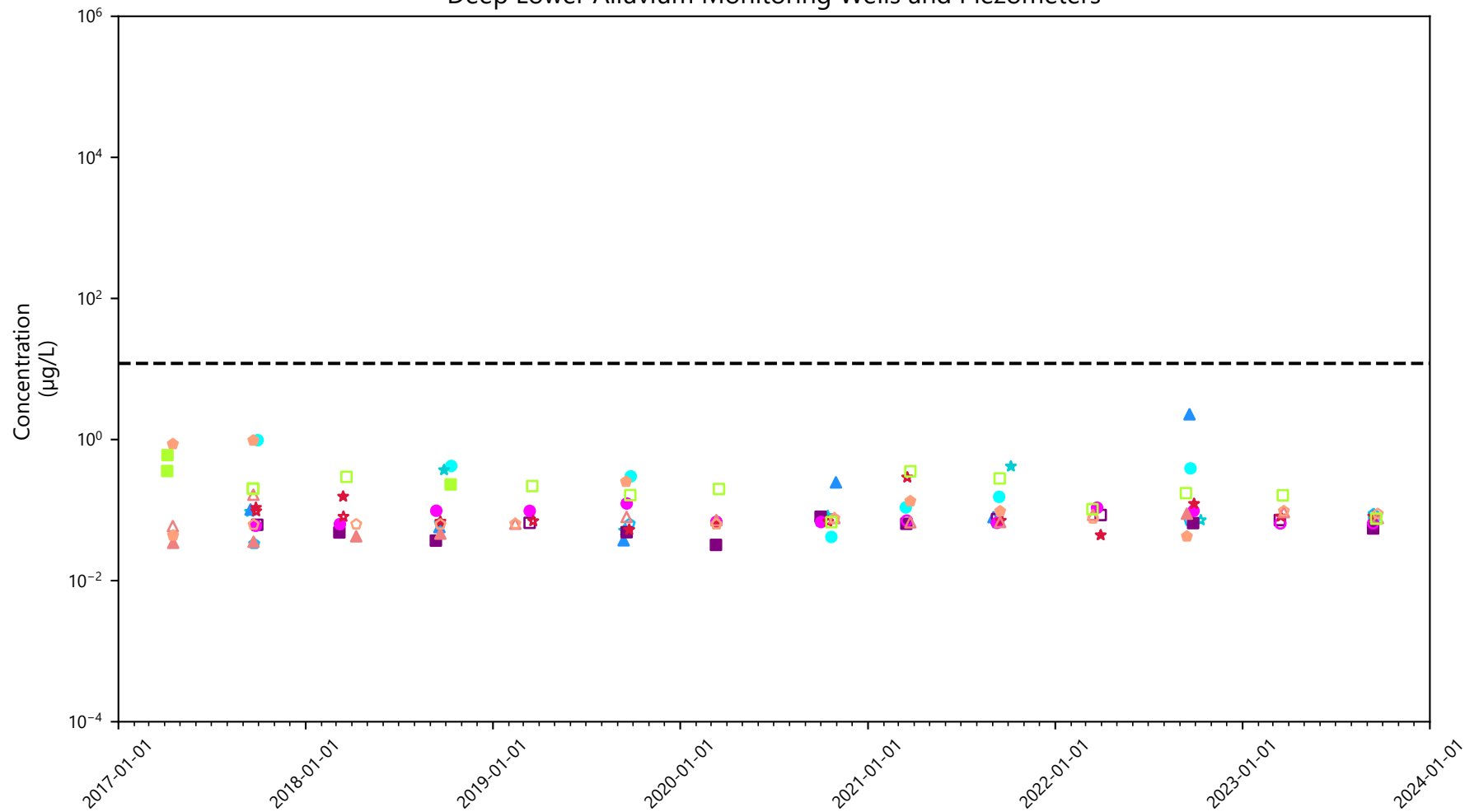
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— Naphthalene CUL	▲ PW-03-118	■ PW-05L	★ PW-07-93	◊ PW-09-92
● PW-01Lb	● PW-04L	● PW-06L	▲ PW-08-68	■ PW-10Lb
★ PW-02L				

Deep Lower Alluvium Monitoring Wells and Piezometers



Notes:

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— Naphthalene CUL
● MW-05-175
★ MW-18-180

▲ MW-19-180
● MW-21-165

■ PZ6-150
● PZ7-150

★ PZ9-150
▲ WS-12-161

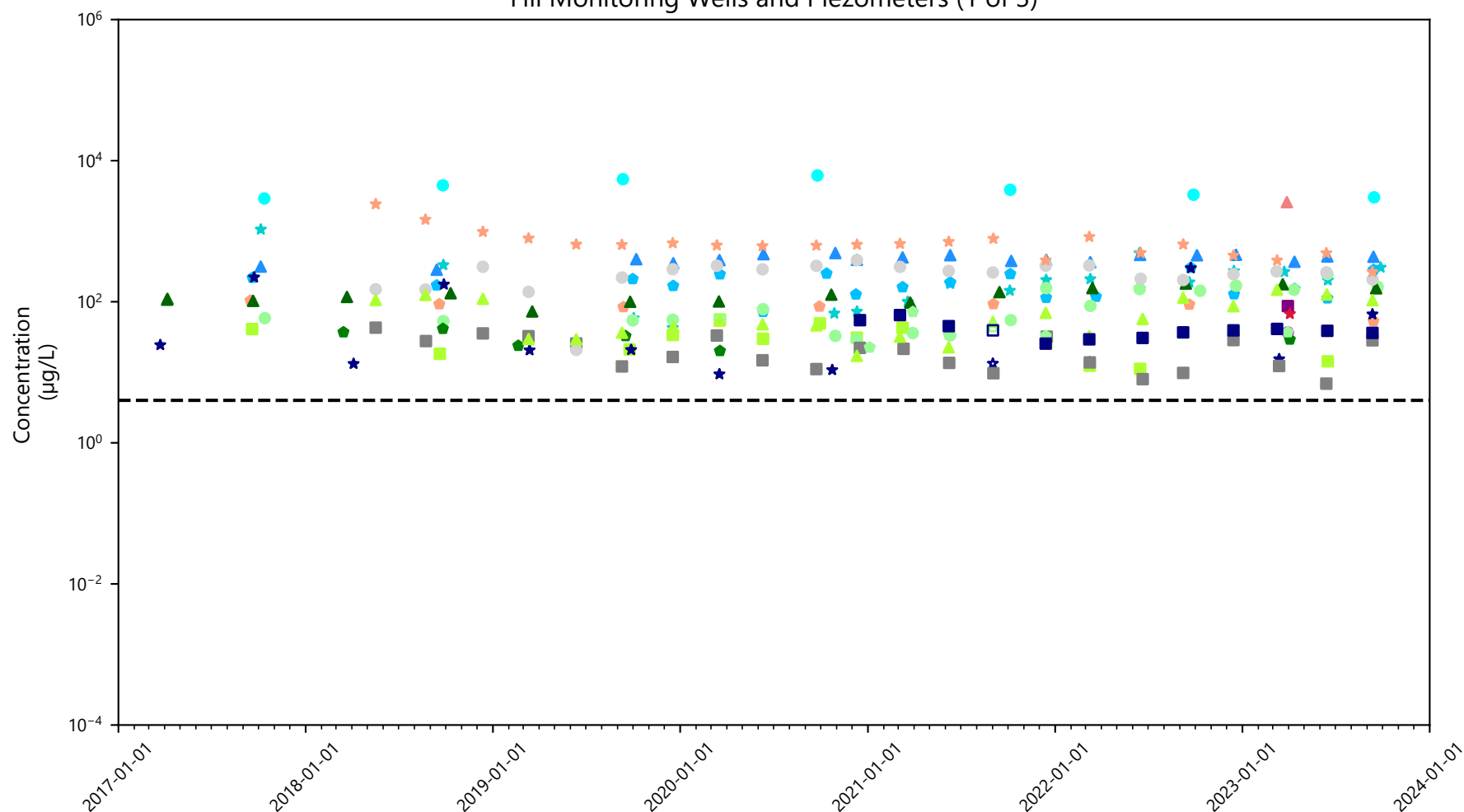
● WS-16-161
■ WS-47-183

C.3.c.8

Naphthalene Concentration

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Fill Monitoring Wells and Piezometers (1 of 3)



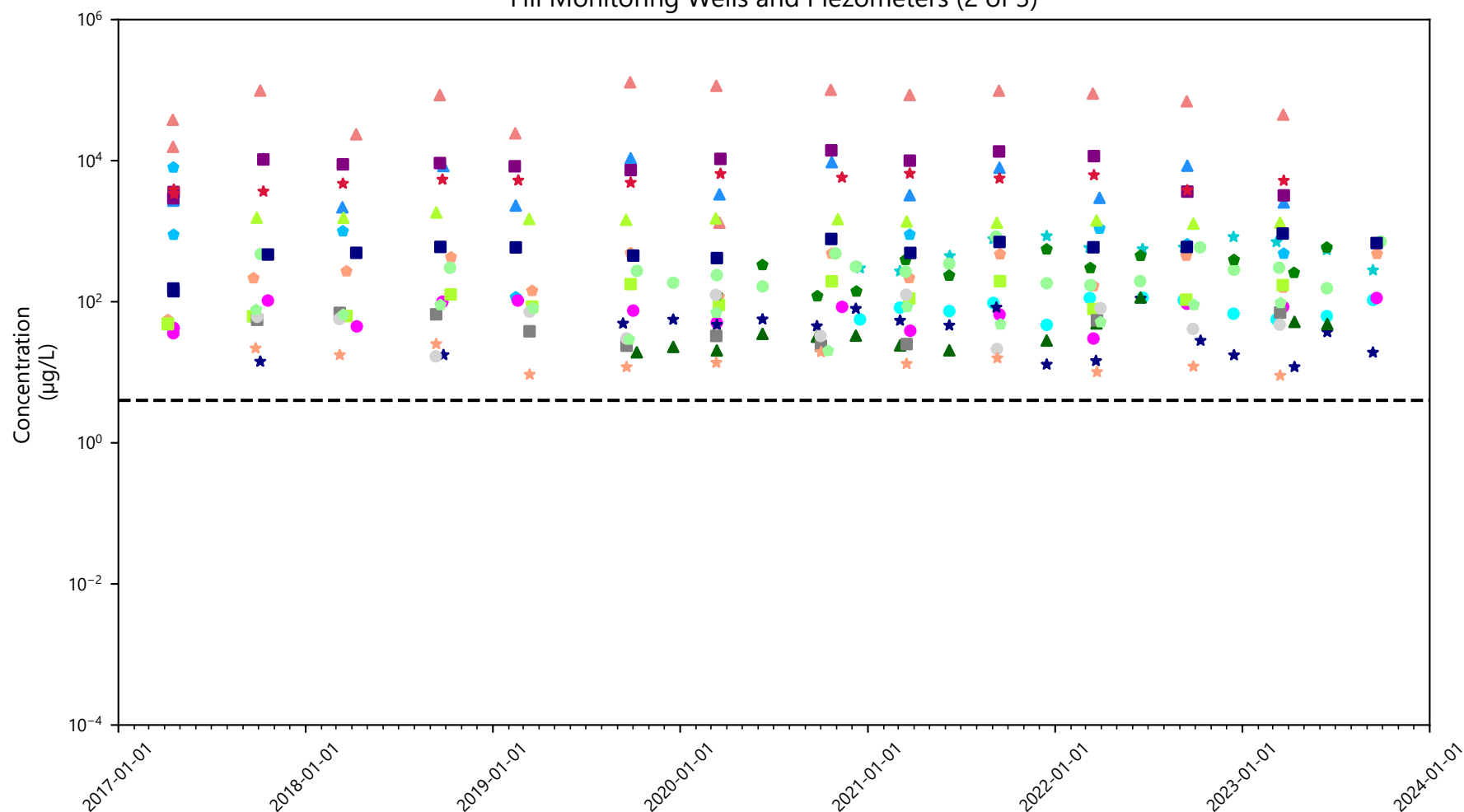
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— Cyanide CUL	MW-06-32	MW-19-22	MW-42F	MW-48F
MW-01-22	MW-10-25	MW-21-12	MW-45F	MW-49F
MW-02-32	MW-11-32	MW-23-27	MW-46F	MW-50F
MW-03-26	MW-18-30	MW-40F	MW-47F	MW-51F
MW-04-35				

Fill Monitoring Wells and Piezometers (2 of 3)



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
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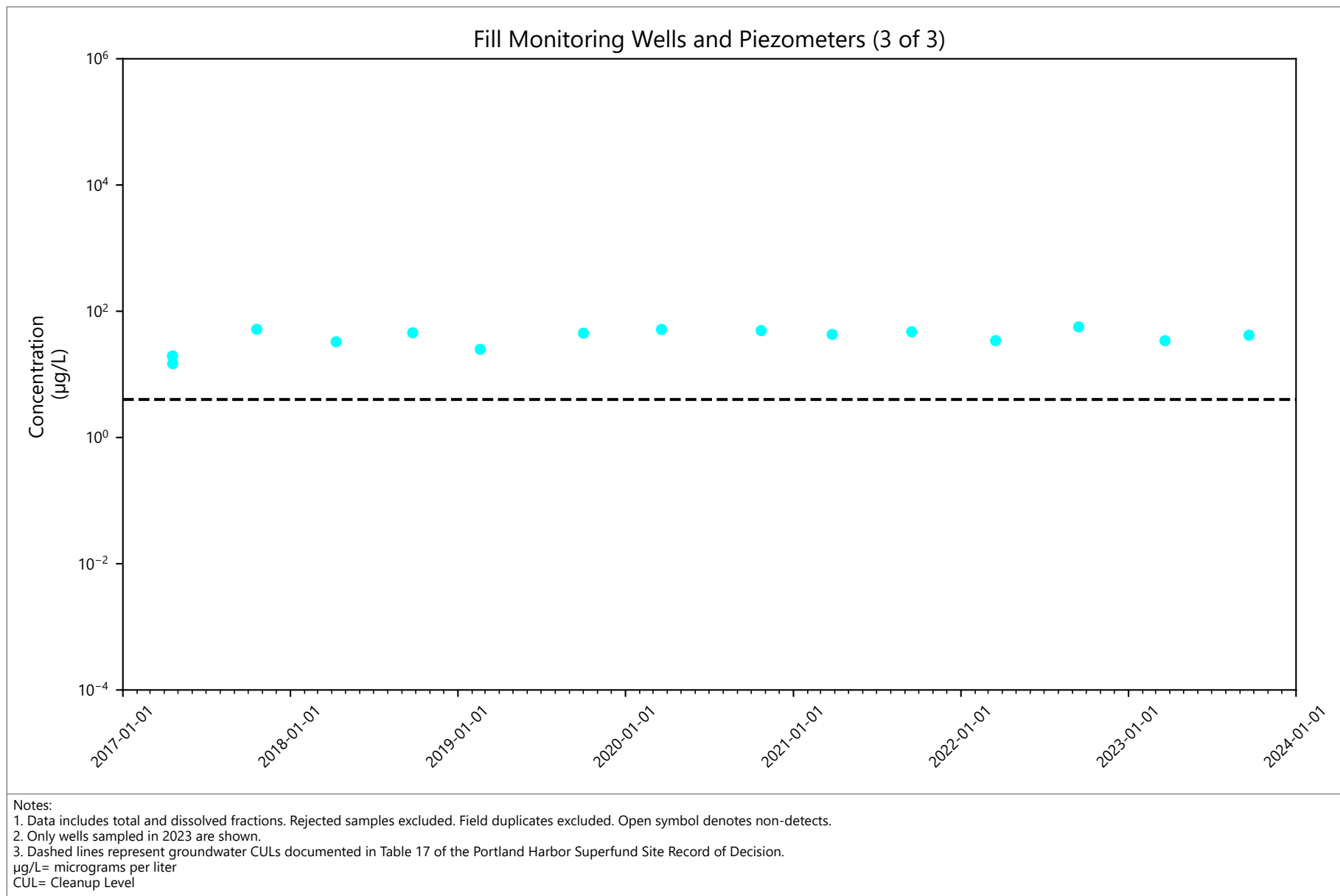


— Cyanide CUL	NWN-07-30	OW-1F	OW-8-15	PZ7-5
MW-52F	NWN-09-31	OW-2F	OW-9-25	PZ8-5
MW-53F	NWN-11-24	OW-5F	PZ5-5	PZ9-5
NWN-02-20	NWN-13-23	OW-7-17	PZ6-5	WS-08-33
NWN-03-17				

C.3.d.2

Cyanide Concentration

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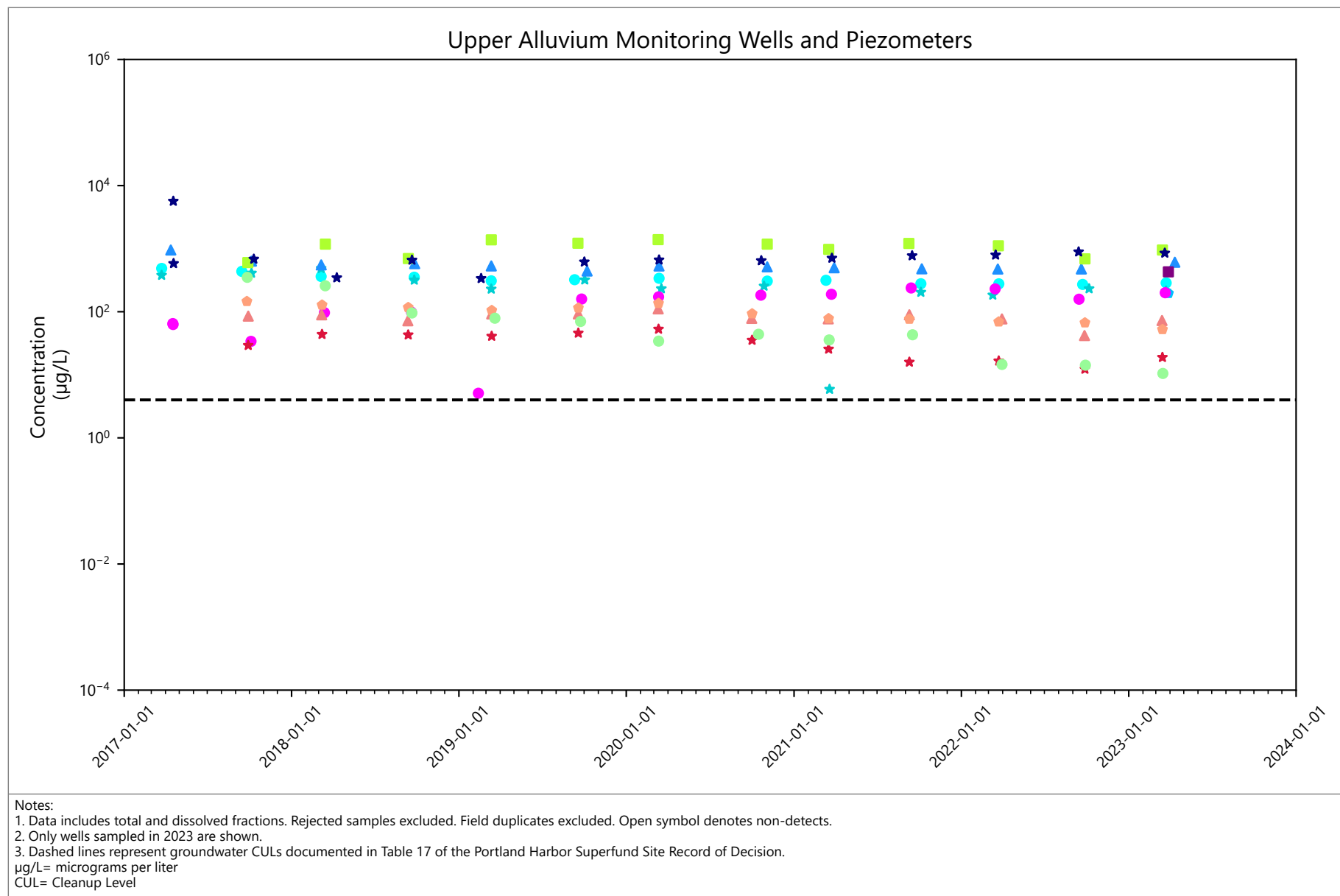


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--- Cyanide CUL ● WS-09-34

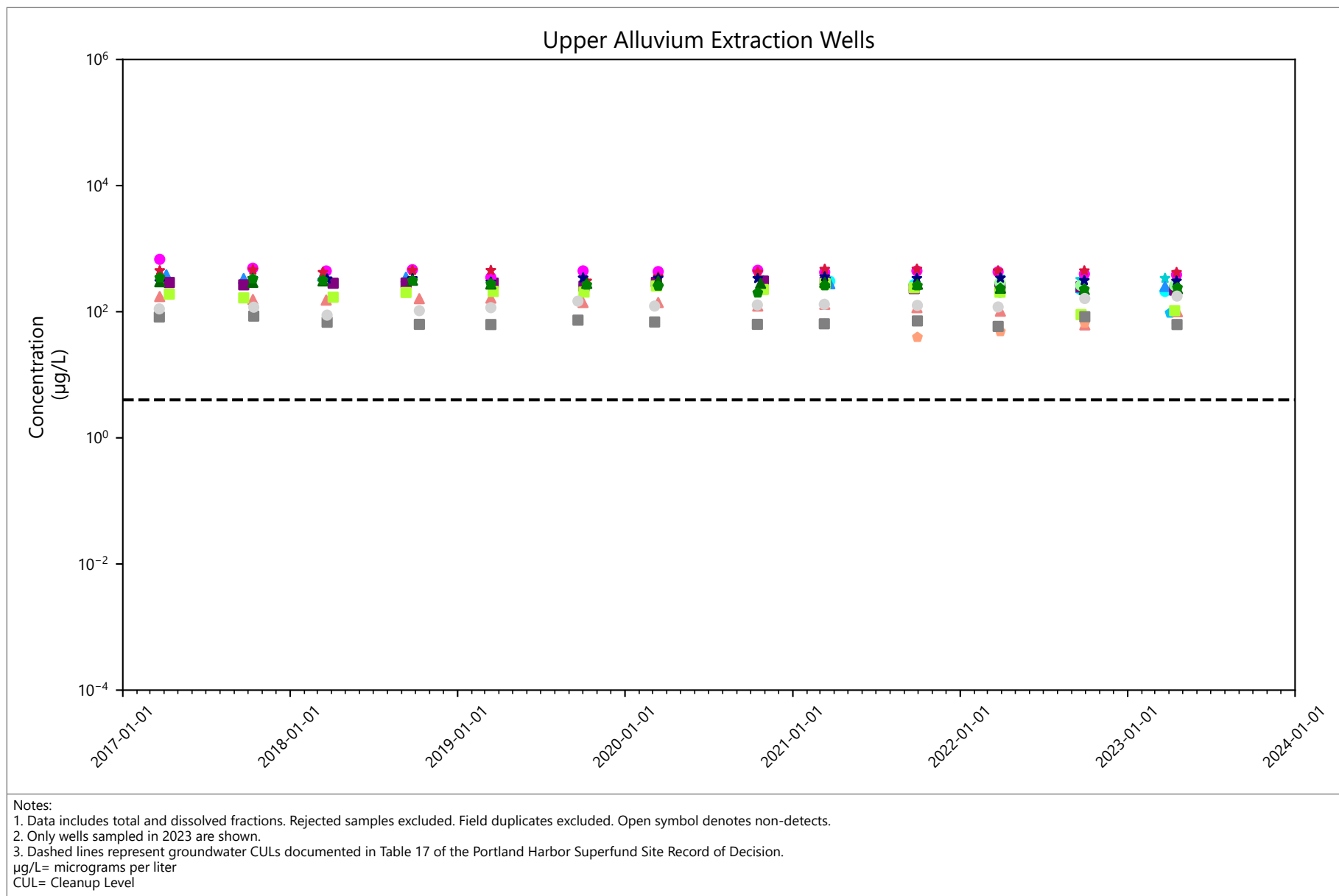


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— Cyanide CUL	▲ MW-22U	● NWN-13-73	● PZ7-50	● PZ9-50
● MW-01-55	● MW-26U	★ PZ5-20	■ PZ8-50	★ WS-08-59
★ MW-02-61	■ MW-38U	▲ PZ6-50		

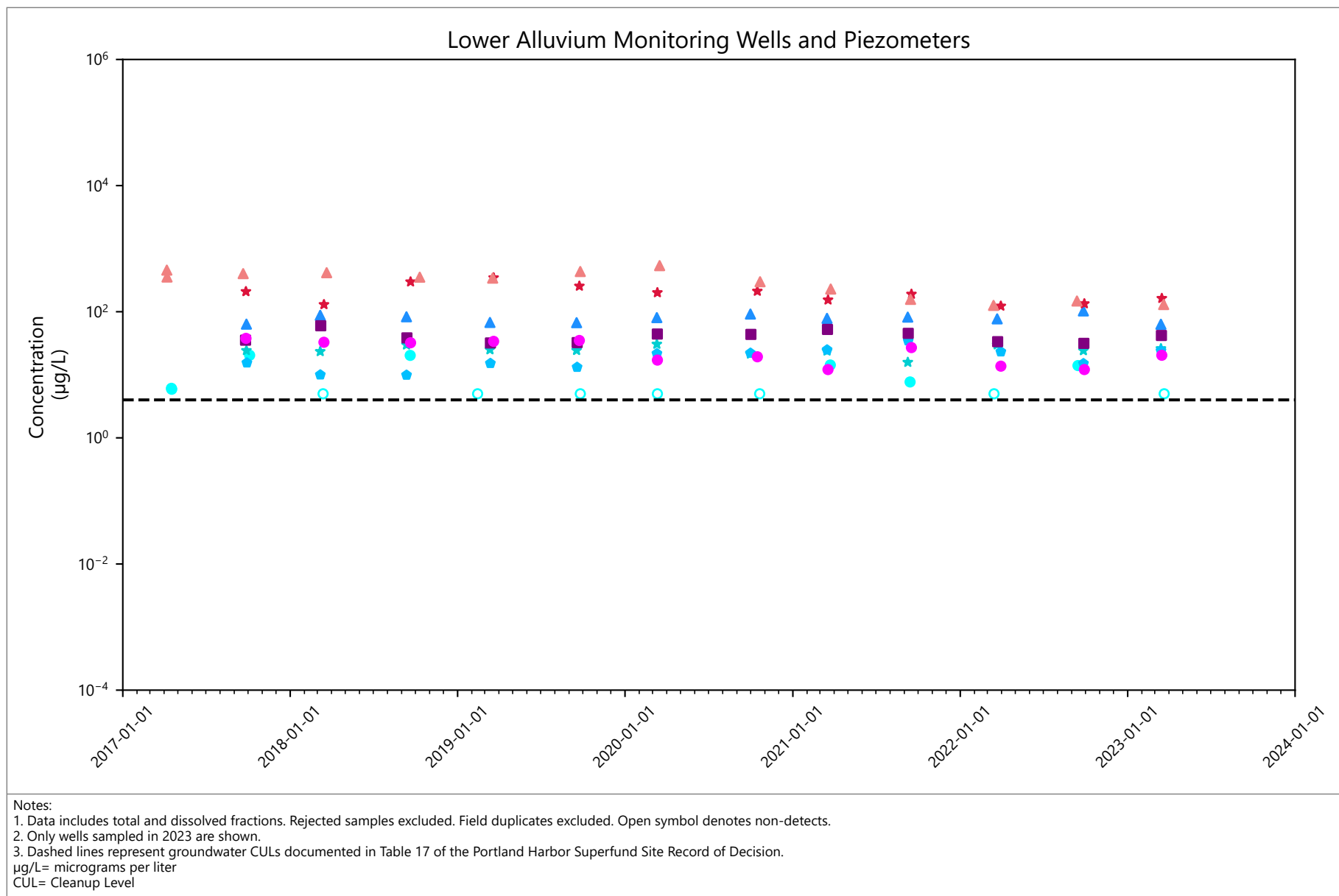


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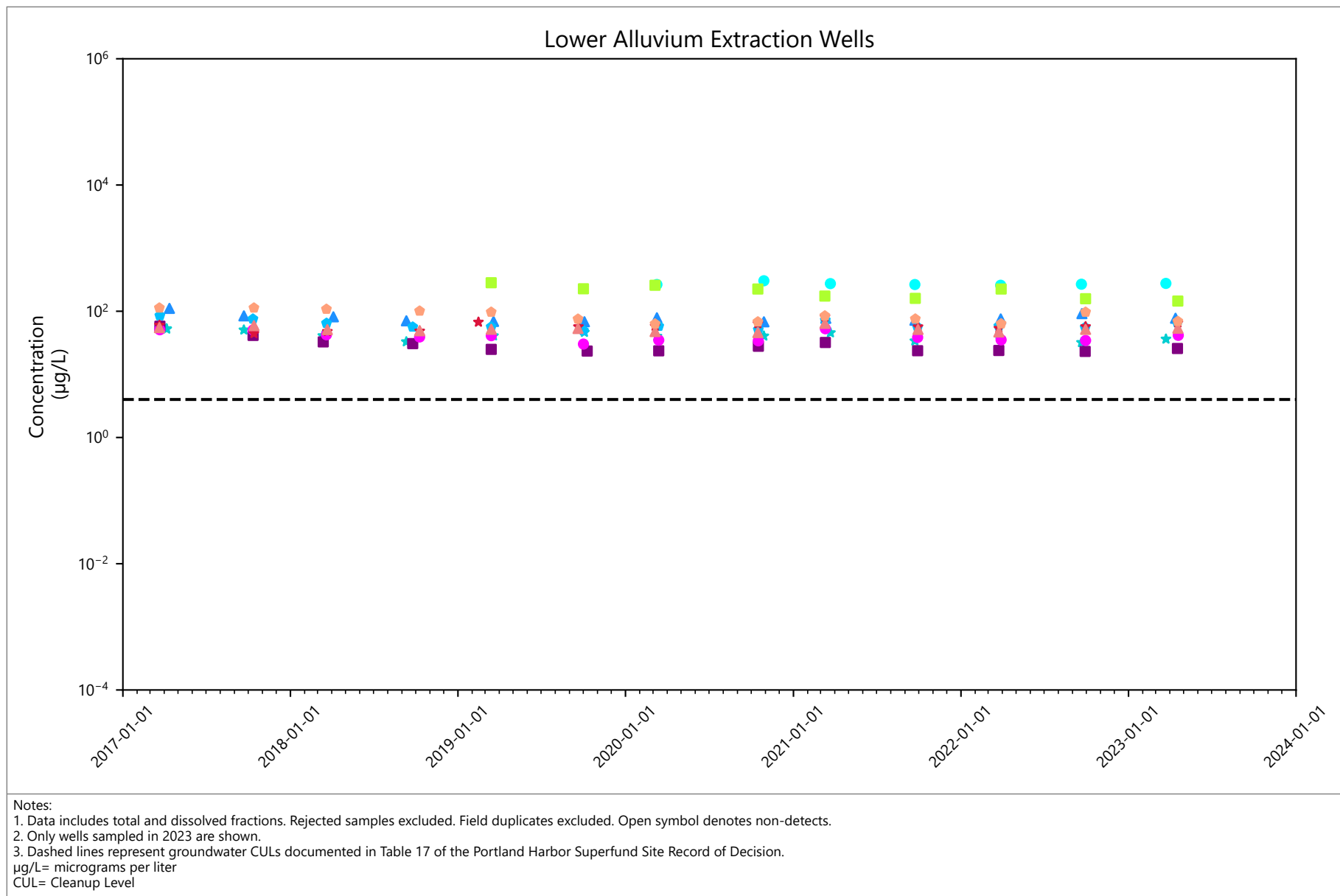
— Cyanide CUL	PW-03-85	PW-06U	PW-11Ub	PW-14U
PW-01U	PW-03U	PW-08Ub	PW-12U	PW-15U
PW-01Uc	PW-04U	PW-11U	PW-13U	PW-16U
PW-02U	PW-05U			



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— Cyanide CUL	★ PZ5-55	⬢ PZ6-115	● PZ9-110	▲ WS-12-125
● NWN-13-106	▲ PZ5-85	■ PZ7-100	★ PZ9-75	

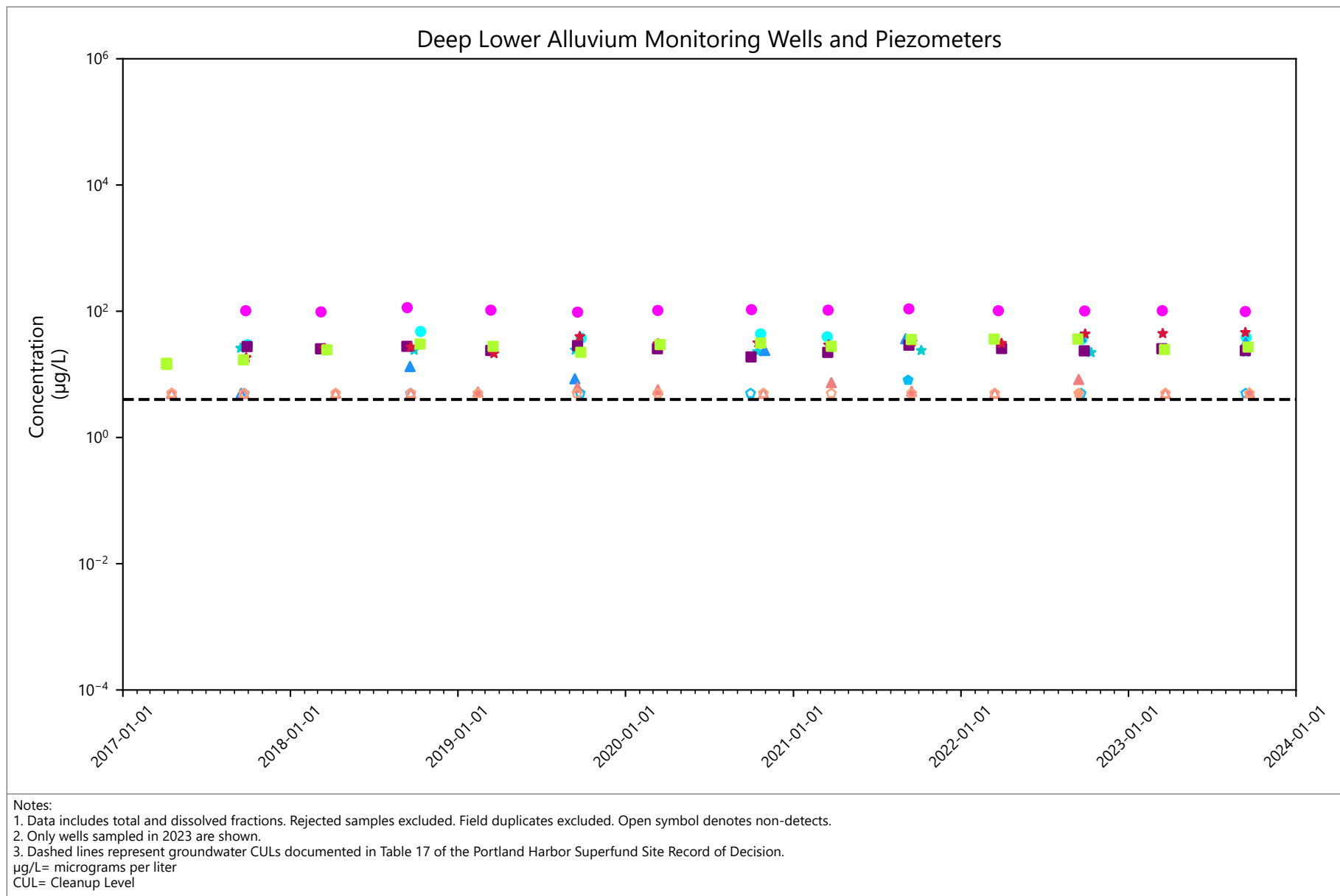


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— Cyanide CUL	▲ PW-03-118	■ PW-05L	★ PW-07-93	◊ PW-09-92
● PW-01Lb	● PW-04L	● PW-06L	▲ PW-08-68	■ PW-10Lb
★ PW-02L				



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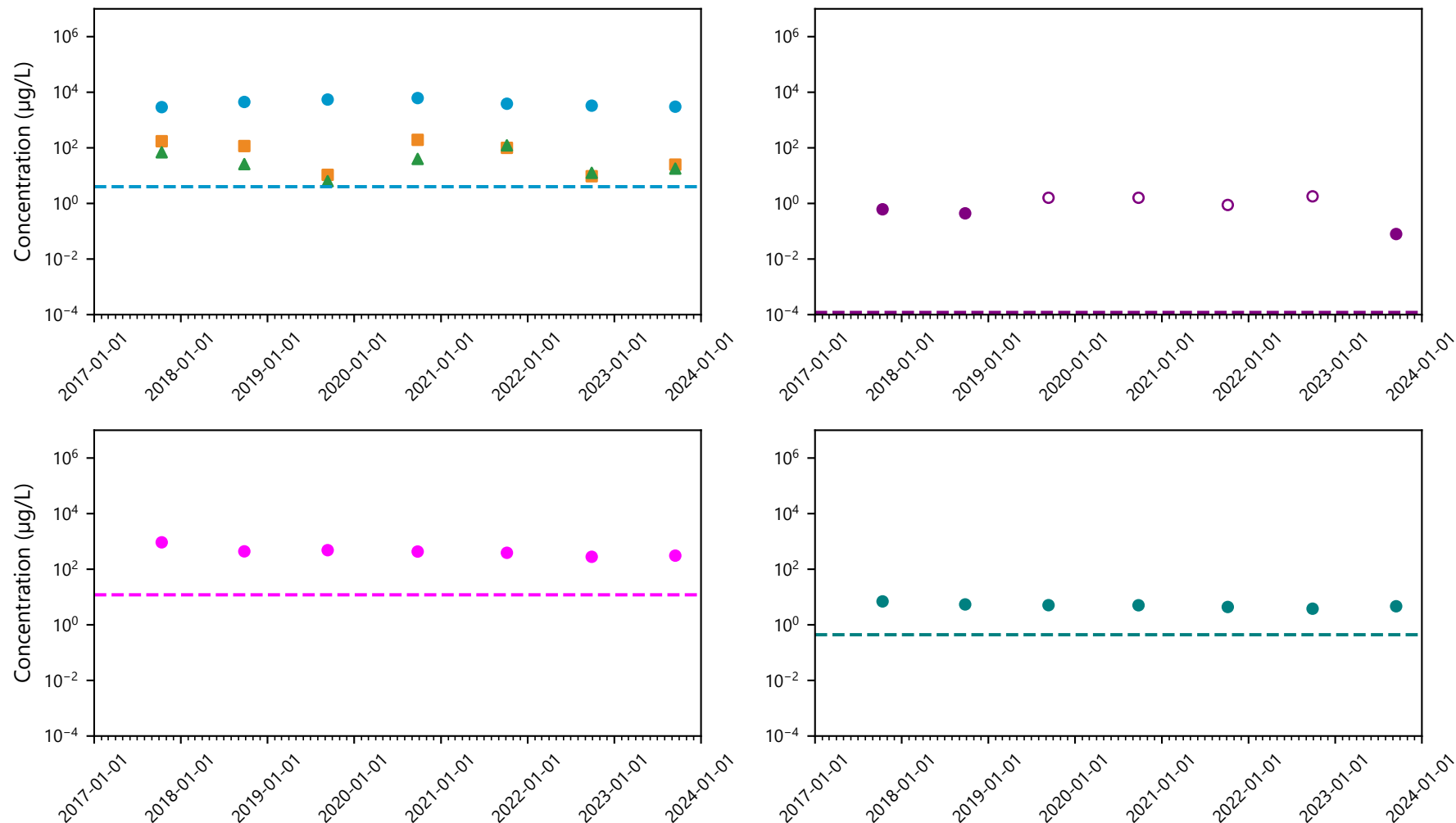
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— Cyanide CUL	▲ MW-19-180	■ PZ6-150	★ PZ9-150	◊ WS-16-161
● MW-05-175	● MW-21-165	● PZ7-150	▲ WS-12-161	■ WS-47-183
★ MW-18-180				

Appendix C4

Concentrations of Contaminants for Individual Wells



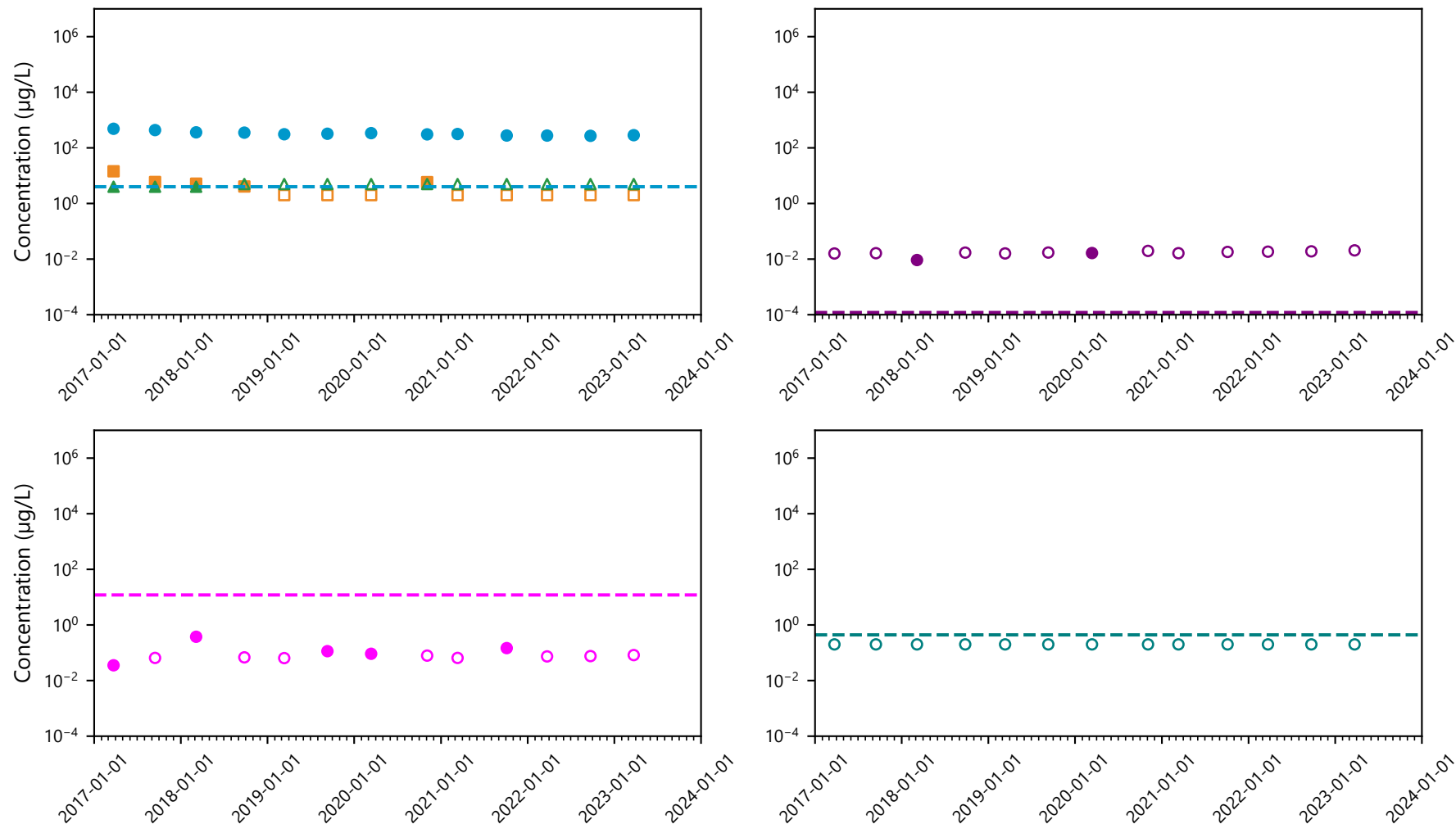
Notes:
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 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.1
Monitoring Wells and Piezometers: MW-01-22
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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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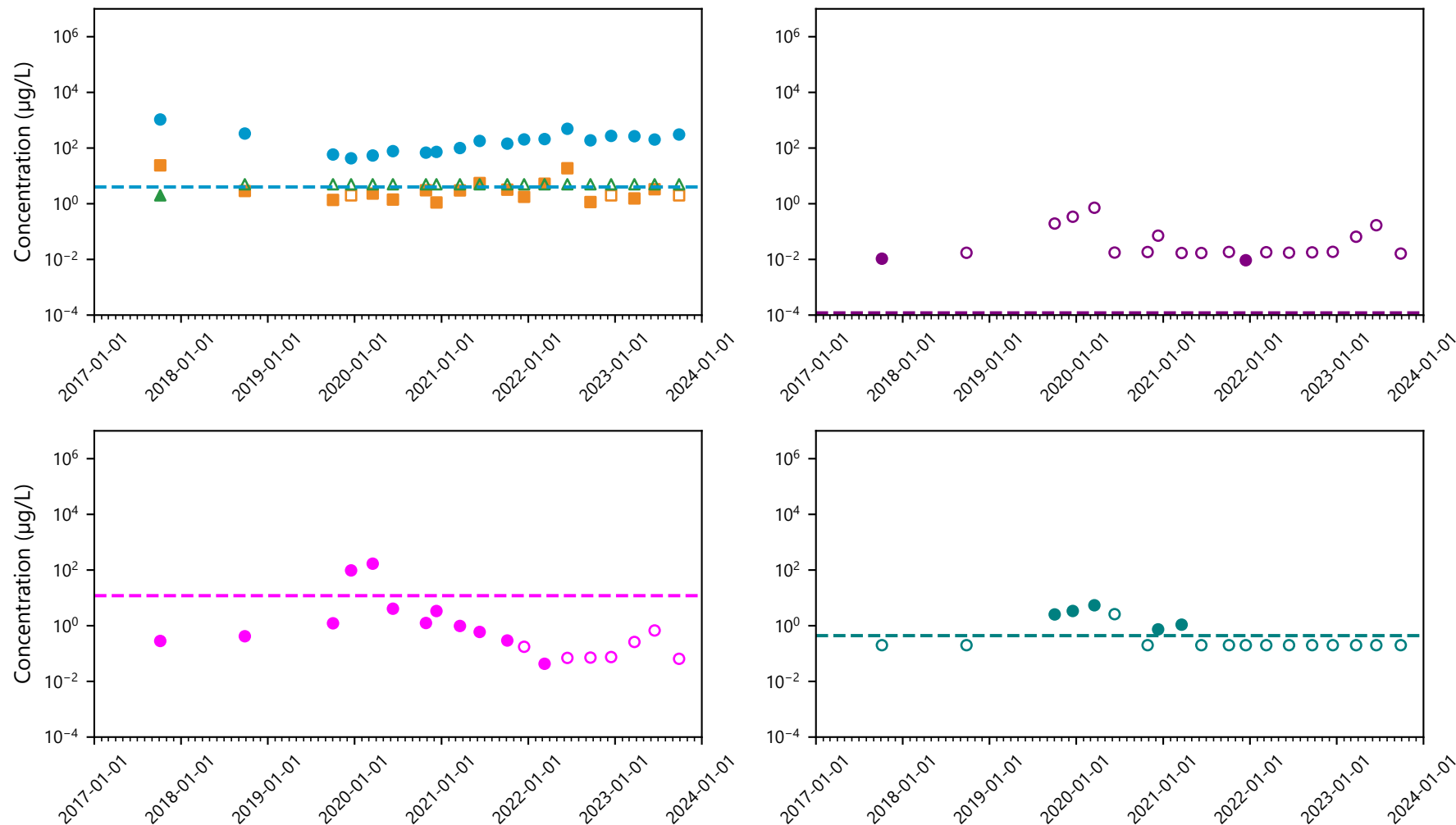
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.2
Monitoring Wells and Piezometers: MW-01-55

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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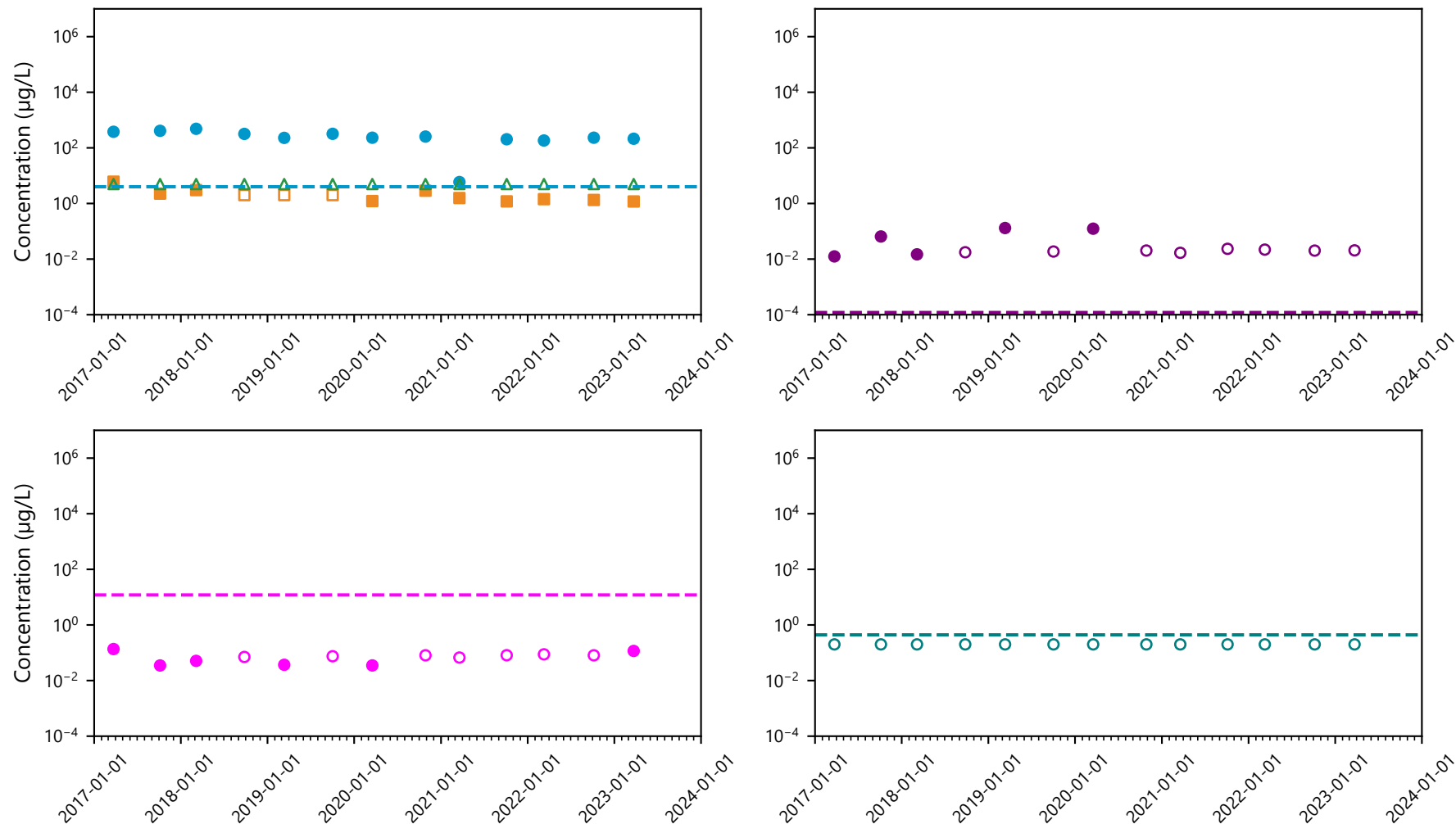


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

Monitoring Wells and Piezometers: MW-02-32

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C.4.a.3



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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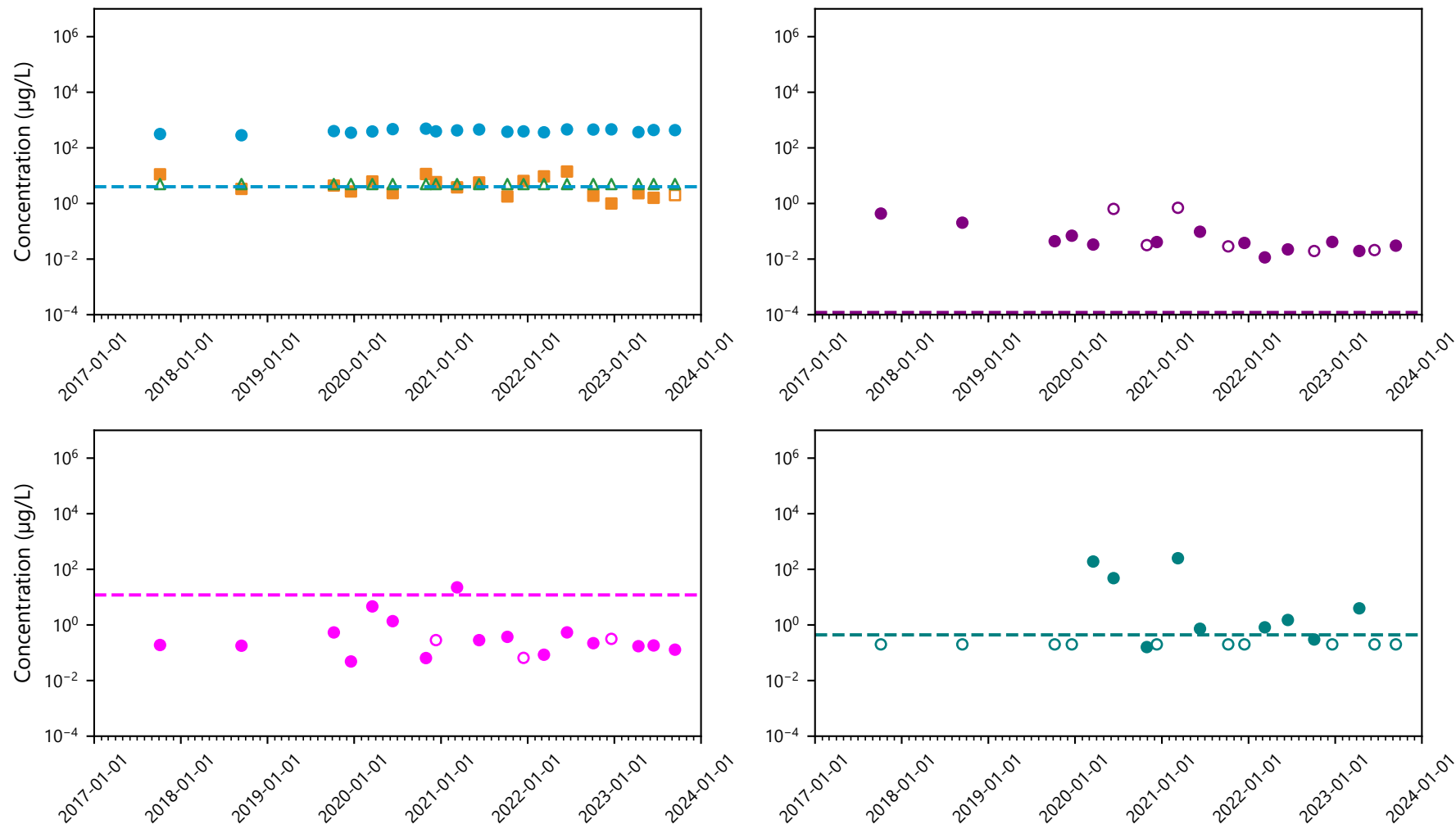
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.4
Monitoring Wells and Piezometers: MW-02-61

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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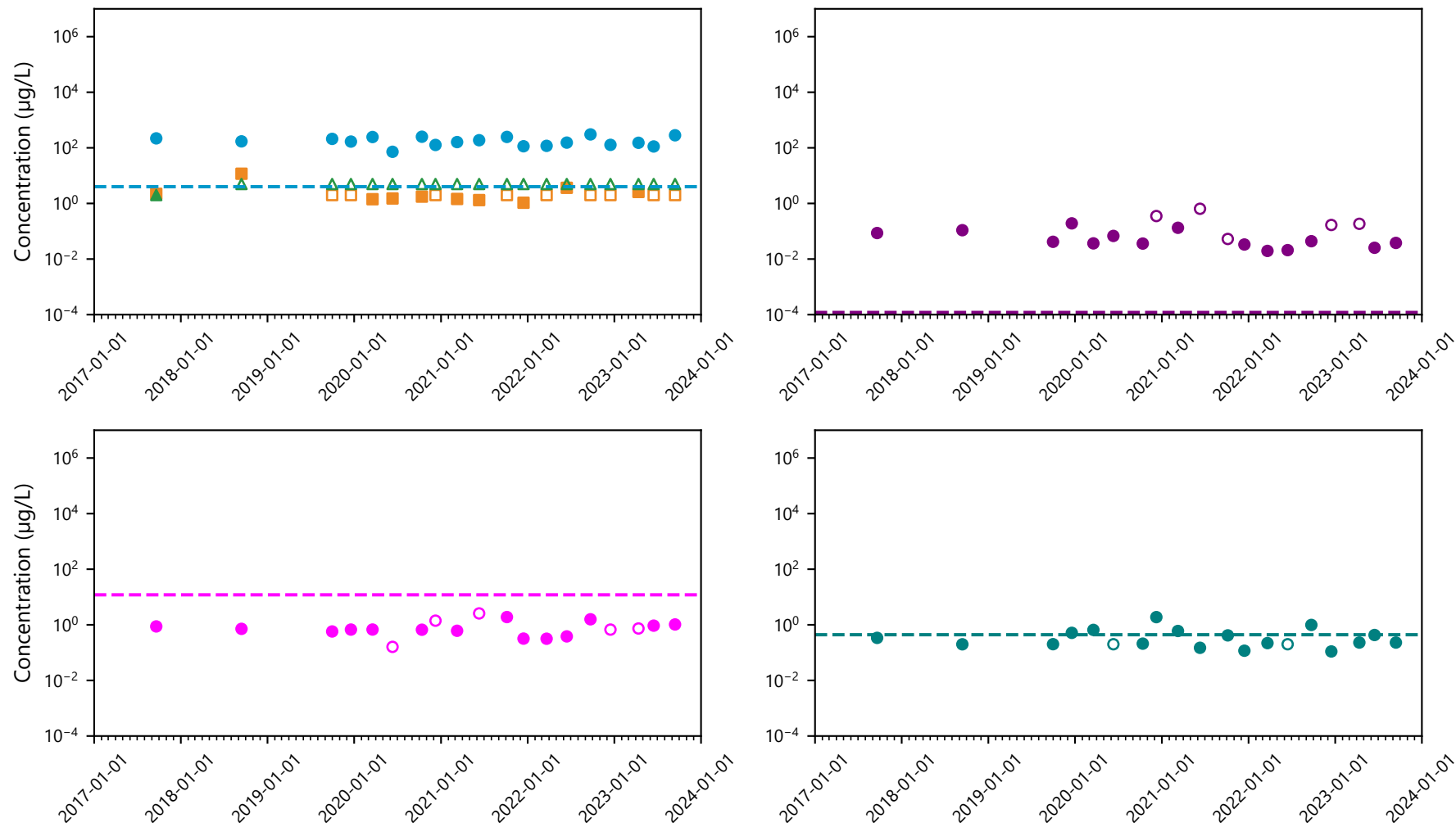
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Naphthalene
- Benzene
- Benzo(a)pyrene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.5
Monitoring Wells and Piezometers: MW-03-26

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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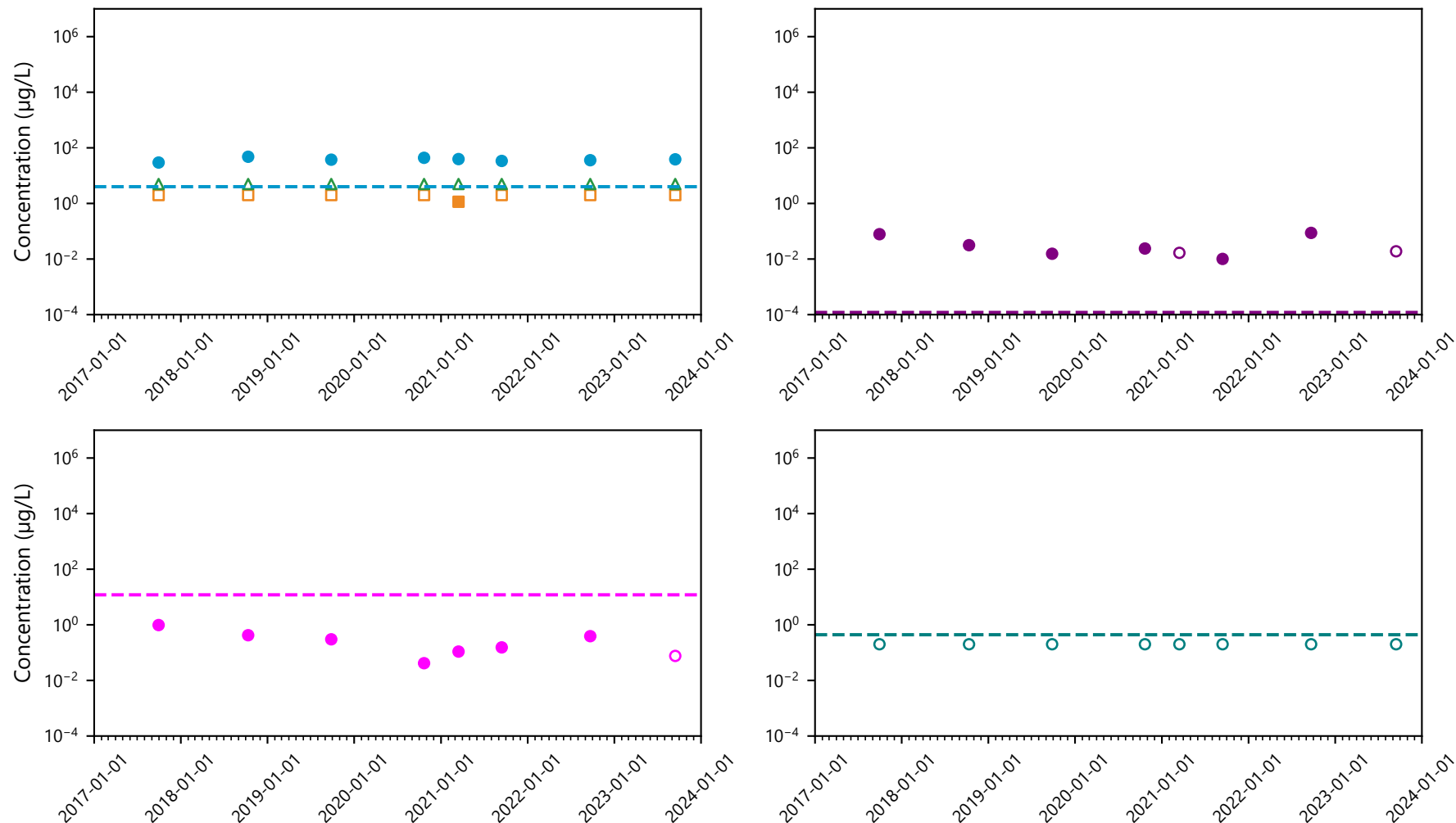
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.6
Monitoring Wells and Piezometers: MW-04-35

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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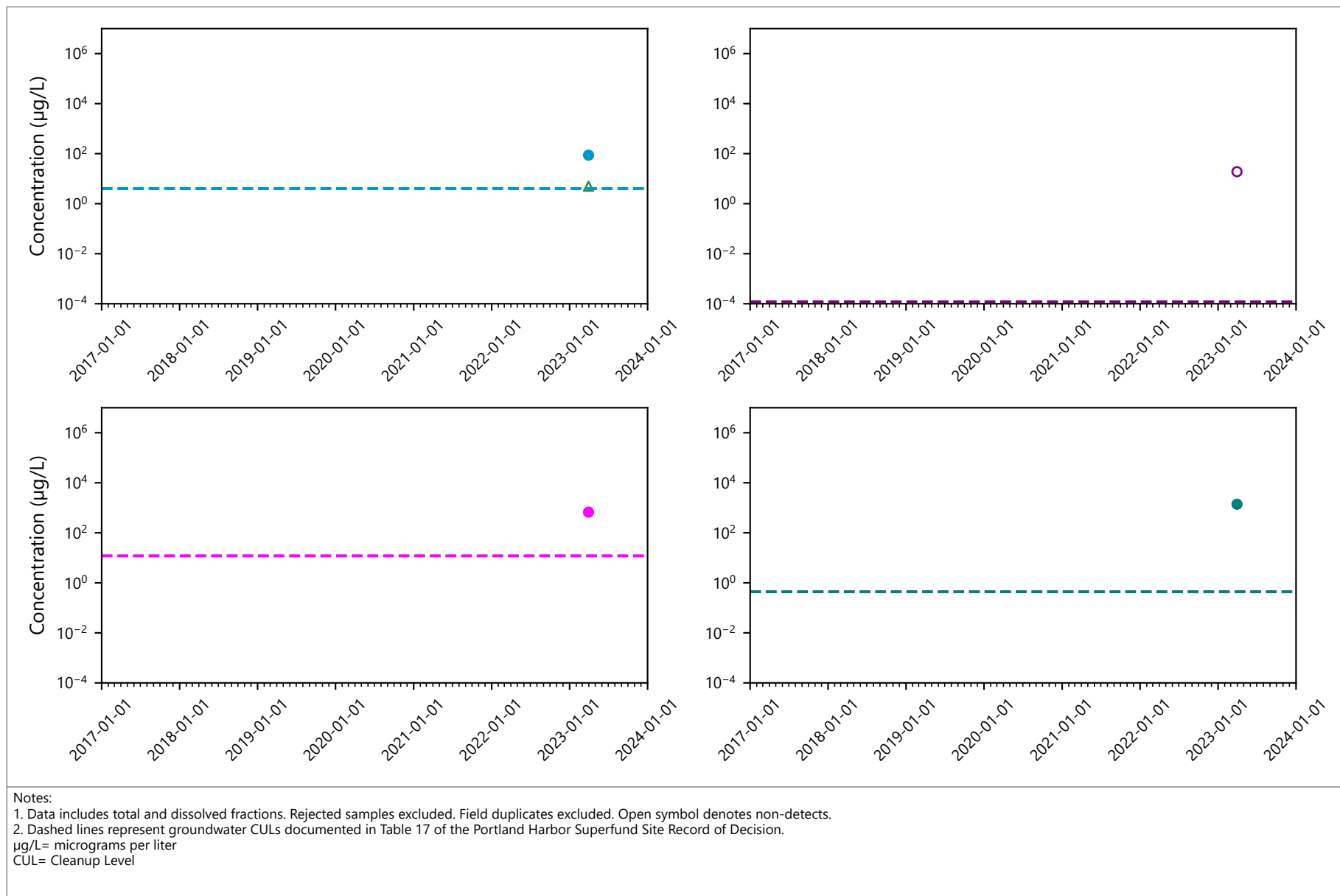


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

Monitoring Wells and Piezometers: MW-05-175

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Gasco OU

C.4.a.7

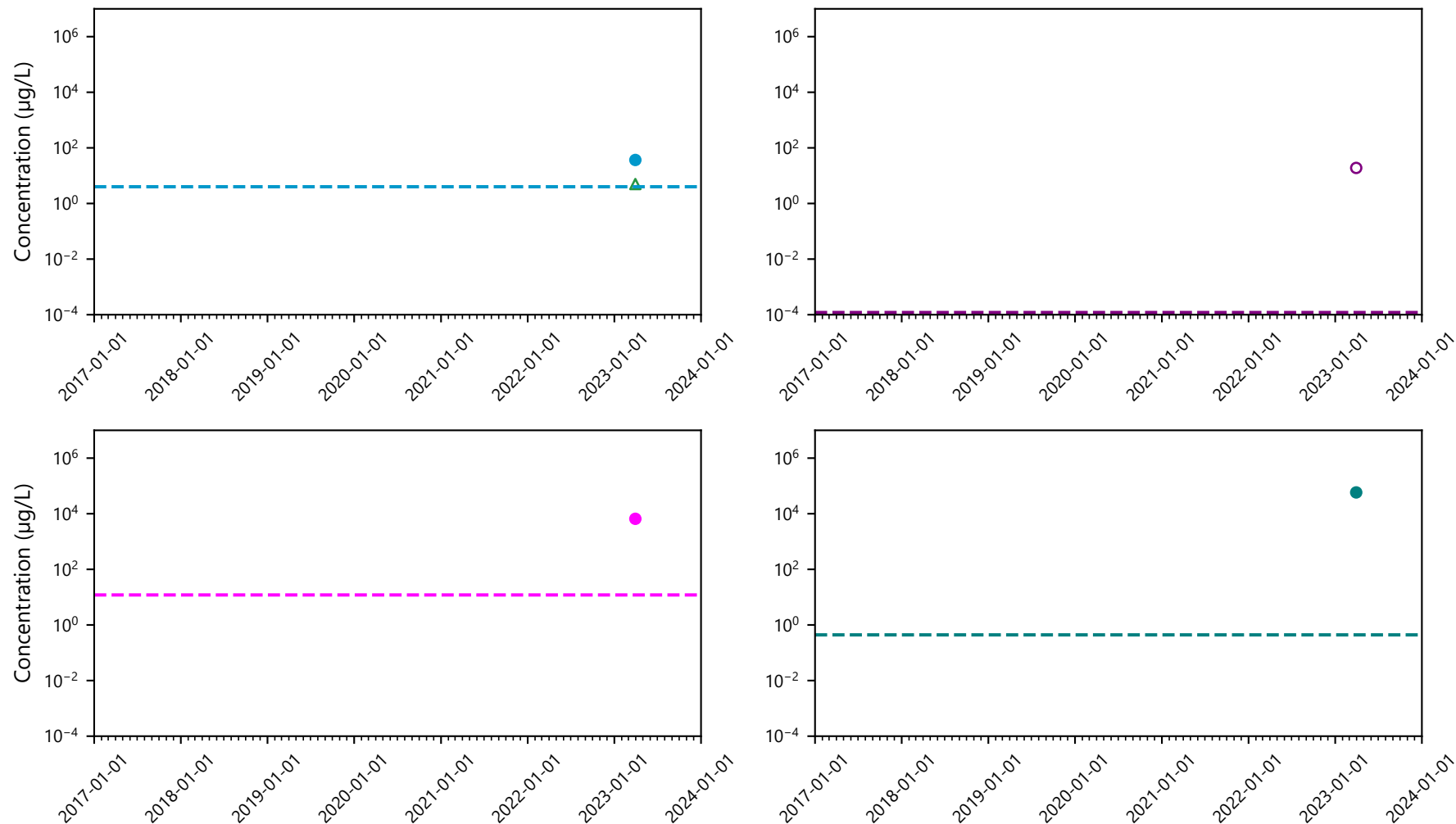


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● Cyanide	● Naphthalene	--- Benzo(a)pyrene CUL
■ Cyanide, available	● Benzene	--- Naphthalene CUL
▲ Cyanide, free	--- Cyanide CUL	--- Benzene CUL
● Benzo(a)pyrene		



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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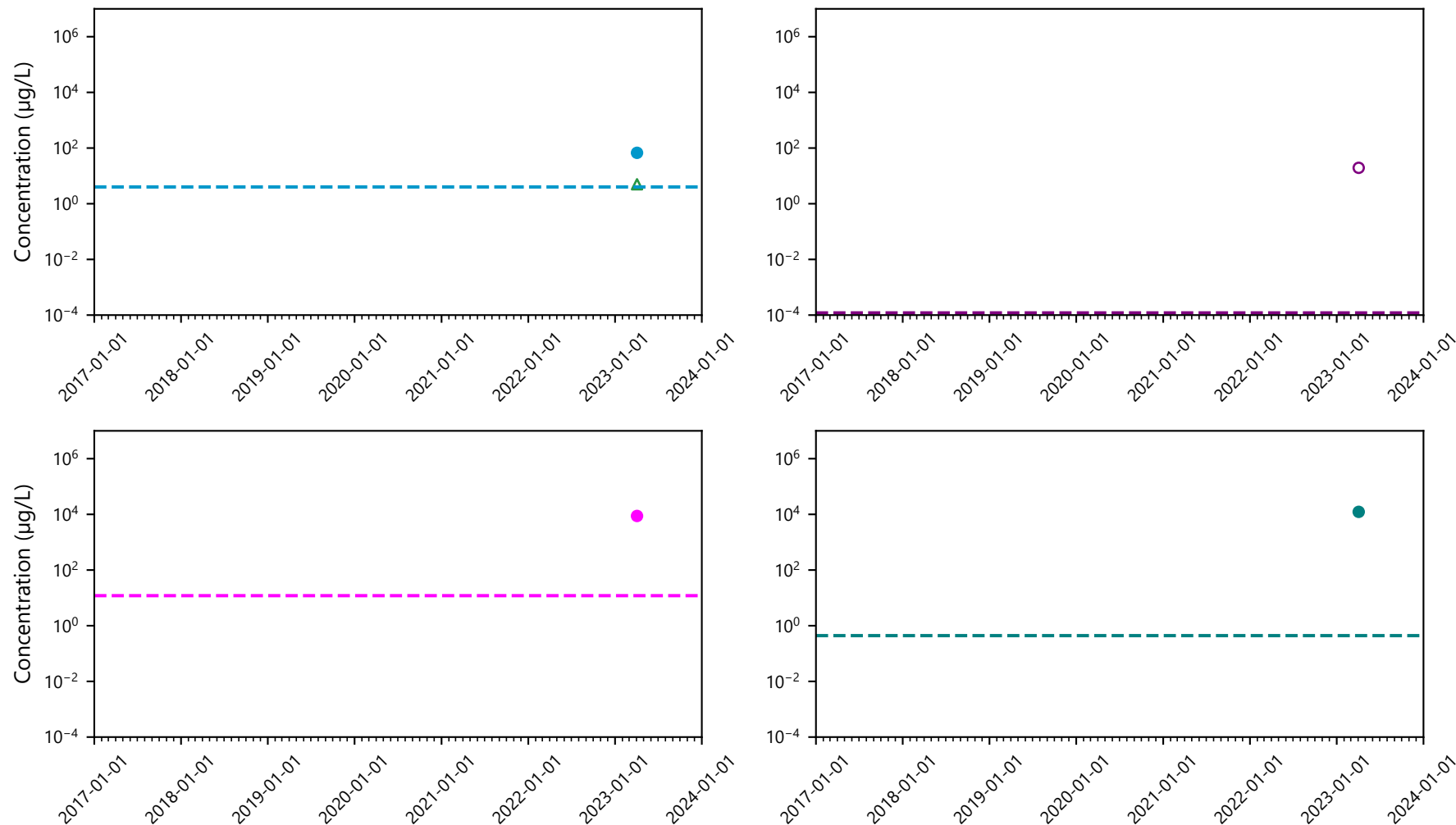
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.9
Monitoring Wells and Piezometers: MW-10-25

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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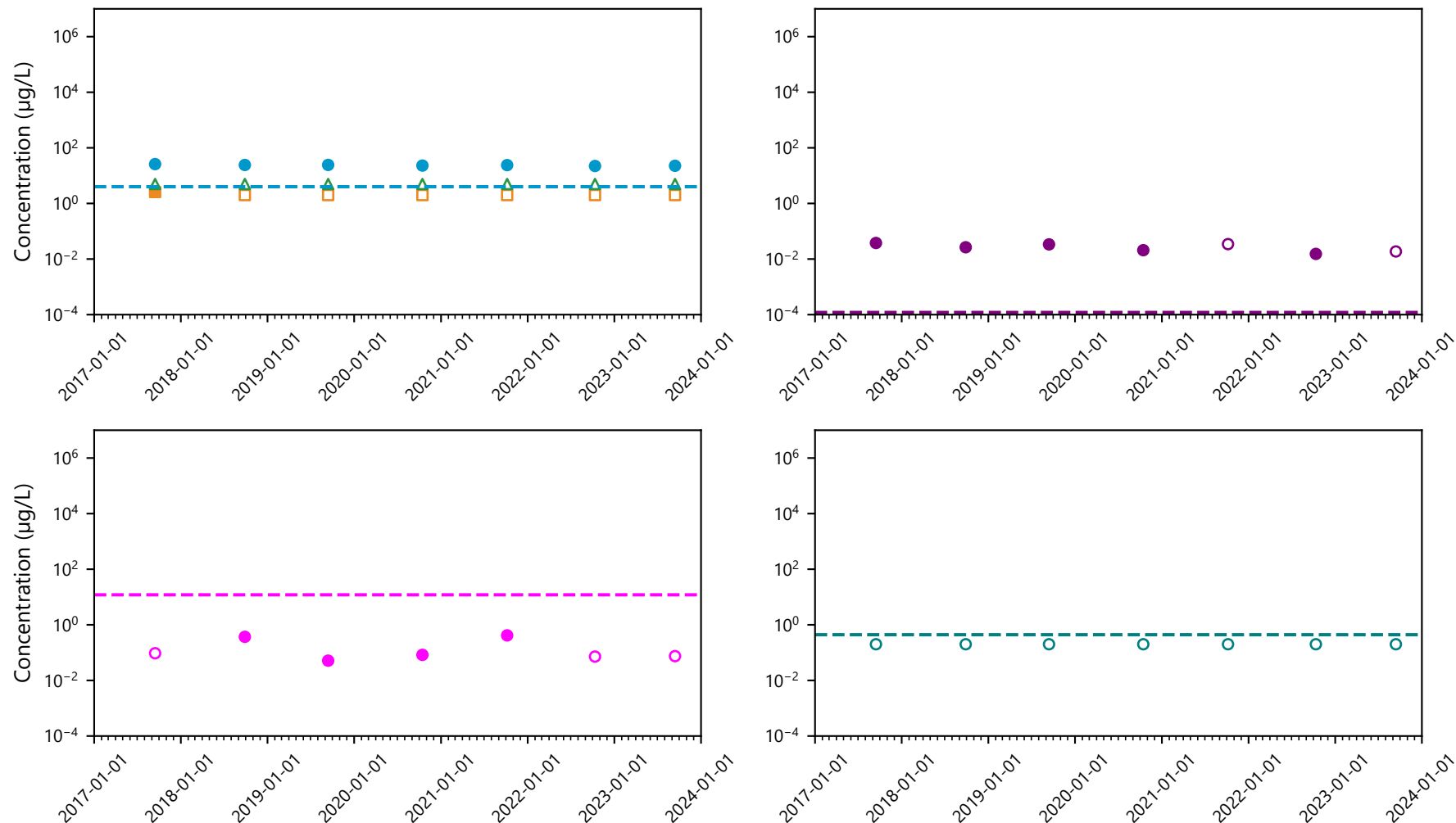
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.10
Monitoring Wells and Piezometers: MW-11-32

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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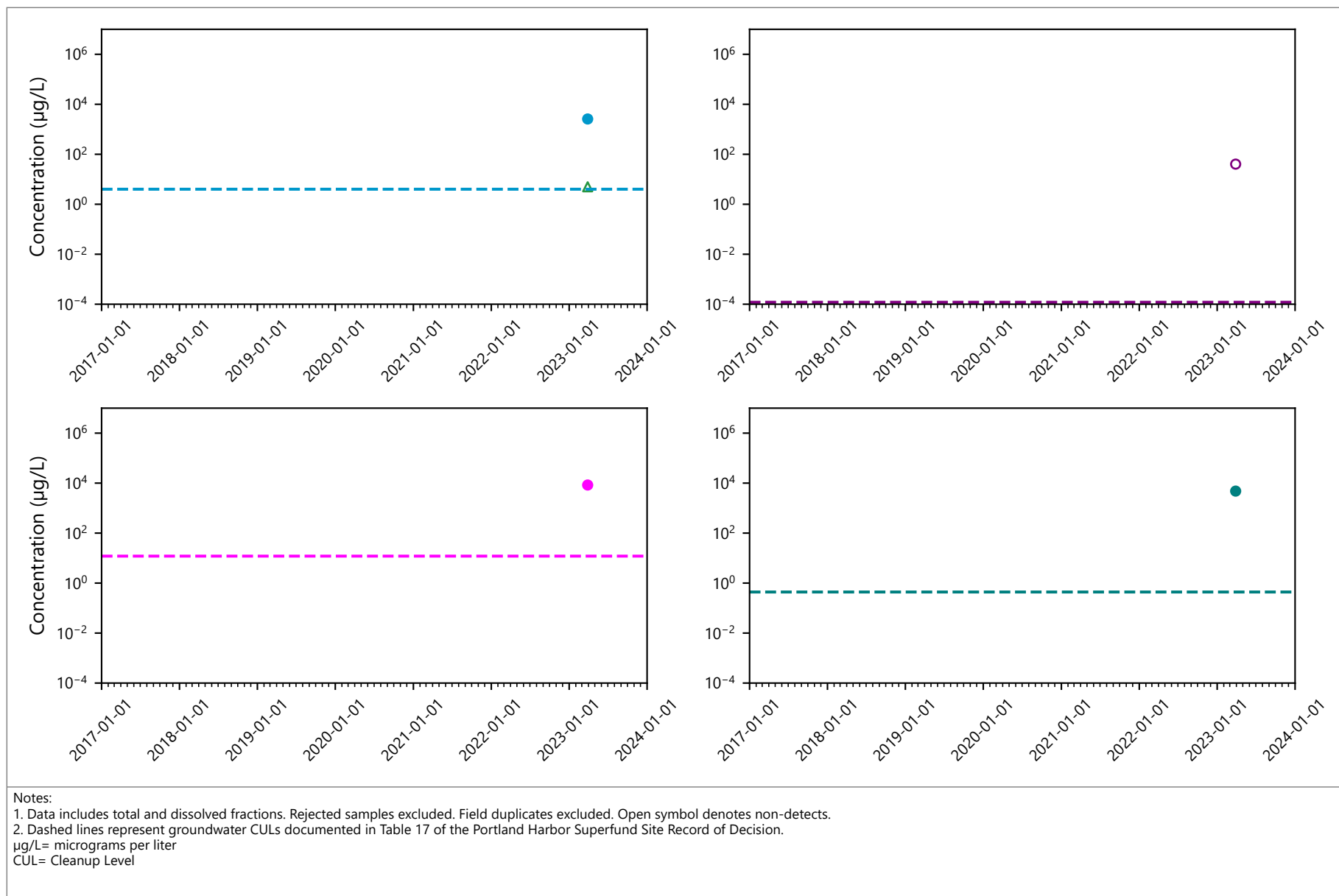


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.11

Monitoring Wells and Piezometers: MW-18-180

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Gasco OU

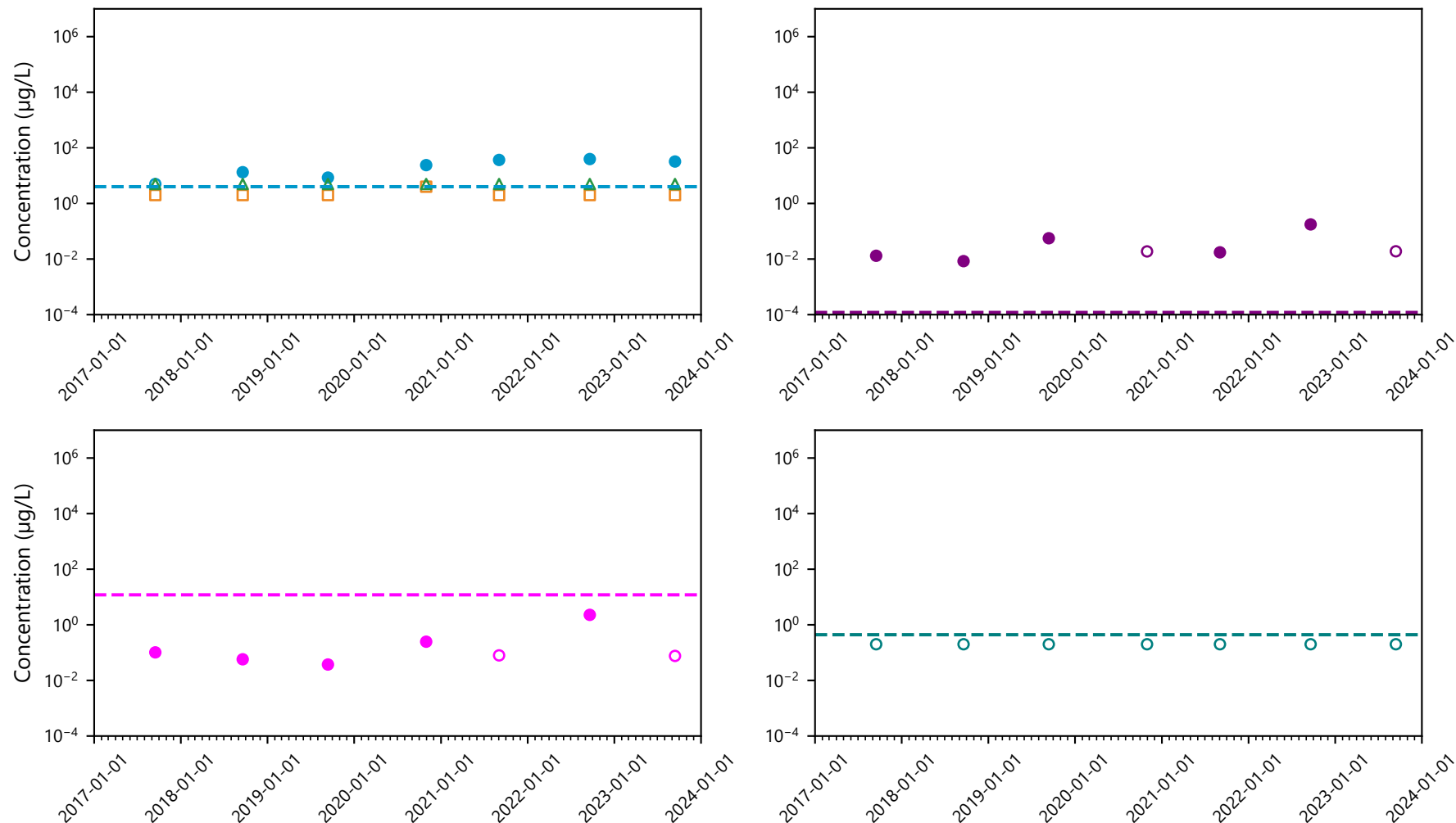


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● Cyanide	● Naphthalene	--- Benzo(a)pyrene CUL
■ Cyanide, available	● Benzene	--- Naphthalene CUL
▲ Cyanide, free	--- Cyanide CUL	--- Benzene CUL
● Benzo(a)pyrene		



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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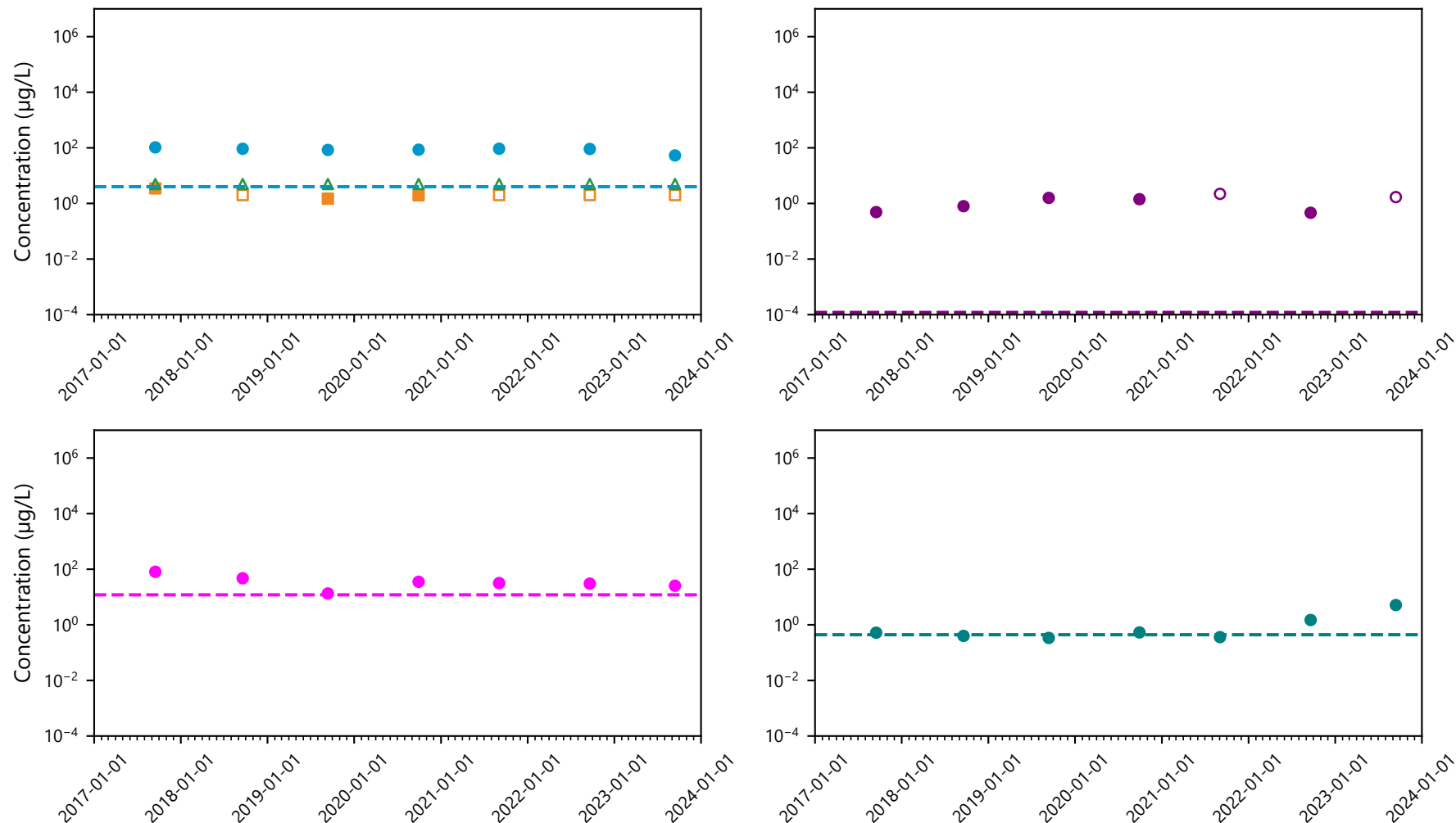
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.13
Monitoring Wells and Piezometers: MW-19-180

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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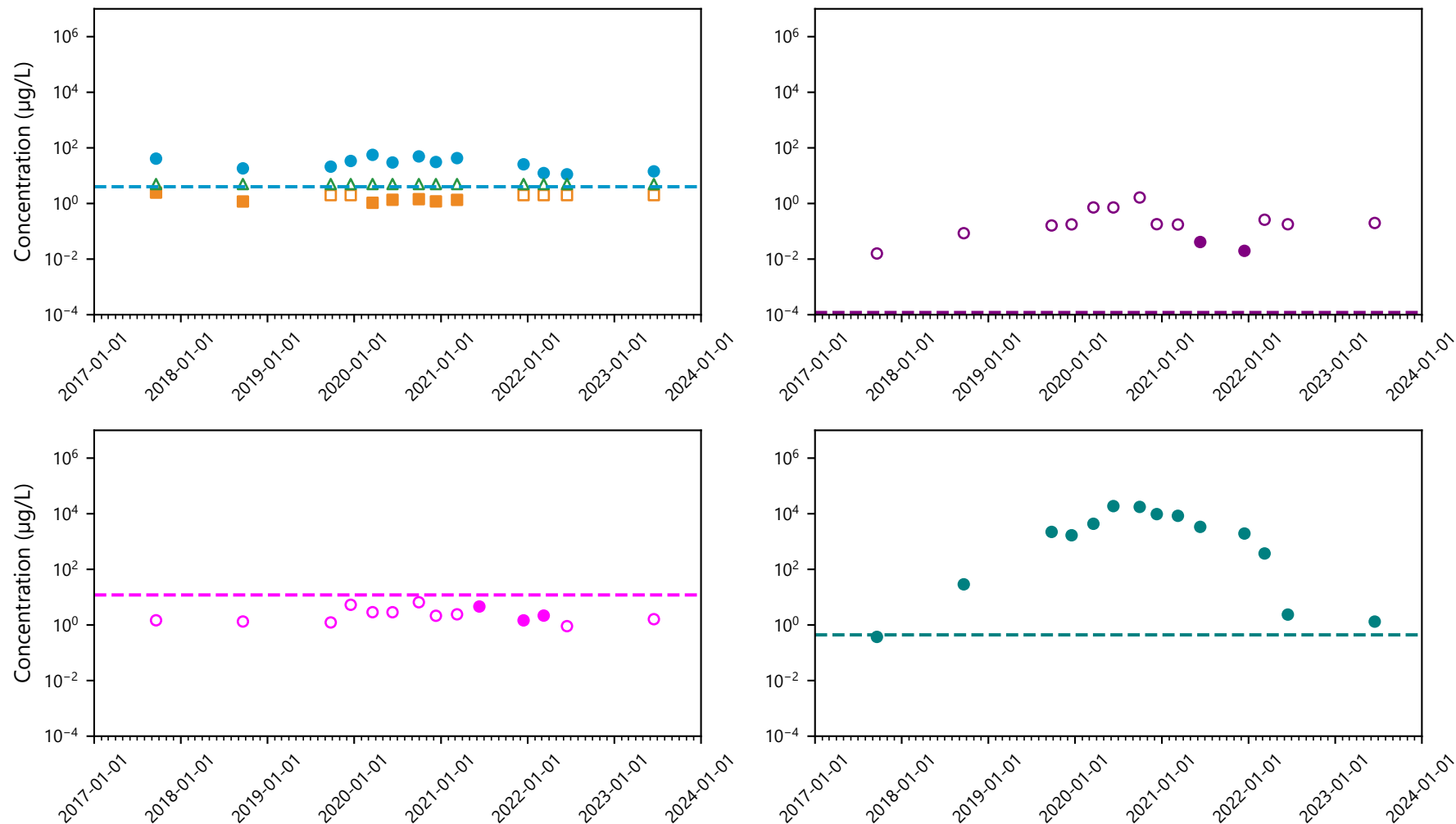
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.14 Monitoring Wells and Piezometers: MW-19-22

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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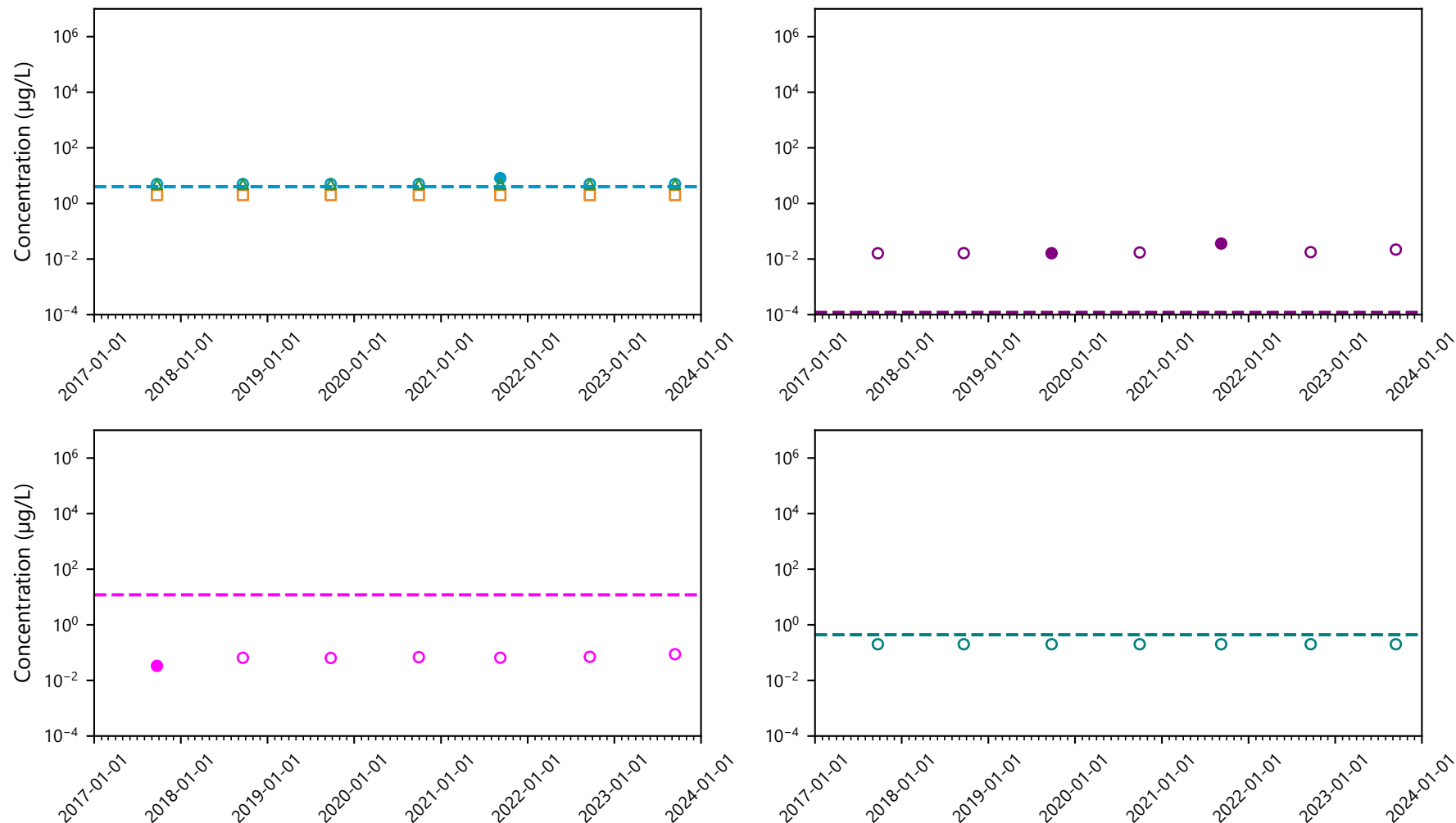


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

Monitoring Wells and Piezometers: MW-21-12

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Gasco OU

C.4.a.15



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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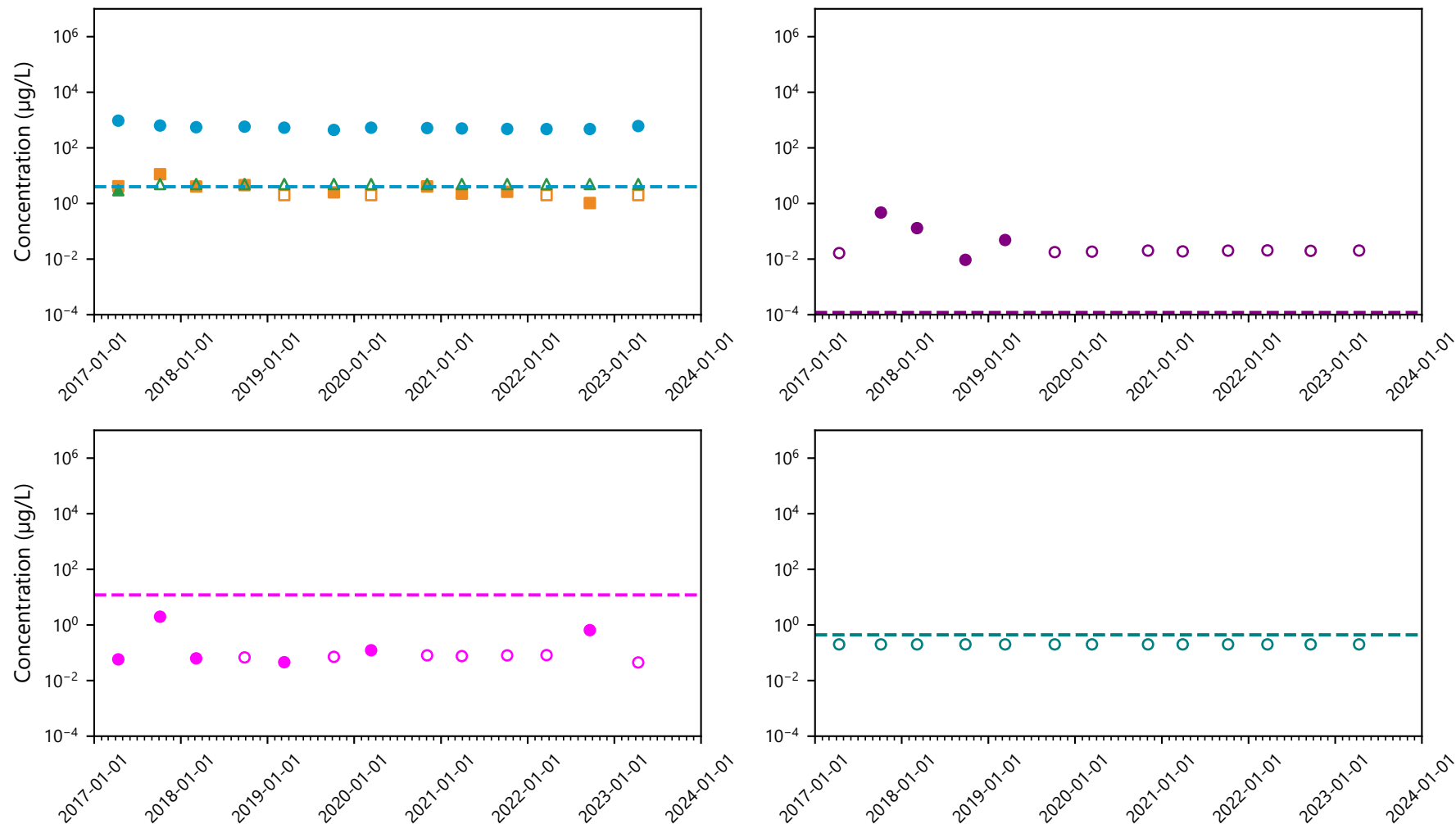
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.16 Monitoring Wells and Piezometers: MW-21-165

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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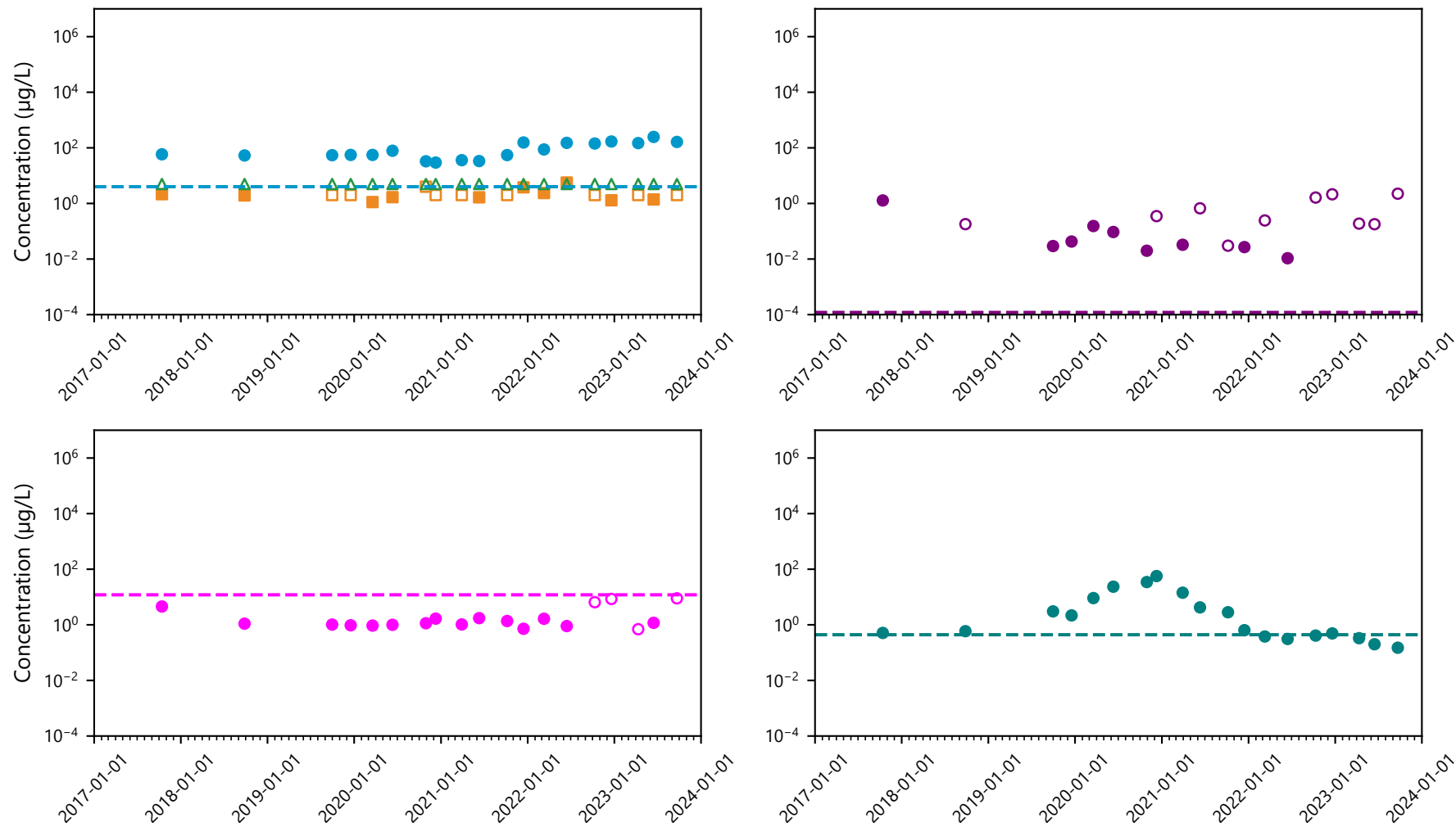
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● Cyanide	● Naphthalene	--- Benzo(a)pyrene CUL
■ Cyanide, available	● Benzene	--- Naphthalene CUL
▲ Cyanide, free	--- Cyanide CUL	--- Benzene CUL
● Benzo(a)pyrene		

C.4.a.17 Monitoring Wells and Piezometers: MW-22U

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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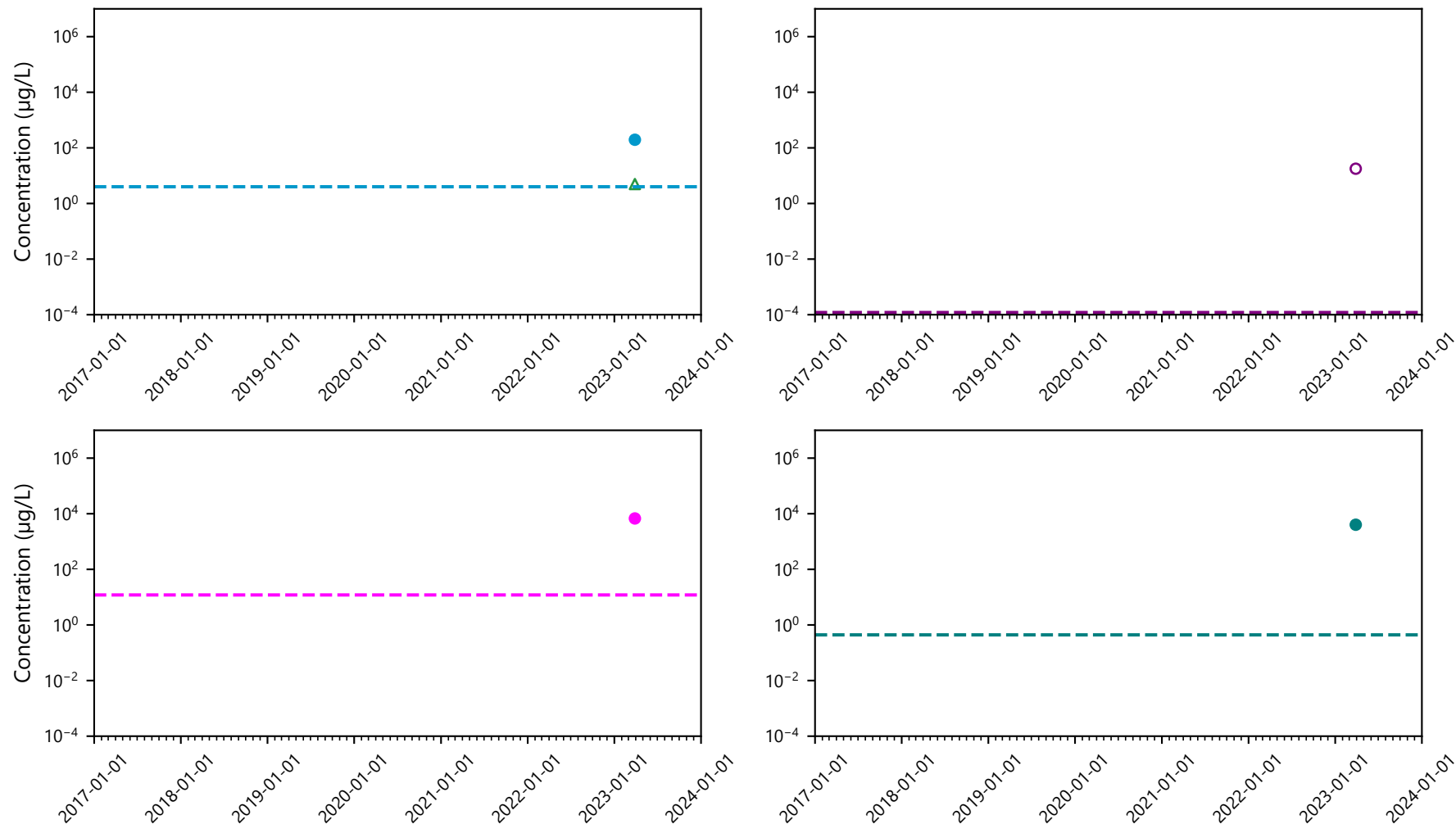


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

Monitoring Wells and Piezometers: MW-23-27

2023 HC&C System Annual Report
Gasco OU

C.4.a.18



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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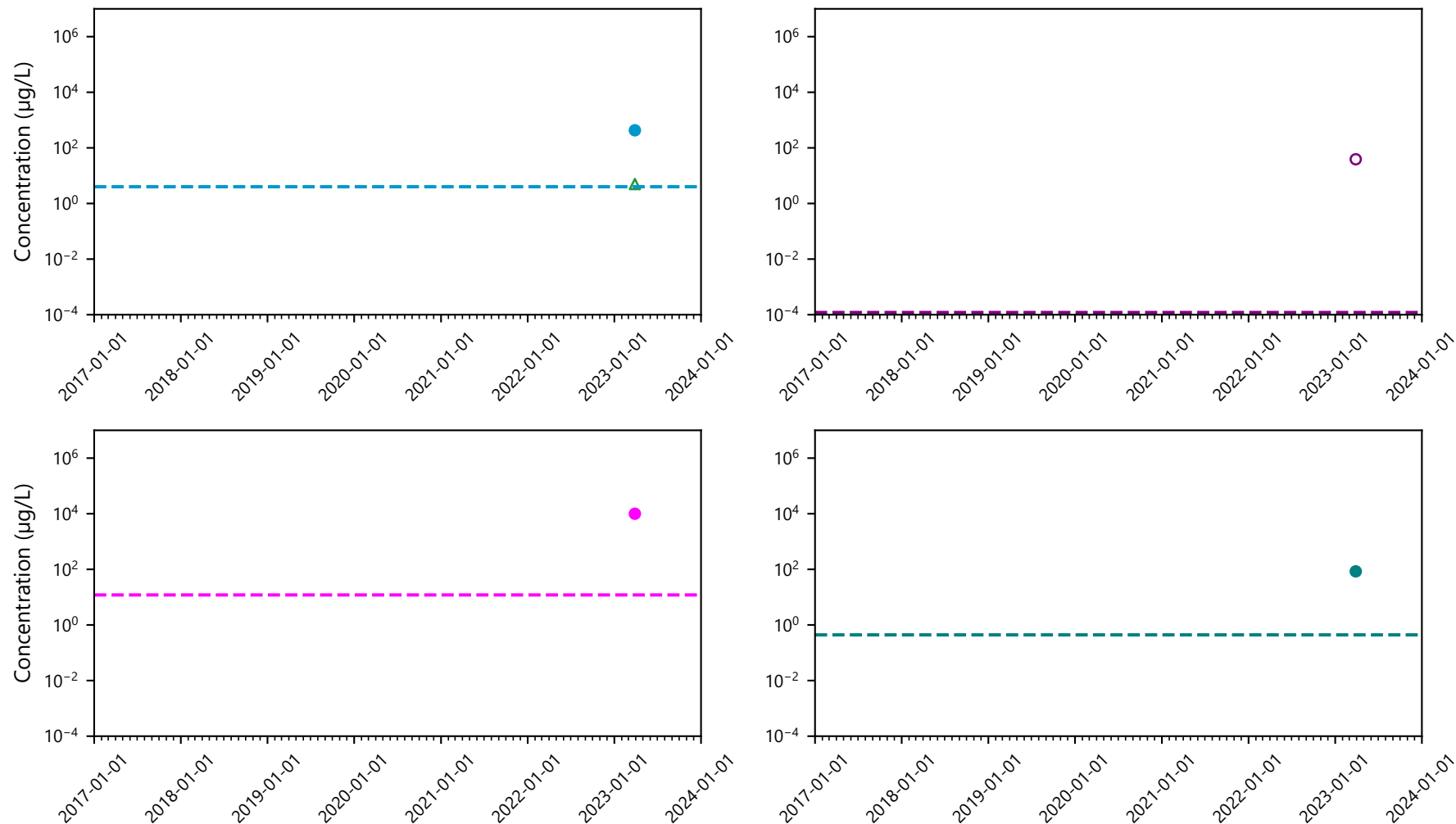
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.19
Monitoring Wells and Piezometers: MW-26U

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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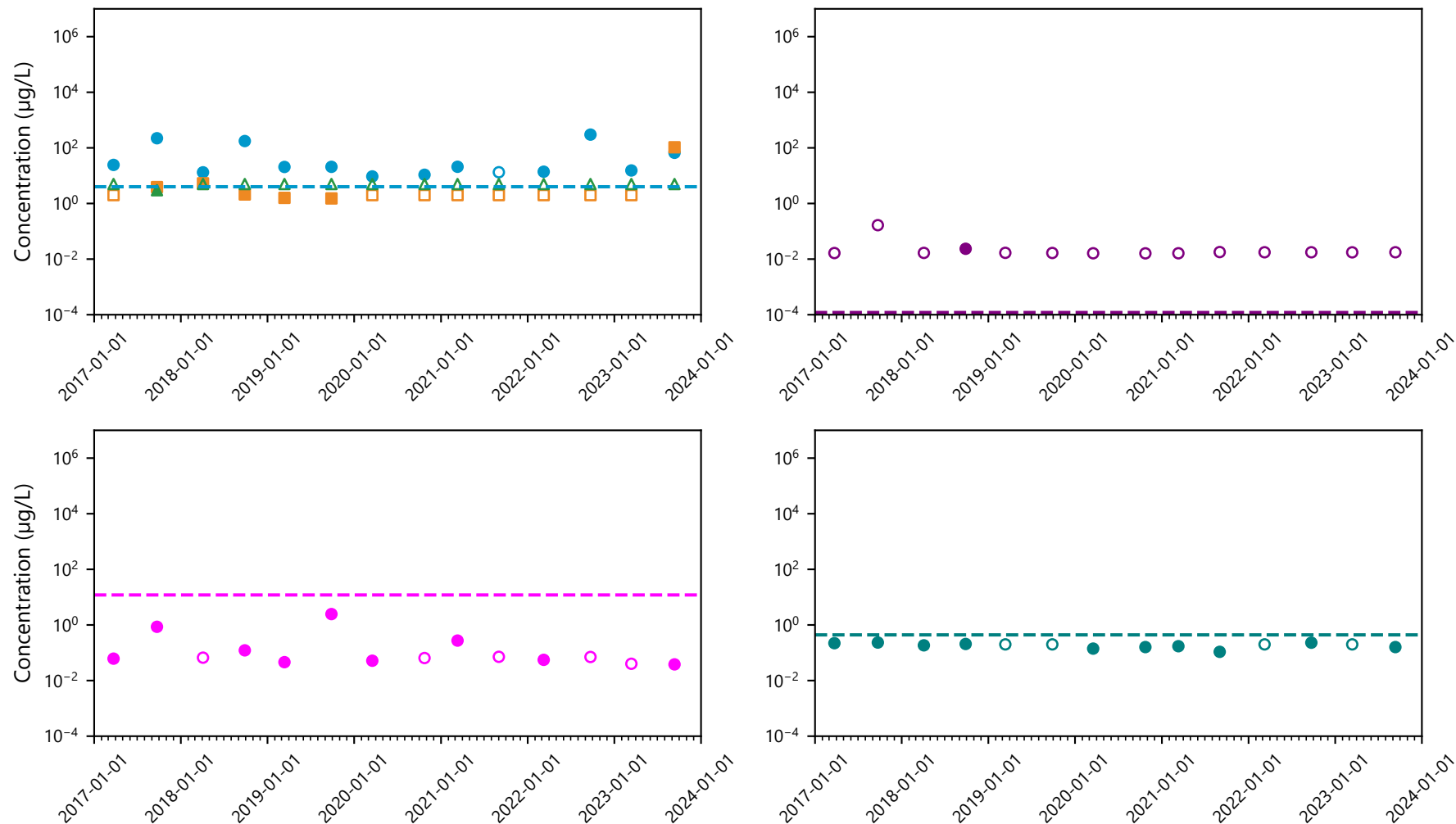
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.20
Monitoring Wells and Piezometers: MW-38U

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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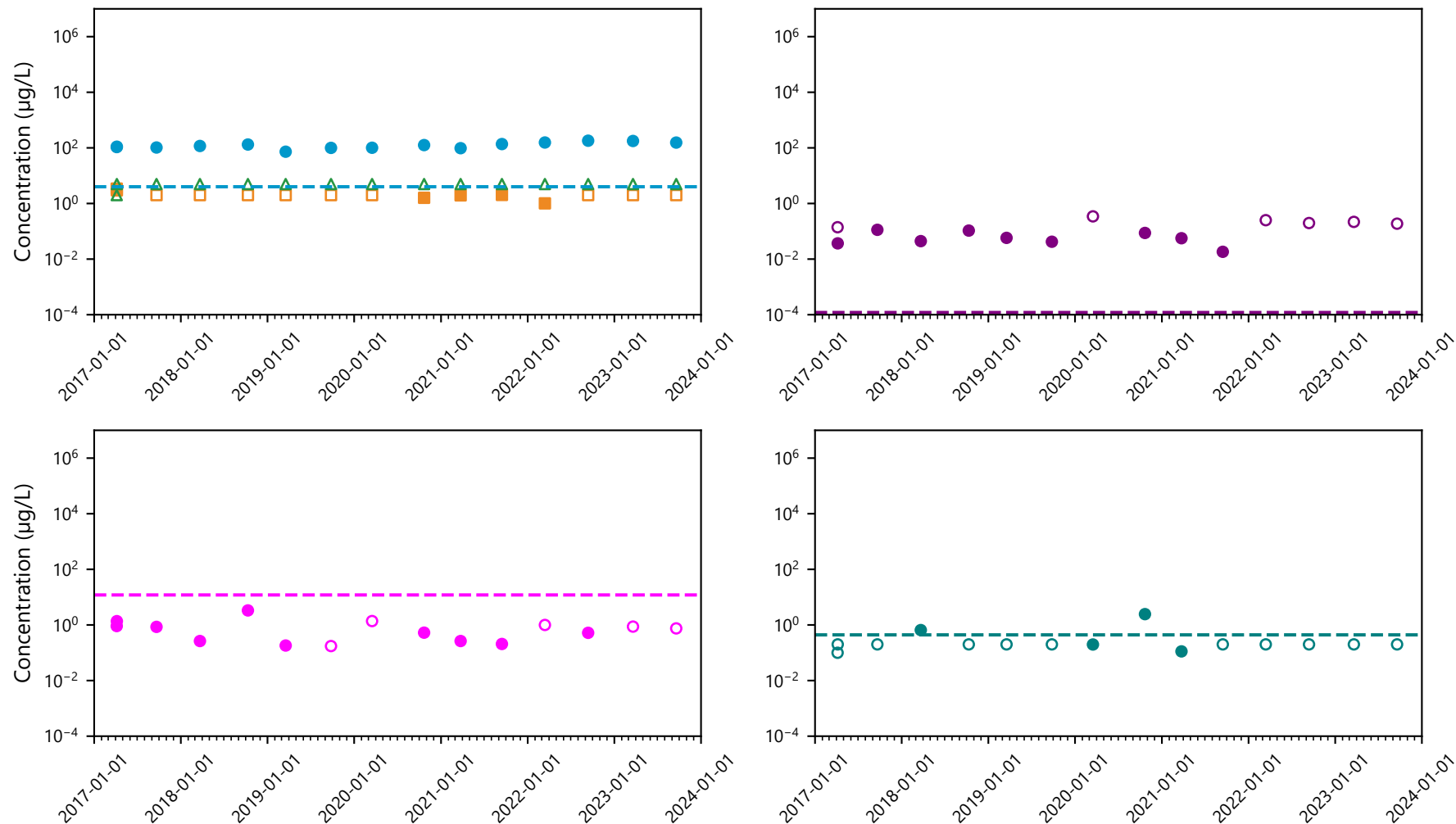
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

**C.4.a.21
Monitoring Wells and Piezometers: MW-40F**

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

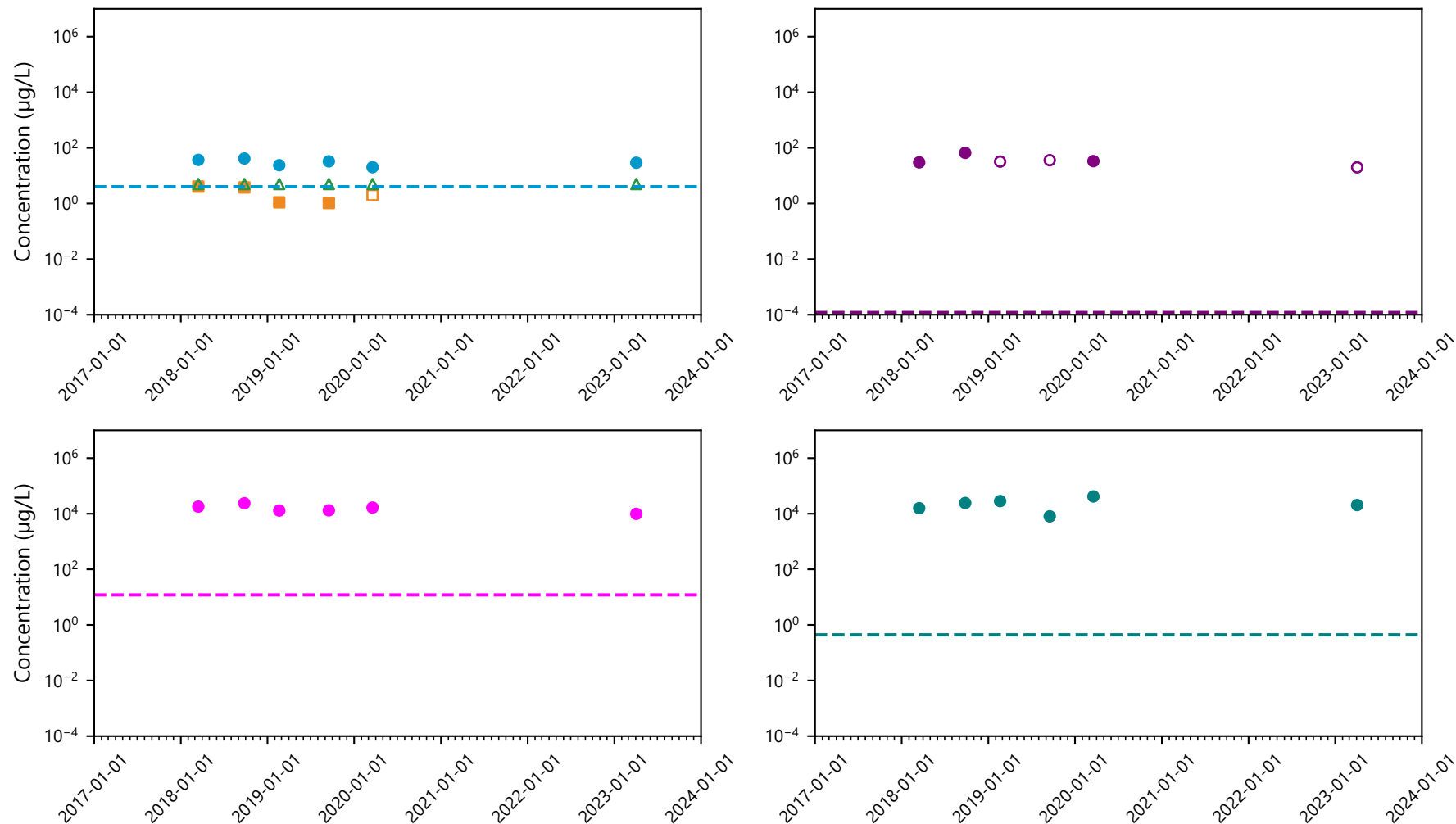
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.22
Monitoring Wells and Piezometers: MW-42F
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

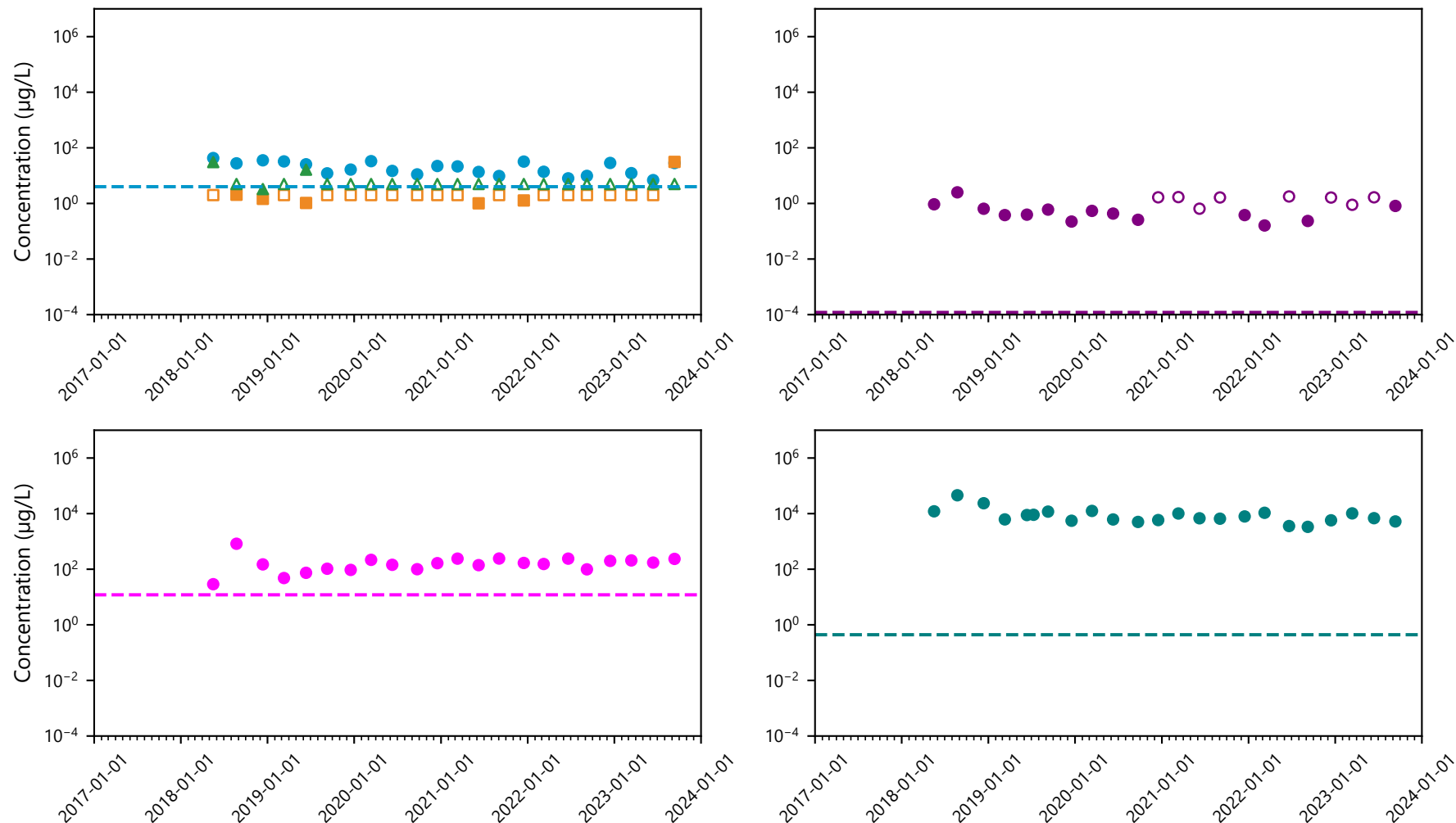
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.23
Monitoring Wells and Piezometers: MW-45F
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

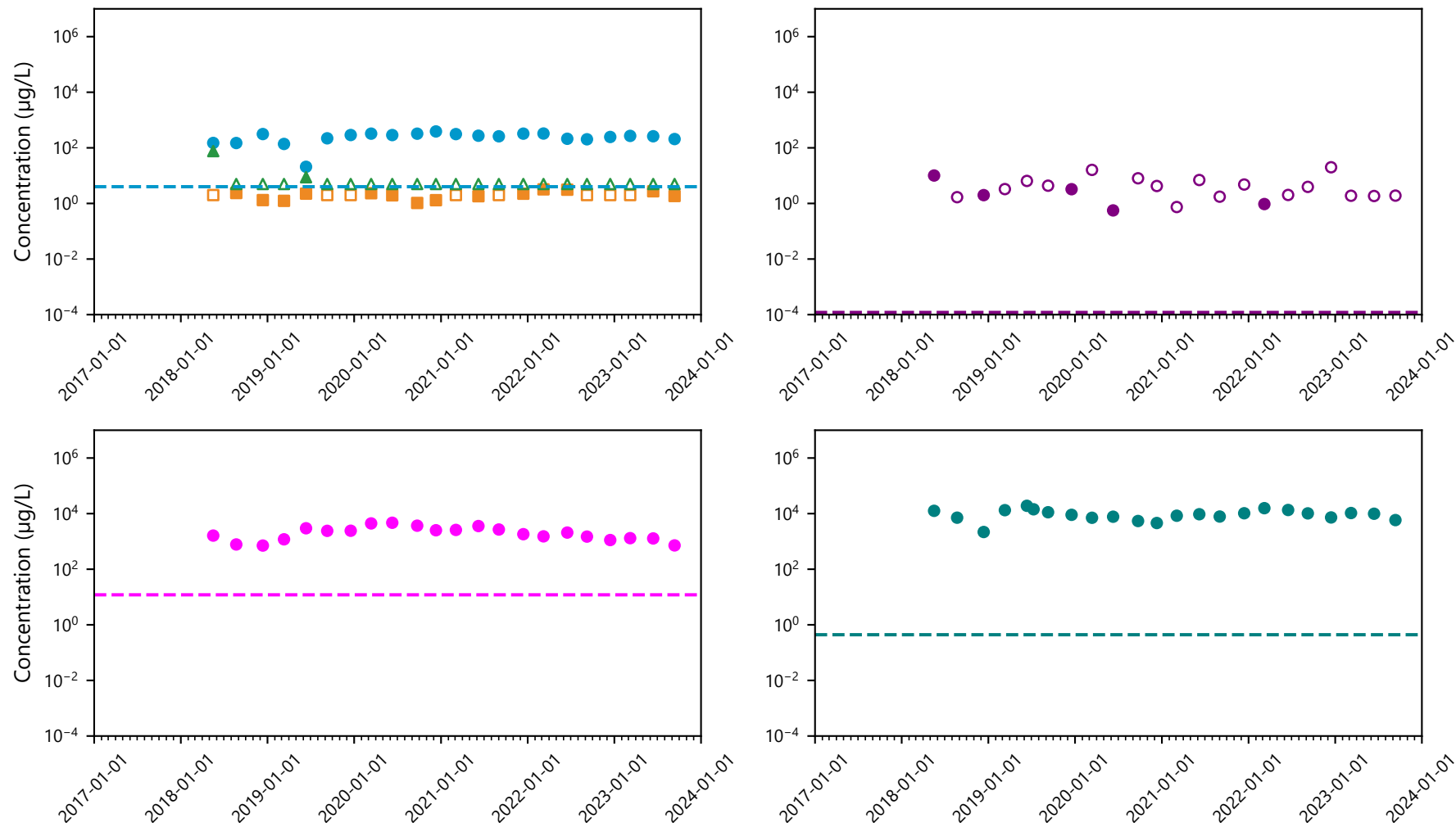
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Naphthalene
- Benzene
- Benzo(a)pyrene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.24
Monitoring Wells and Piezometers: MW-46F
2023 HC&C System Annual Report
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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

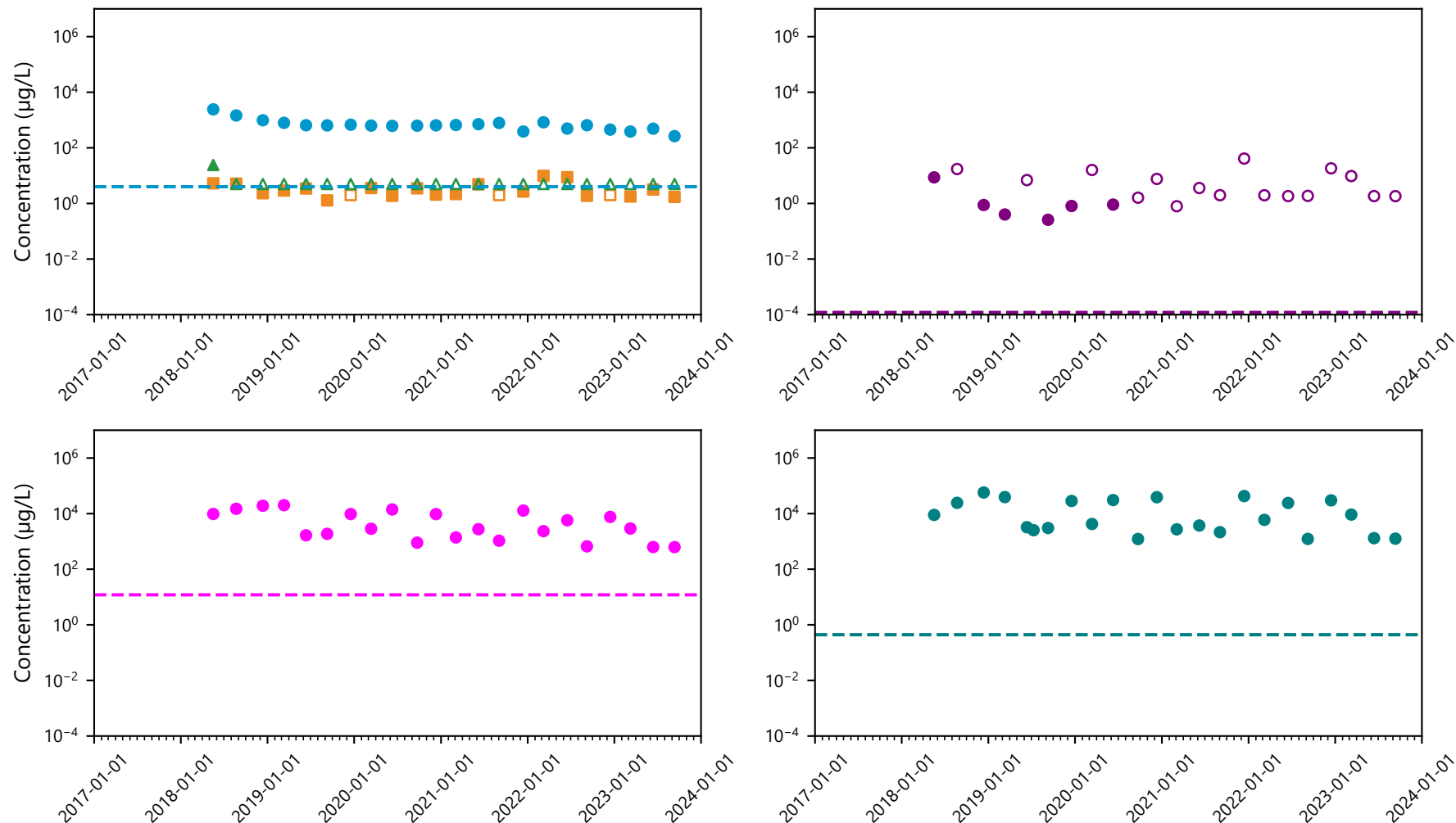
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.25
Monitoring Wells and Piezometers: MW-47F
 2023 HC&C System Annual Report
 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

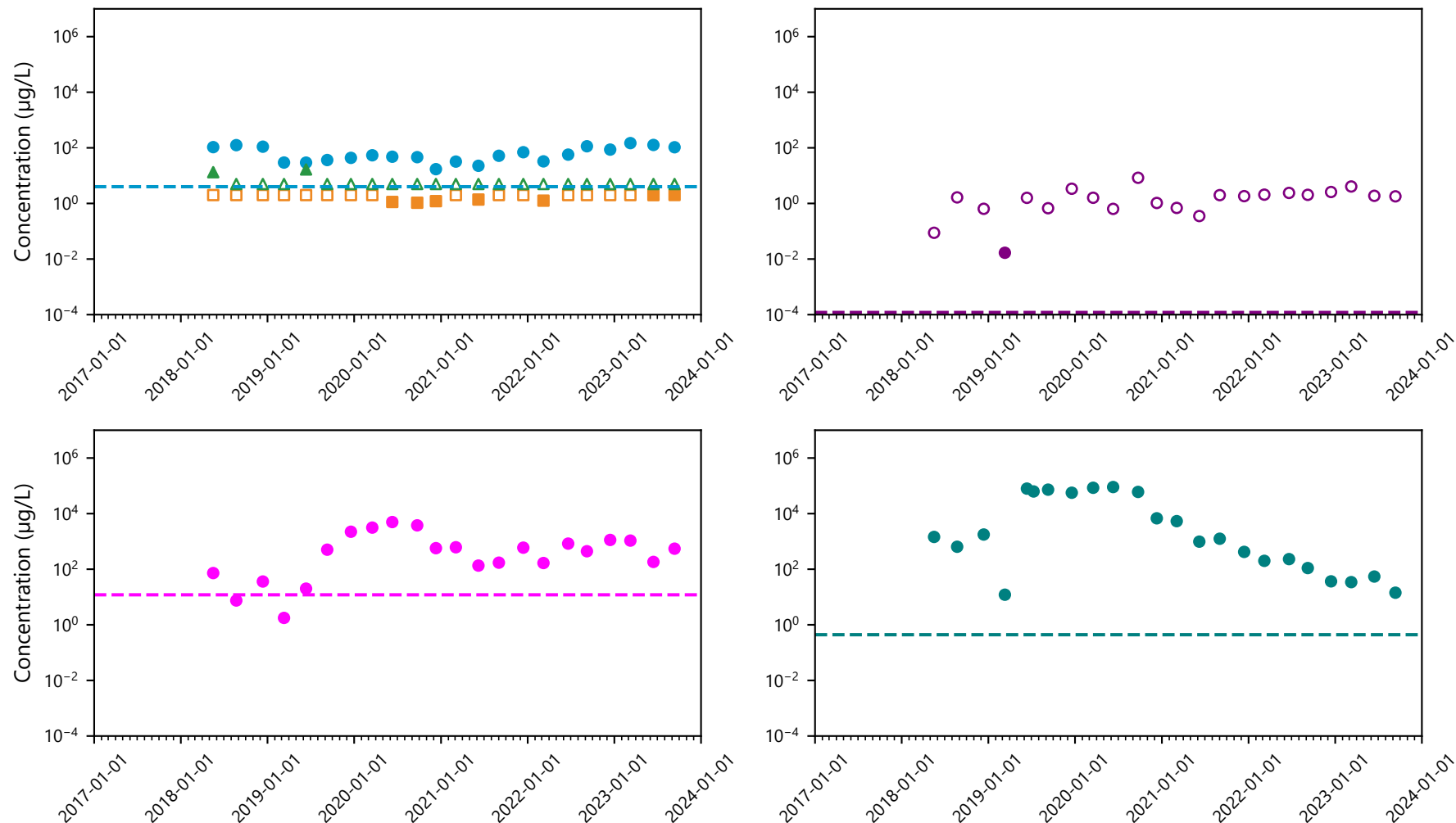
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.26
Monitoring Wells and Piezometers: MW-48F
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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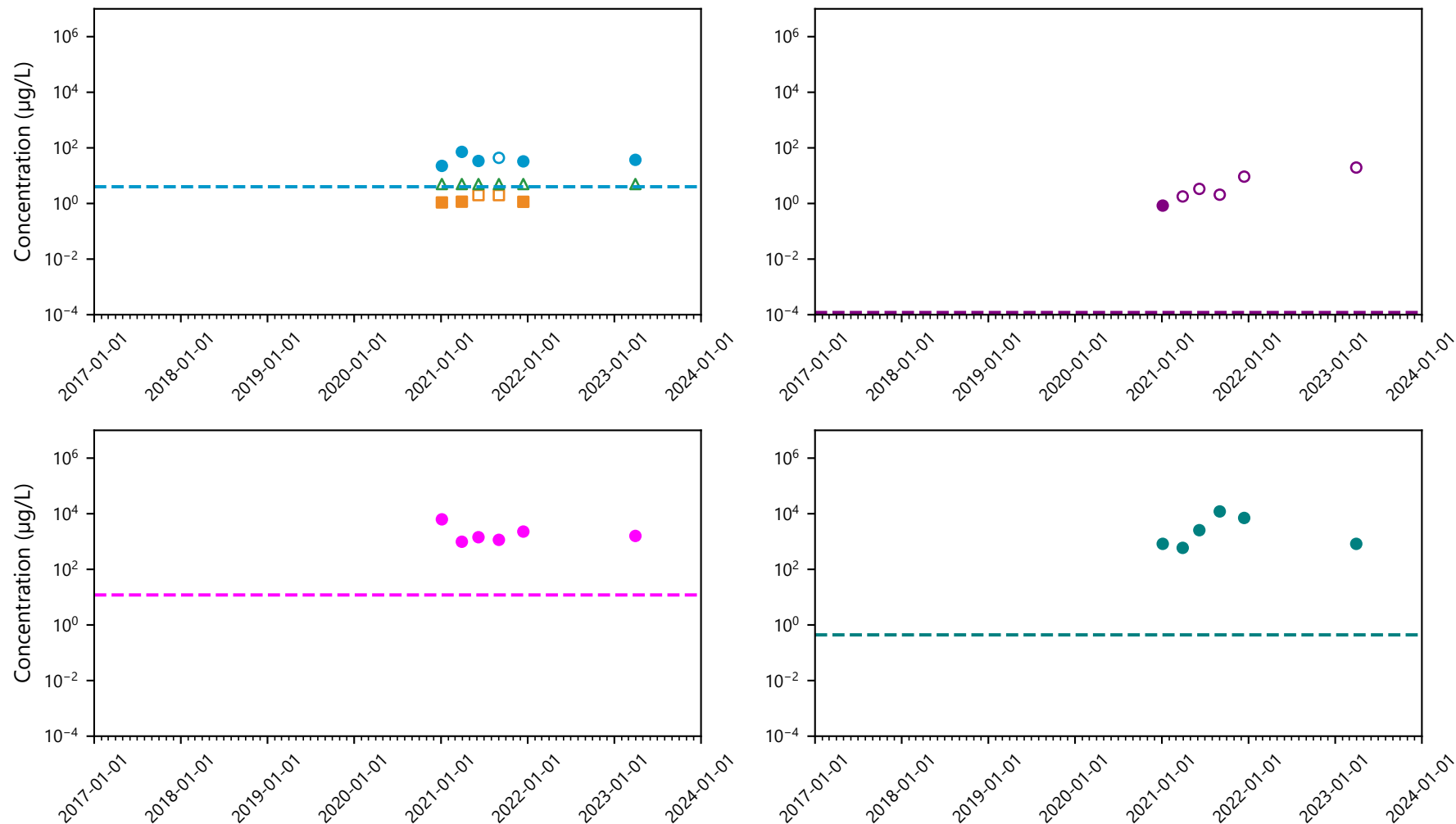


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.27

Monitoring Wells and Piezometers: MW-49F

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.

µg/L= micrograms per liter

CUL= Cleanup Level

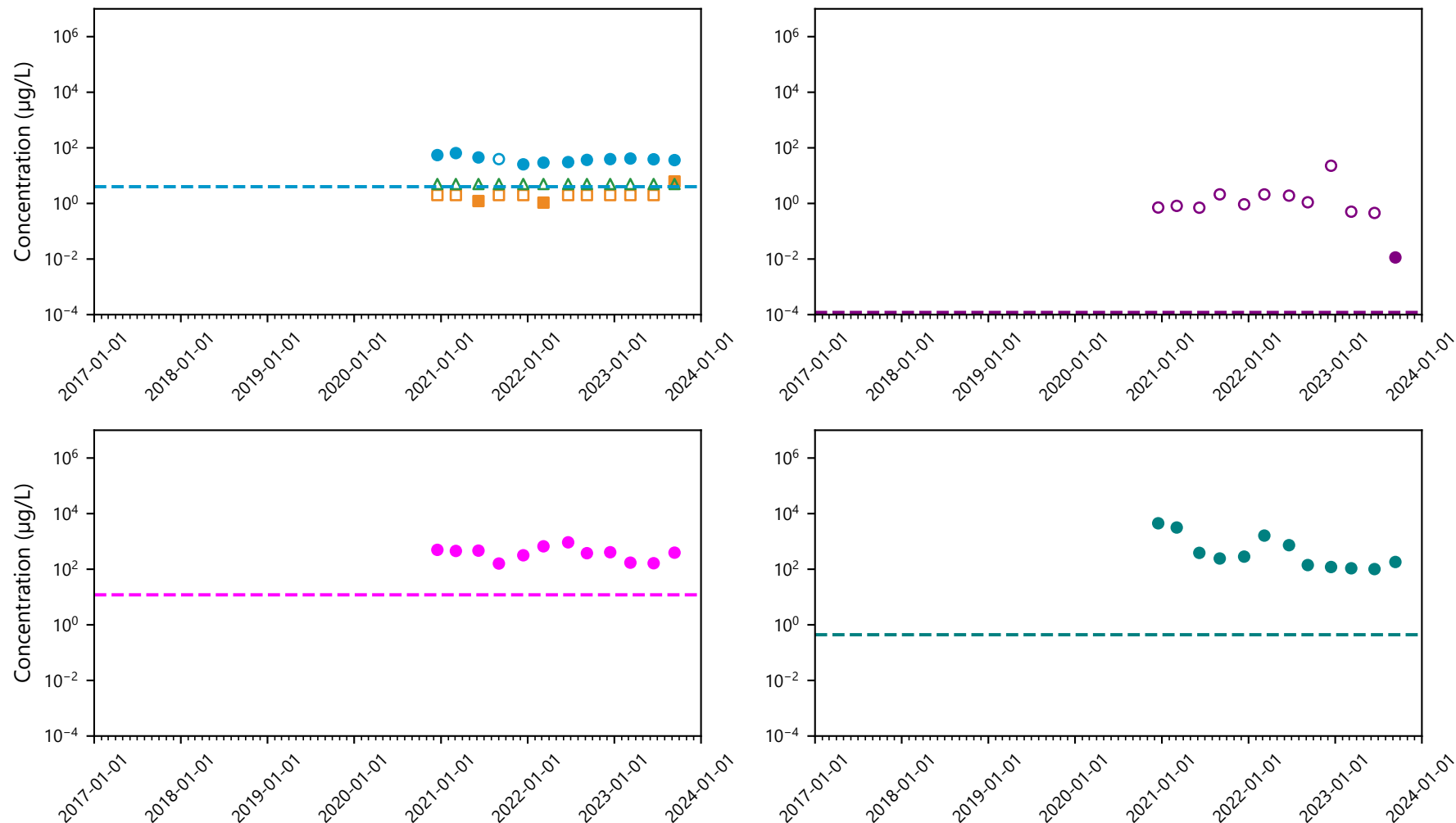
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Naphthalene
- Benzene
- Cyanide CUL
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.28
Monitoring Wells and Piezometers: MW-50F
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 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.

µg/L= micrograms per liter

CUL= Cleanup Level

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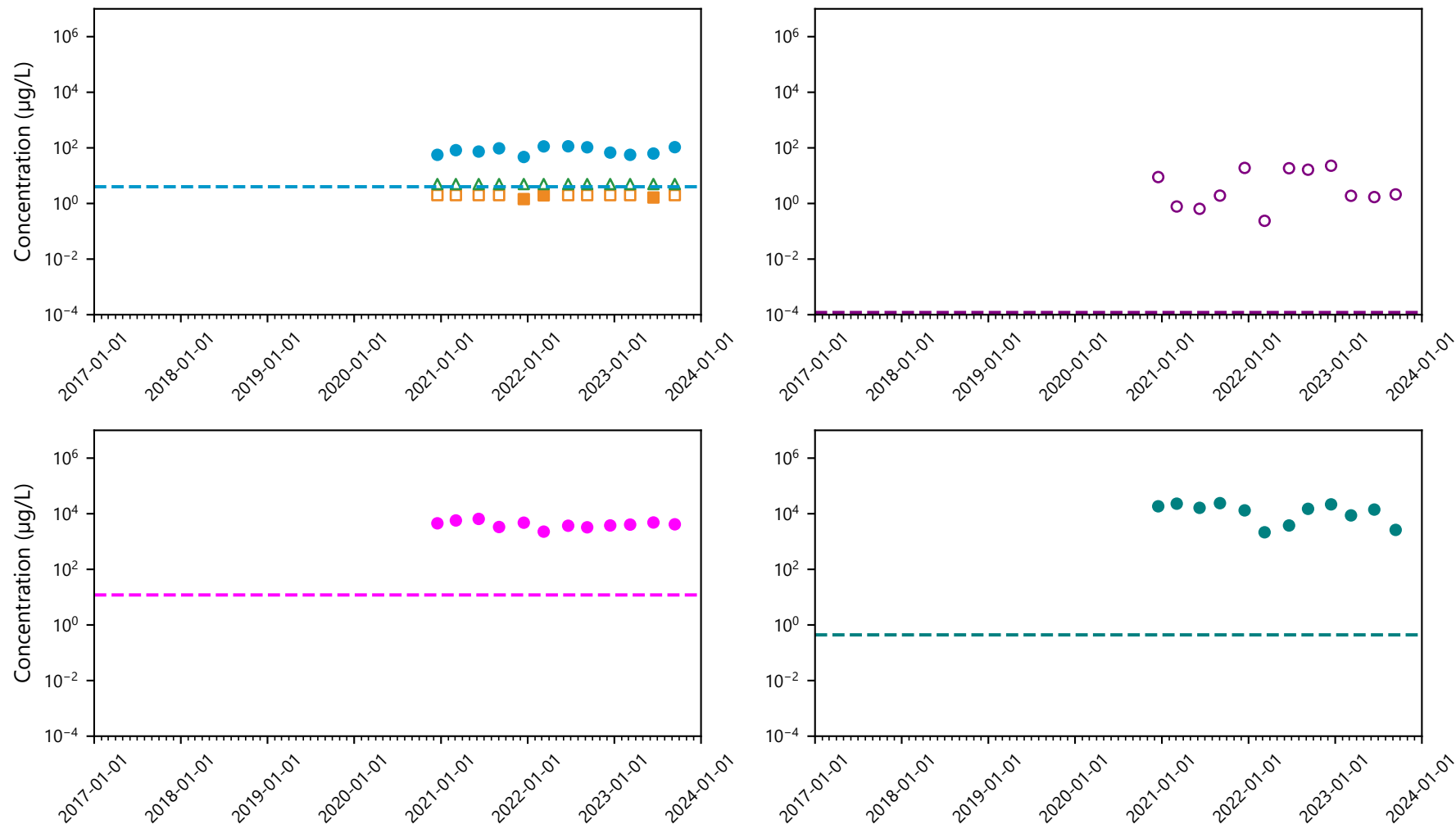


● Cyanide	● Naphthalene	--- Benzo(a)pyrene CUL
■ Cyanide, available	● Benzene	--- Naphthalene CUL
▲ Cyanide, free	--- Cyanide CUL	--- Benzene CUL
● Benzo(a)pyrene		

C.4.a.29

Monitoring Wells and Piezometers: MW-51F

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

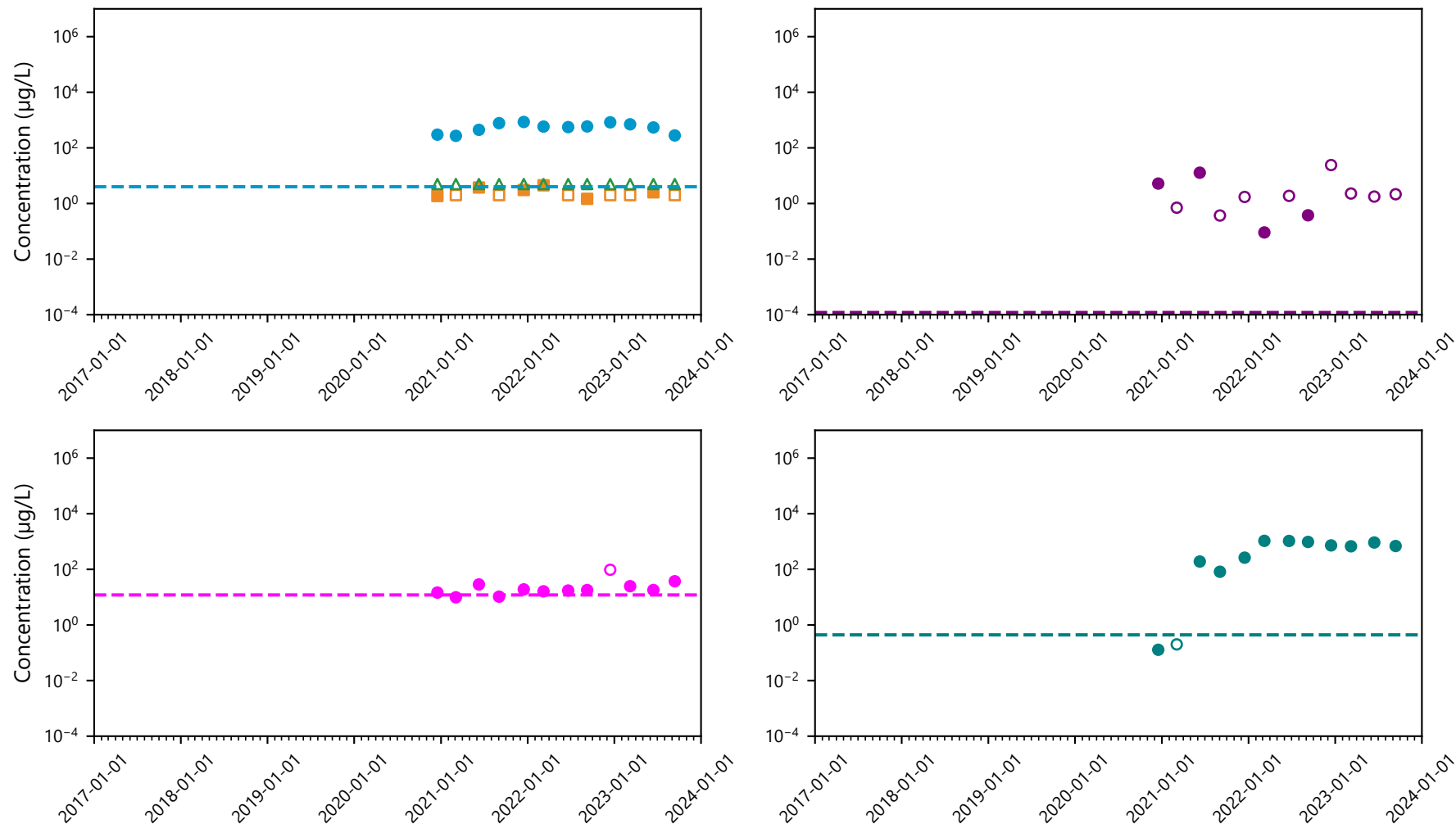
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Naphthalene
- Benzene
- Cyanide CUL
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.30
Monitoring Wells and Piezometers: MW-52F
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

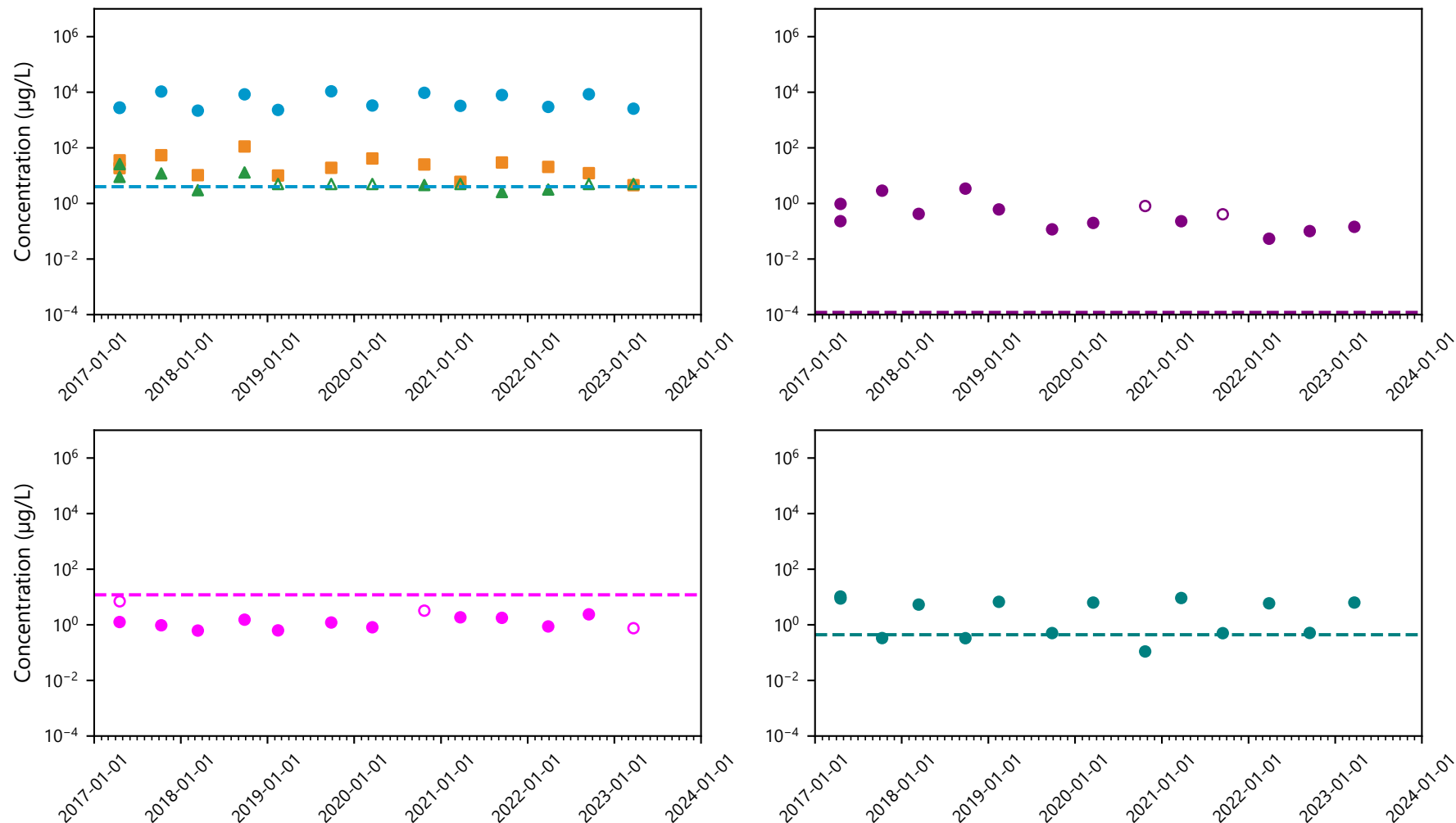
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.31
Monitoring Wells and Piezometers: MW-53F
2023 HC&C System Annual Report
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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.

µg/L= micrograms per liter

CUL= Cleanup Level

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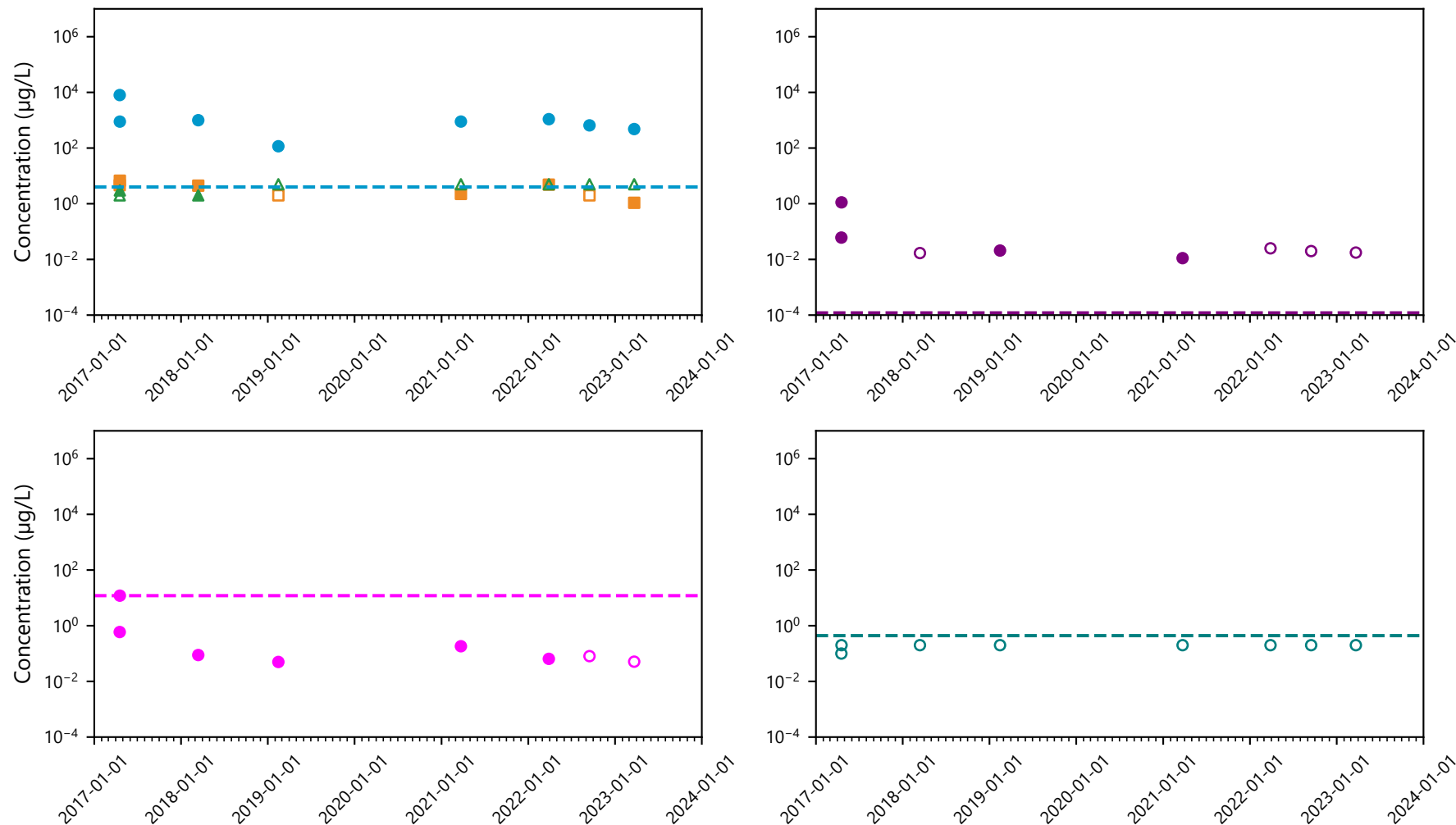
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.32
Monitoring Wells and Piezometers: NWN-02-20

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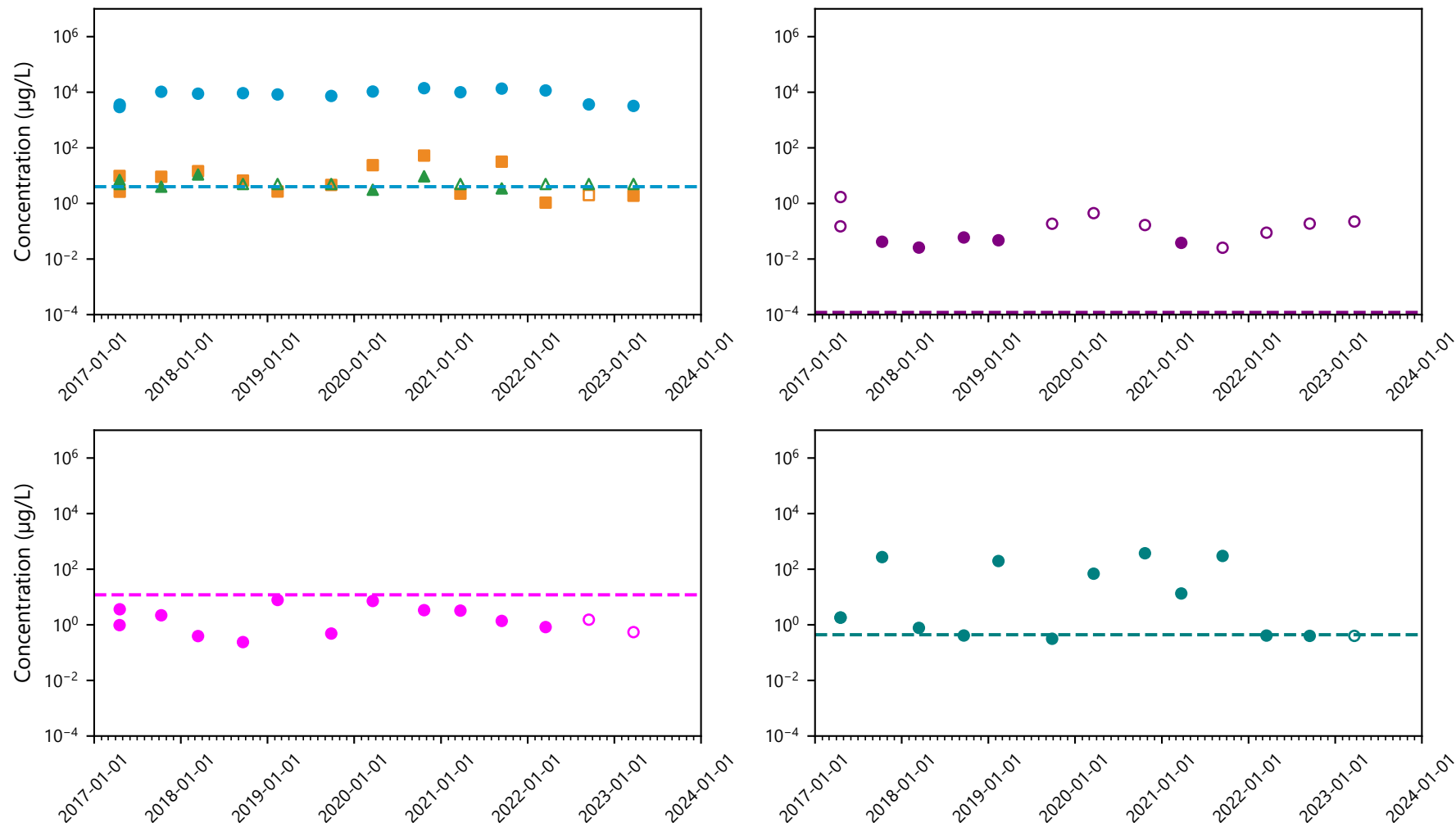
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 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.33
Monitoring Wells and Piezometers: NWN-03-17
 2023 HC&C System Annual Report
 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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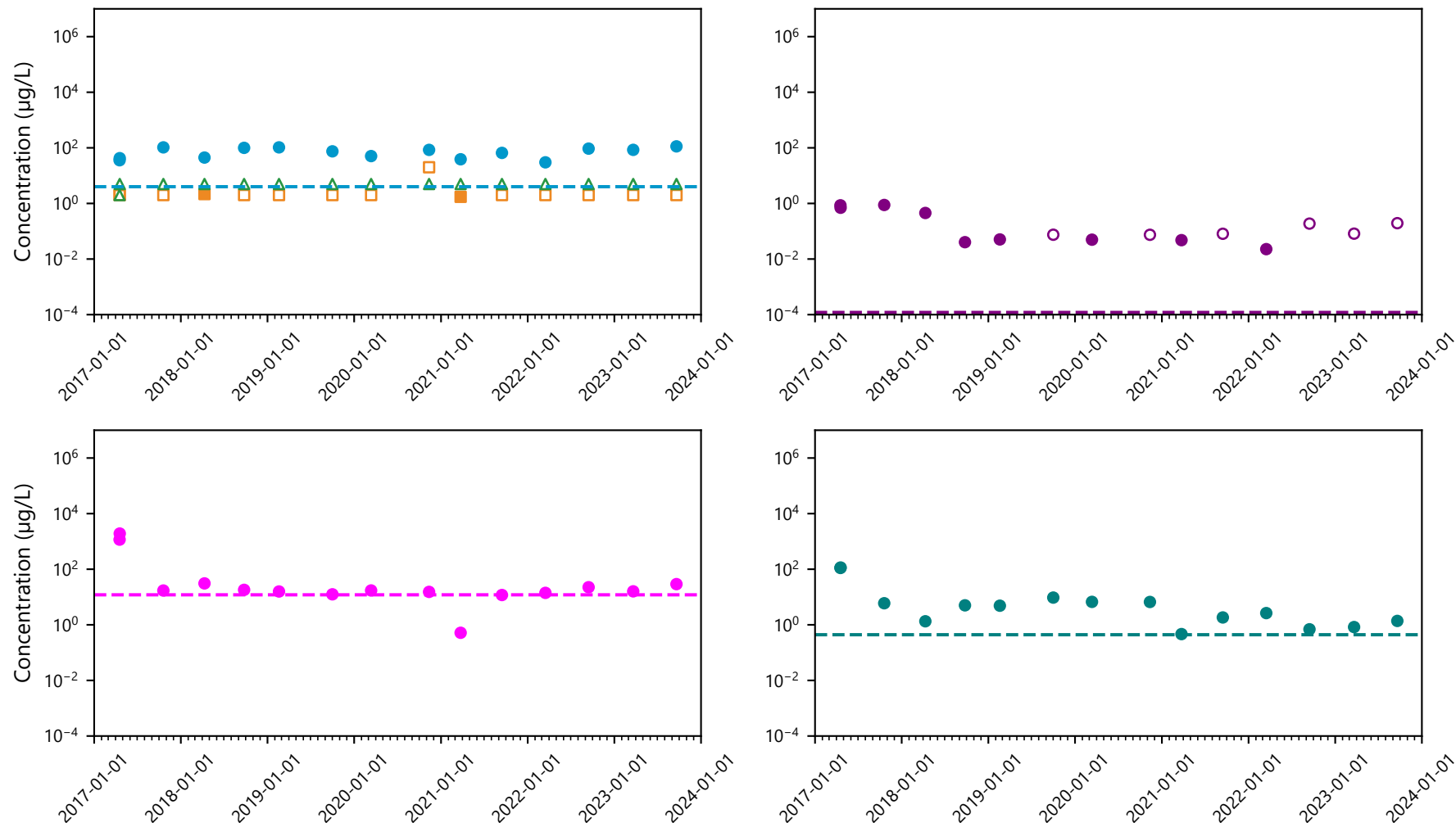
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.34
Monitoring Wells and Piezometers: NWN-07-30

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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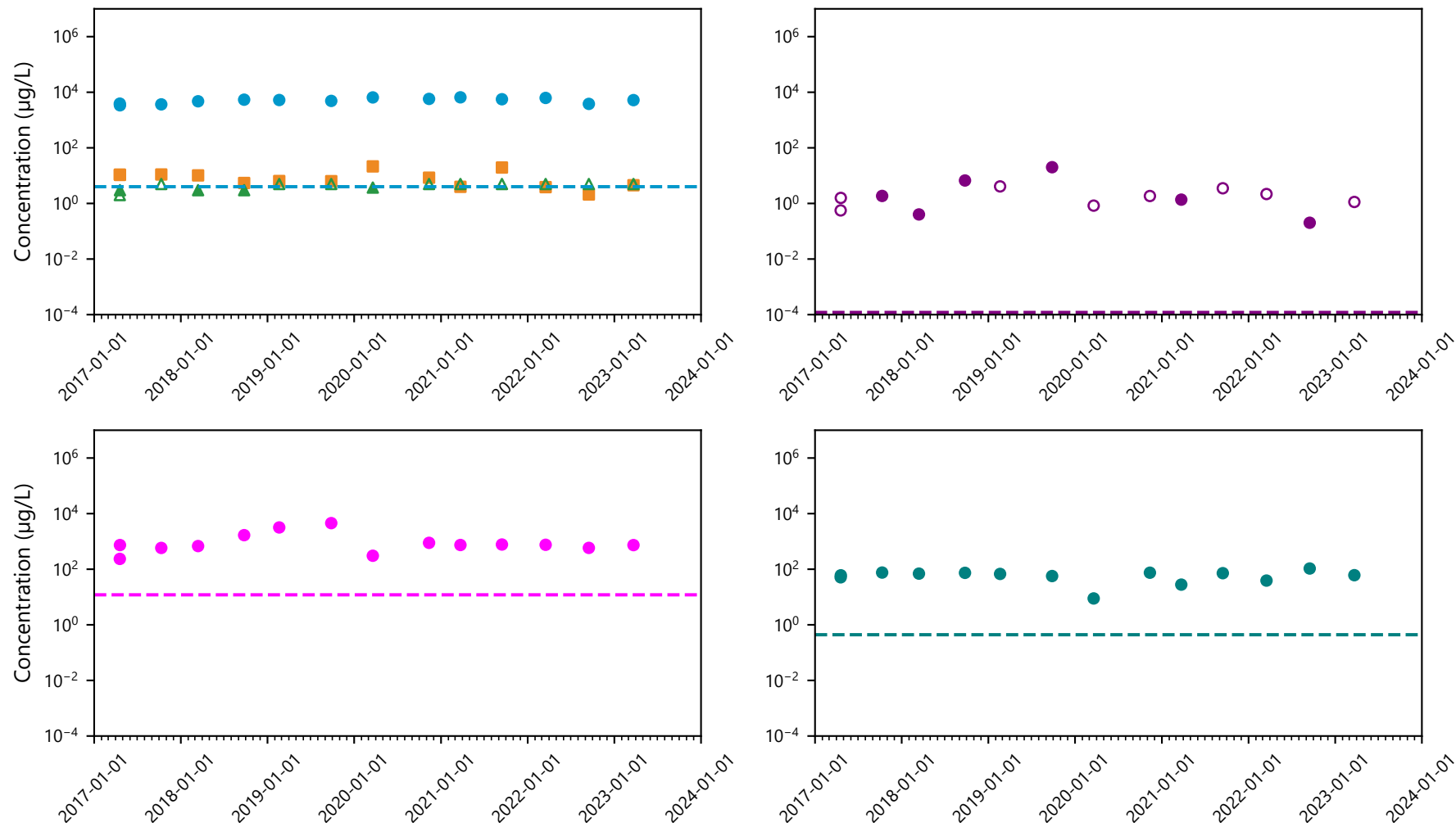
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.35 Monitoring Wells and Piezometers: NWN-09-31

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.

µg/L= micrograms per liter

CUL= Cleanup Level

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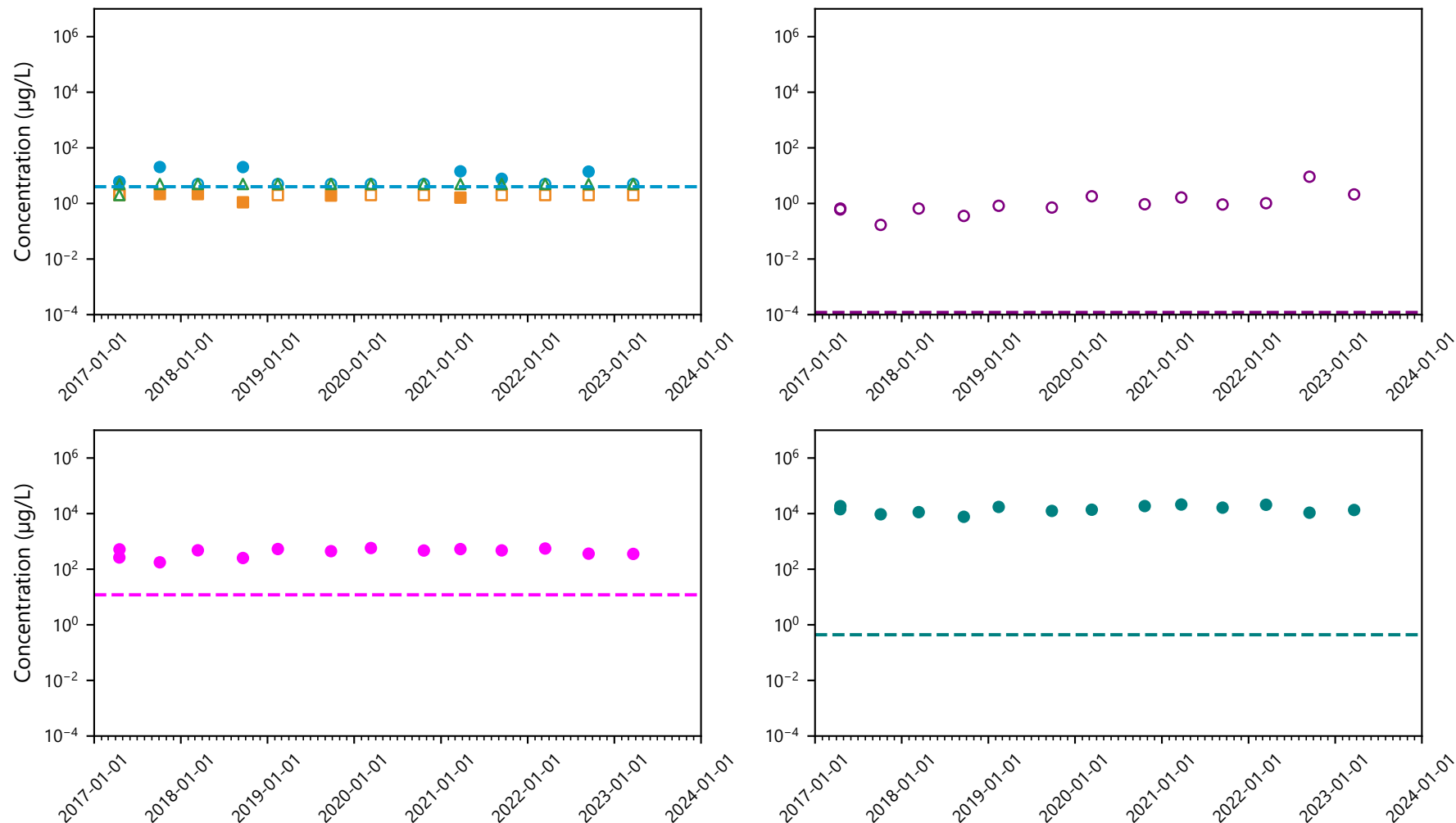
● Cyanide	● Naphthalene	--- Benzo(a)pyrene CUL
■ Cyanide, available	● Benzene	--- Naphthalene CUL
▲ Cyanide, free	--- Cyanide CUL	--- Benzene CUL
● Benzo(a)pyrene		

C.4.a.36

Monitoring Wells and Piezometers: NWN-11-24

2023 HC&C System Annual Report

Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.

µg/L= micrograms per liter

CUL= Cleanup Level

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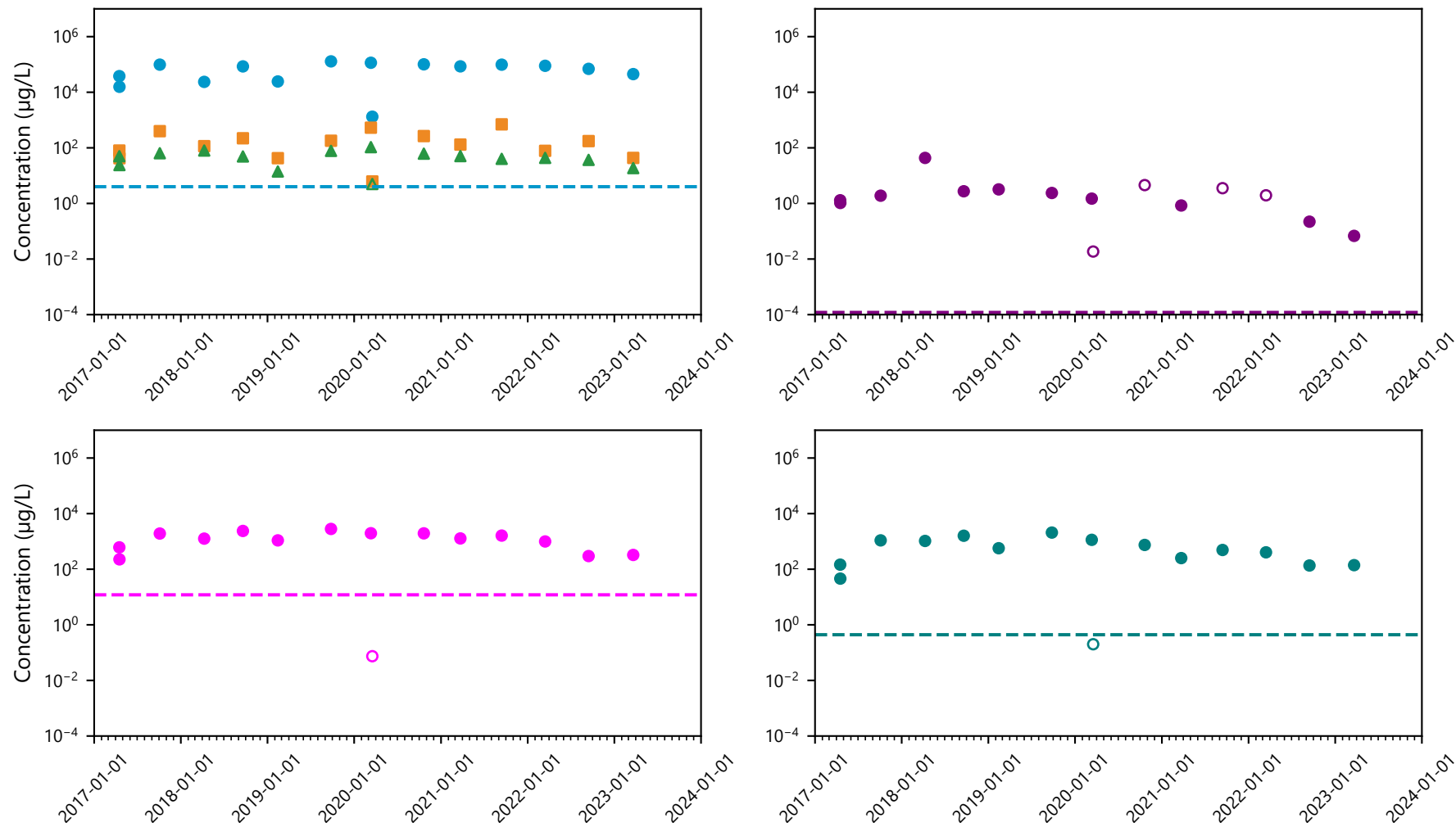
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.37
Monitoring Wells and Piezometers: NWN-13-106

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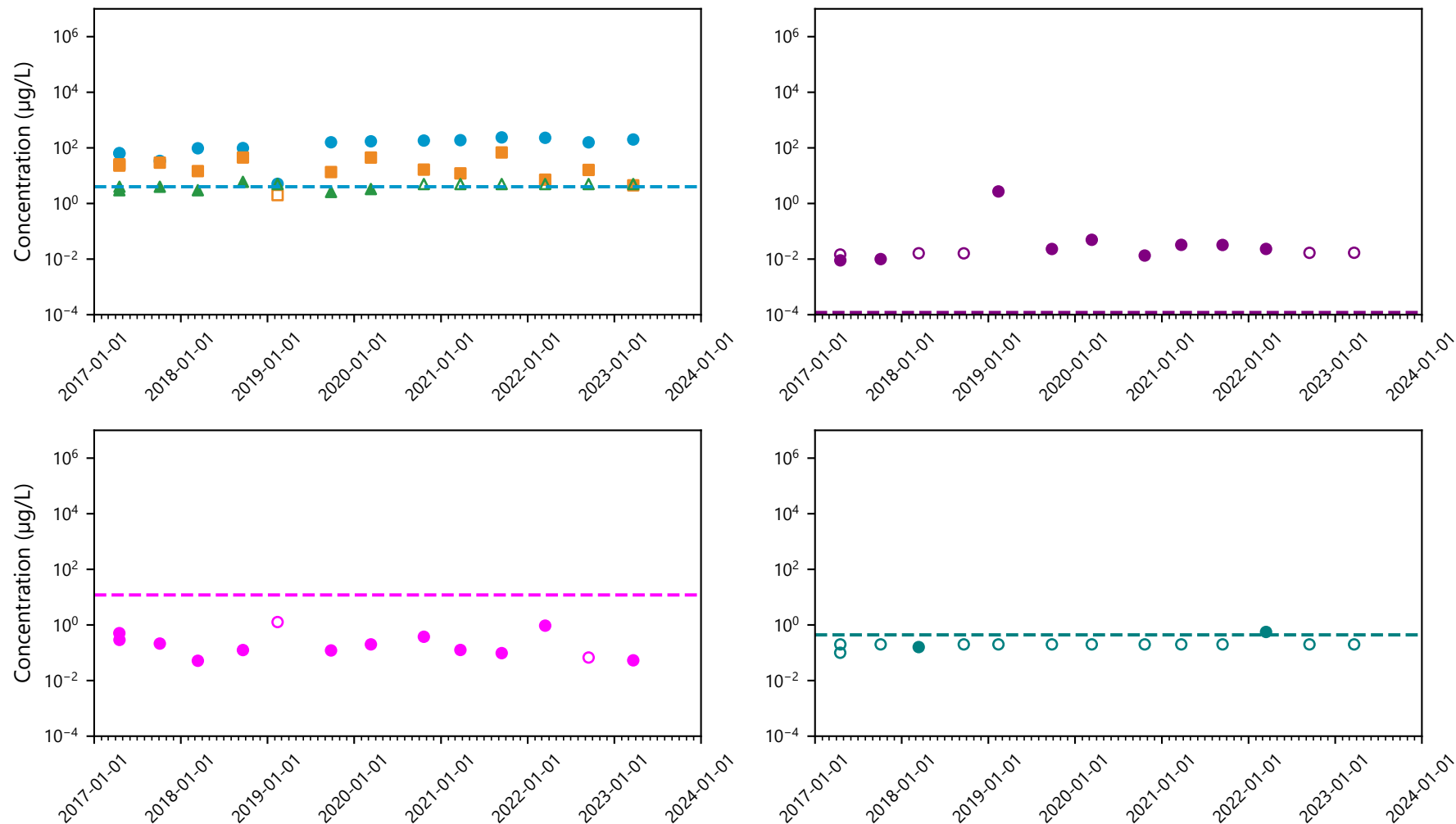
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 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.38
Monitoring Wells and Piezometers: NWN-13-23
 2023 HC&C System Annual Report
 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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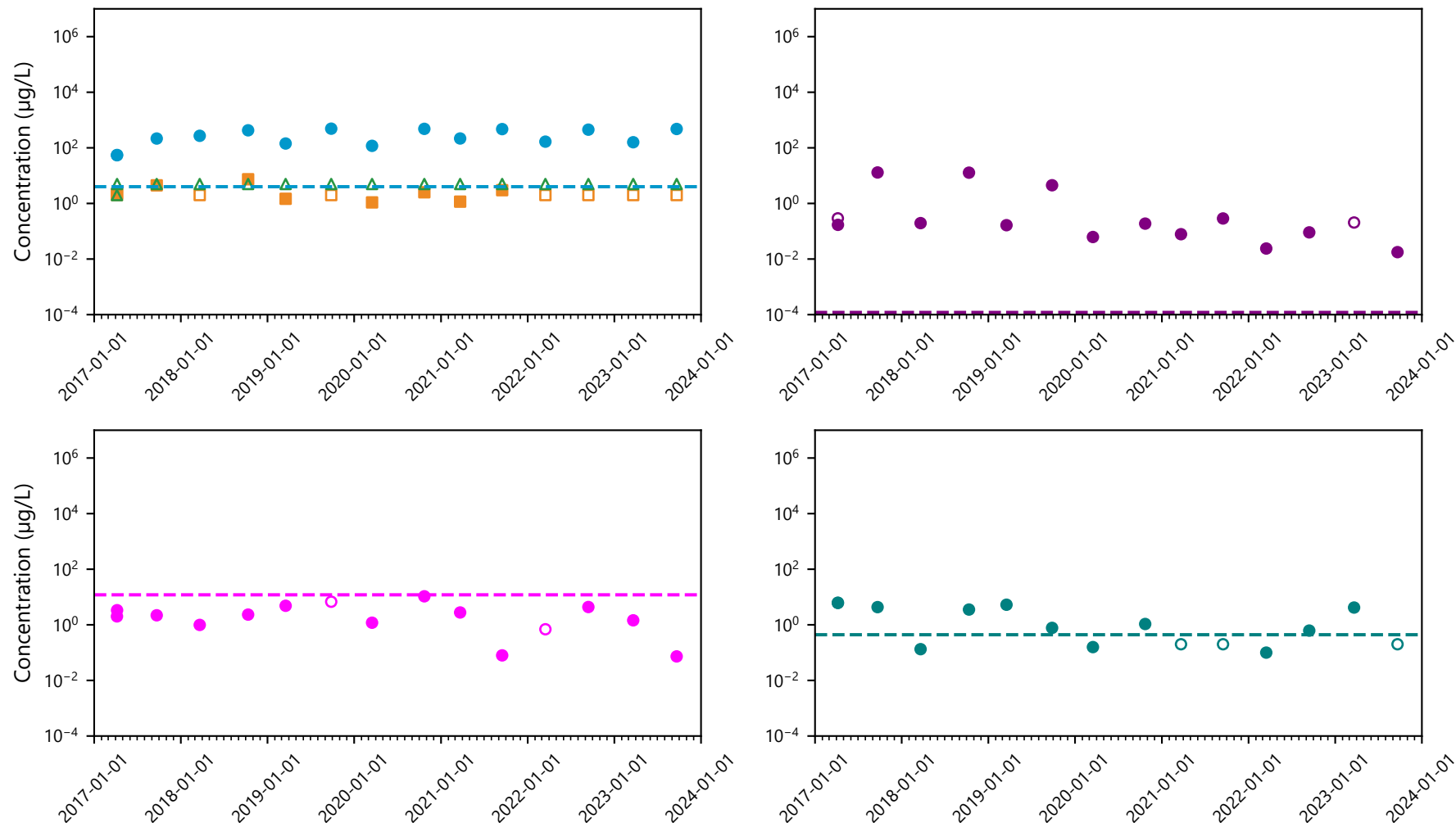
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.39
Monitoring Wells and Piezometers: NWN-13-73

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 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

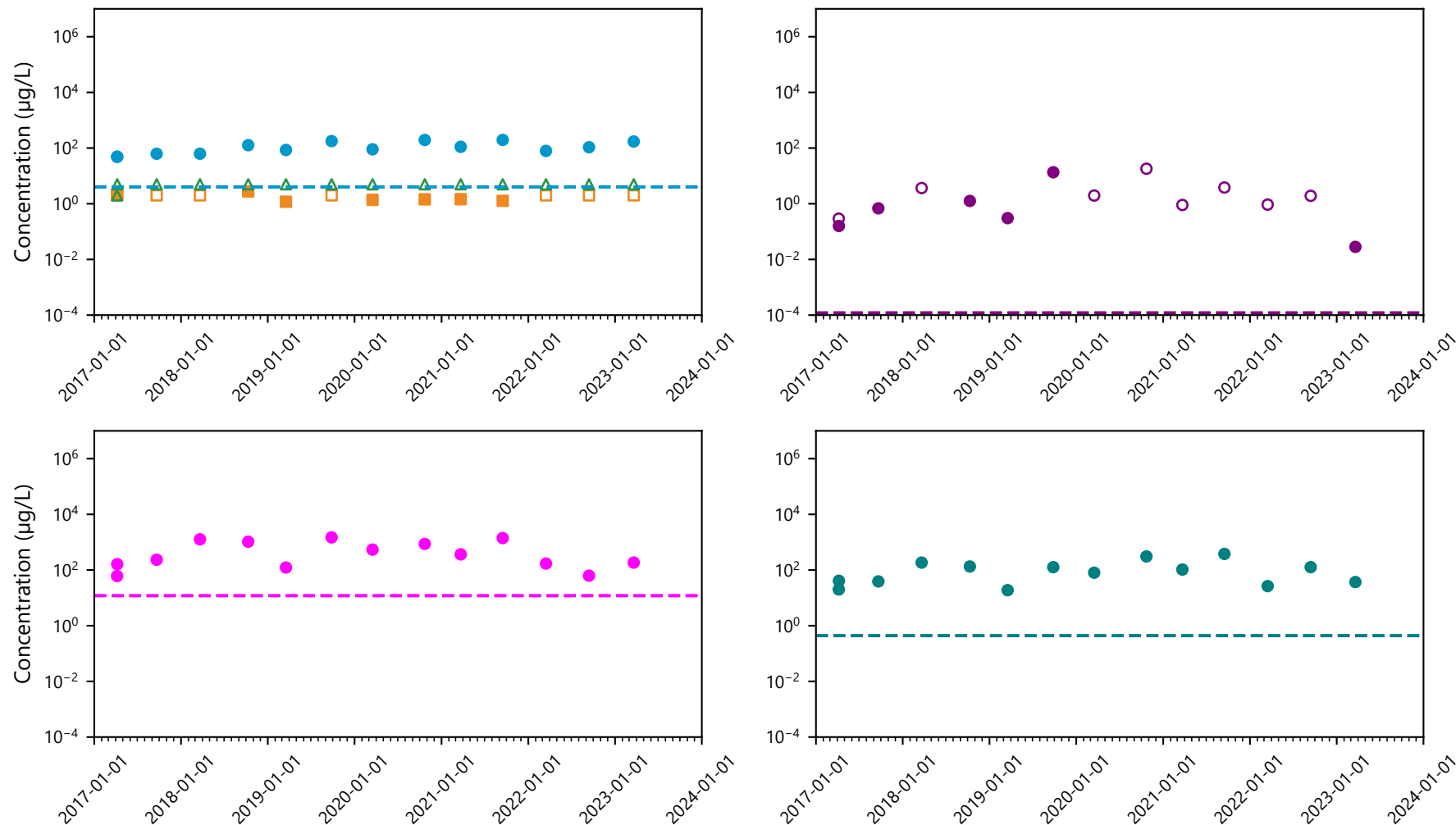
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.40
Monitoring Wells and Piezometers: OW-1F
 2023 HC&C System Annual Report
 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

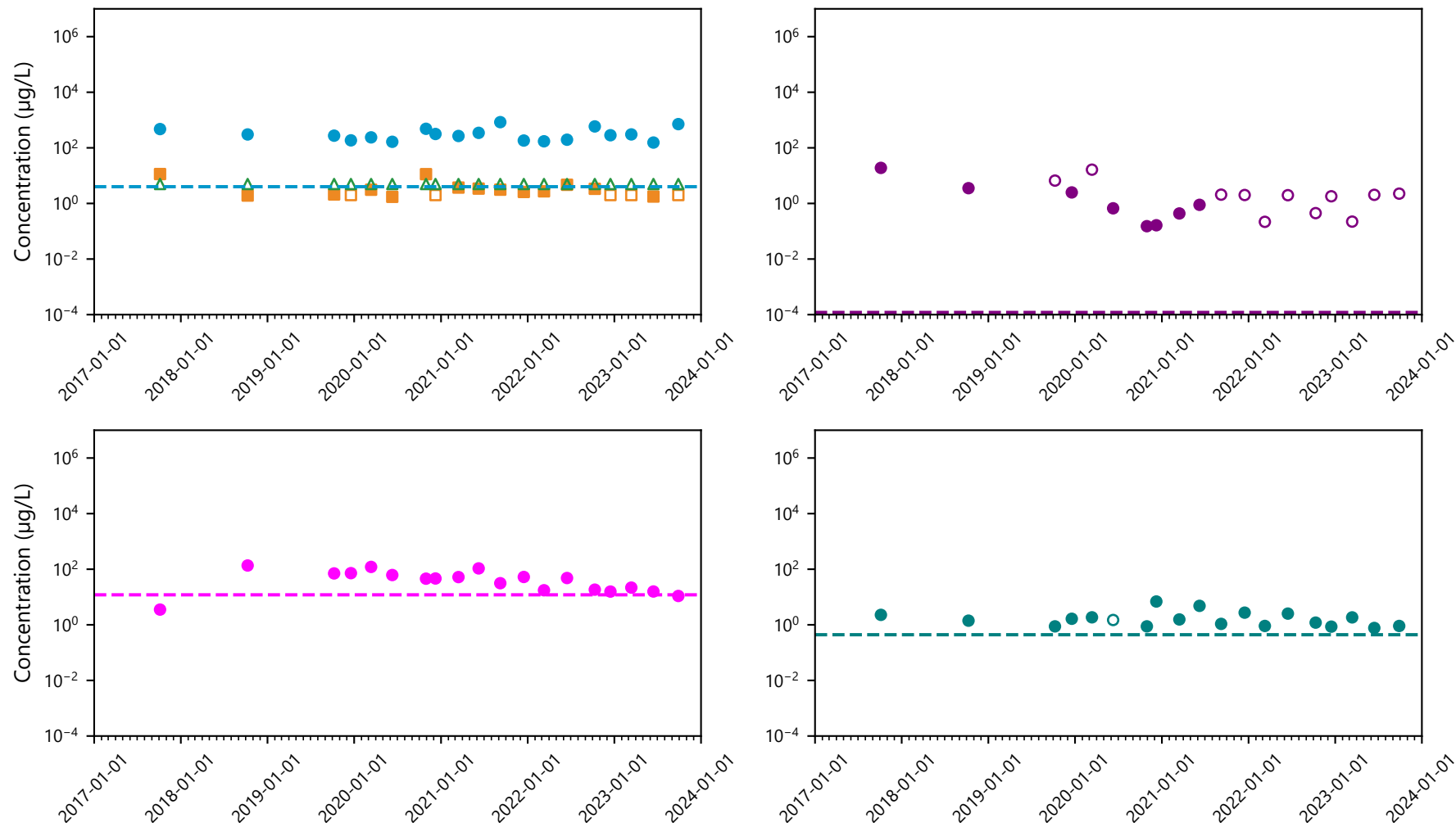
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.41
Monitoring Wells and Piezometers: OW-2F
 2023 HC&C System Annual Report
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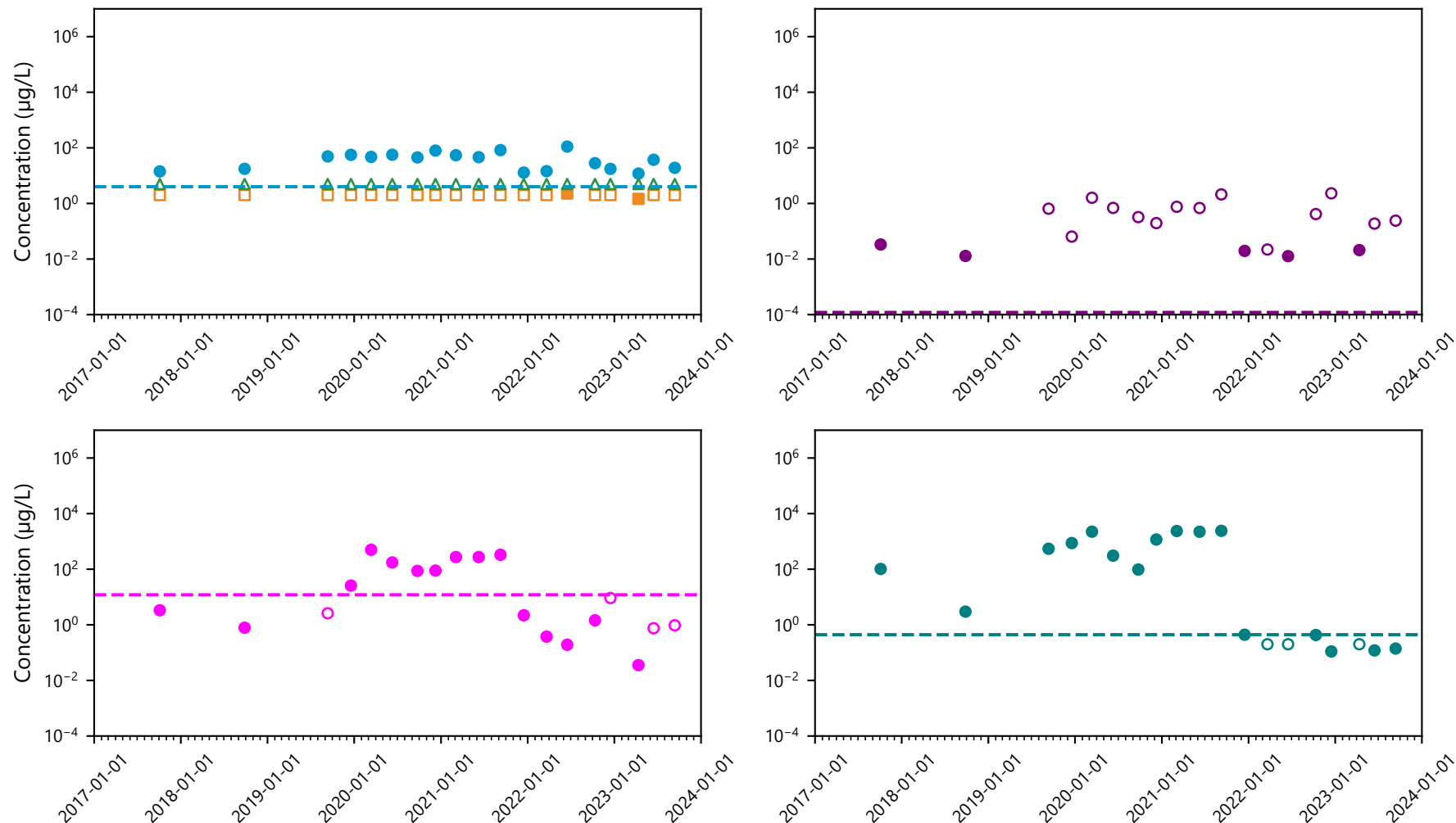
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 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.42
Monitoring Wells and Piezometers: OW-5F
 2023 HC&C System Annual Report
 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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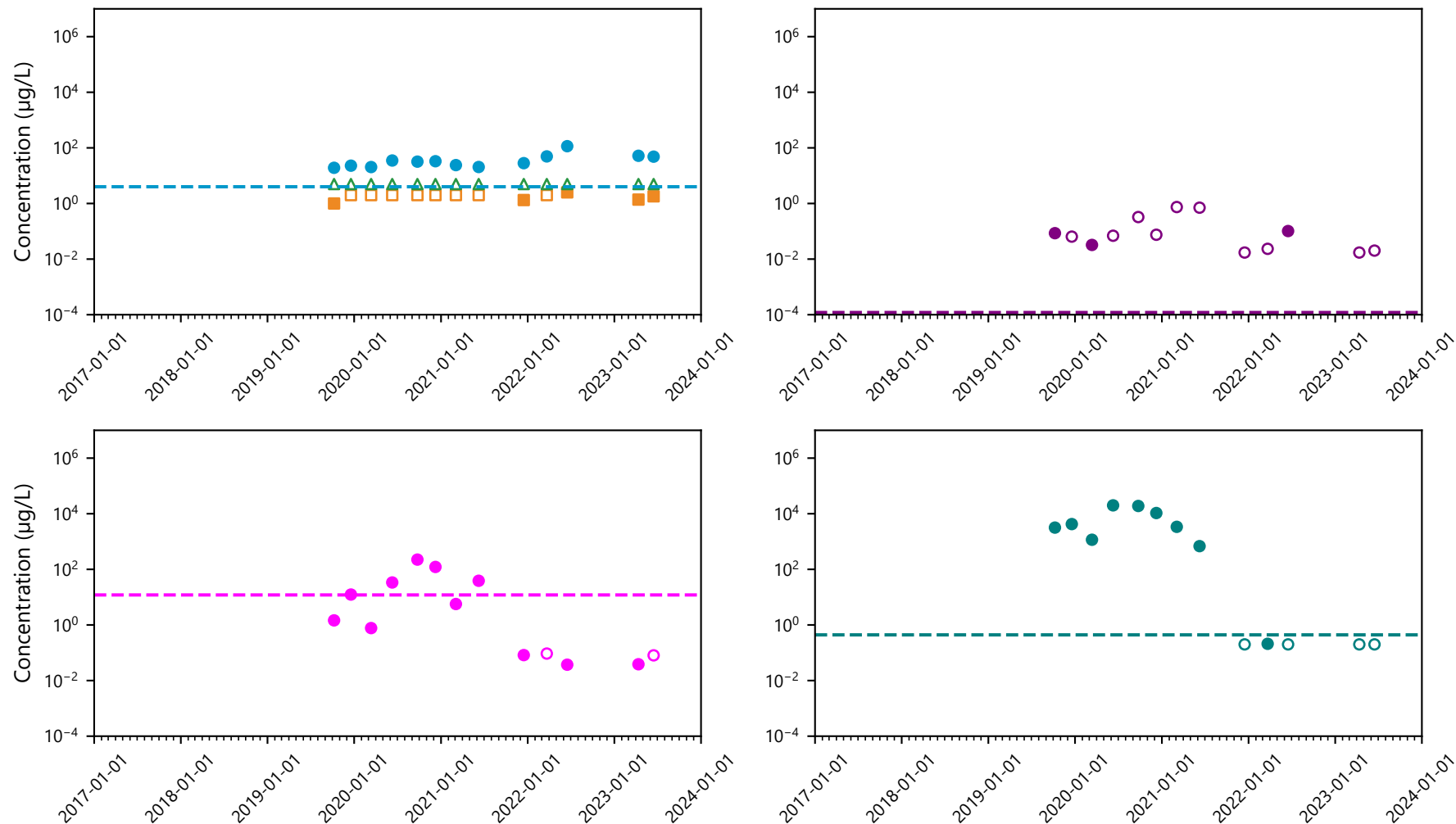
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.43 Monitoring Wells and Piezometers: OW-7-17

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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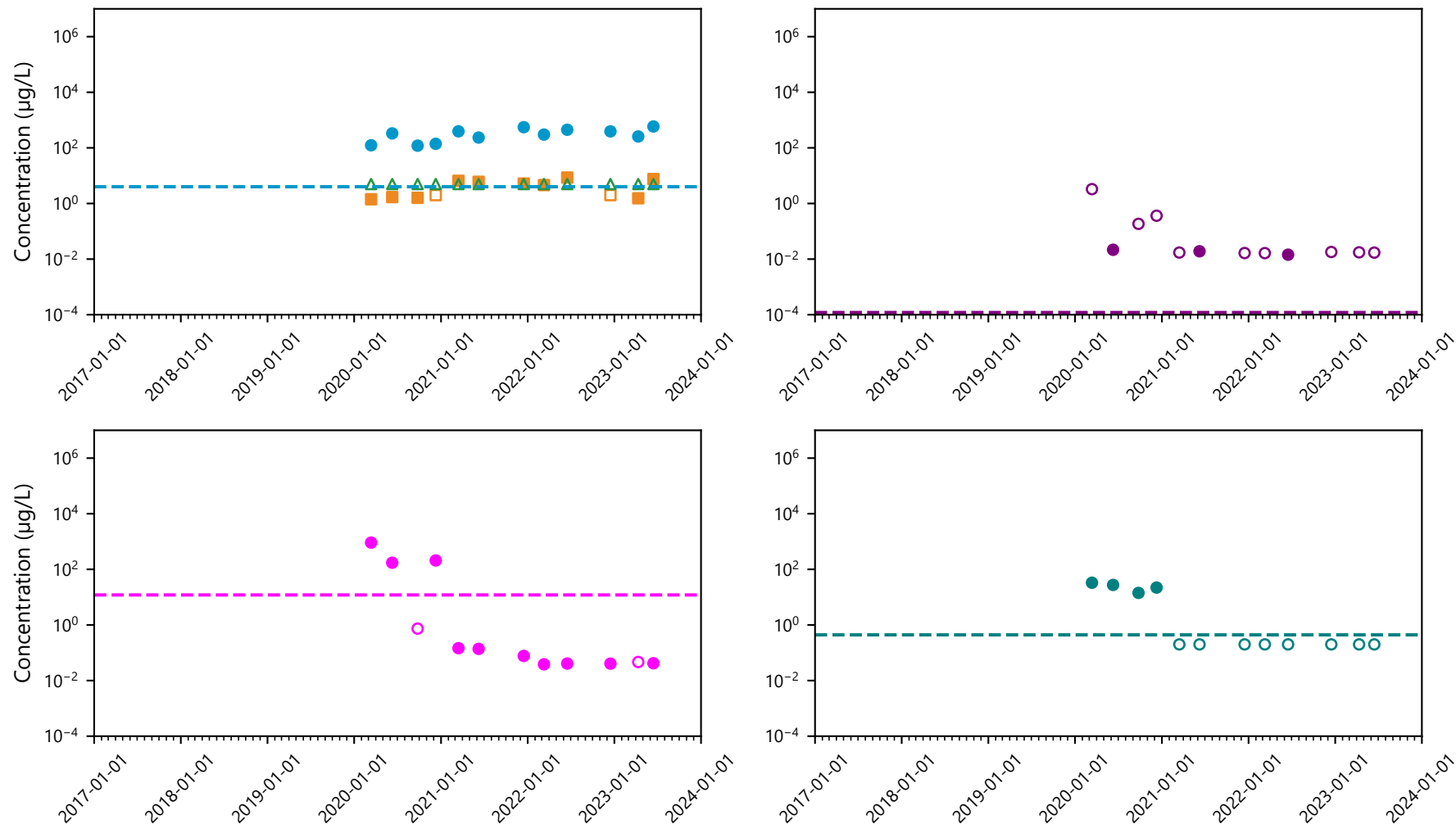


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

Monitoring Wells and Piezometers: OW-8-15

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C.4.a.44



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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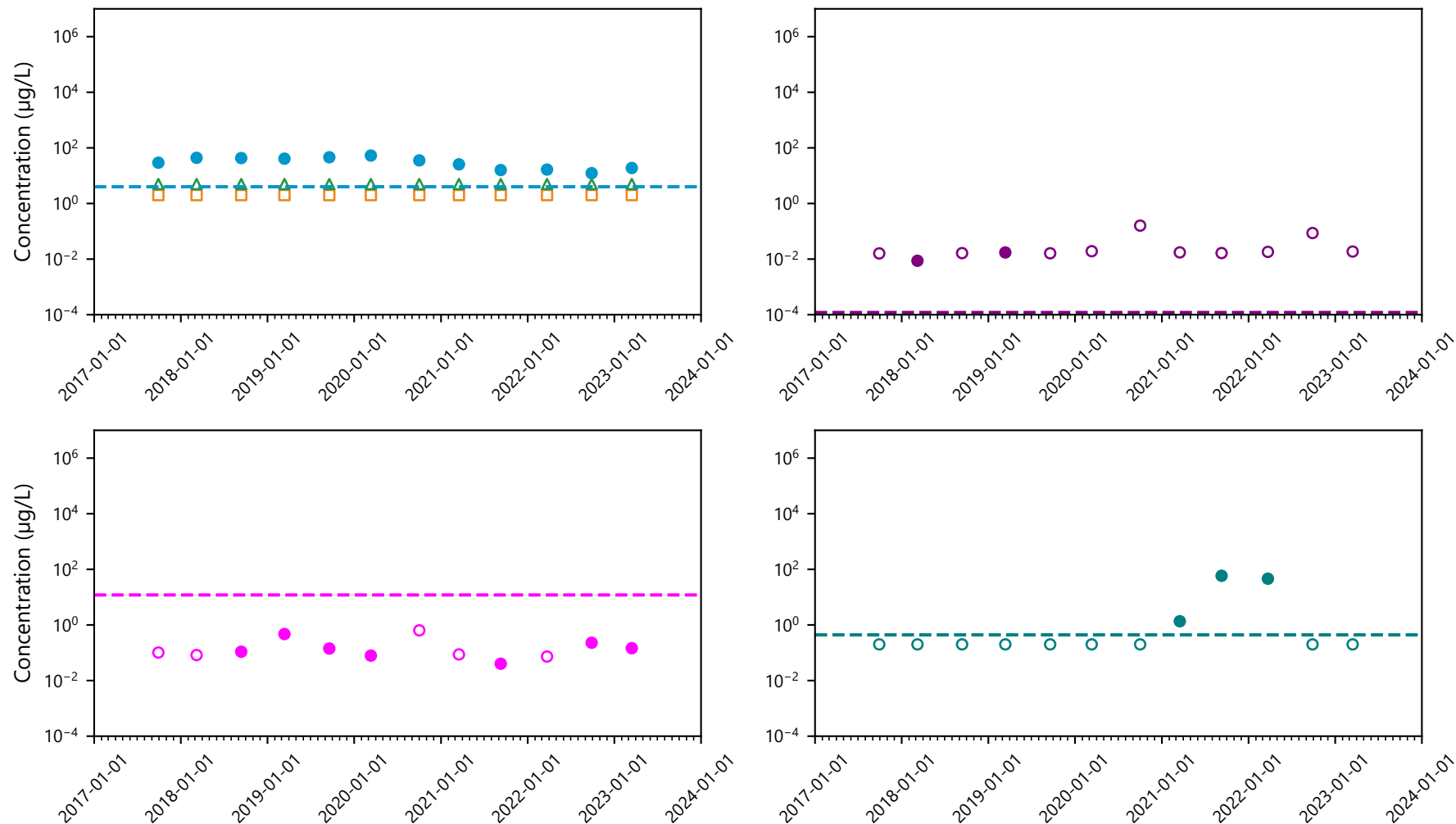


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Naphthalene
- Benzene
- Cyanide CUL
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

Monitoring Wells and Piezometers: OW-9-25

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Gasco OU

C.4.a.45



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

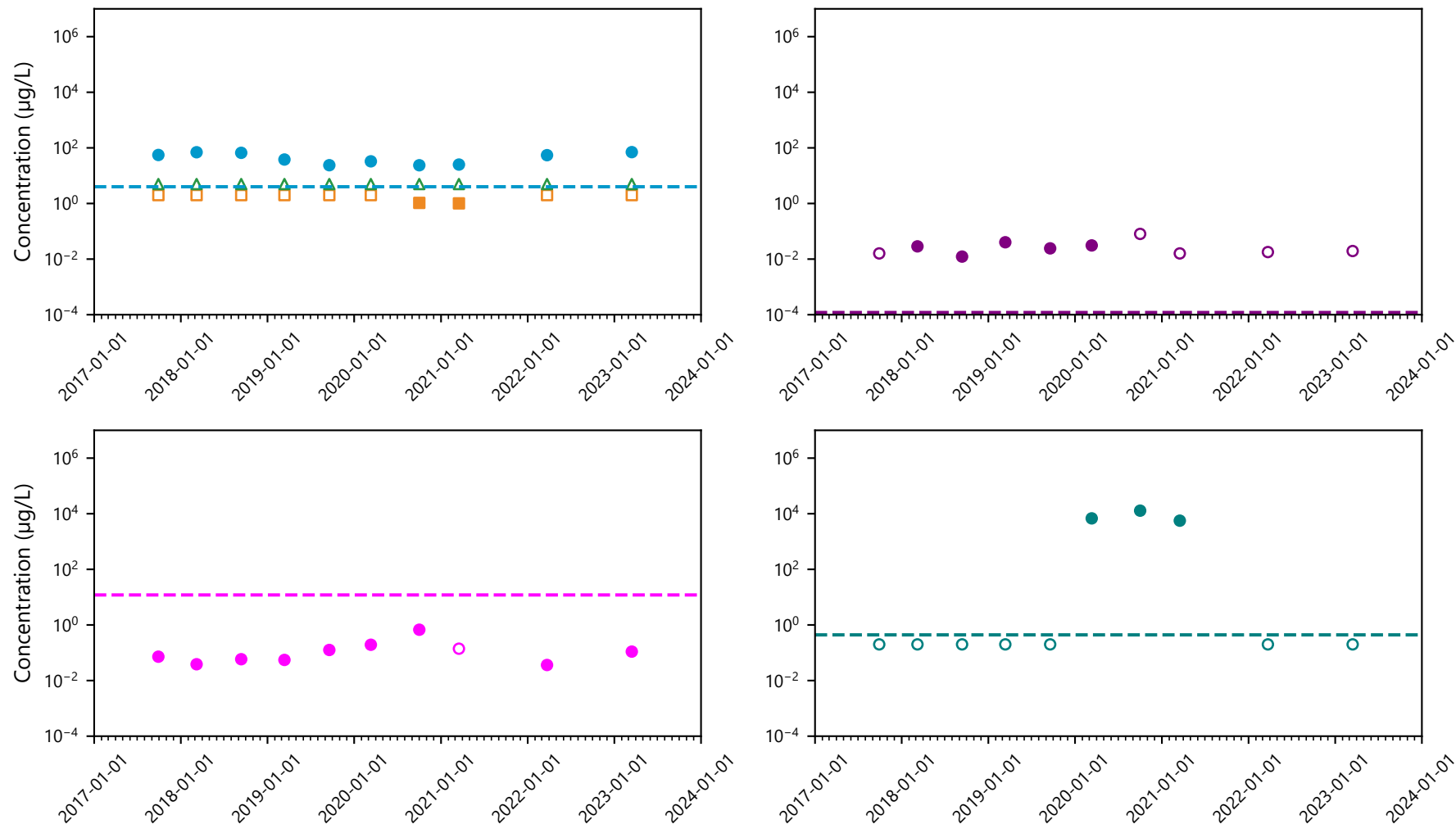
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.46
Monitoring Wells and Piezometers: PZ5-20
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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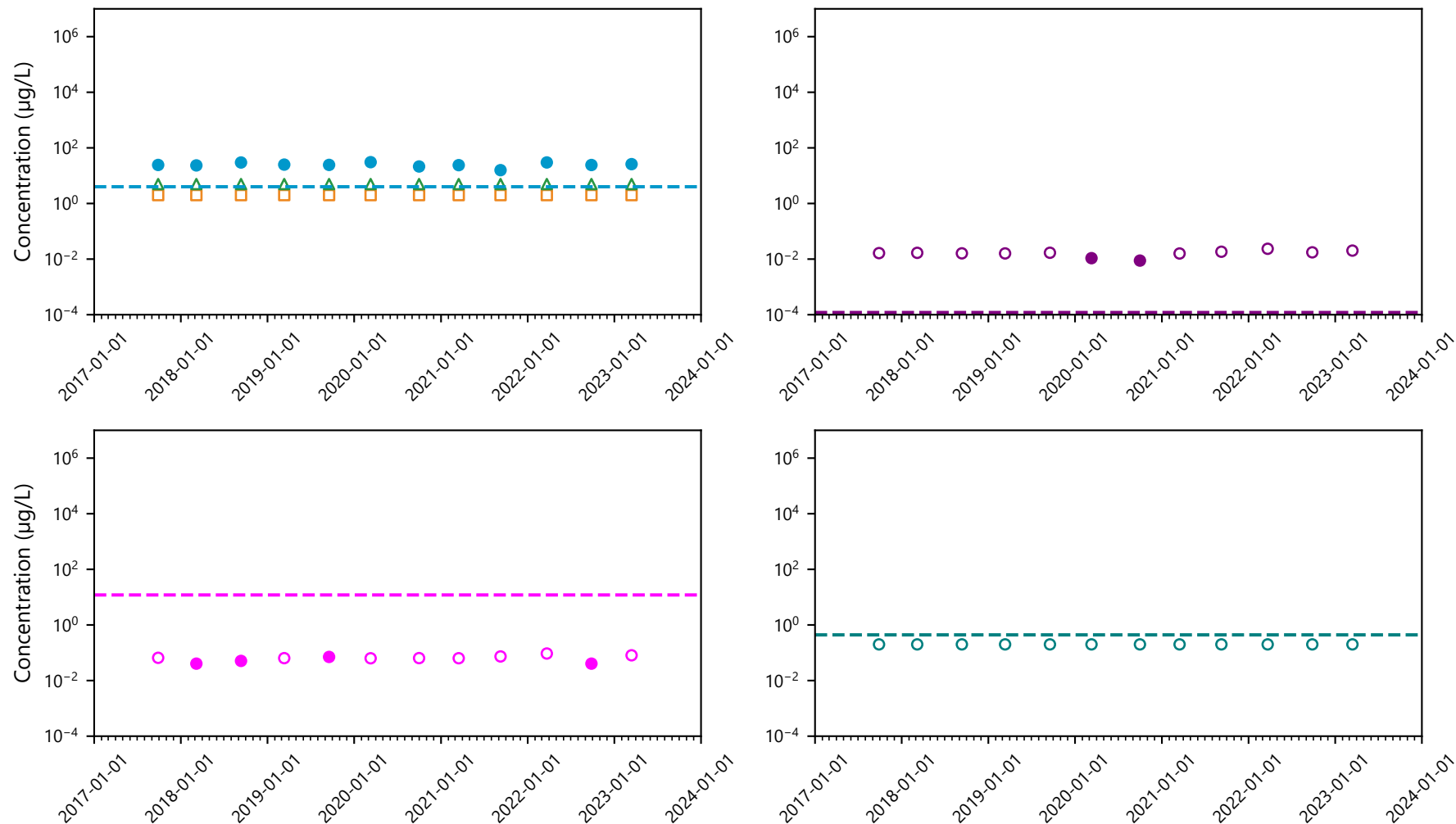
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.47
Monitoring Wells and Piezometers: PZ5-5

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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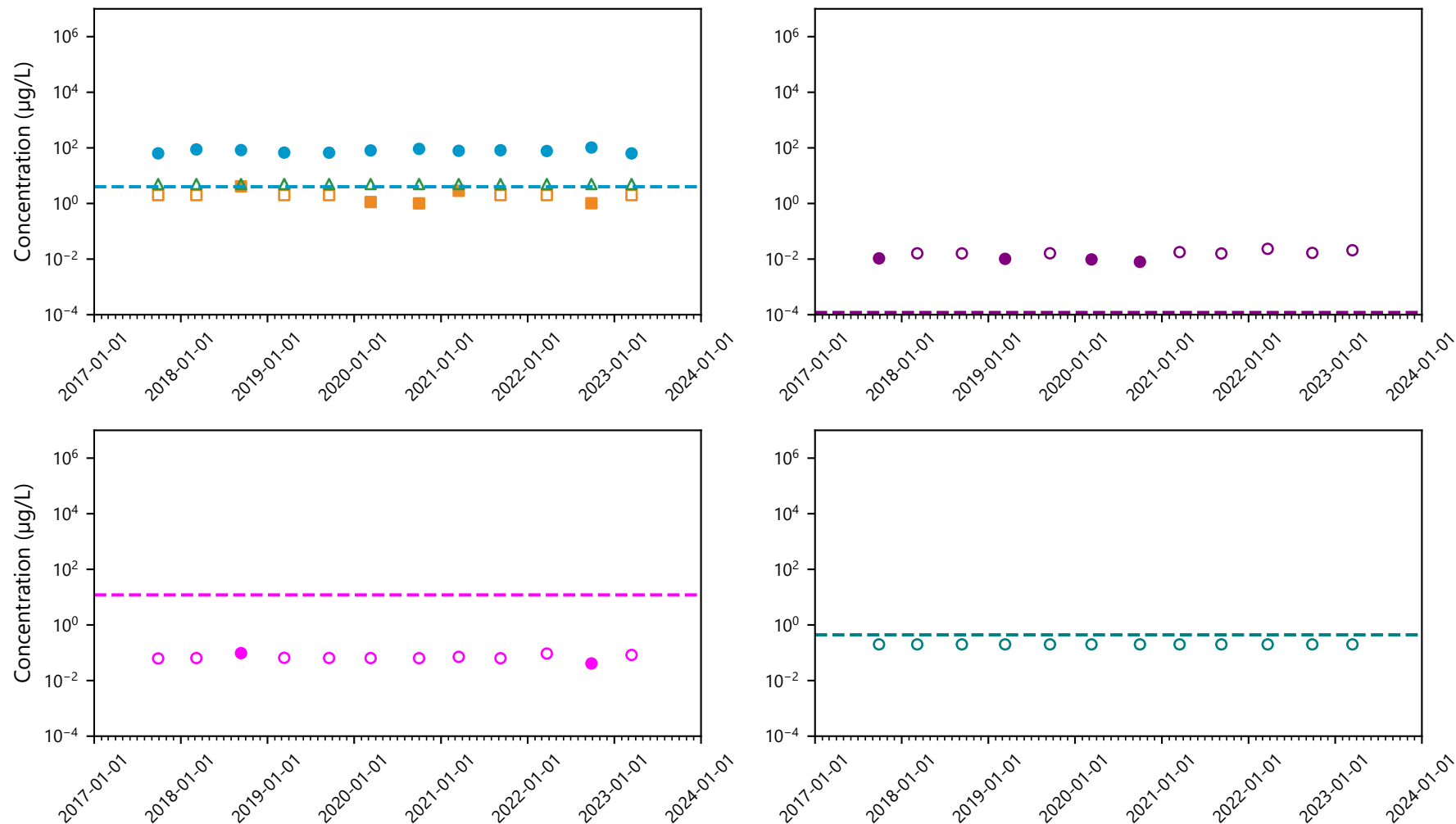
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.48
Monitoring Wells and Piezometers: PZ5-55

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

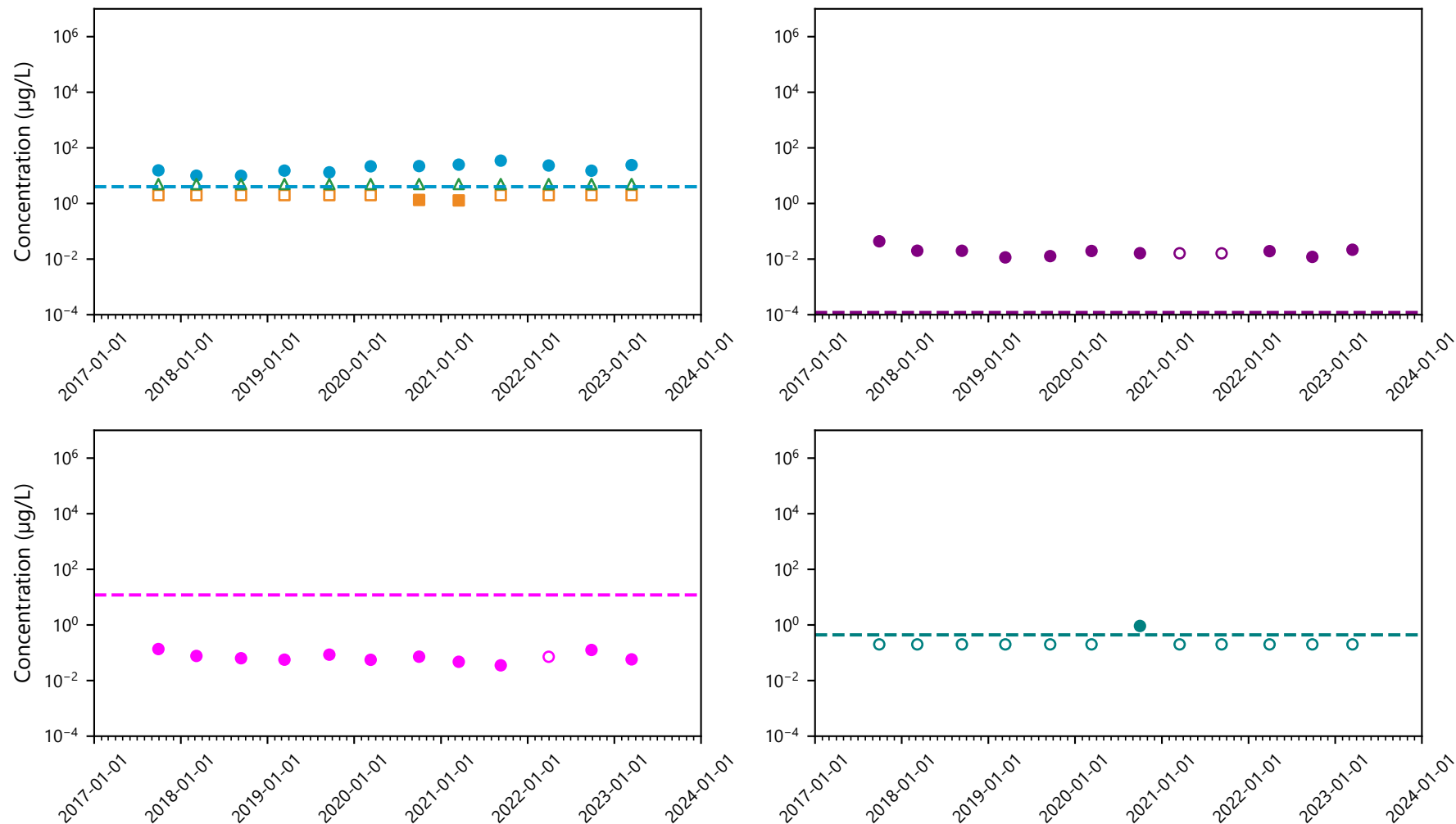
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.49
Monitoring Wells and Piezometers: PZ5-85
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

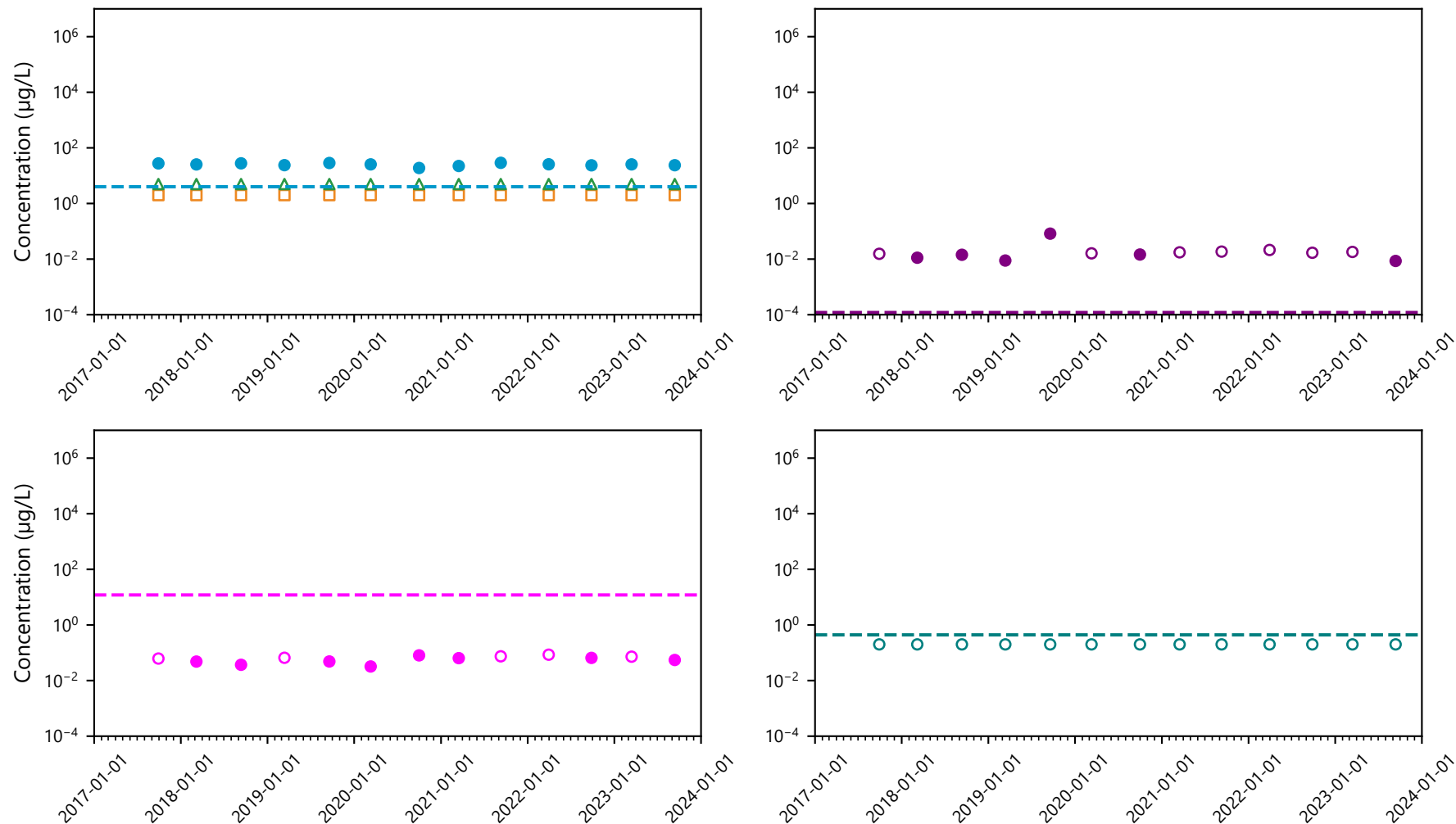
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.50
Monitoring Wells and Piezometers: PZ6-115
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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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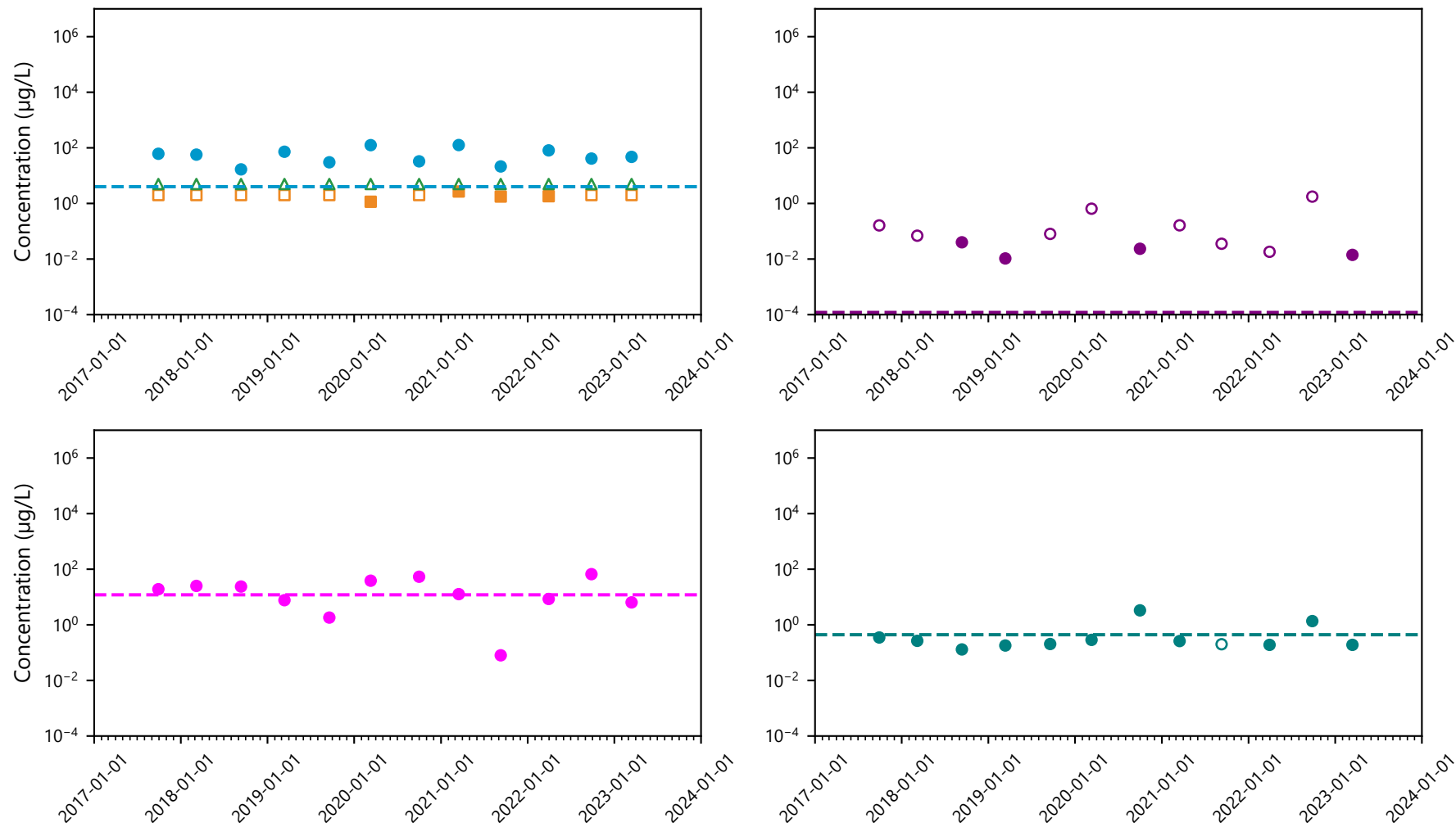
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.51
Monitoring Wells and Piezometers: PZ6-150

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

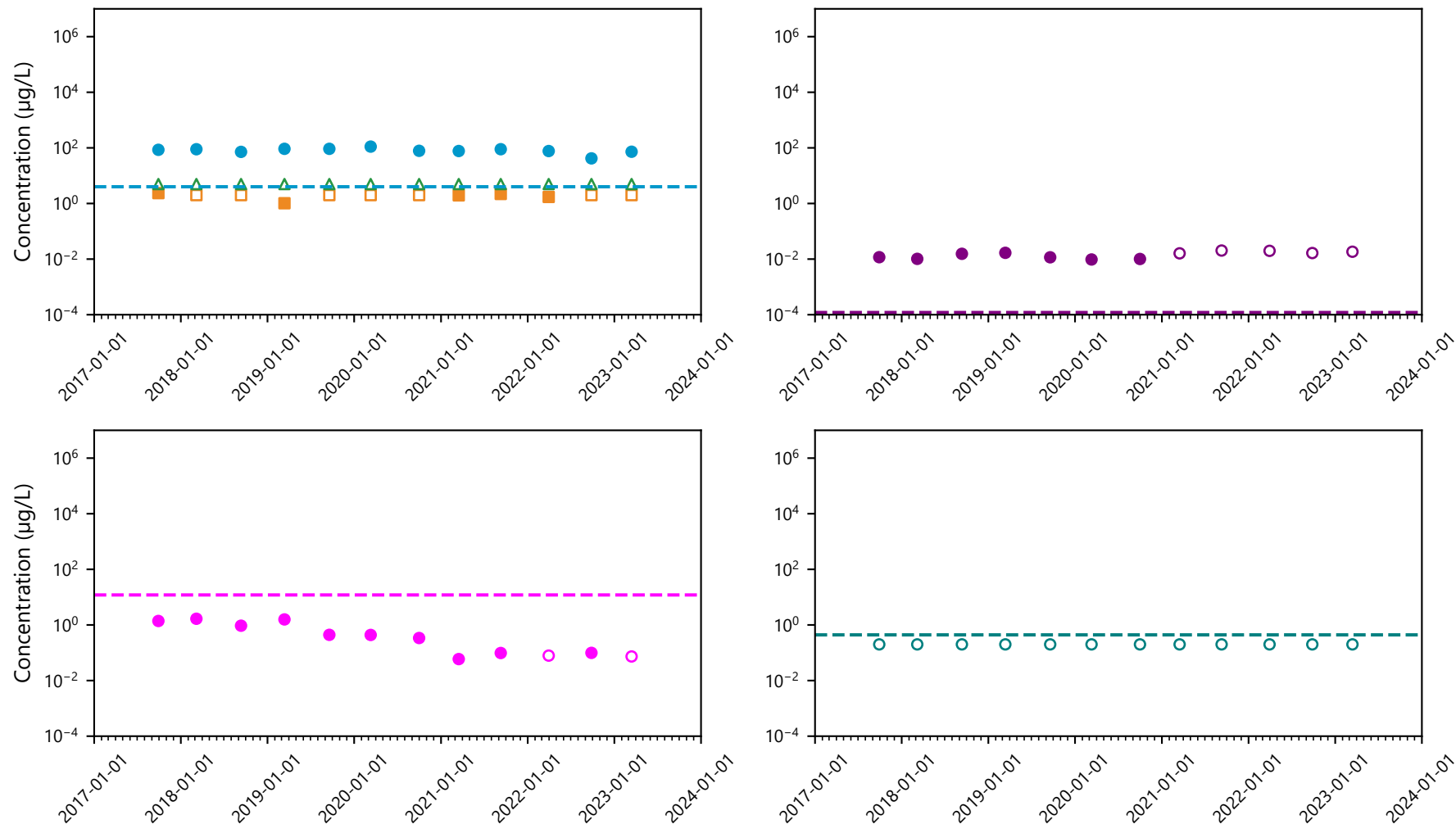
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Naphthalene
- Benzene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.52
Monitoring Wells and Piezometers: PZ6-5
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

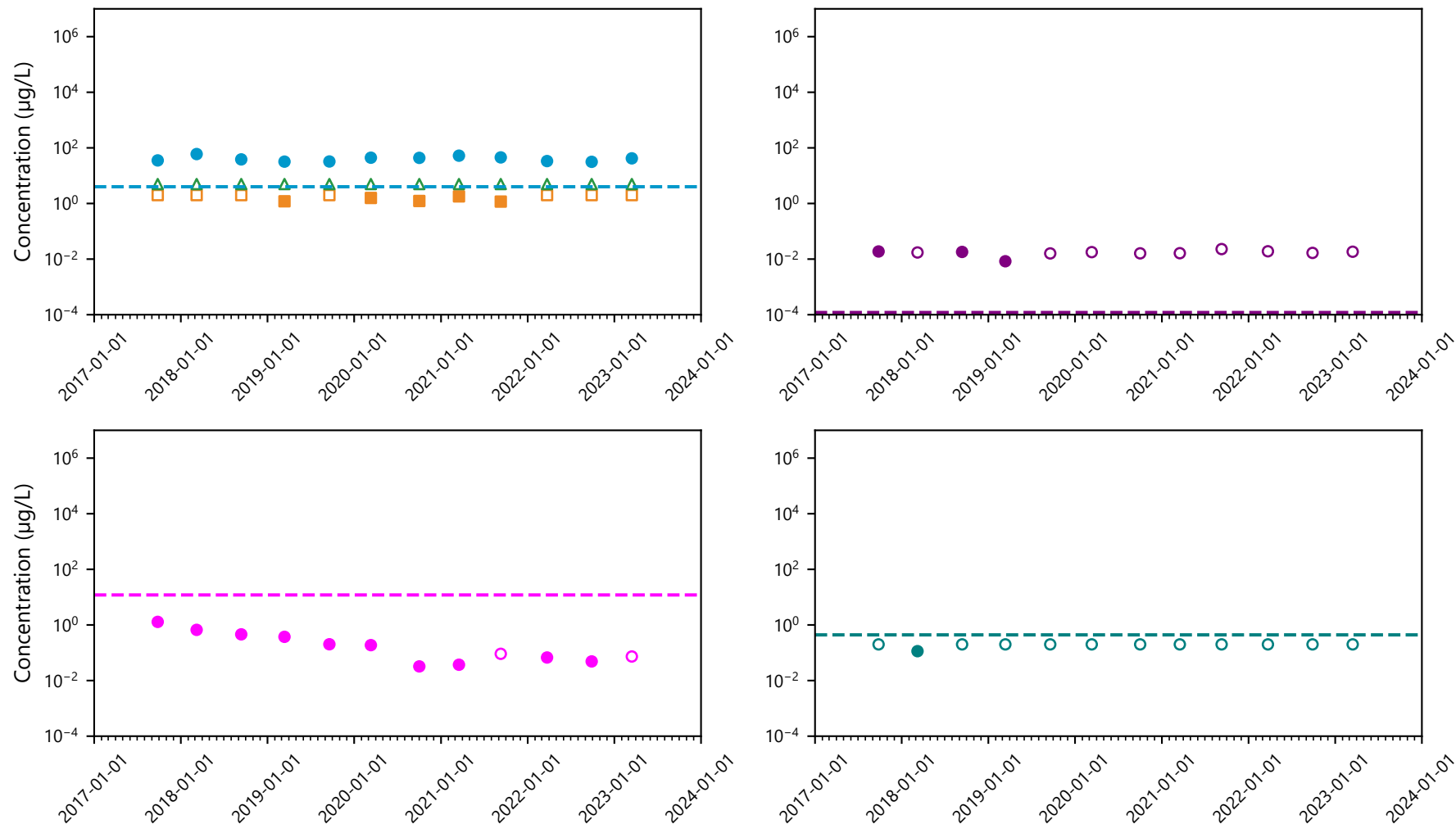
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.53
Monitoring Wells and Piezometers: PZ6-50
2023 HC&C System Annual Report
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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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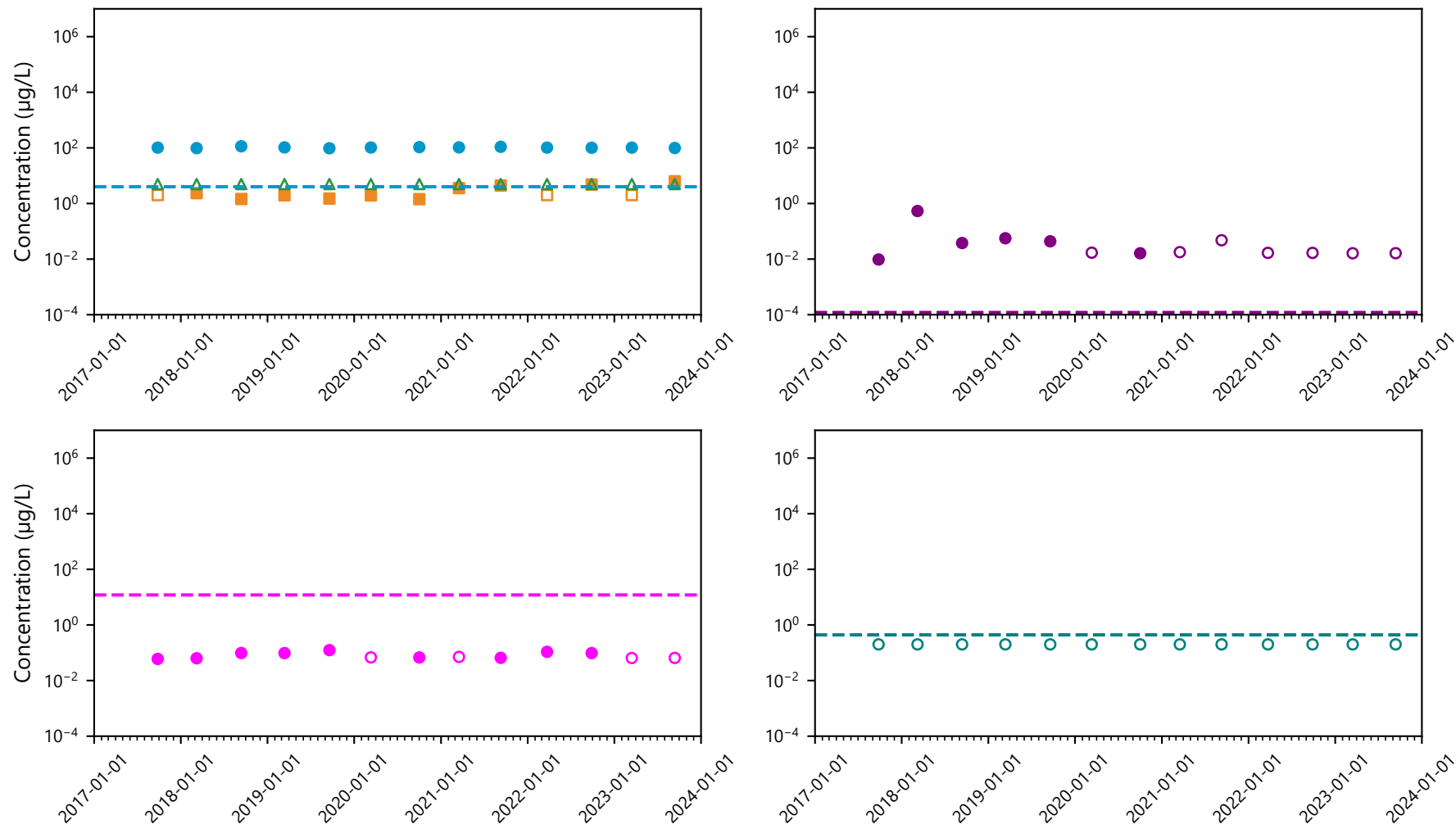
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Naphthalene
- Benzene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.54 Monitoring Wells and Piezometers: PZ7-100

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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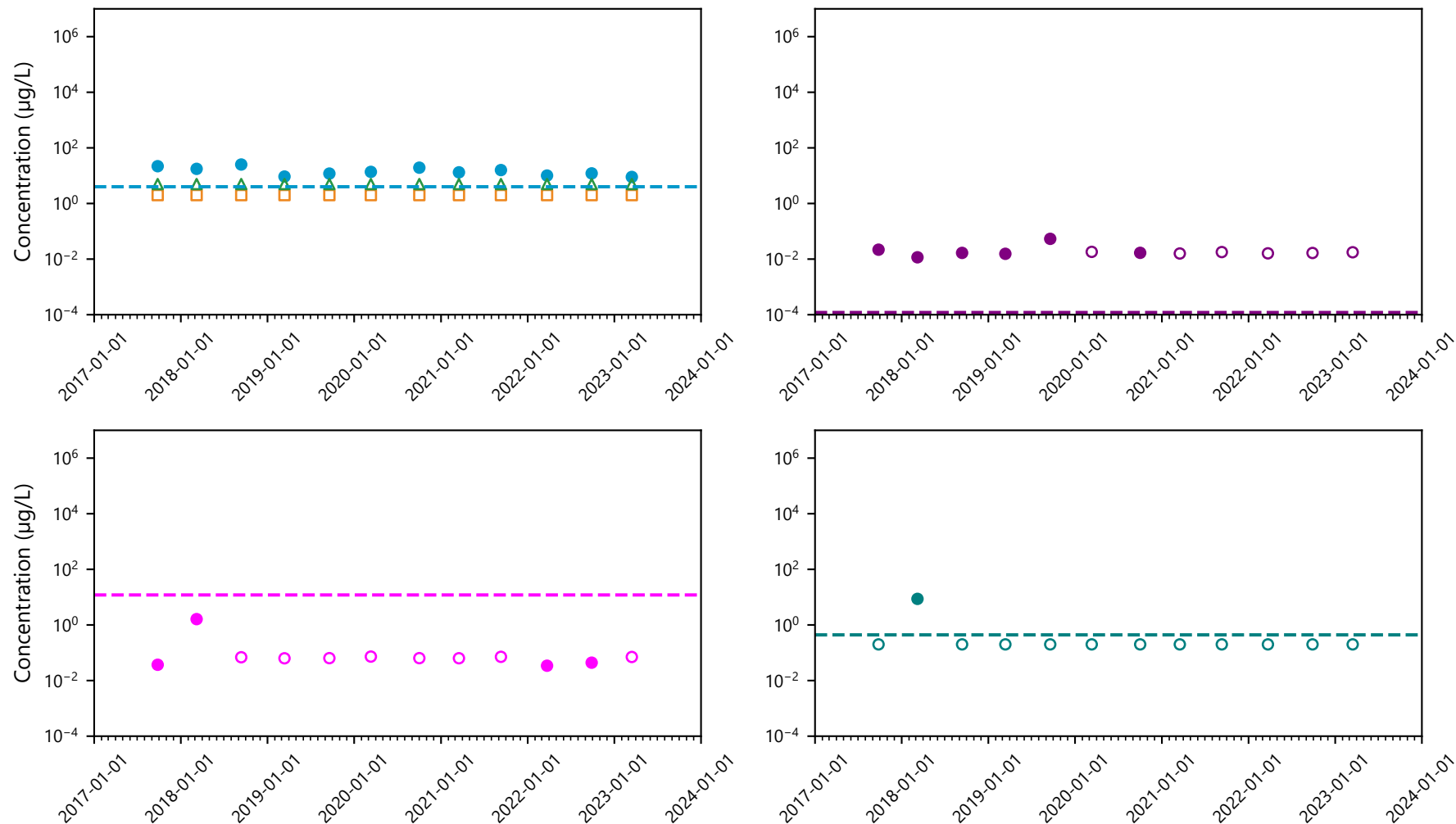
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.55 Monitoring Wells and Piezometers: PZ7-150

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

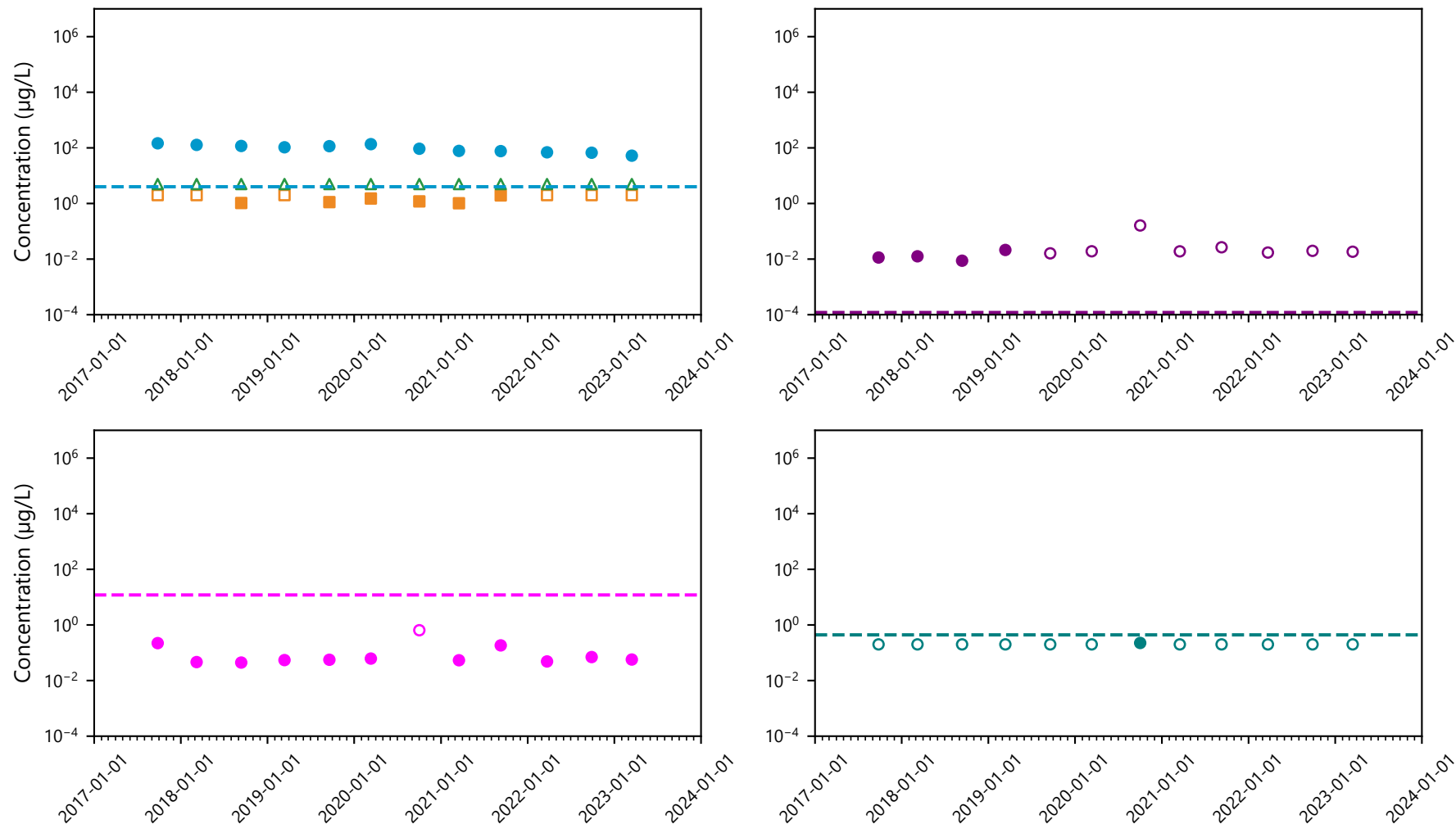
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.56
Monitoring Wells and Piezometers: PZ7-5
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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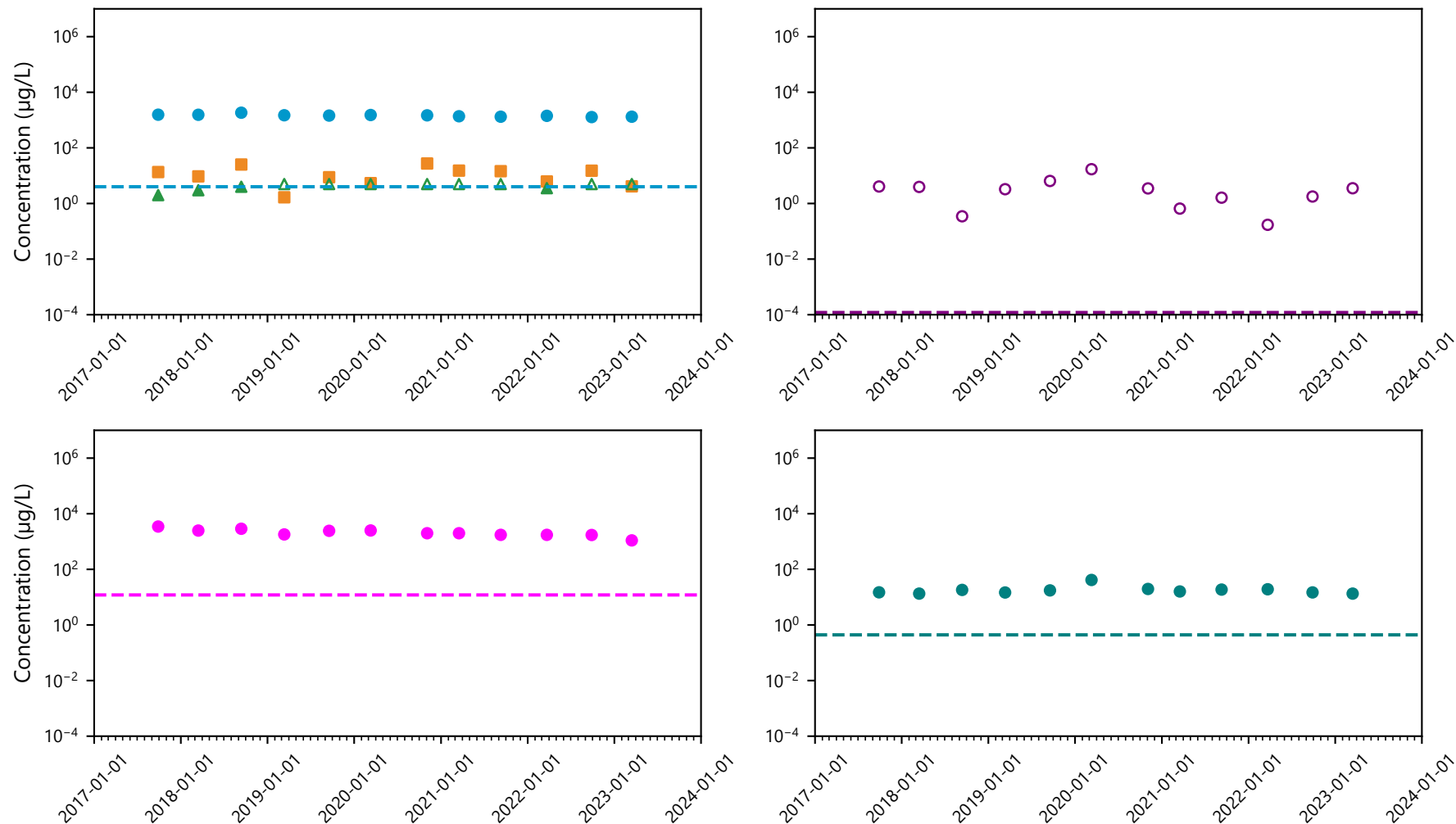
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.57
Monitoring Wells and Piezometers: PZ7-50

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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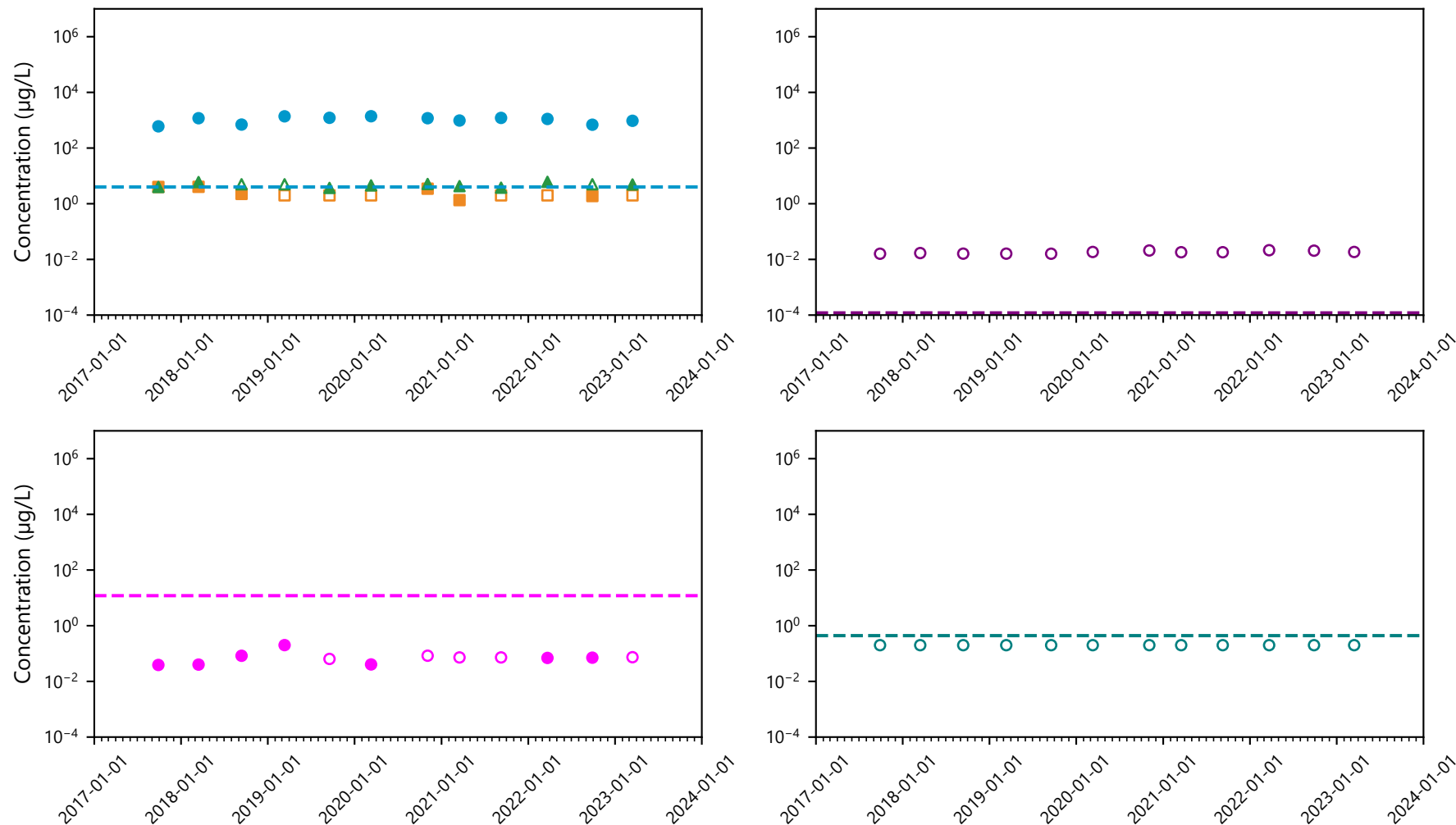
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.58 Monitoring Wells and Piezometers: PZ8-5

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

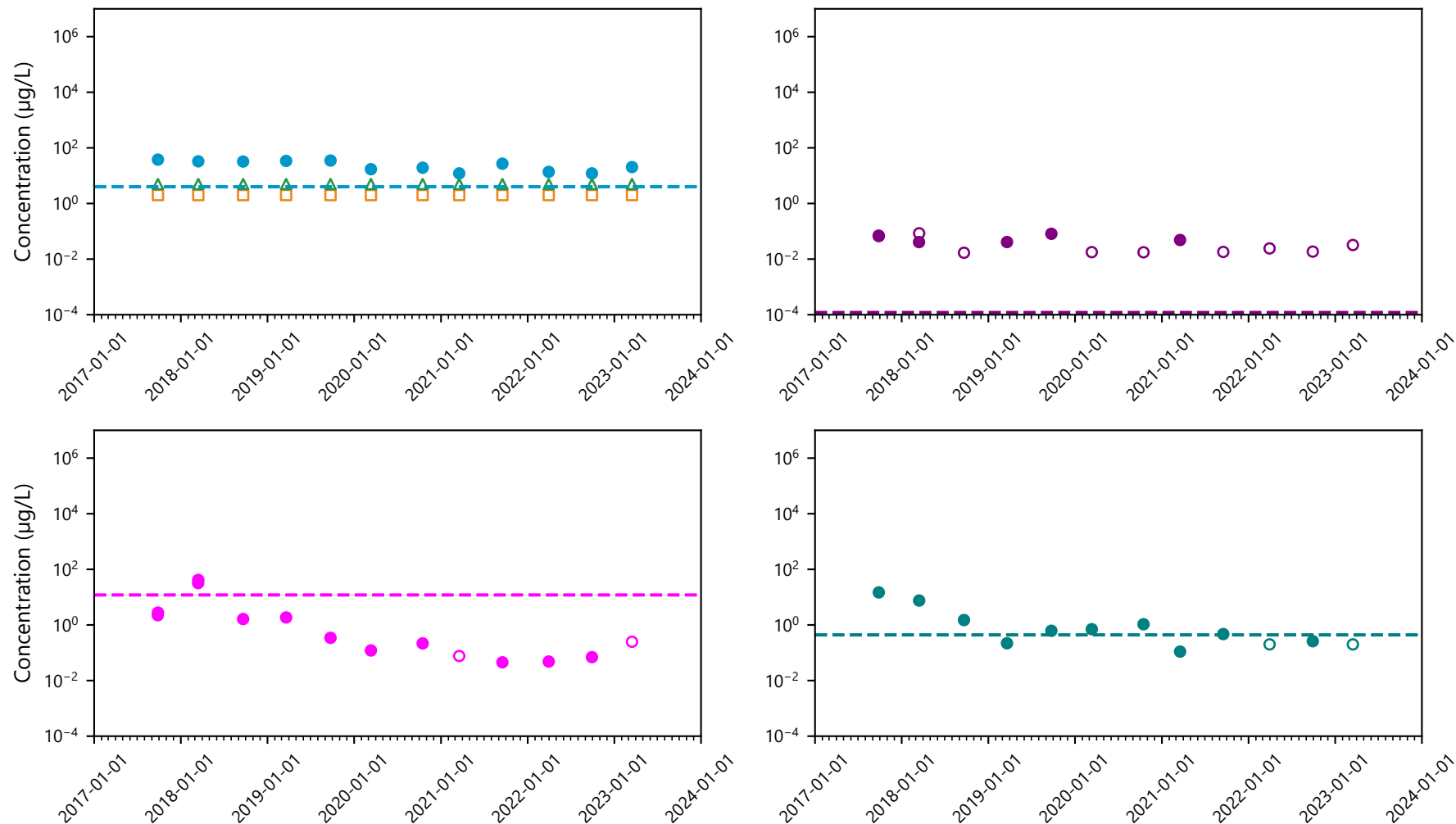
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.59
Monitoring Wells and Piezometers: PZ8-50
 2023 HC&C System Annual Report
 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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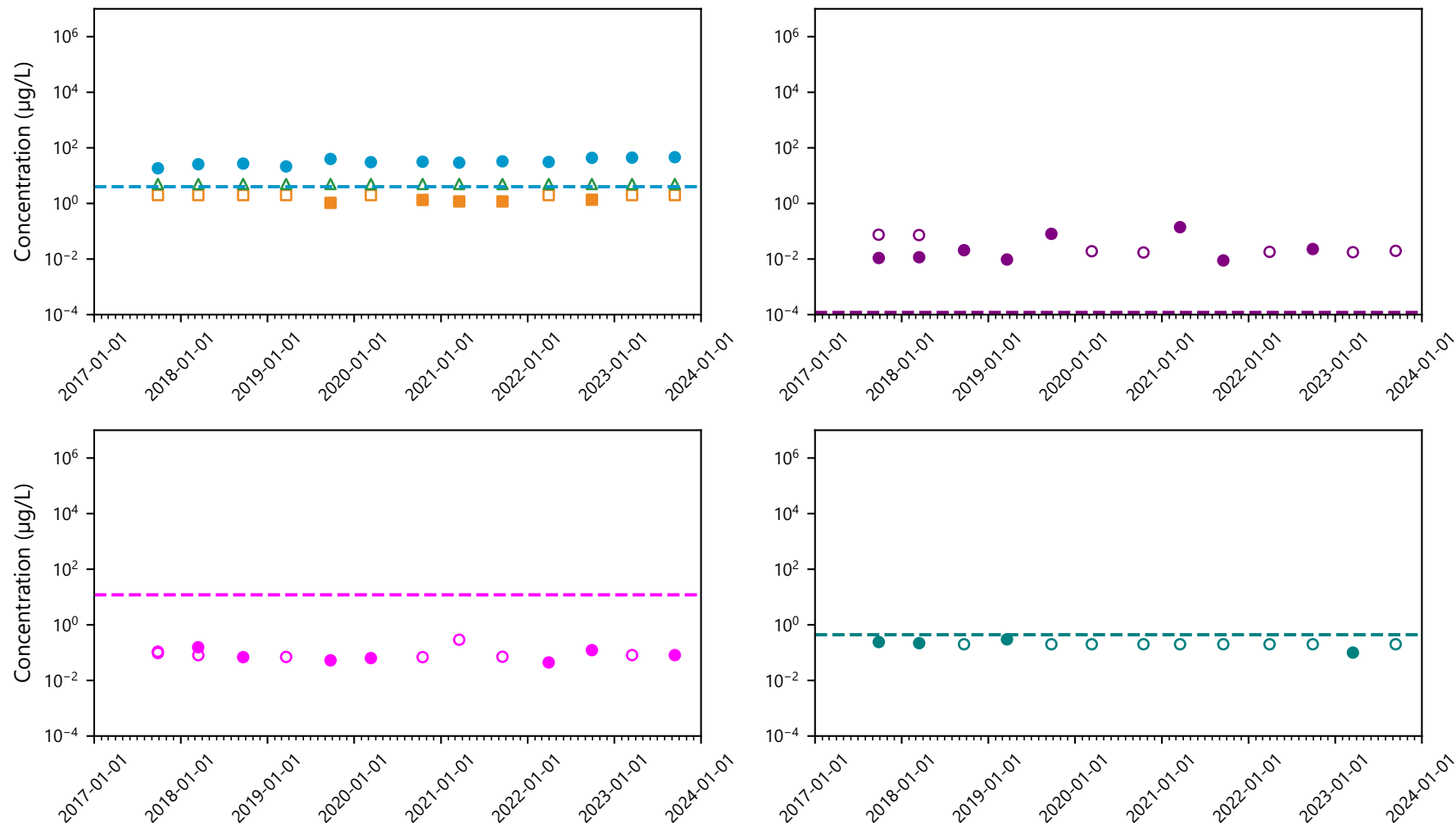
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.60 Monitoring Wells and Piezometers: PZ9-110

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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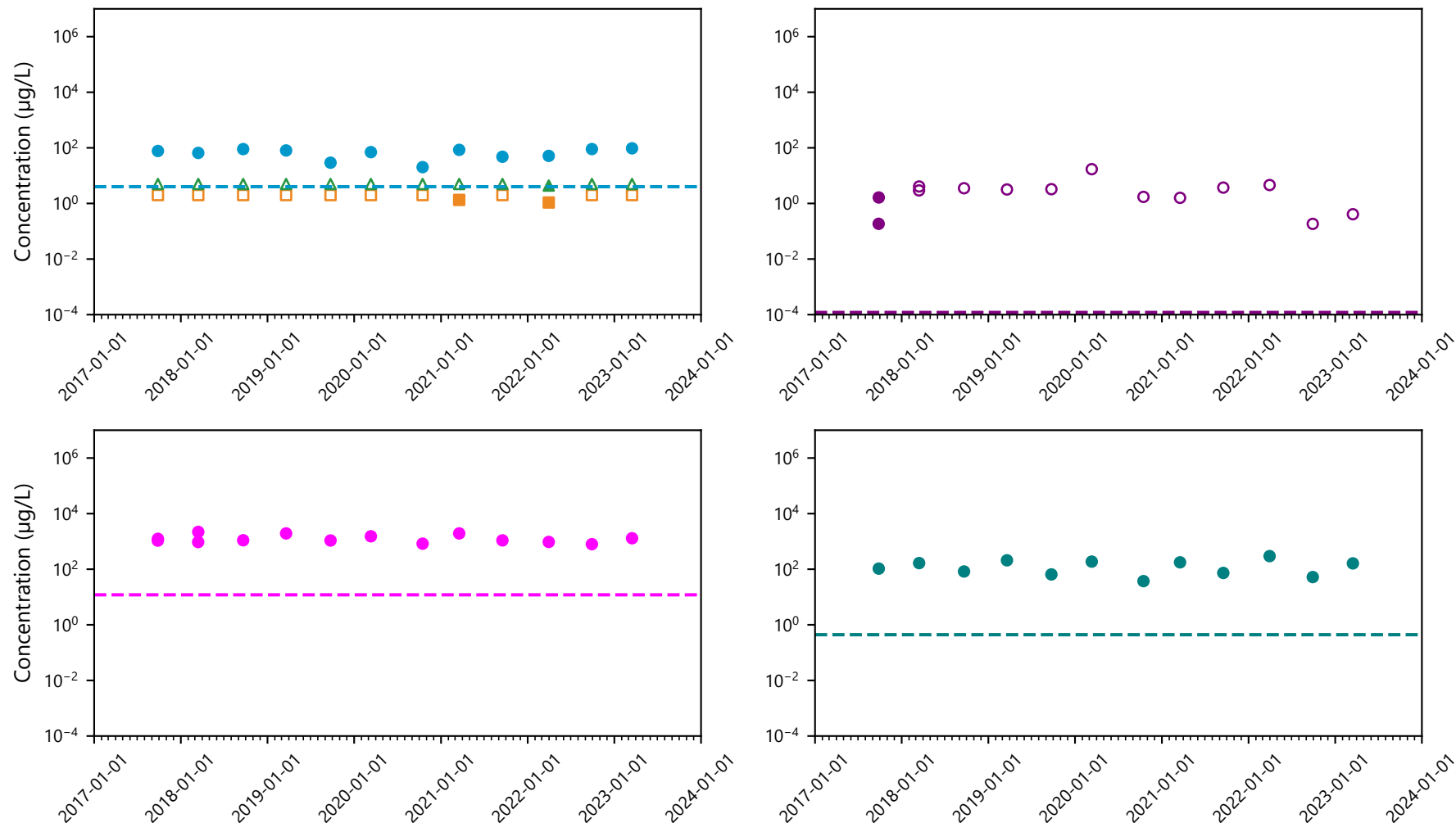
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.61 Monitoring Wells and Piezometers: PZ9-150

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

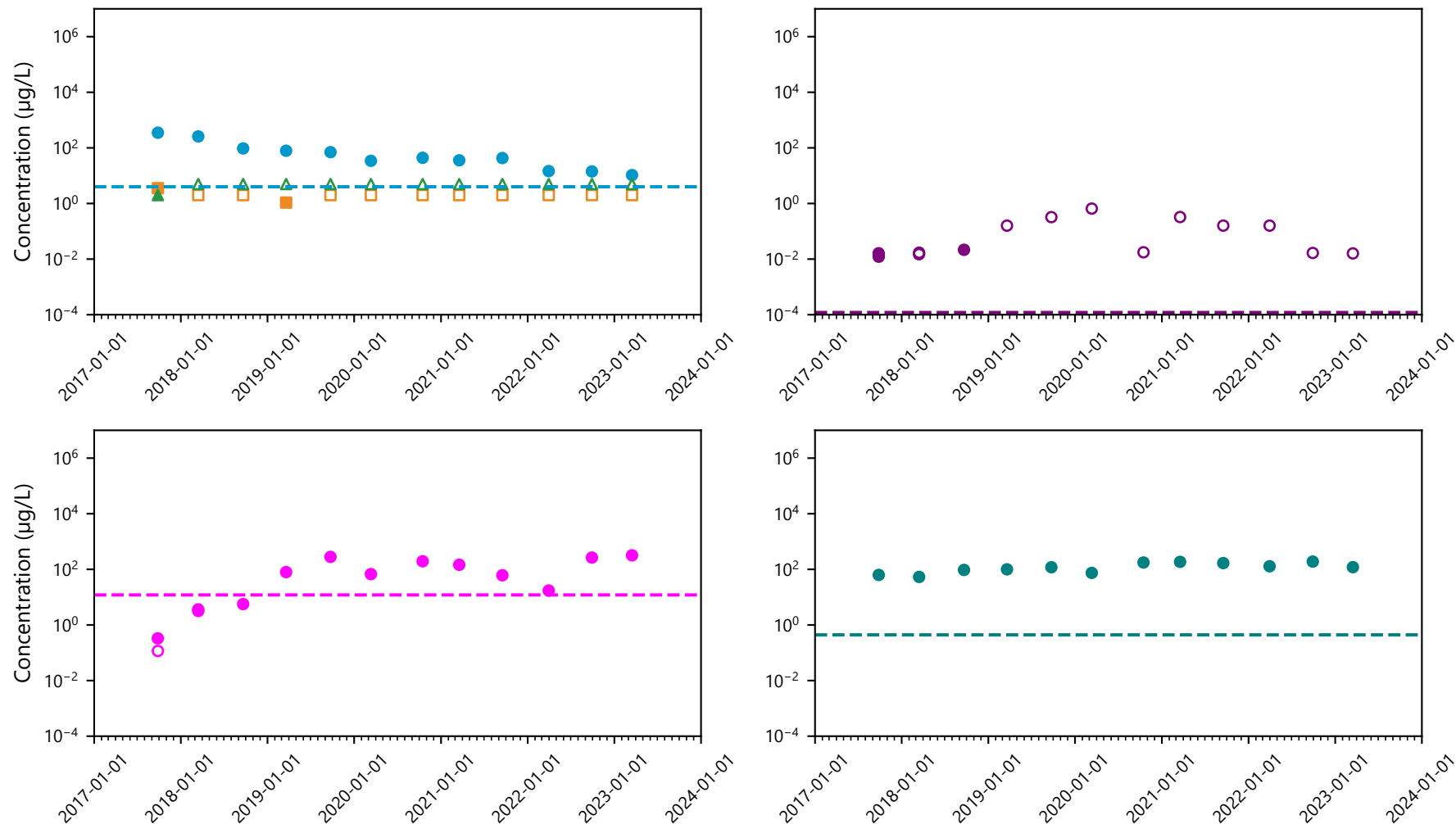
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Naphthalene
- Benzene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.a.62
Monitoring Wells and Piezometers: PZ9-5
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

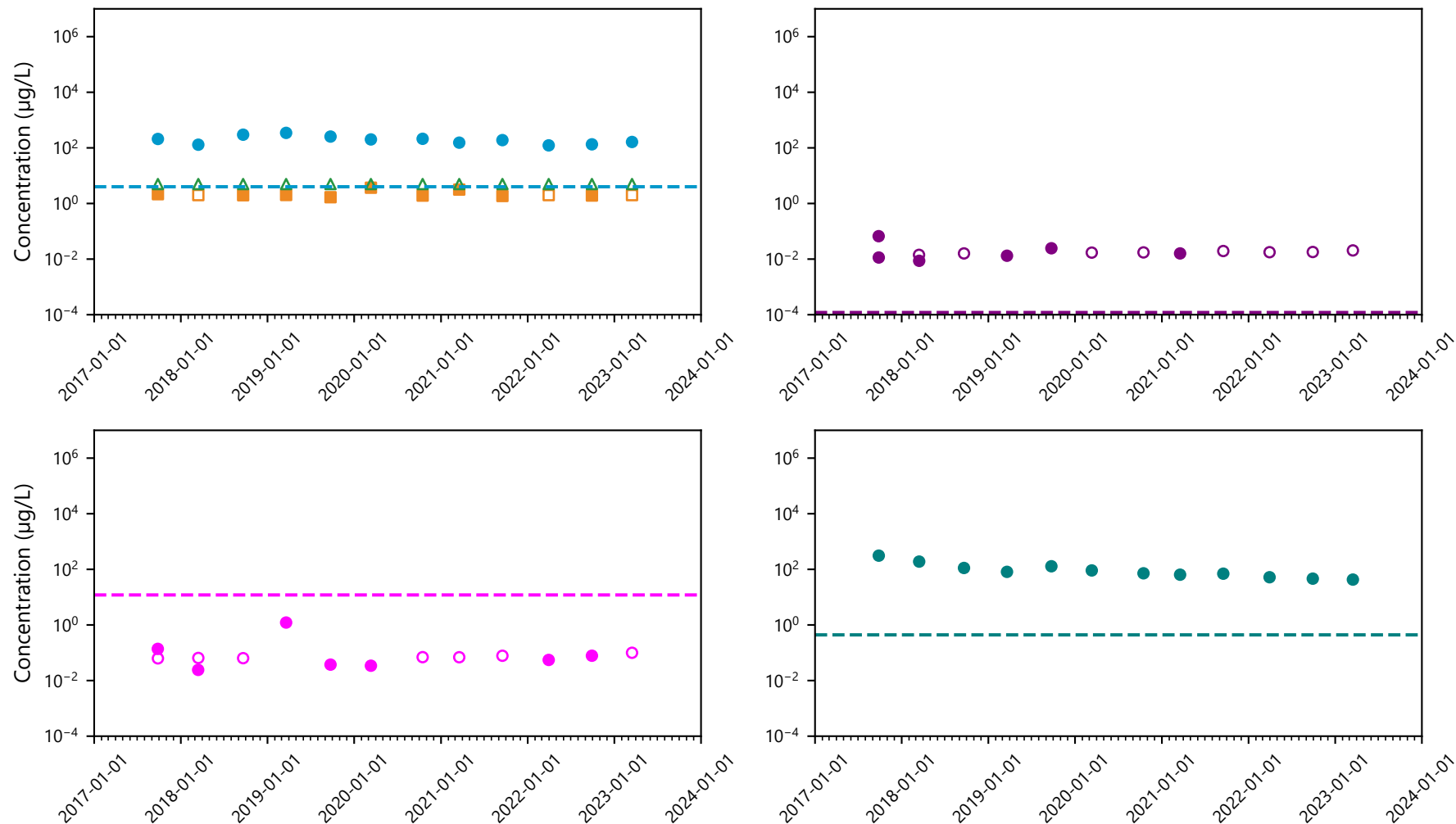
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.63
Monitoring Wells and Piezometers: PZ9-50
2023 HC&C System Annual Report
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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

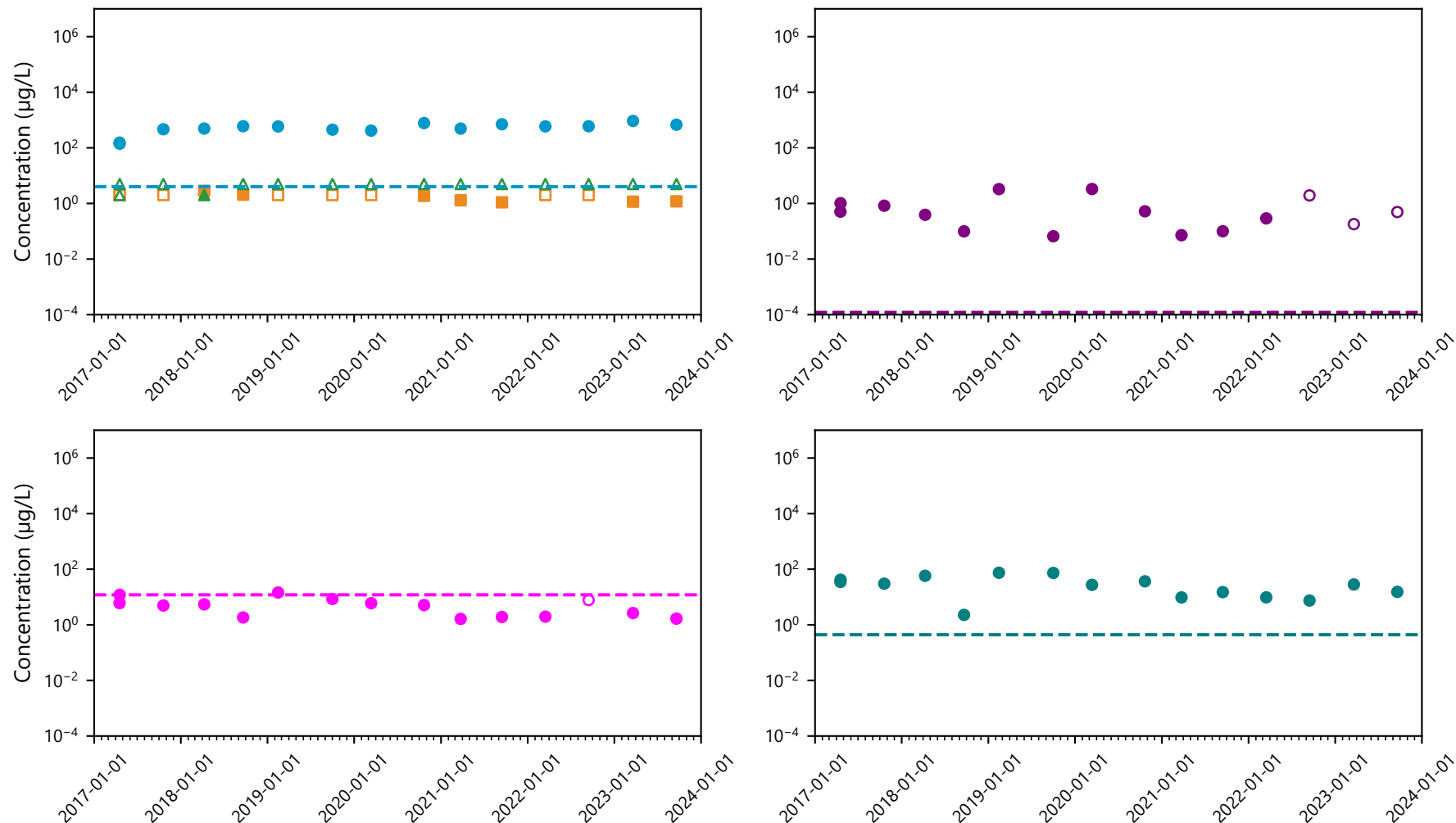
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.a.64
Monitoring Wells and Piezometers: PZ9-75
2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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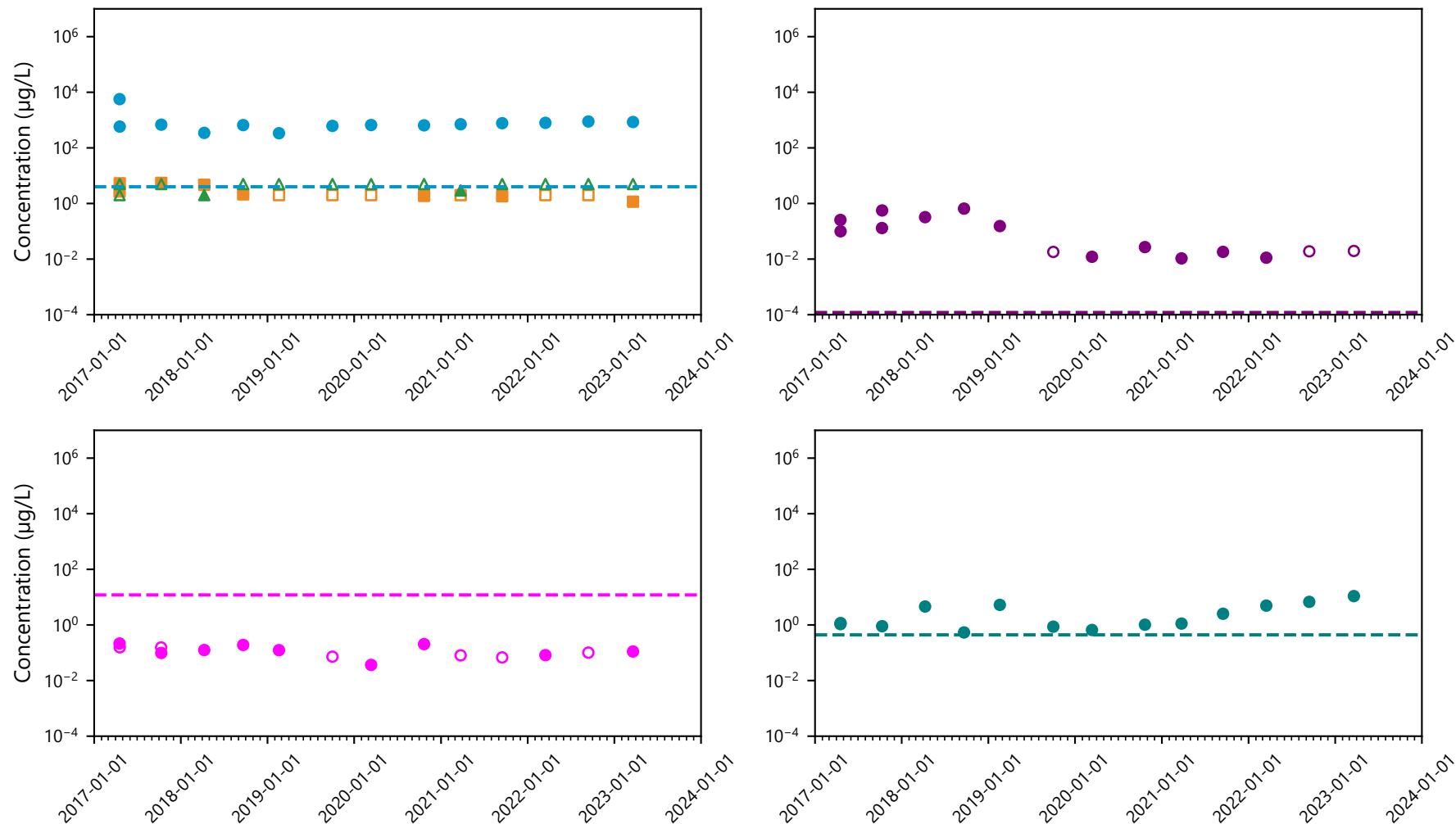
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.65
Monitoring Wells and Piezometers: WS-08-33

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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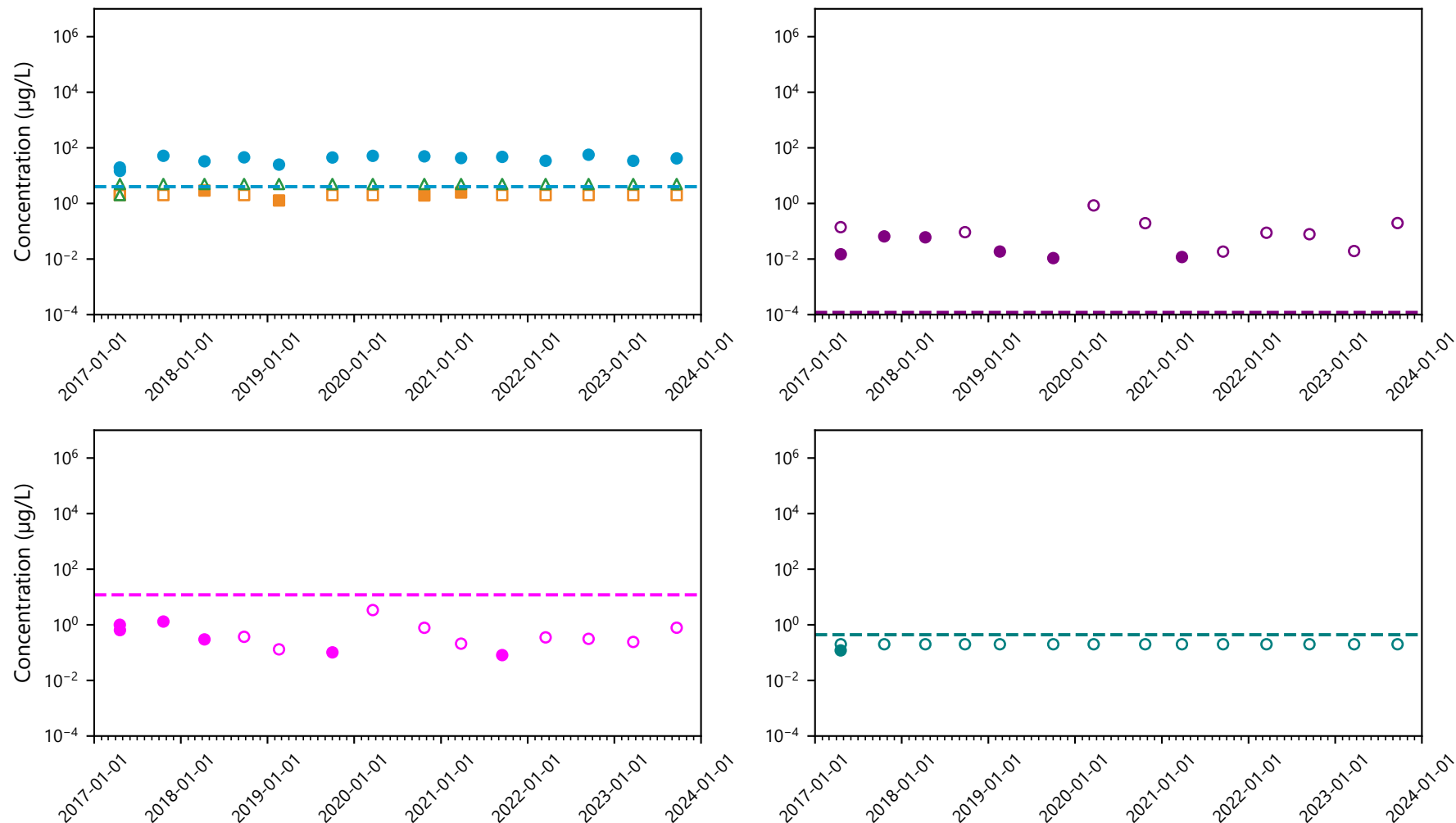


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

Monitoring Wells and Piezometers: WS-08-59

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Gasco OU

C.4.a.66



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.

µg/L= micrograms per liter

CUL= Cleanup Level

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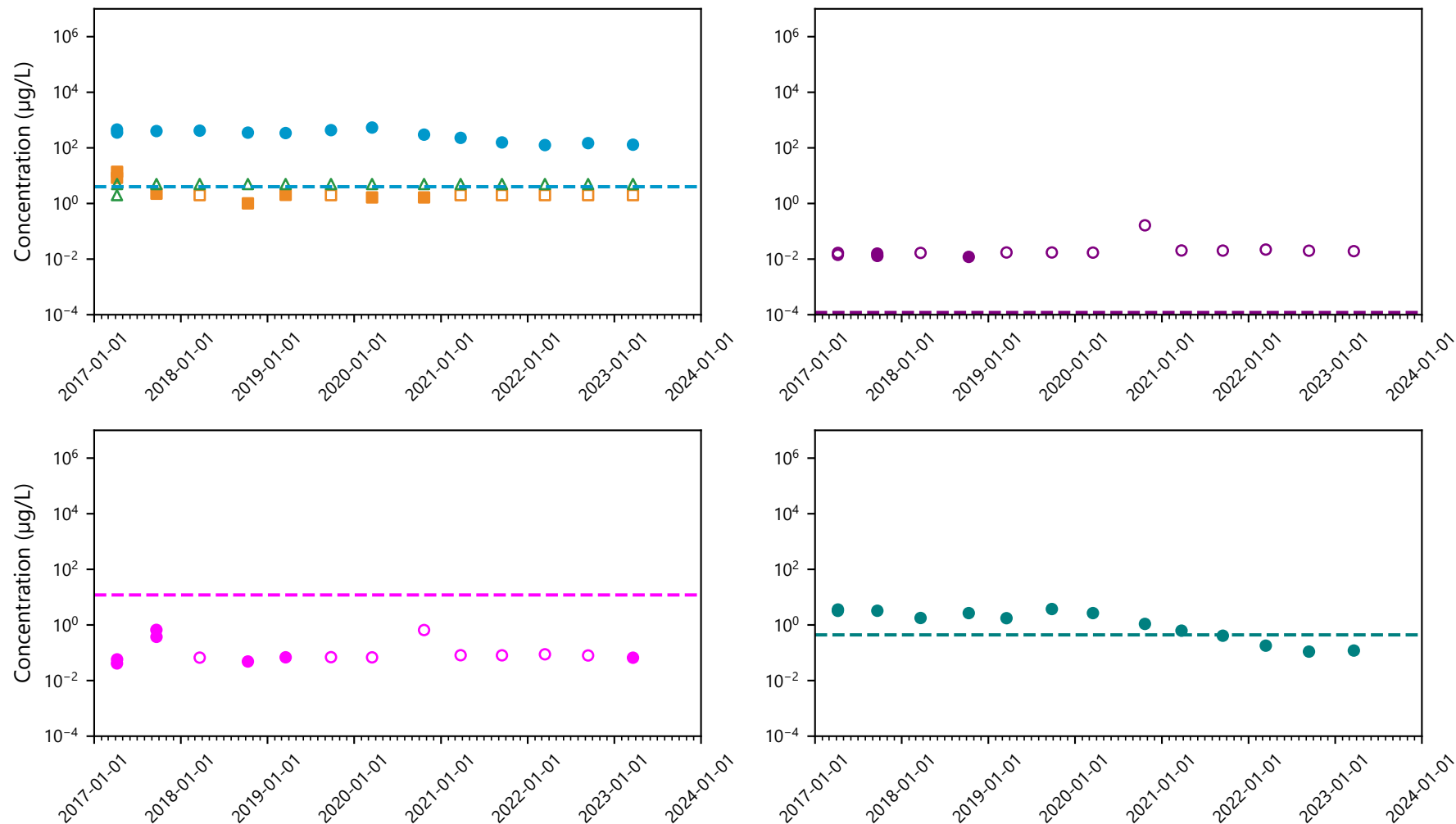
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Naphthalene
- Benzene
- Cyanide CUL
- Naphthalene CUL
- Benzene CUL
- Benzo(a)pyrene CUL

C.4.a.67
Monitoring Wells and Piezometers: WS-09-34

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 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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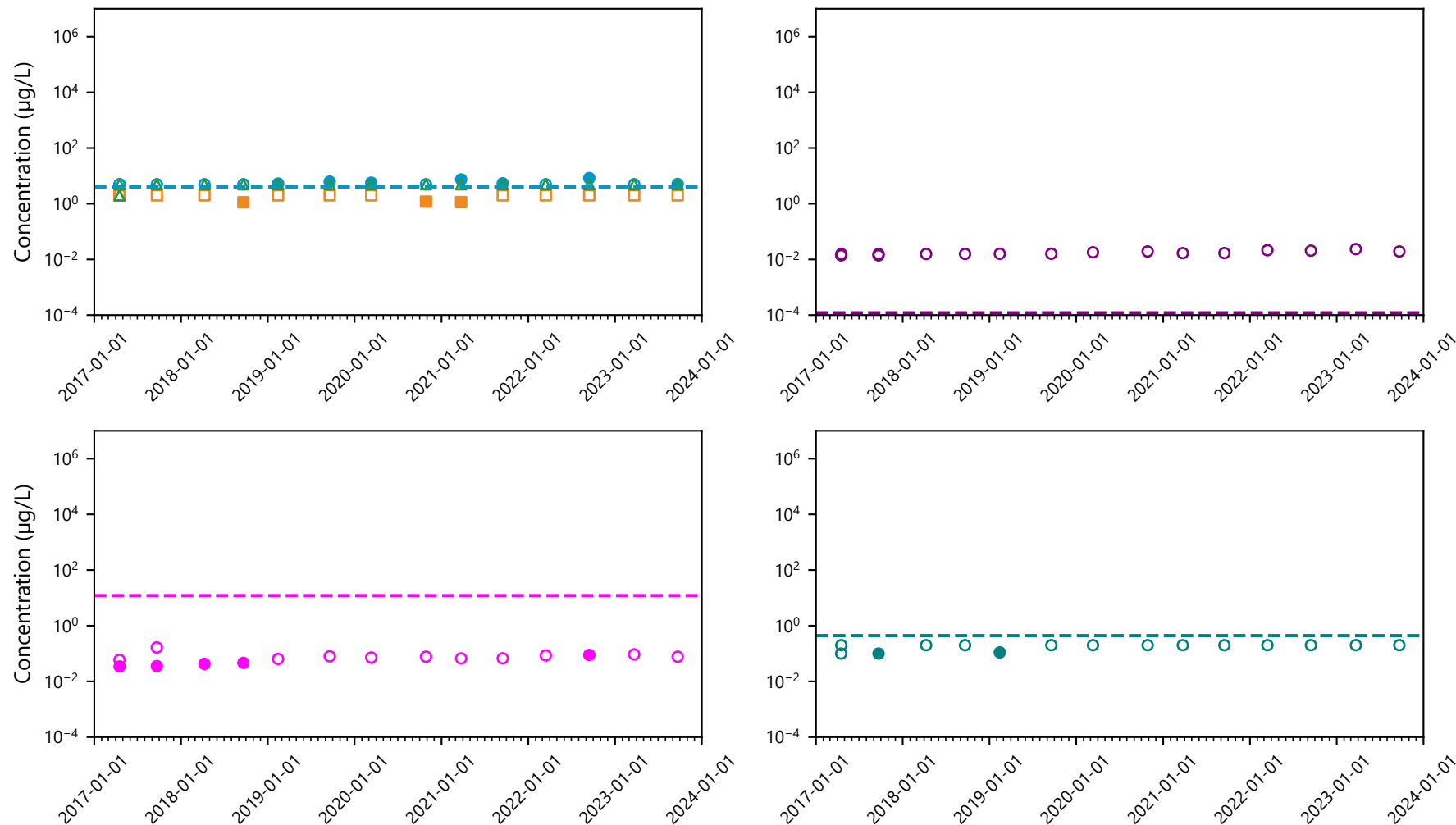
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.68
Monitoring Wells and Piezometers: WS-12-125

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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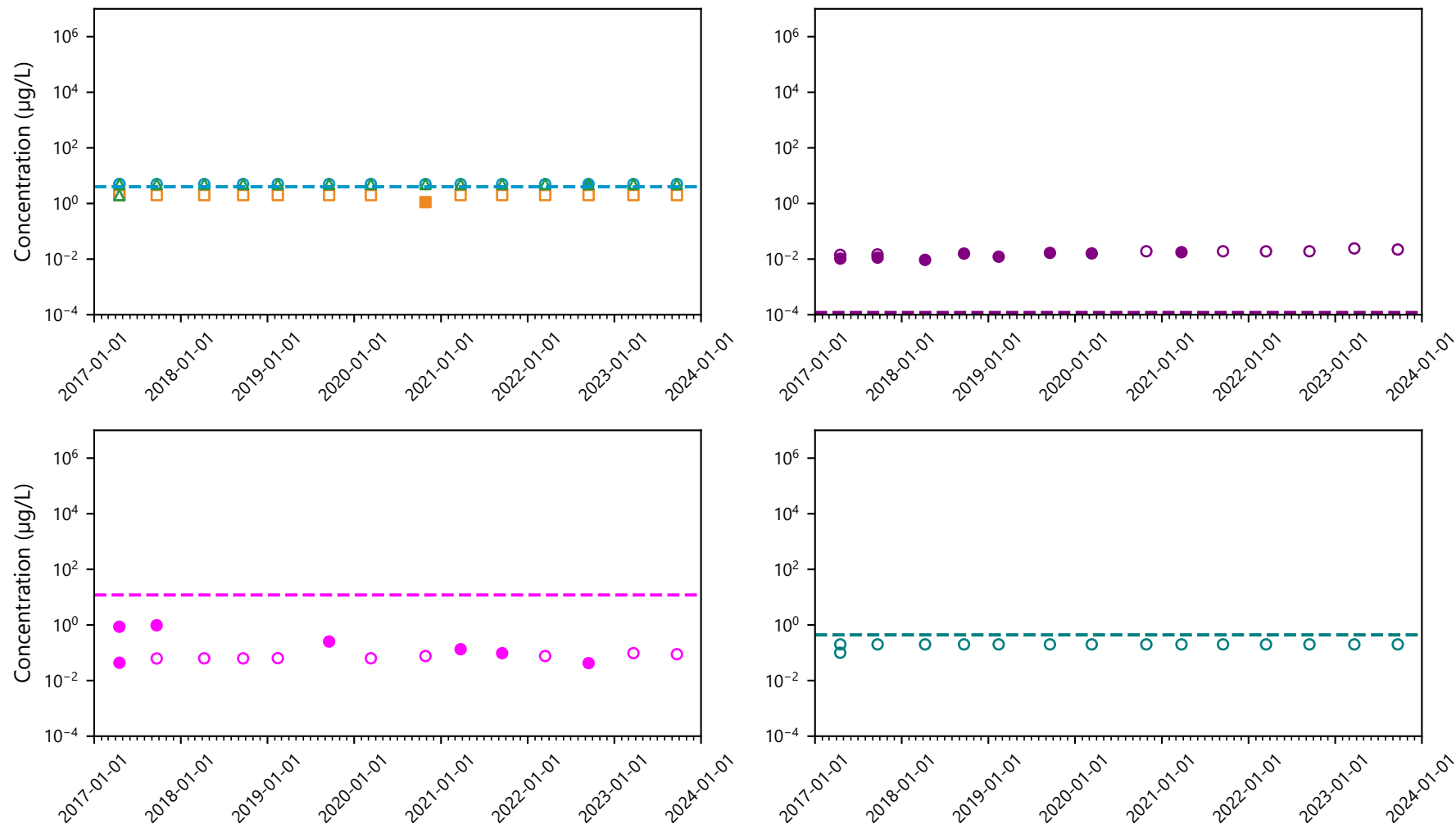
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- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.a.69
Monitoring Wells and Piezometers: WS-12-161

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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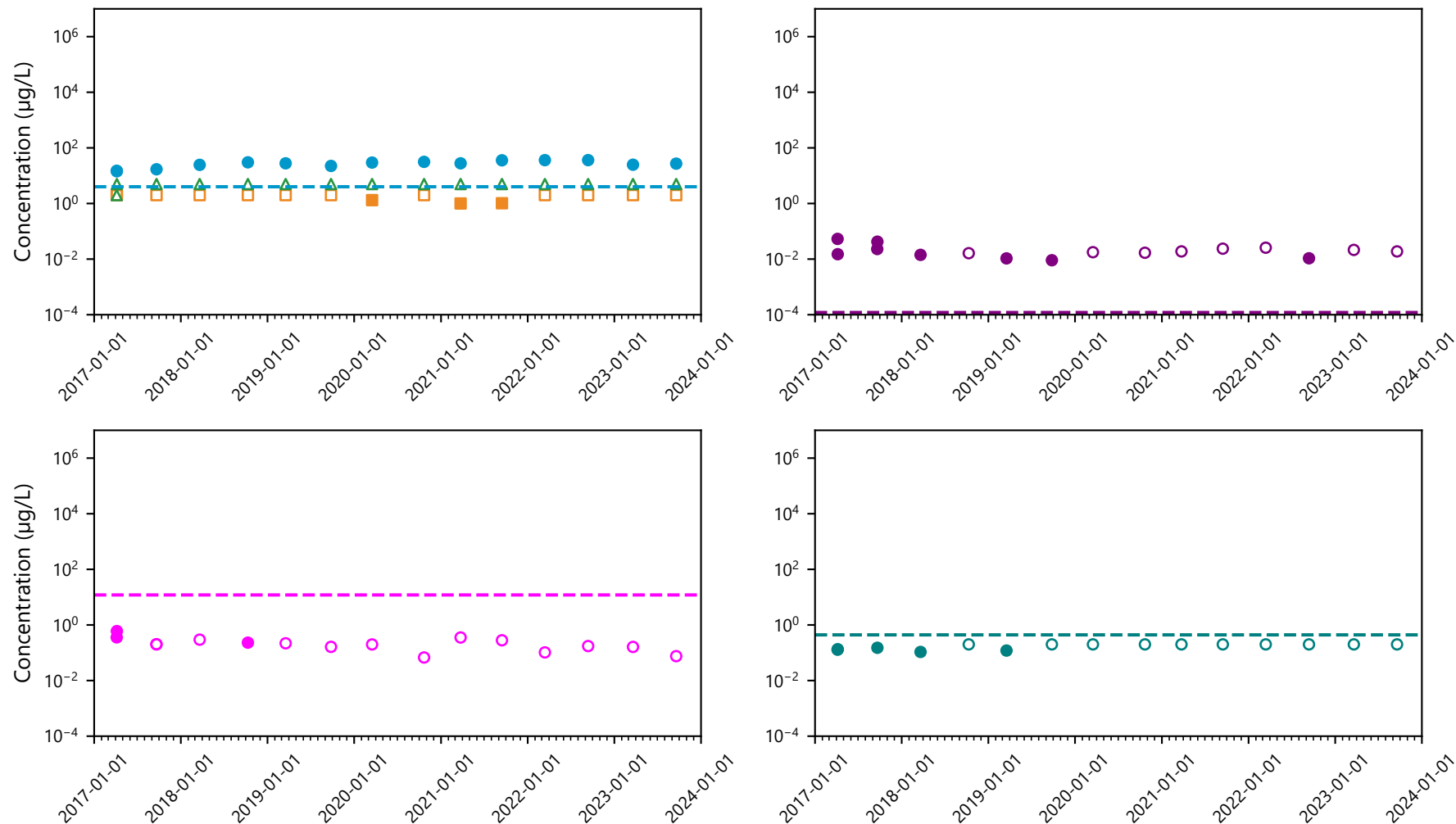


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

Monitoring Wells and Piezometers: WS-16-161

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Gasco OU

C.4.a.70



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
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CUL= Cleanup Level

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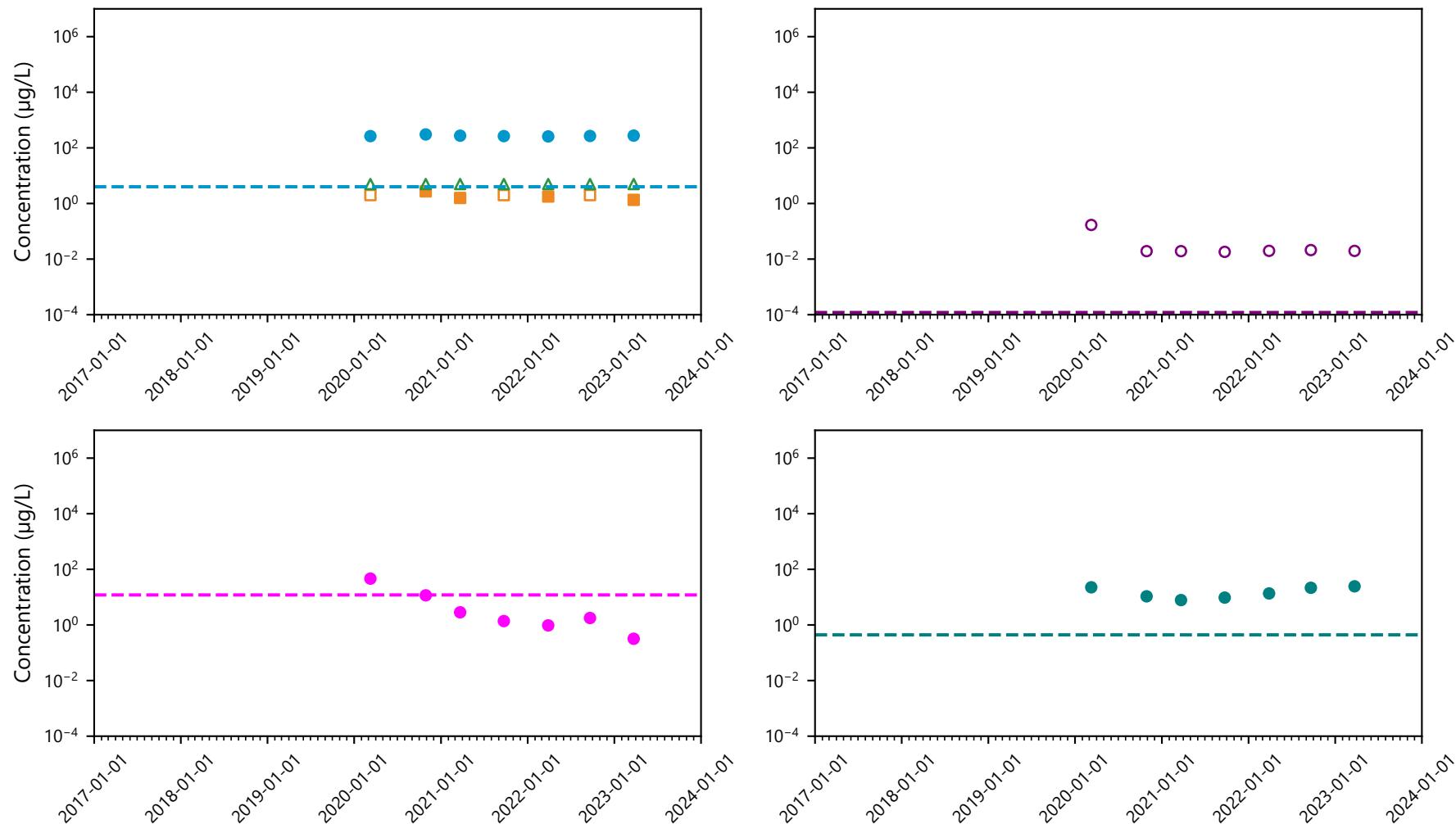


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

Monitoring Wells and Piezometers: WS-47-183

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Gasco OU

C.4.a.71



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
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CUL= Cleanup Level

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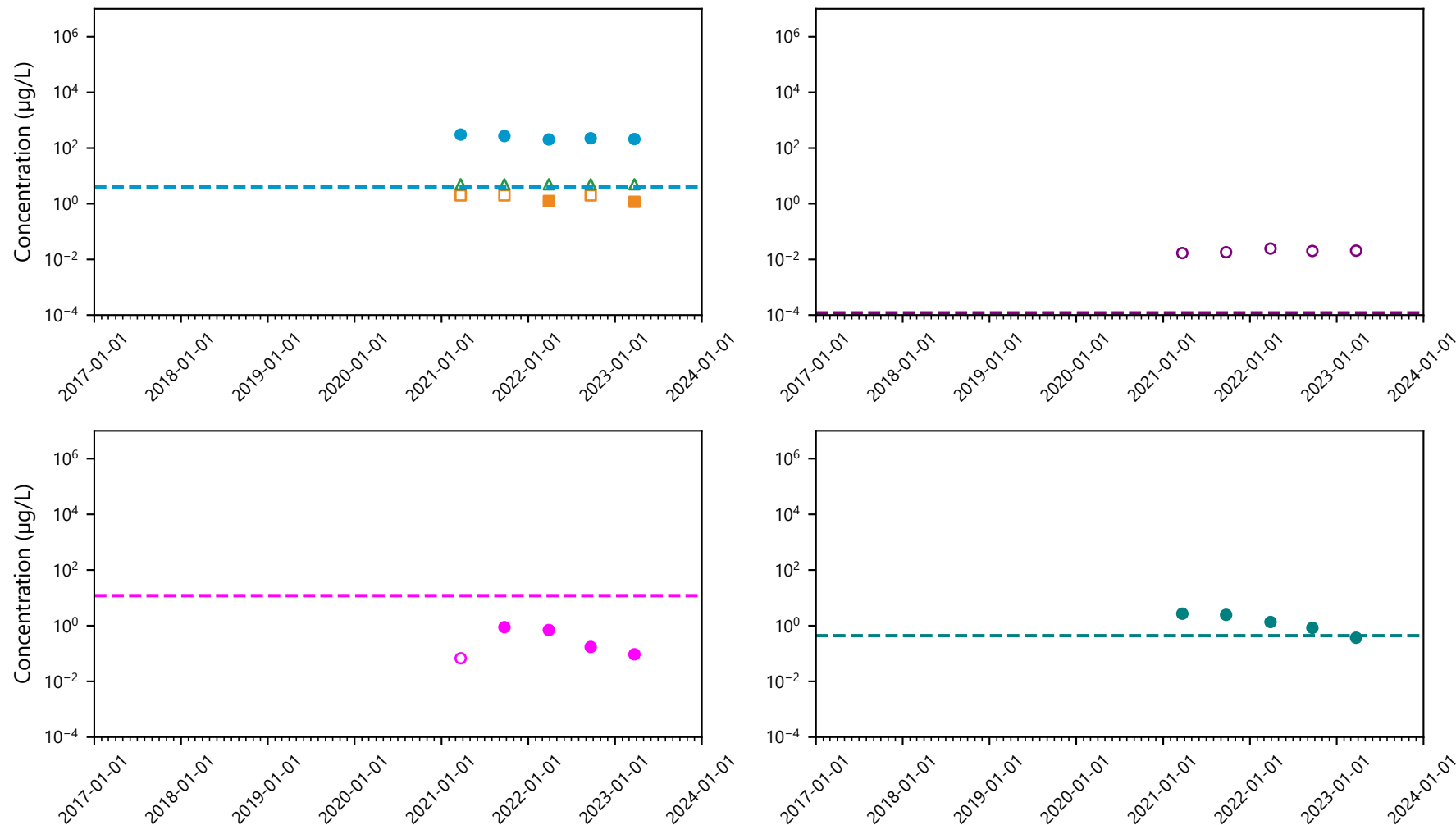


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.72

Pumping Wells: PW-01Lb

2023 HC&C System Annual Report
Gasco OU



Notes:

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CUL= Cleanup Level

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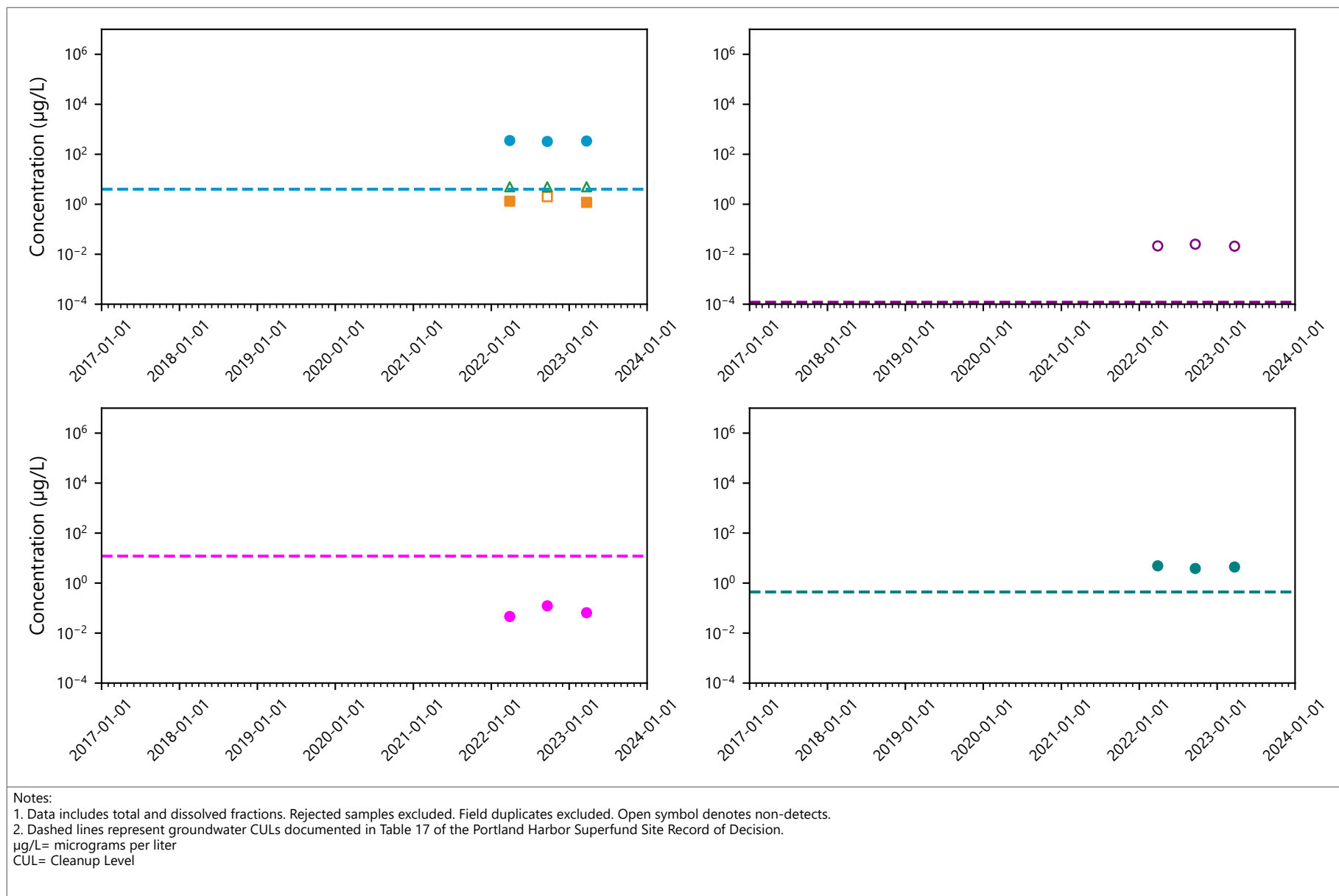


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.73

Pumping Wells: PW-01U

2023 HC&C System Annual Report
Gasco OU



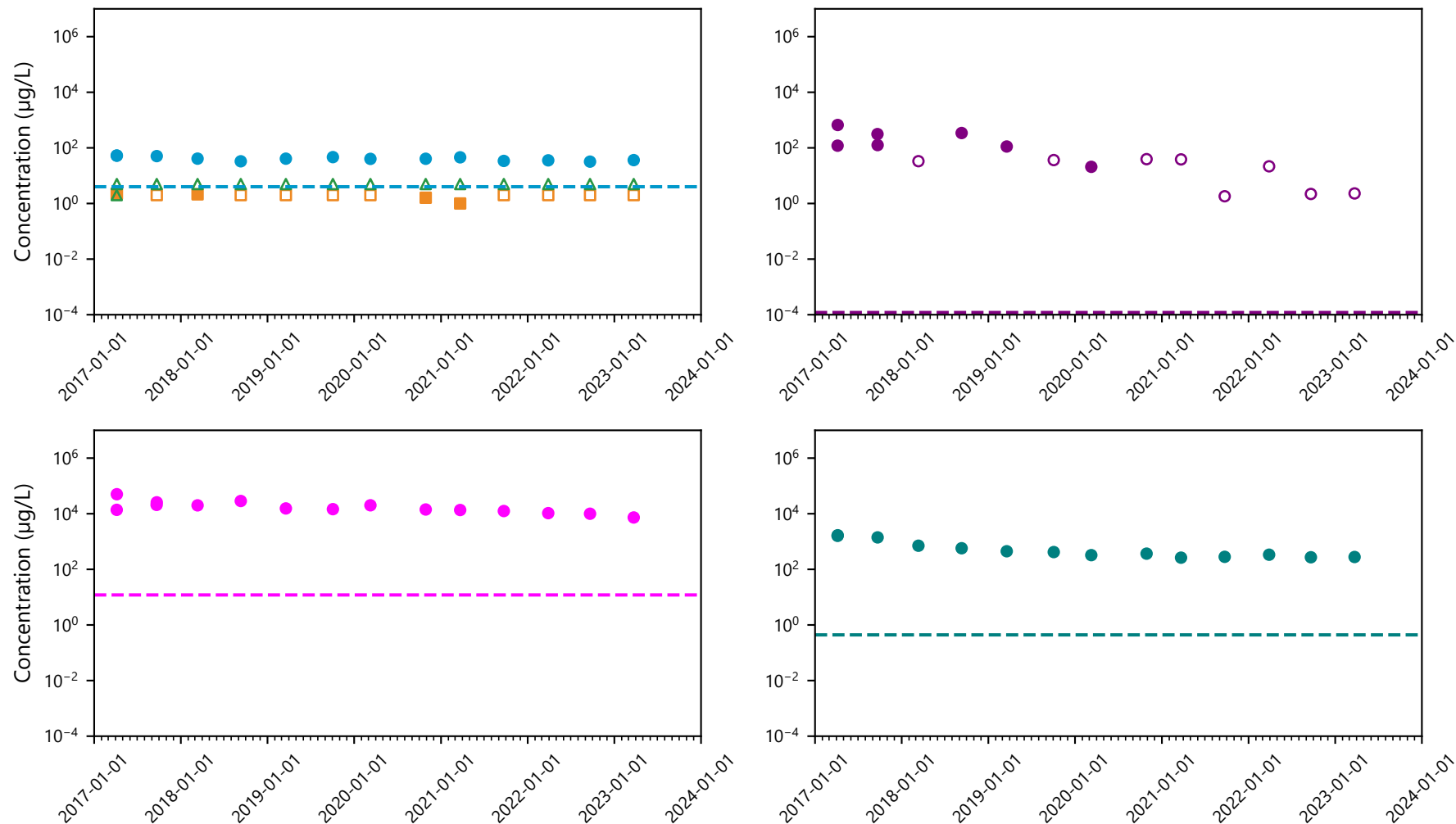
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|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.74
Pumping Wells: PW-01Uc
 2023 HC&C System Annual Report
 Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

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CUL= Cleanup Level

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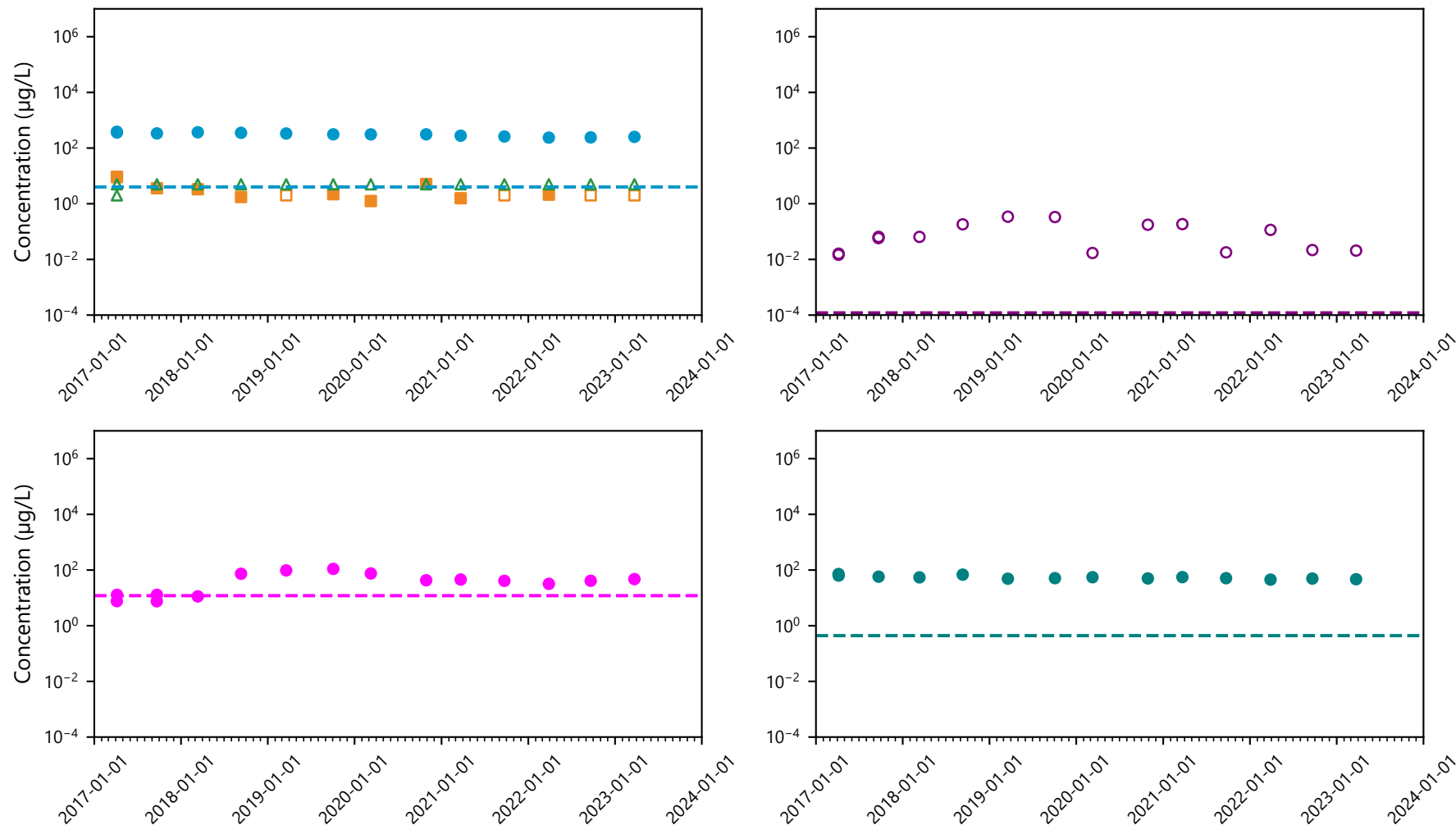


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.75

Pumping Wells: PW-02L

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
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CUL= Cleanup Level

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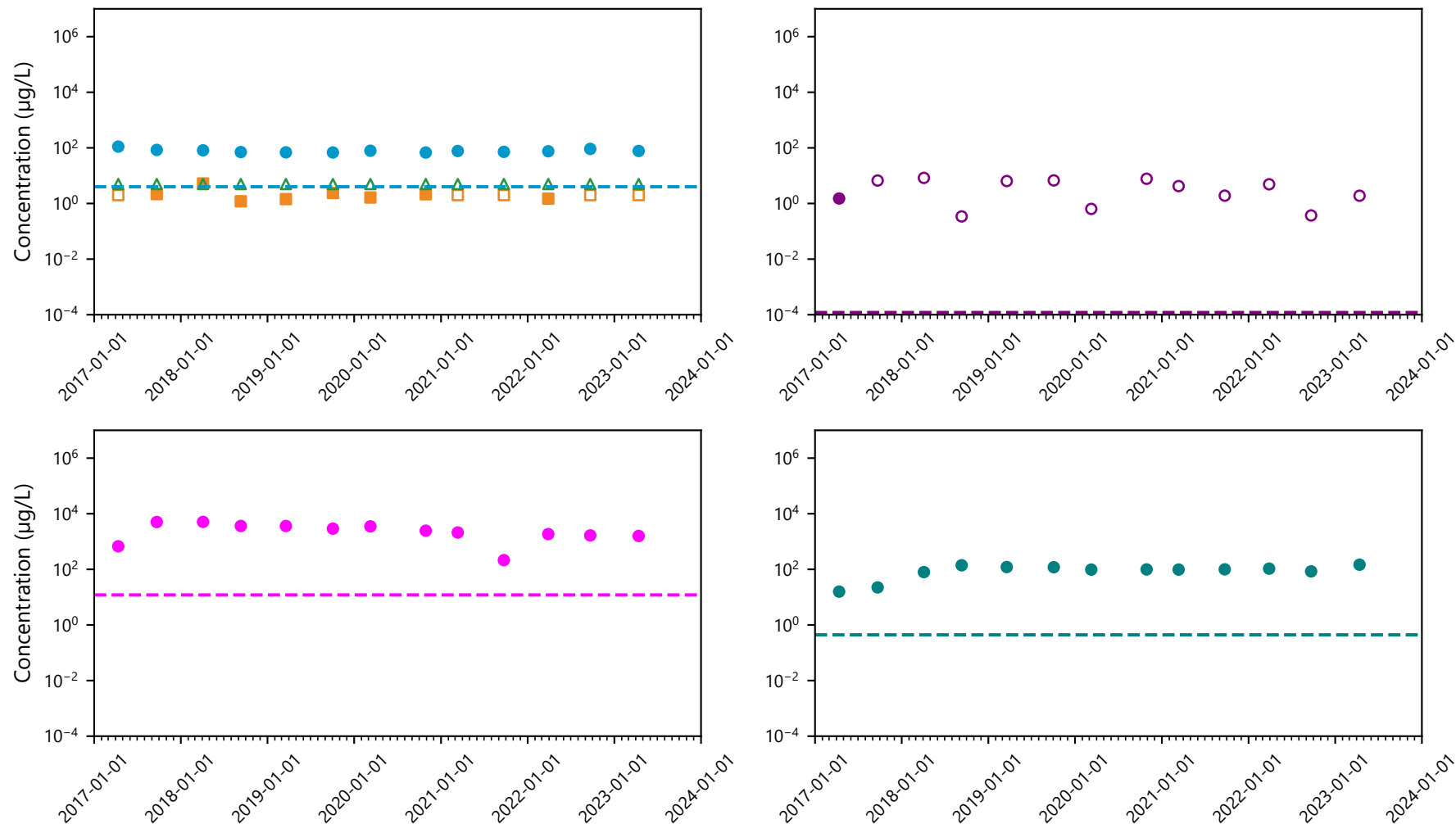


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.76

Pumping Wells: PW-02U

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Gasco OU



Notes:

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CUL= Cleanup Level

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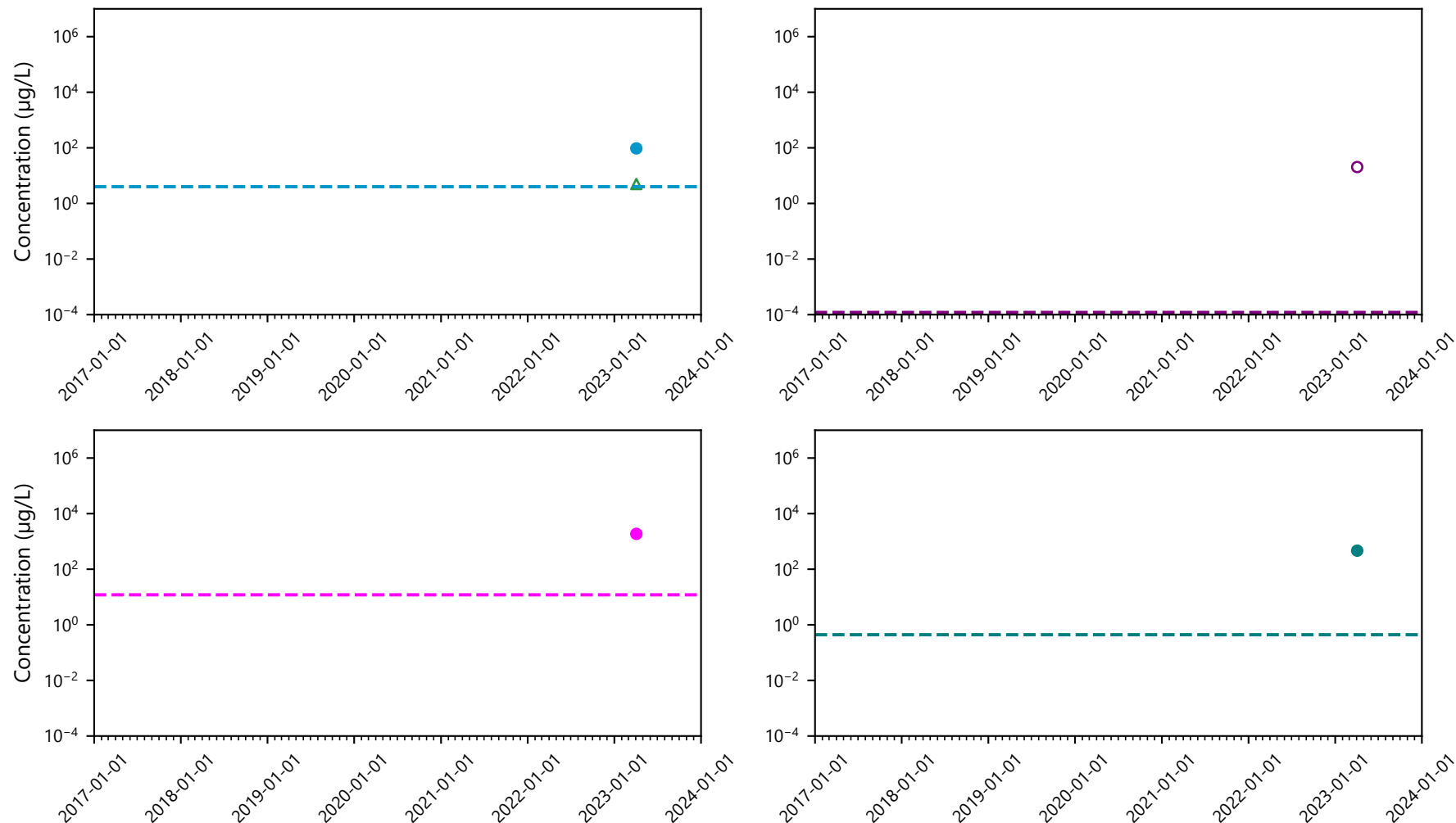


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.b.77

Pumping Wells: PW-03-118

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Gasco OU



Notes:

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CUL= Cleanup Level

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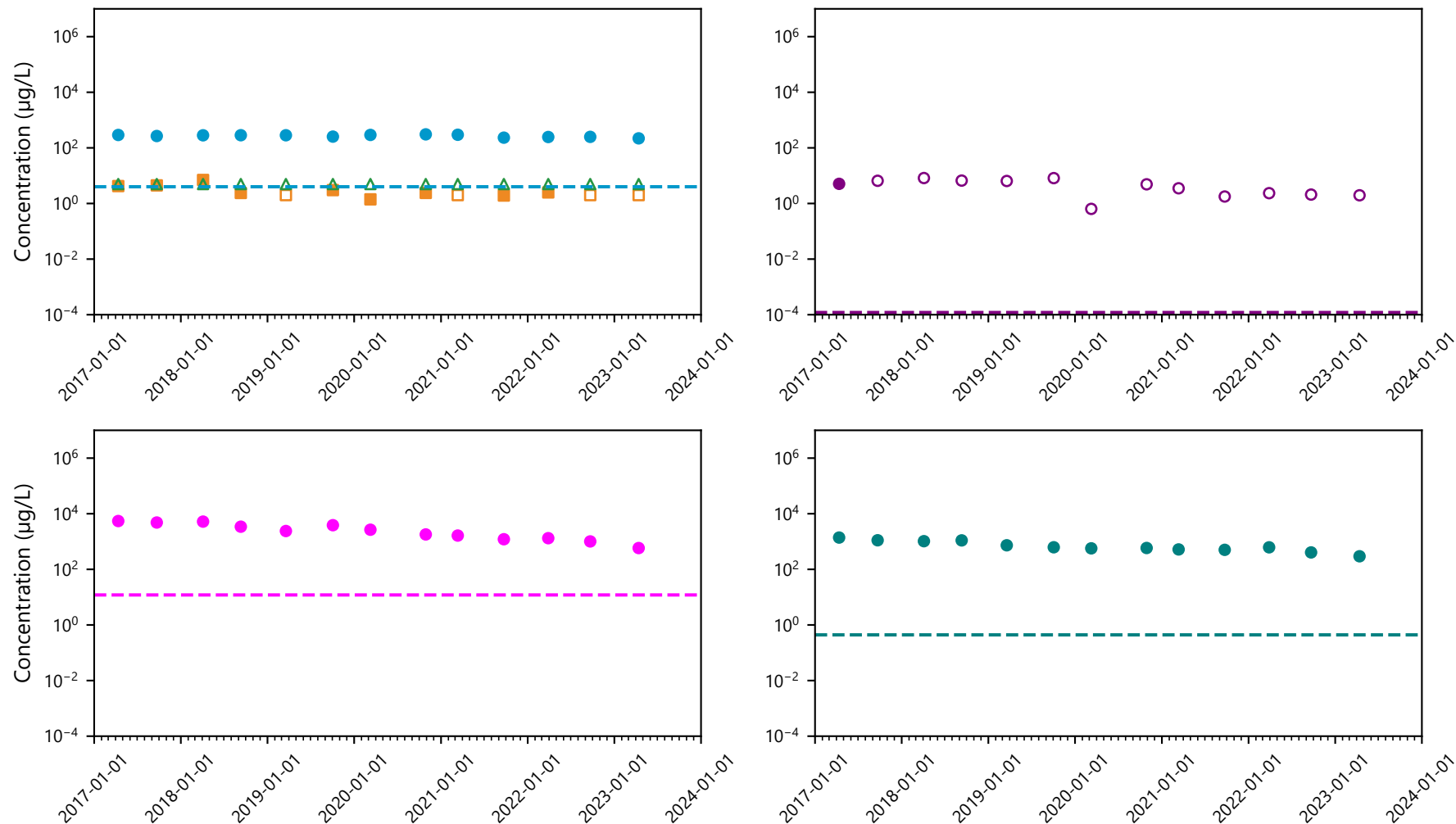


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.78

Pumping Wells: PW-03-85

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Gasco OU



Notes:

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CUL= Cleanup Level

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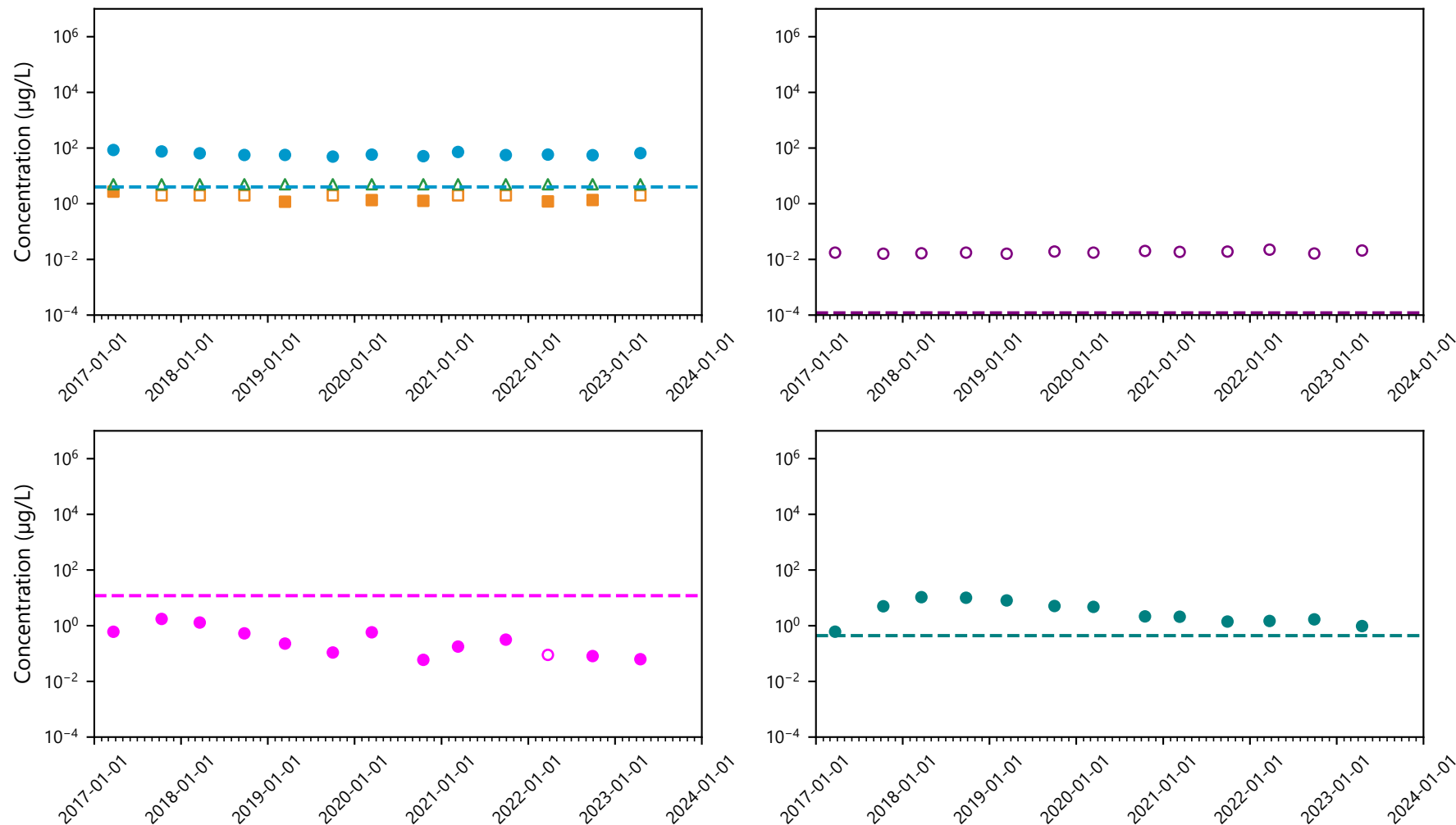


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.79

Pumping Wells: PW-03U

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Gasco OU



Notes:

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CUL= Cleanup Level

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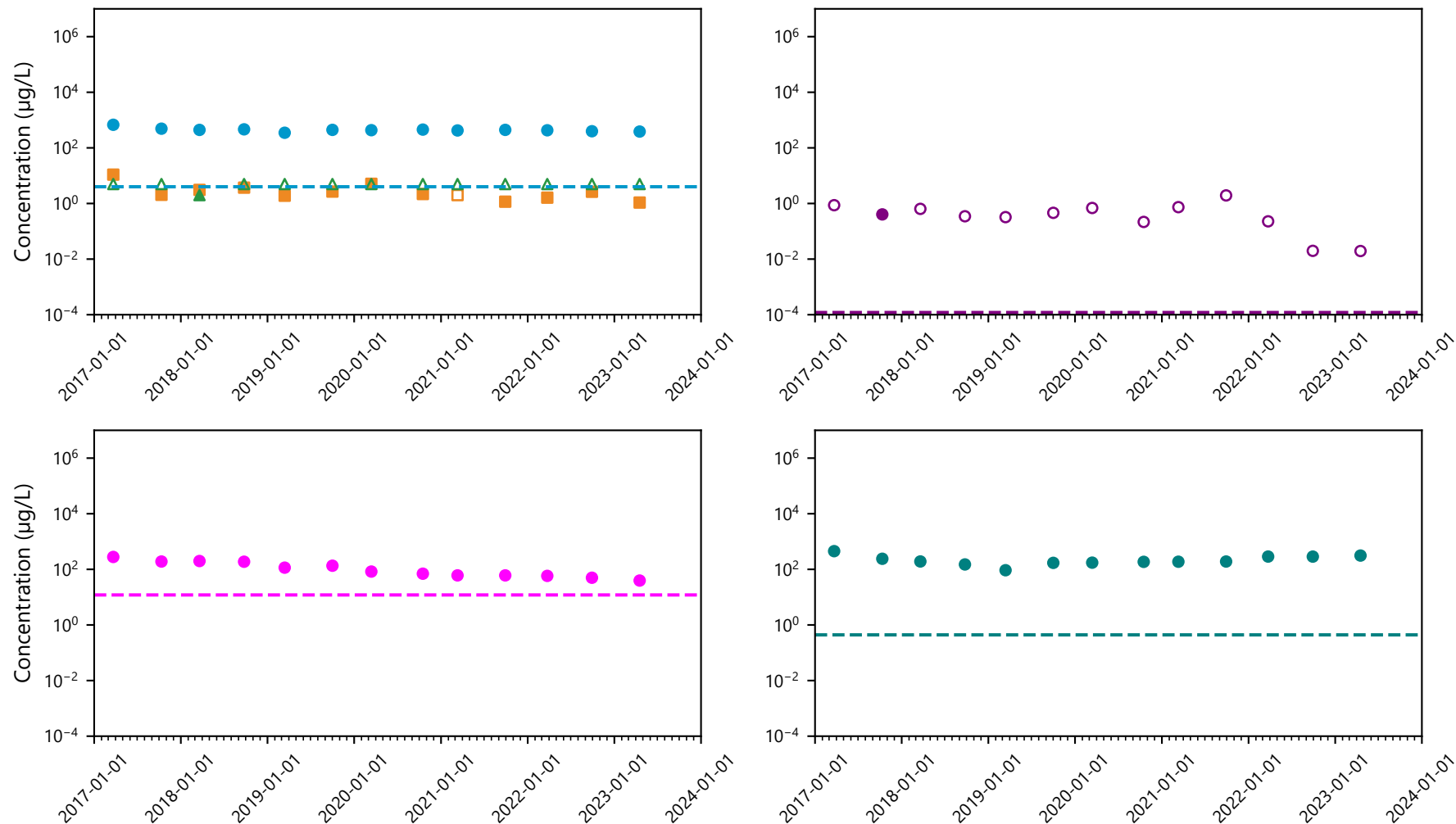


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.b.80

Pumping Wells: PW-04L

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

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µg/L= micrograms per liter

CUL= Cleanup Level

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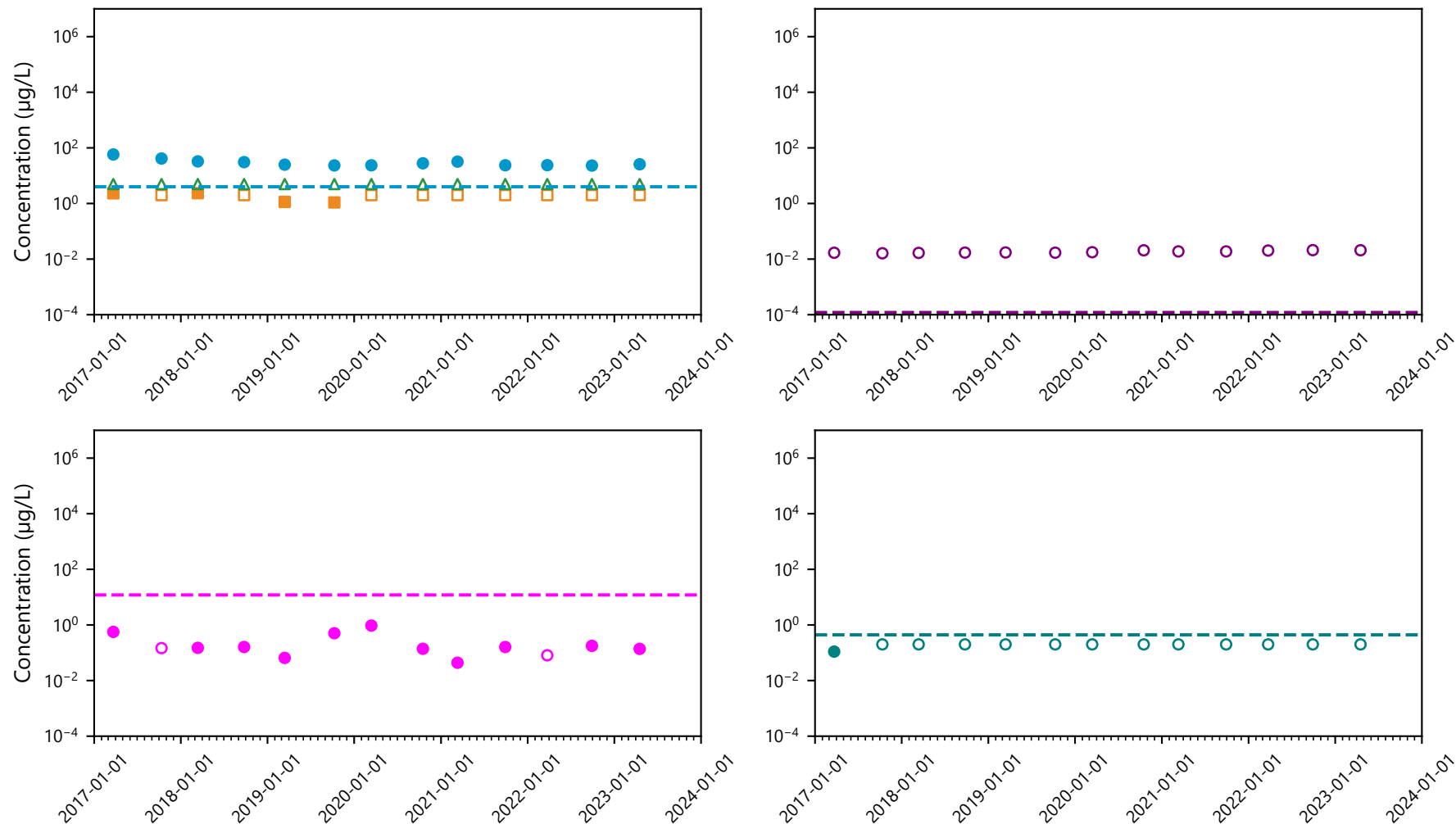


● Cyanide	● Naphthalene	--- Benzo(a)pyrene CUL
■ Cyanide, available	● Benzene	--- Naphthalene CUL
▲ Cyanide, free	--- Cyanide CUL	--- Benzene CUL
● Benzo(a)pyrene		

C.4.b.81

Pumping Wells: PW-04U

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
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CUL= Cleanup Level

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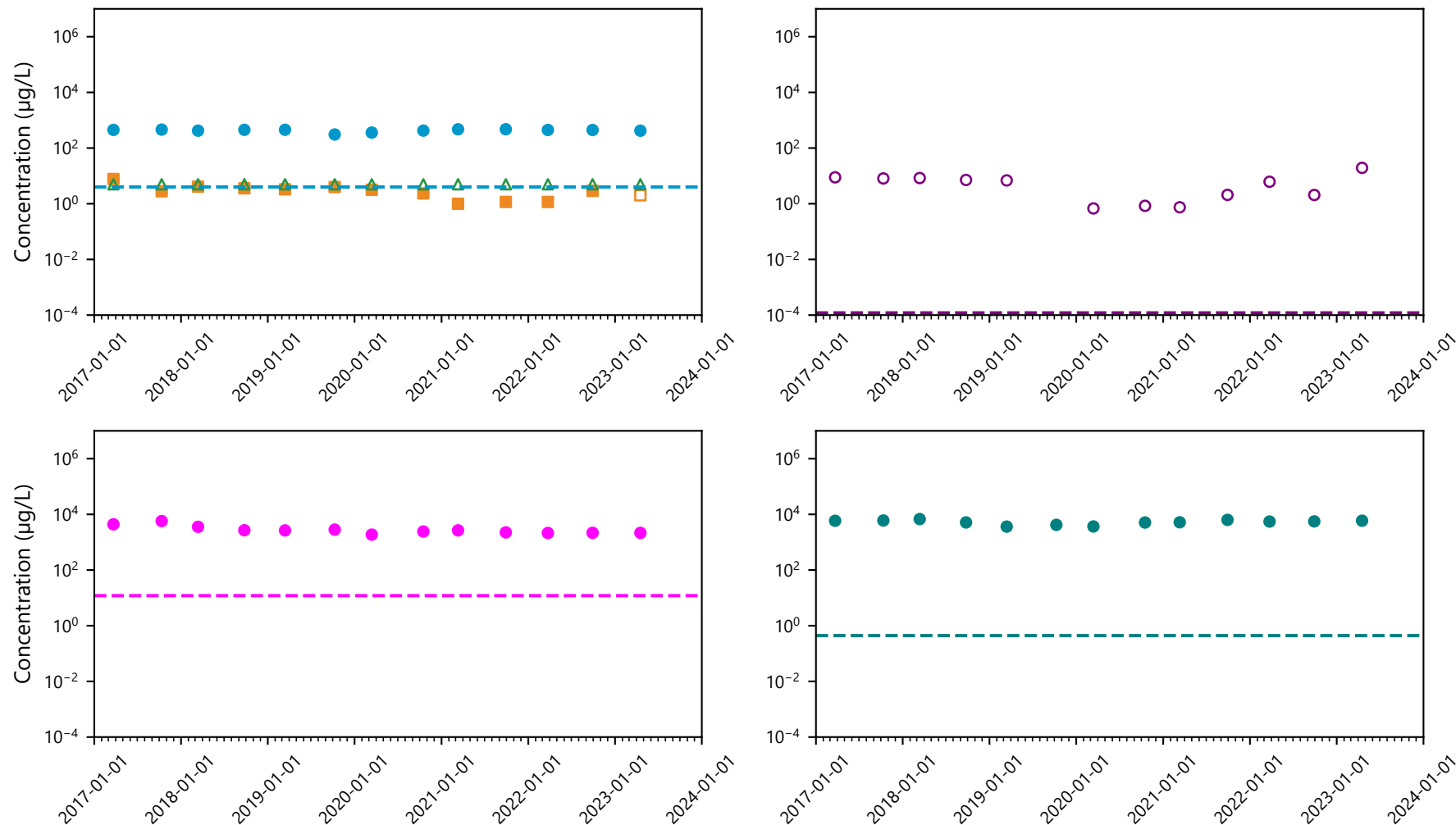


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.82

Pumping Wells: PW-05L

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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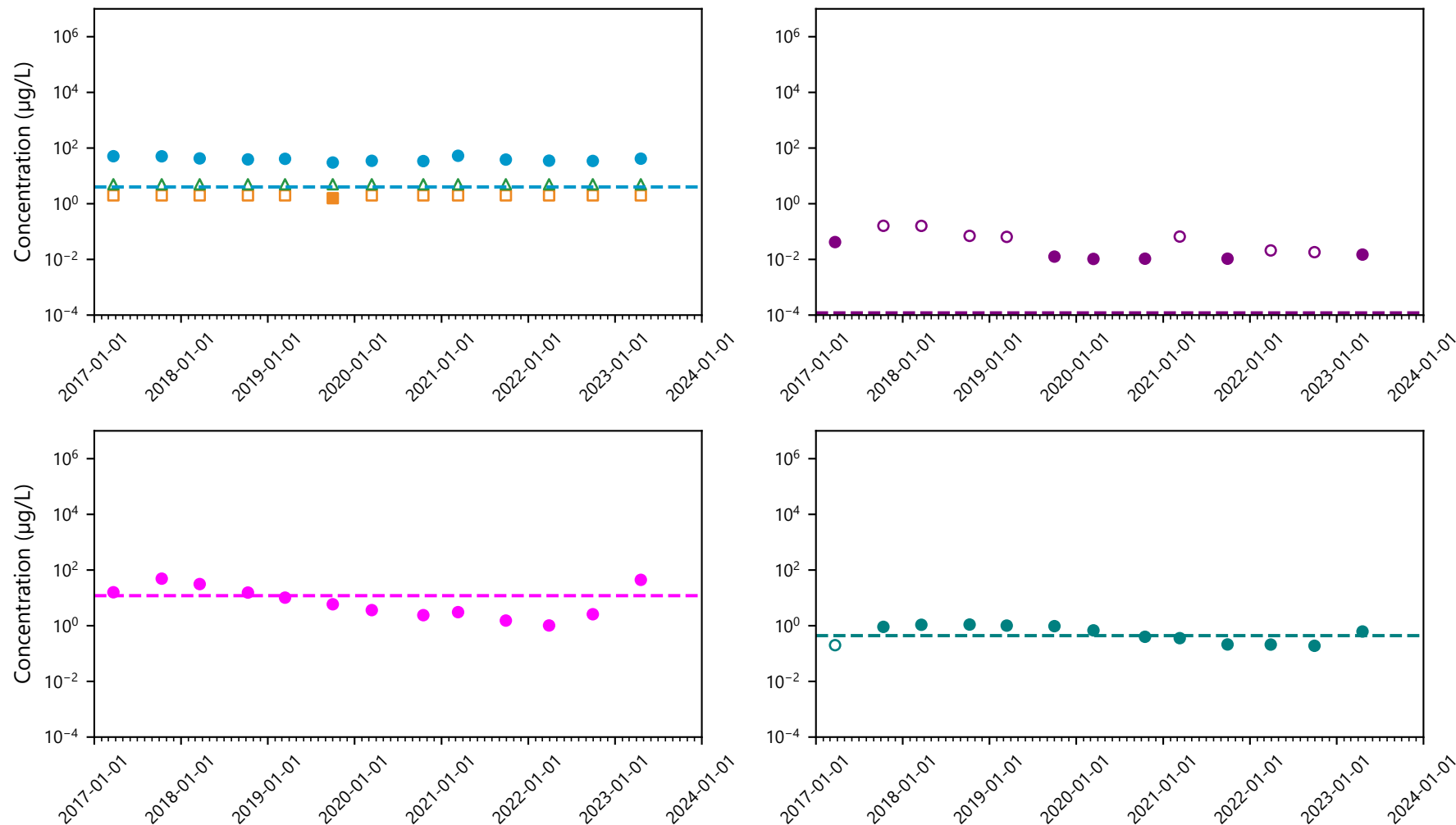


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.83

Pumping Wells: PW-05U

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Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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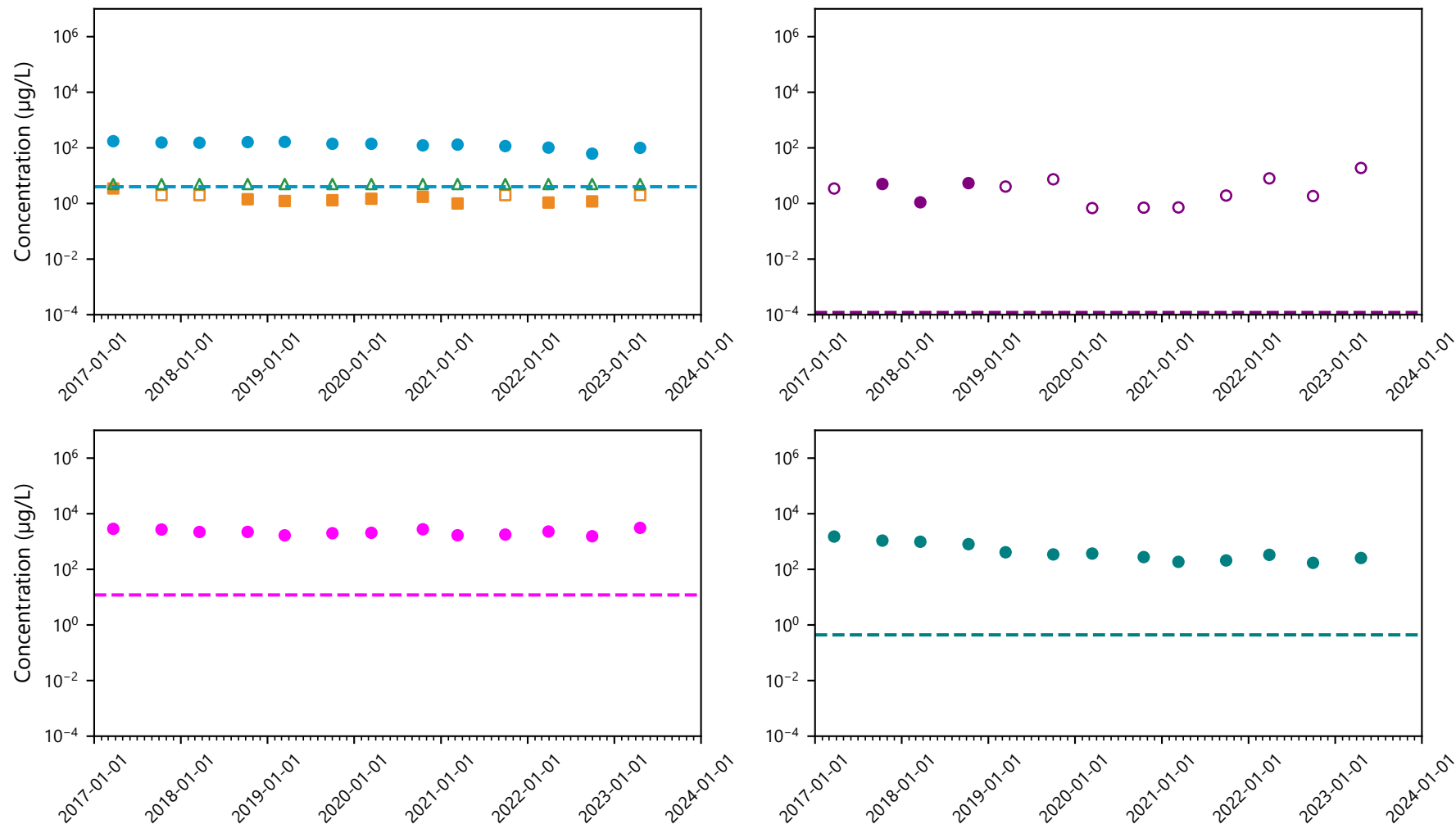


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.84

Pumping Wells: PW-06L

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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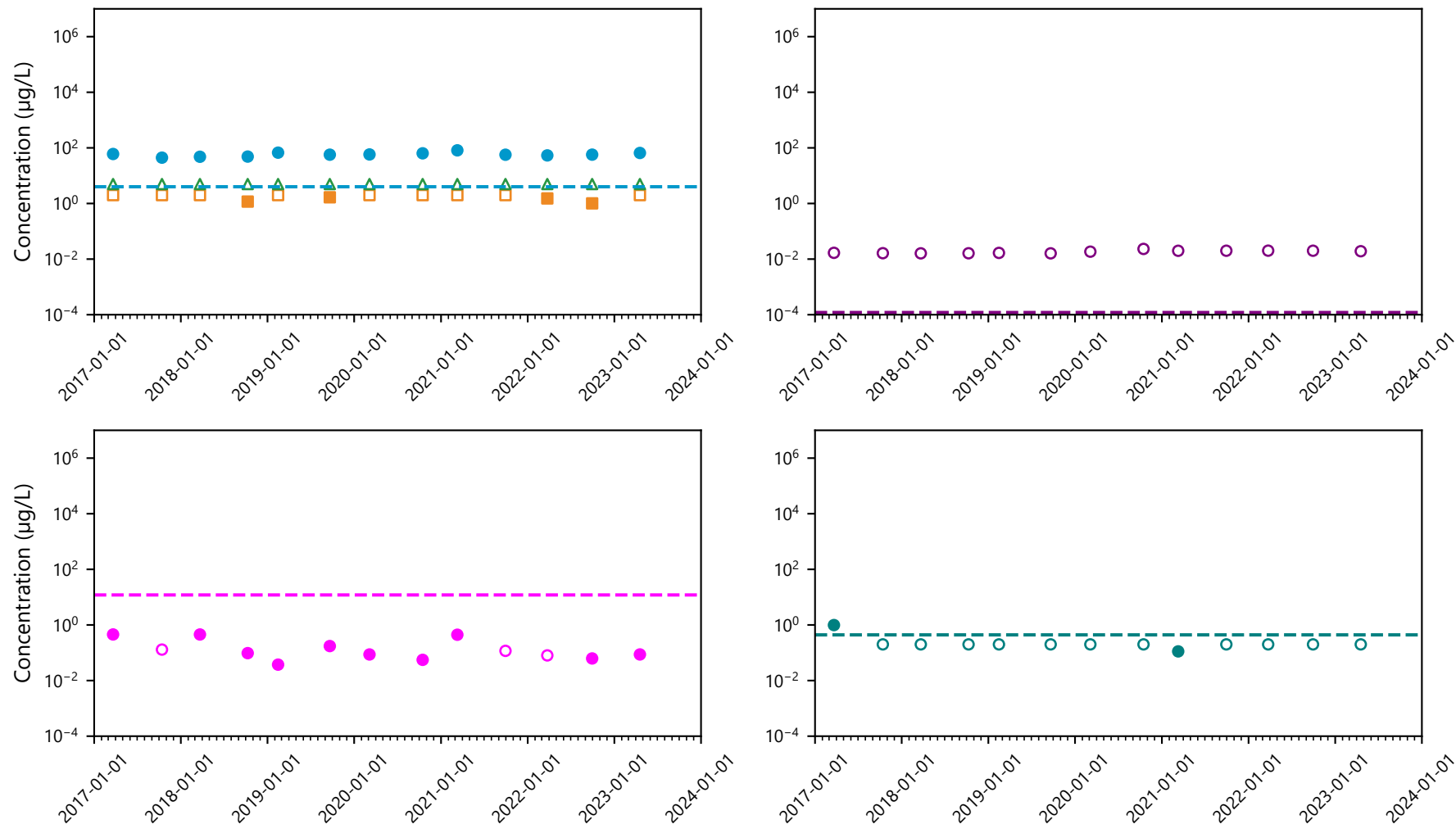


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.85

Pumping Wells: PW-06U

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Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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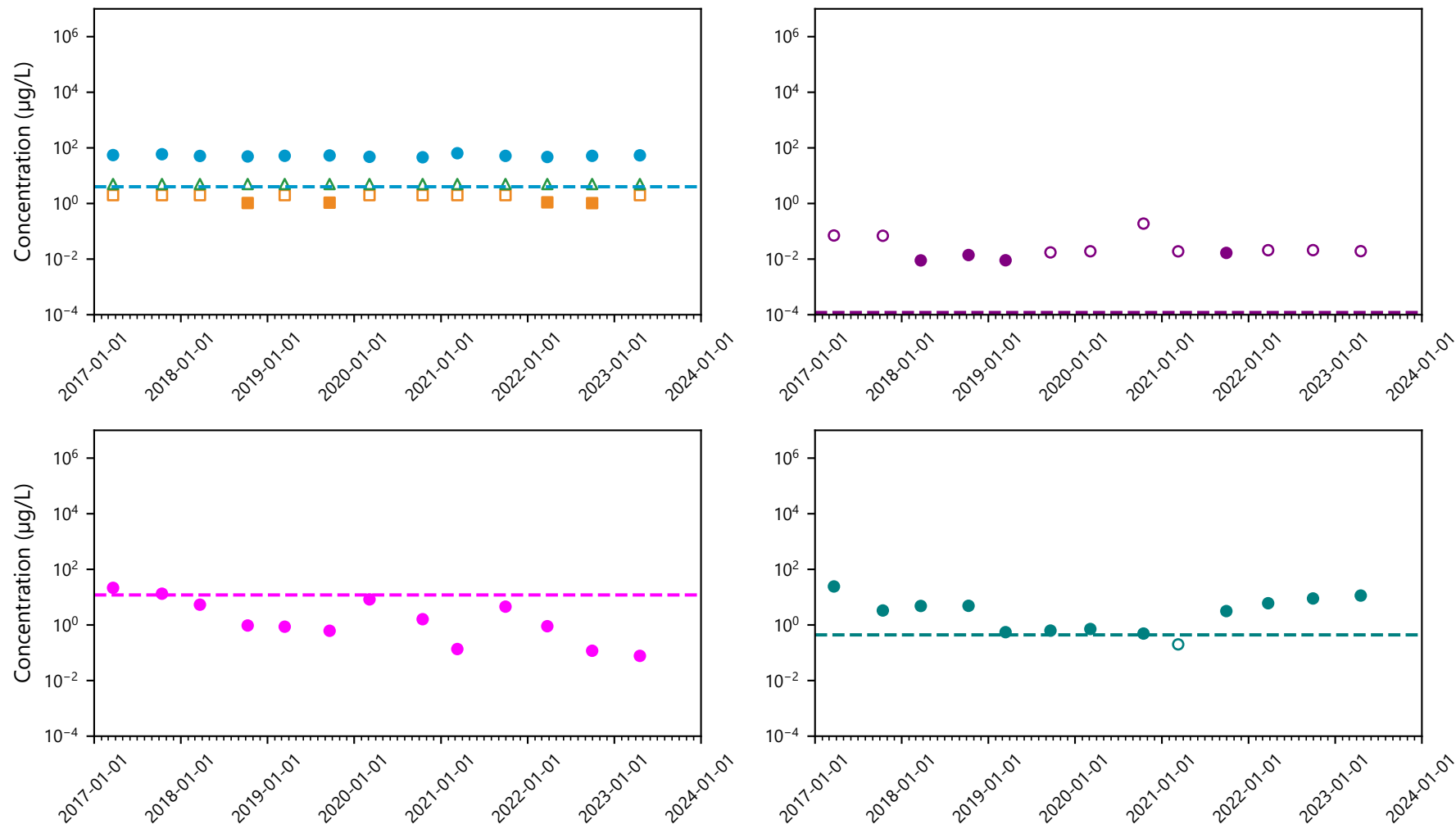


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.86

Pumping Wells: PW-07-93

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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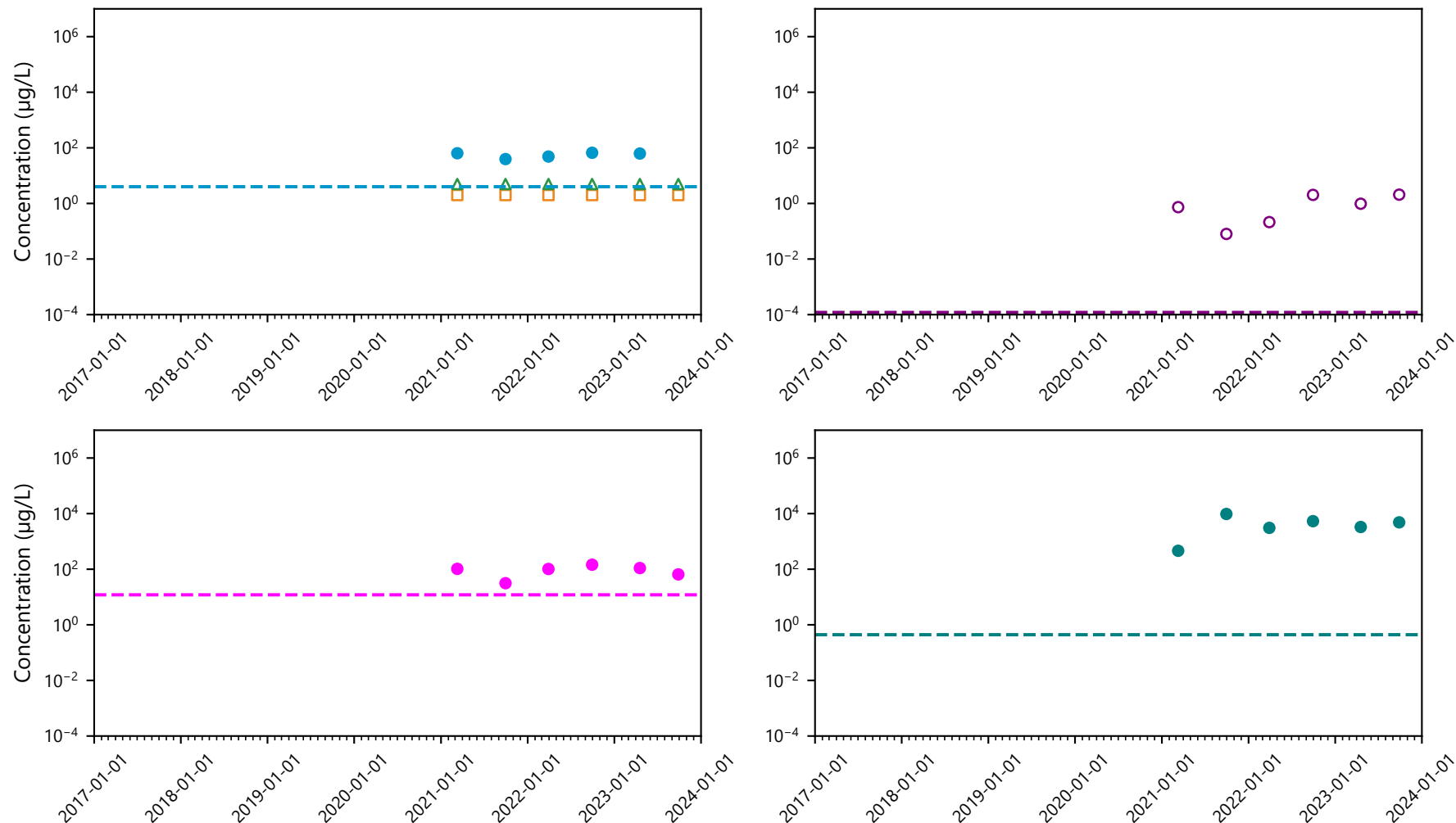


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Naphthalene CUL
- Benzo(a)pyrene CUL
- Benzene CUL

C.4.b.87

Pumping Wells: PW-08-68

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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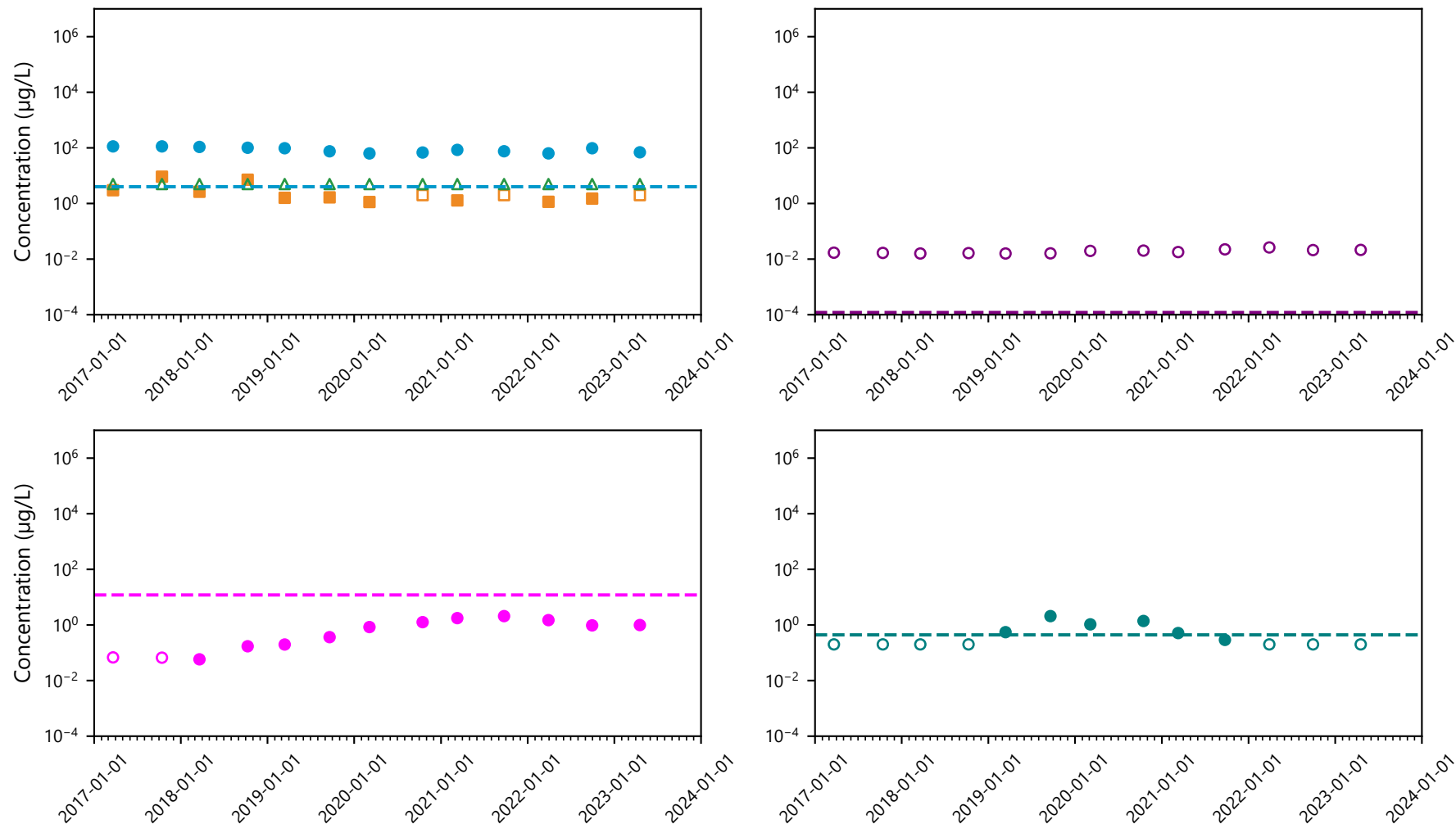


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.88

Pumping Wells: PW-08Ub

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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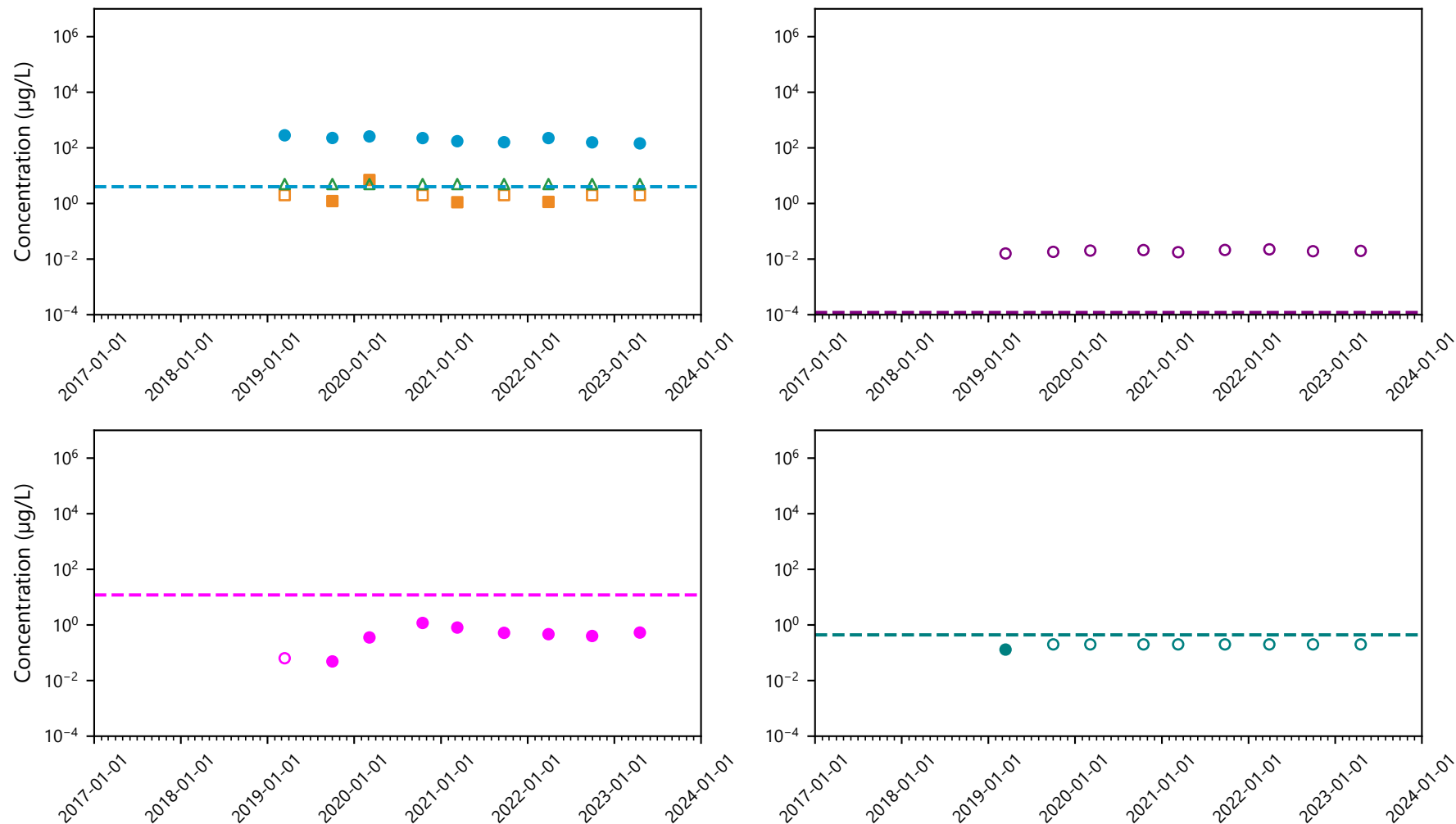


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Naphthalene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.b.89

Pumping Wells: PW-09-92

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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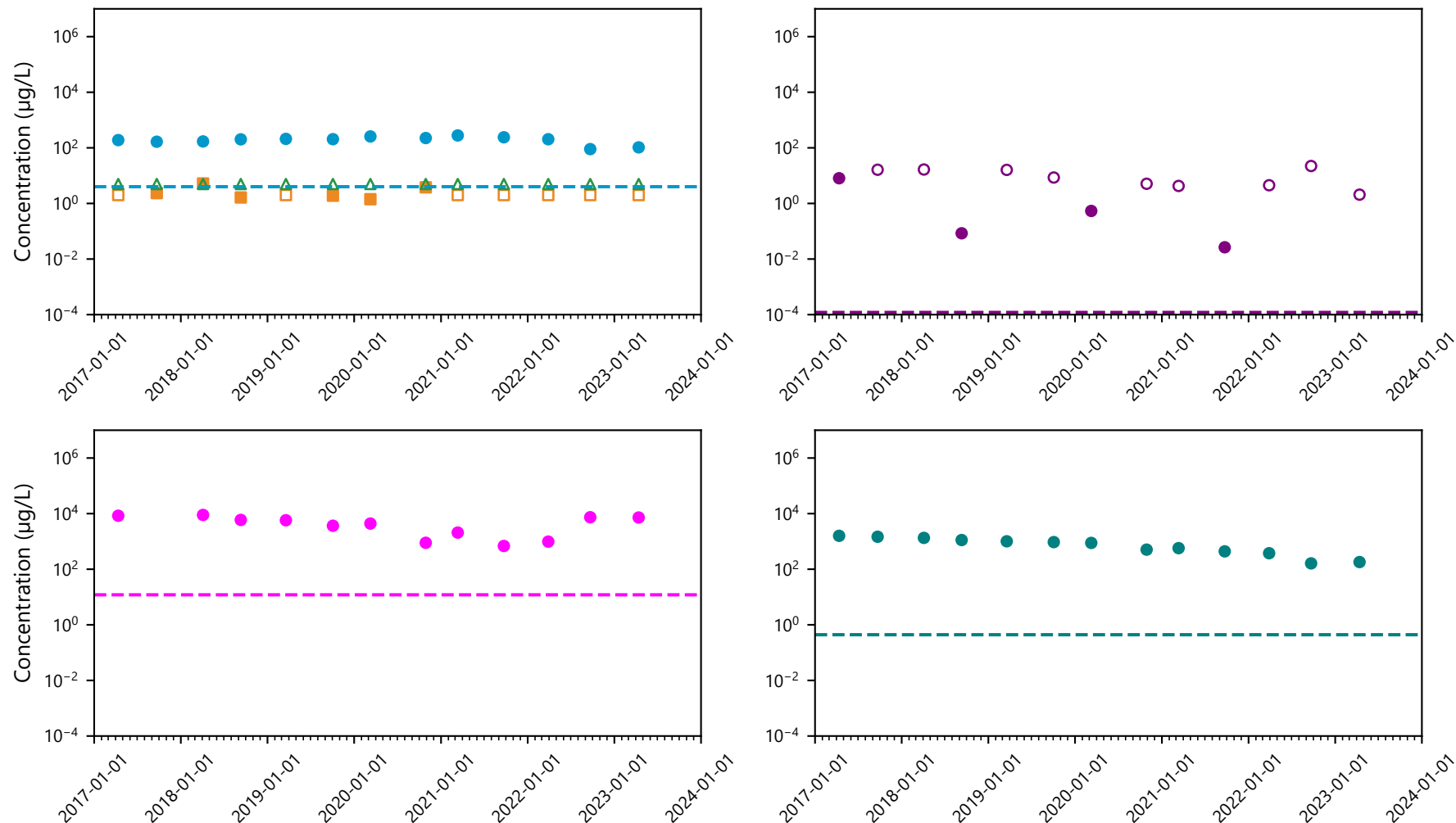


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.90

Pumping Wells: PW-10Lb

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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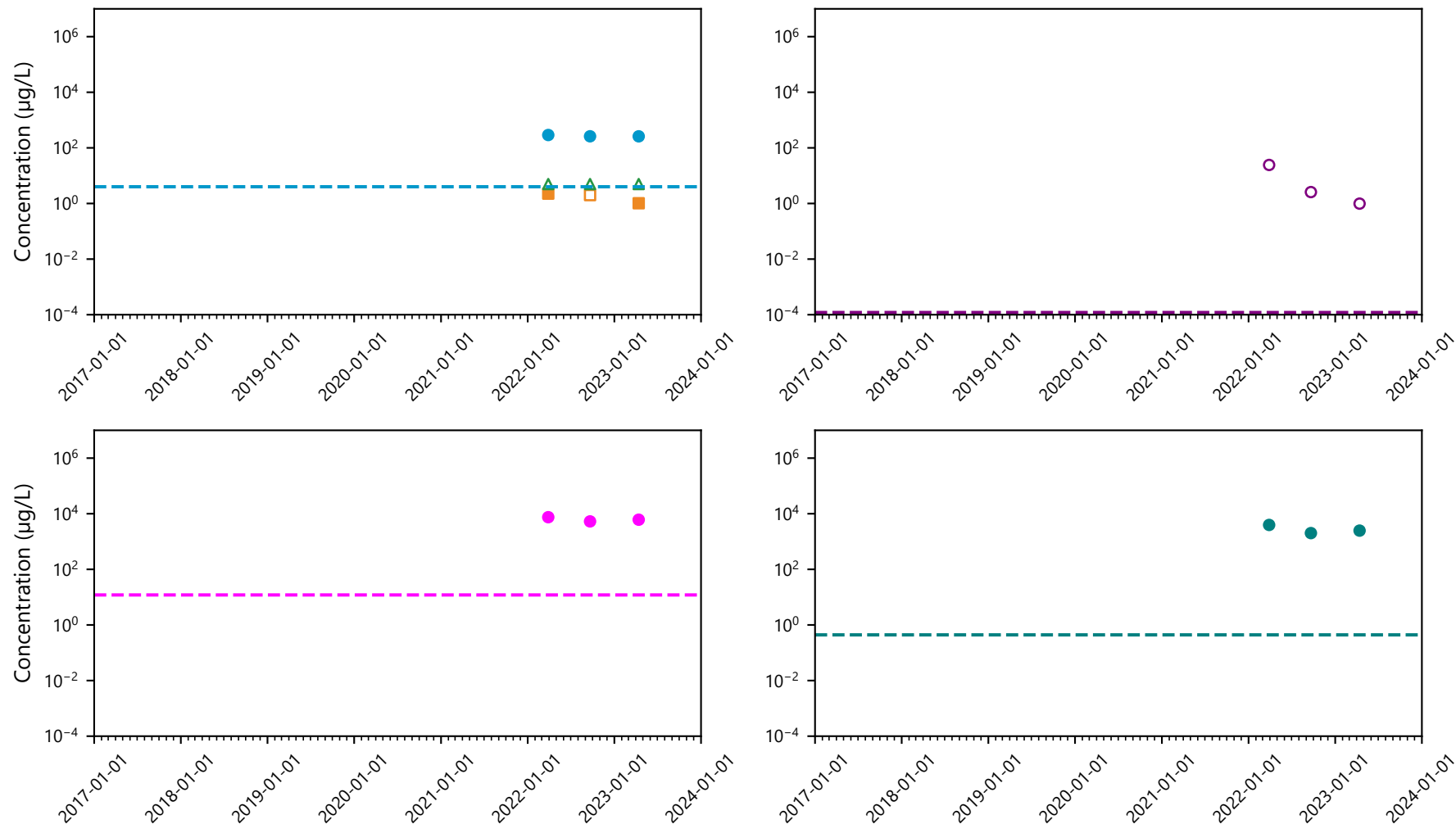


- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Cyanide CUL
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

C.4.b.91

Pumping Wells: PW-11U

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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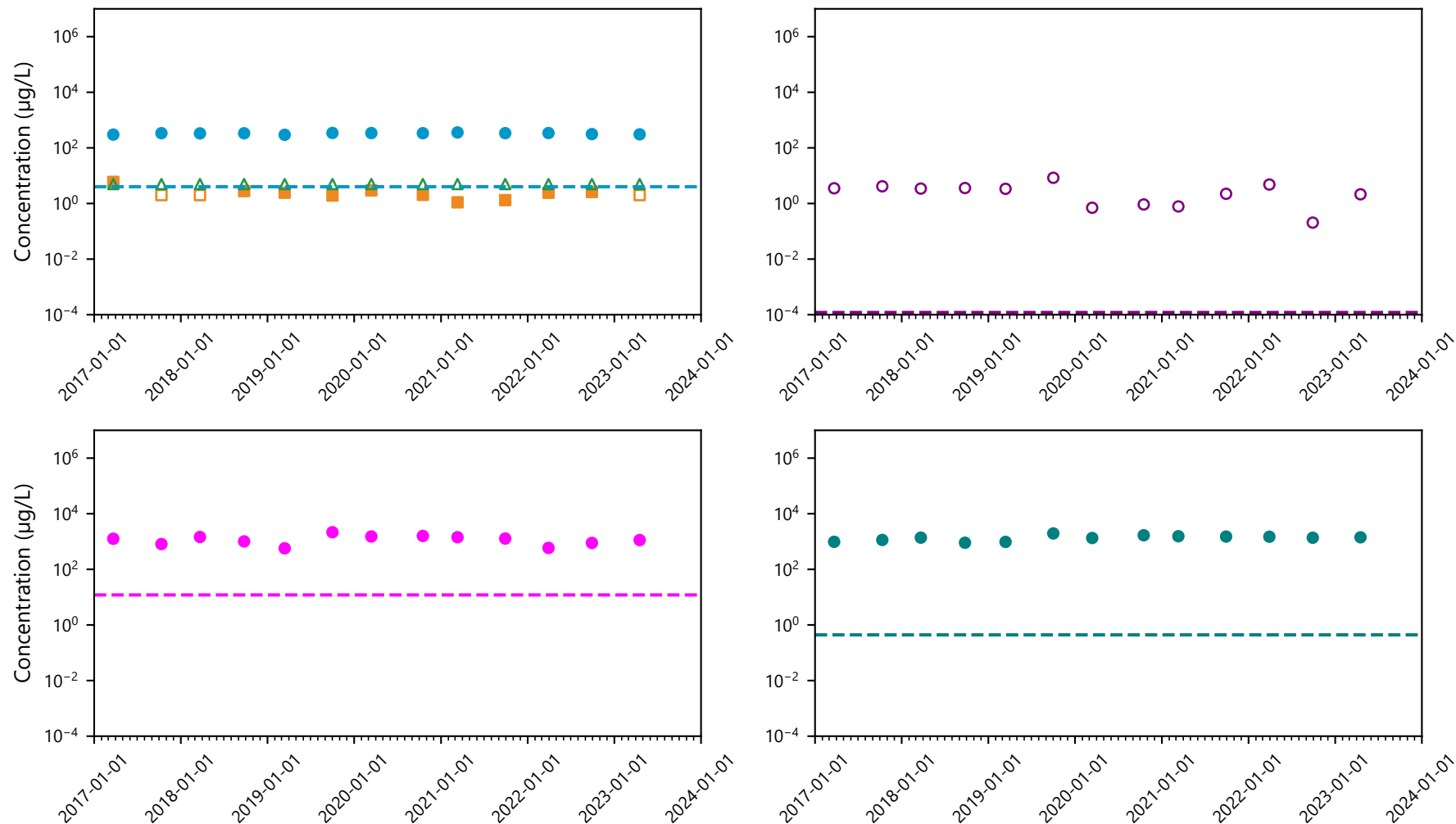


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|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.92

Pumping Wells: PW-11Ub

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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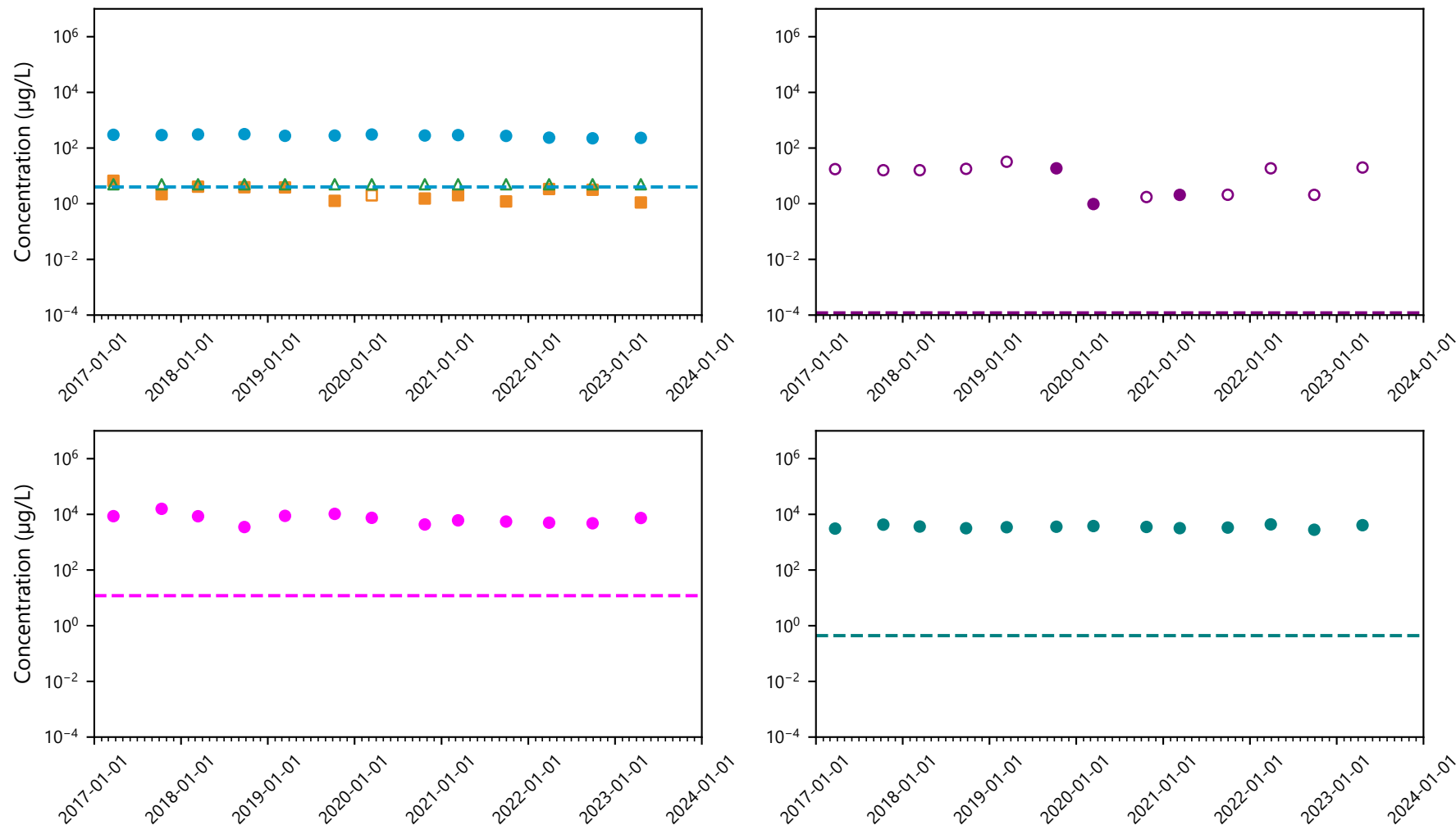


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.93

Pumping Wells: PW-12U

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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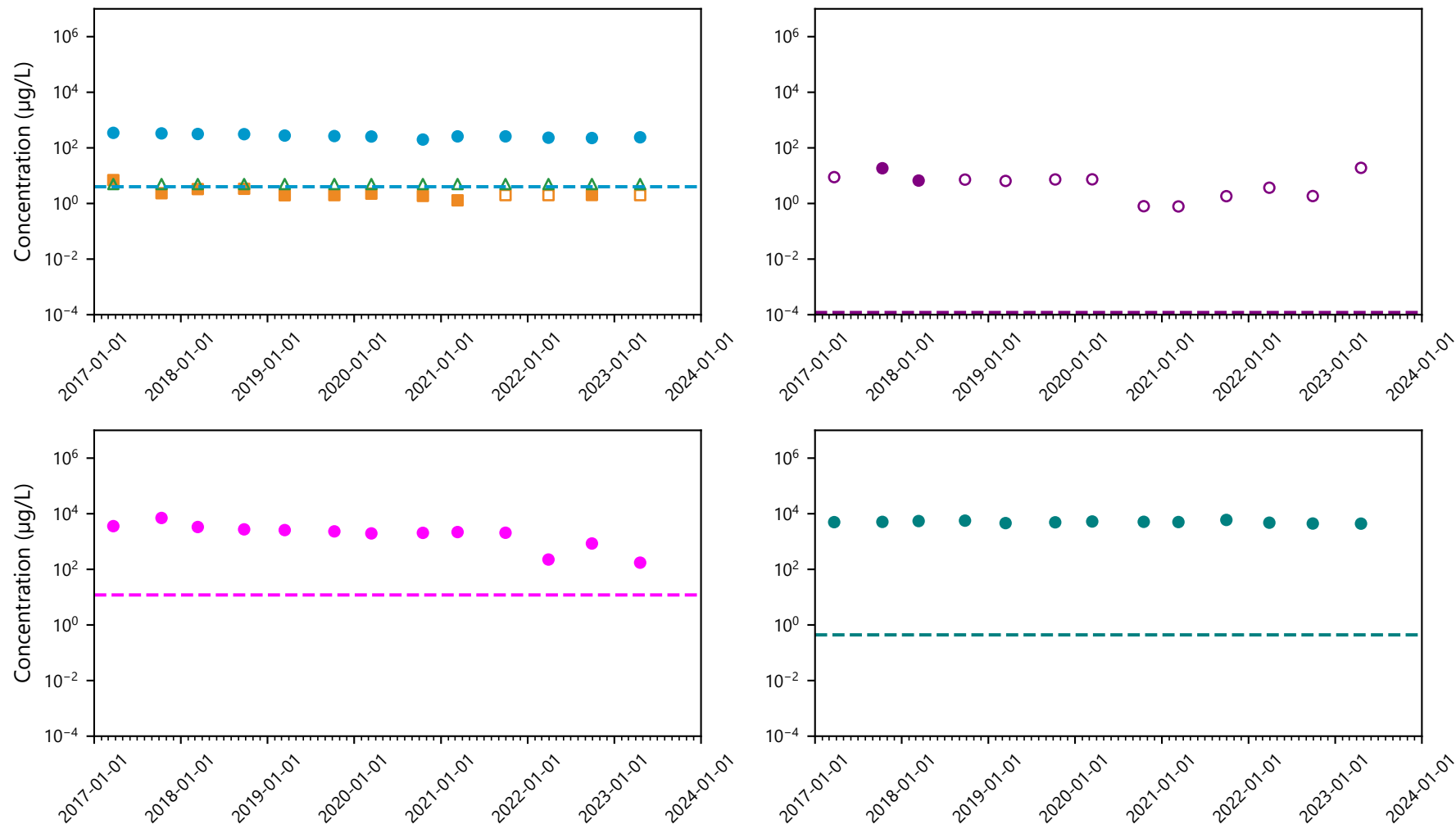


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.94

Pumping Wells: PW-13U

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
- µg/L= micrograms per liter
CUL= Cleanup Level

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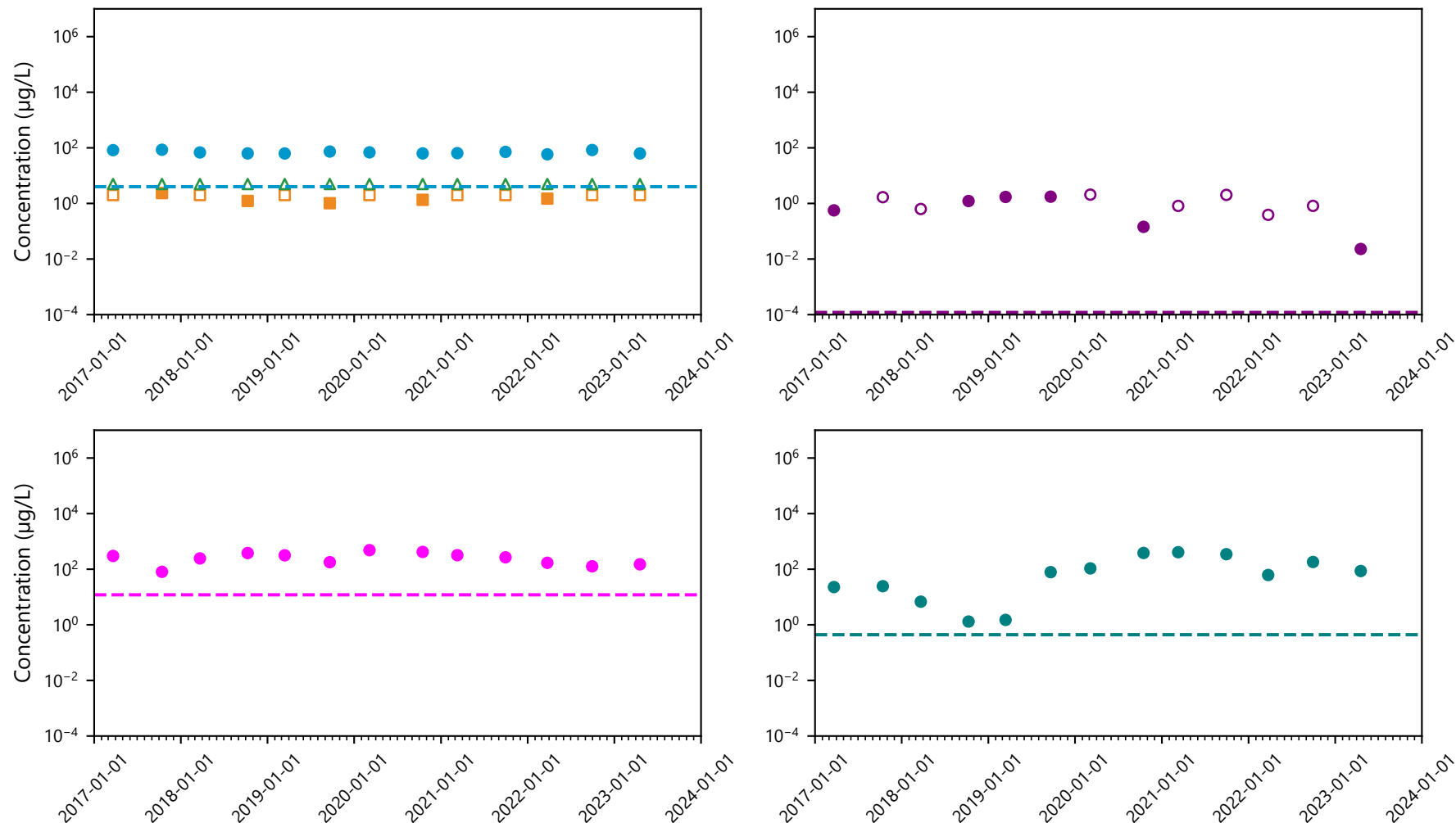


- | | | |
|----------------------|-----------------|------------------------|
| ● Cyanide | ● Naphthalene | --- Benzo(a)pyrene CUL |
| ■ Cyanide, available | ● Benzene | --- Naphthalene CUL |
| ▲ Cyanide, free | --- Cyanide CUL | --- Benzene CUL |
| ● Benzo(a)pyrene | | |

C.4.b.95

Pumping Wells: PW-14U

2023 HC&C System Annual Report
Gasco OU



Notes:

1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.

2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.

µg/L= micrograms per liter

CUL= Cleanup Level

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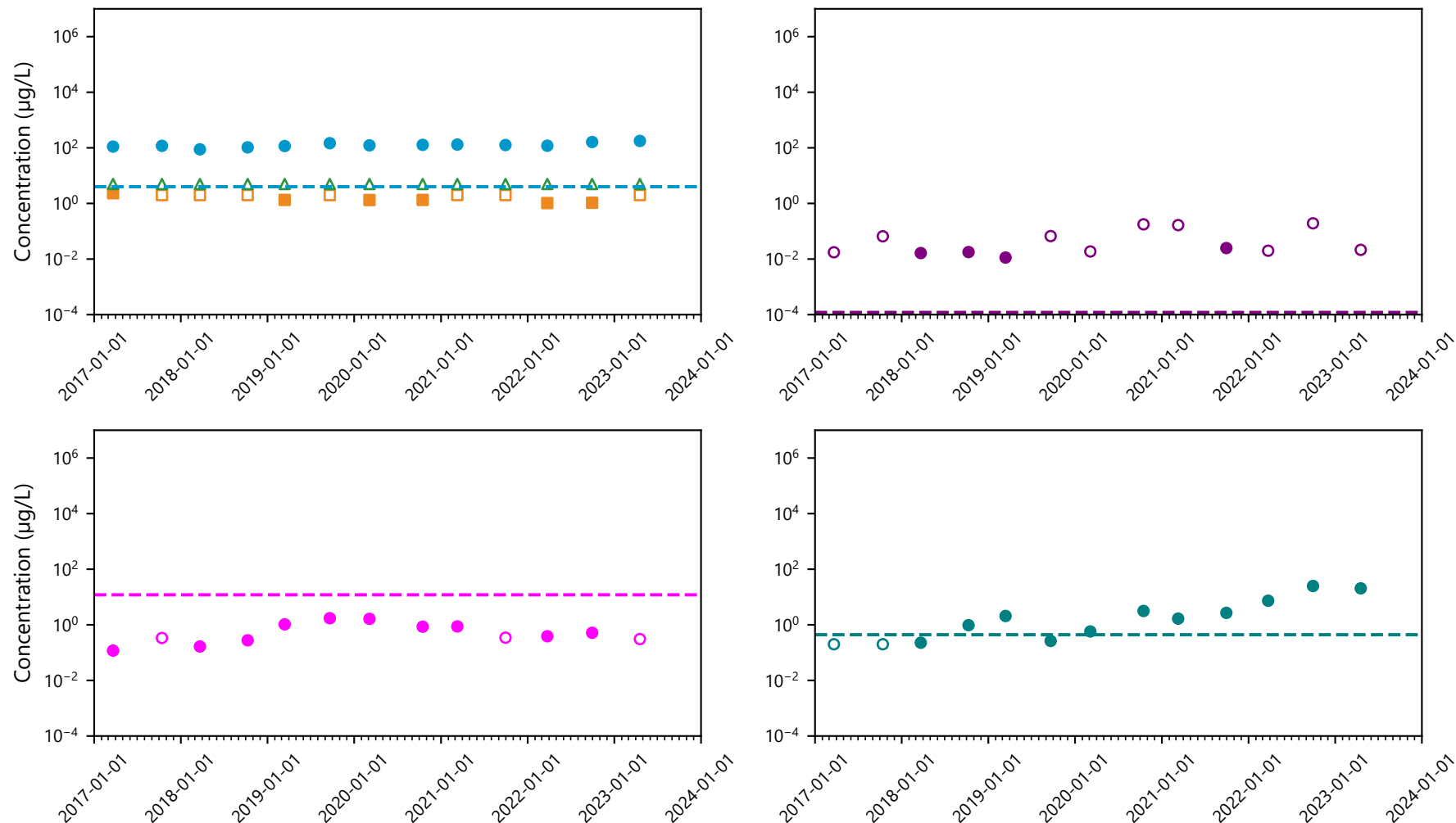


● Cyanide	● Naphthalene	--- Benzo(a)pyrene CUL
■ Cyanide, available	● Benzene	--- Naphthalene CUL
▲ Cyanide, free	--- Cyanide CUL	--- Benzene CUL
● Benzo(a)pyrene		

C.4.b.96

Pumping Wells: PW-15U

2023 HC&C System Annual Report
Gasco OU



Notes:
 1. Data includes total and dissolved fractions. Rejected samples excluded. Field duplicates excluded. Open symbol denotes non-detects.
 2. Dashed lines represent groundwater CULs documented in Table 17 of the Portland Harbor Superfund Site Record of Decision.
 µg/L= micrograms per liter
 CUL= Cleanup Level

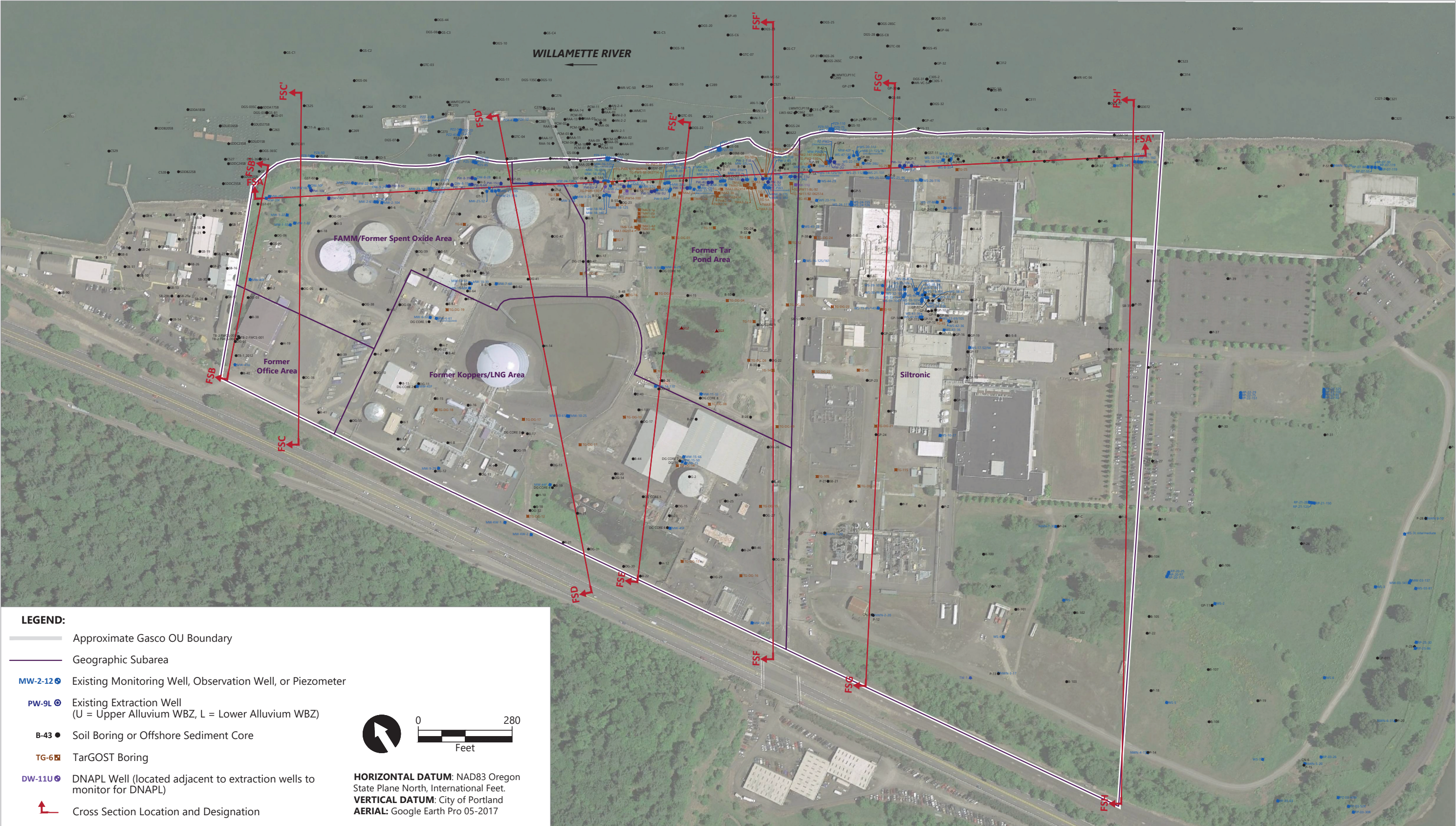
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- Cyanide
- Cyanide, available
- ▲ Cyanide, free
- Benzo(a)pyrene
- Benzene
- Benzo(a)pyrene CUL
- Naphthalene CUL
- Benzene CUL

Appendix D

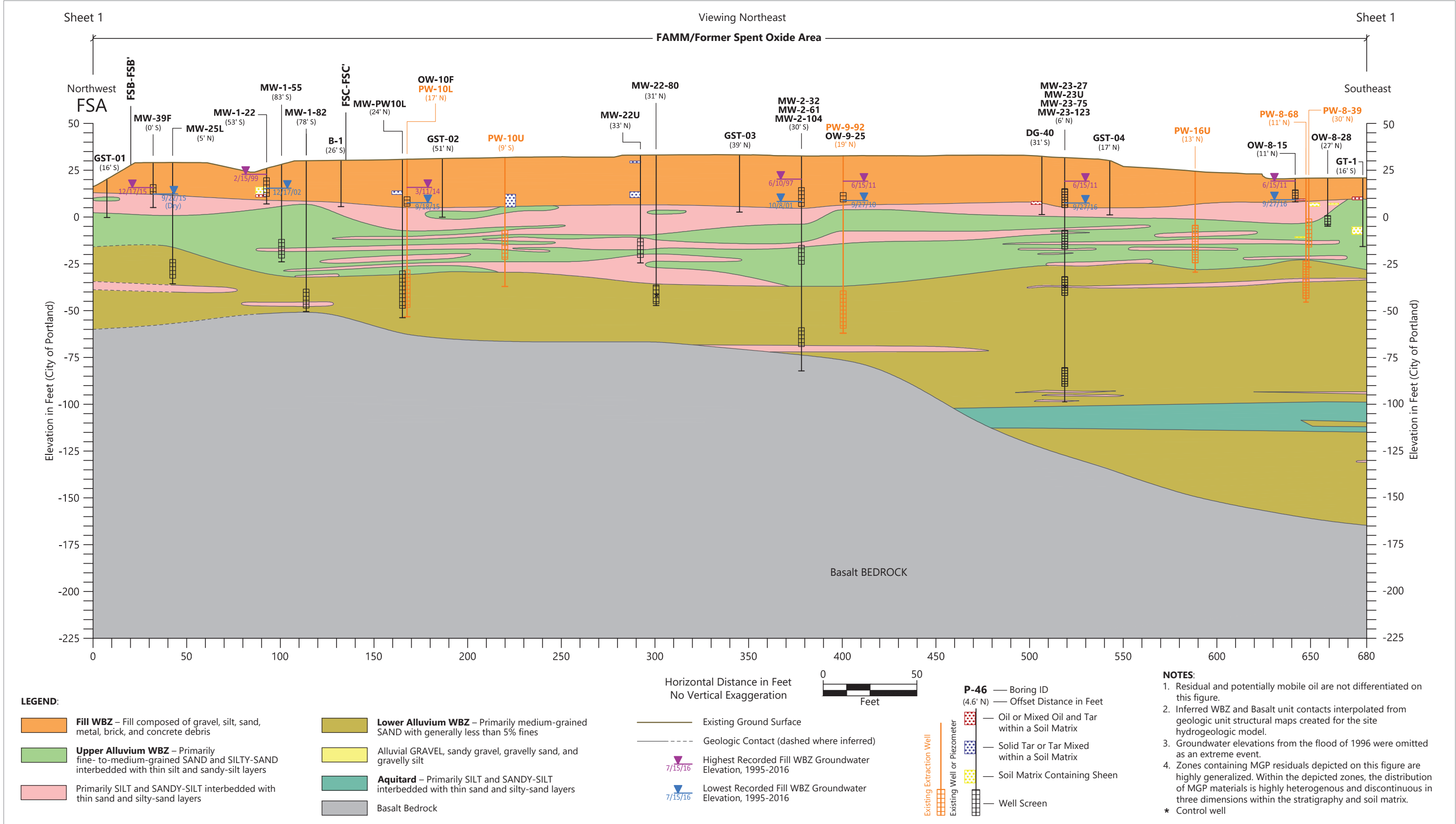
Geologic Cross Sections



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Figure 3-3a
Monitoring Well and Cross Section Location Map
Interim Feasibility Study
Gasco OU

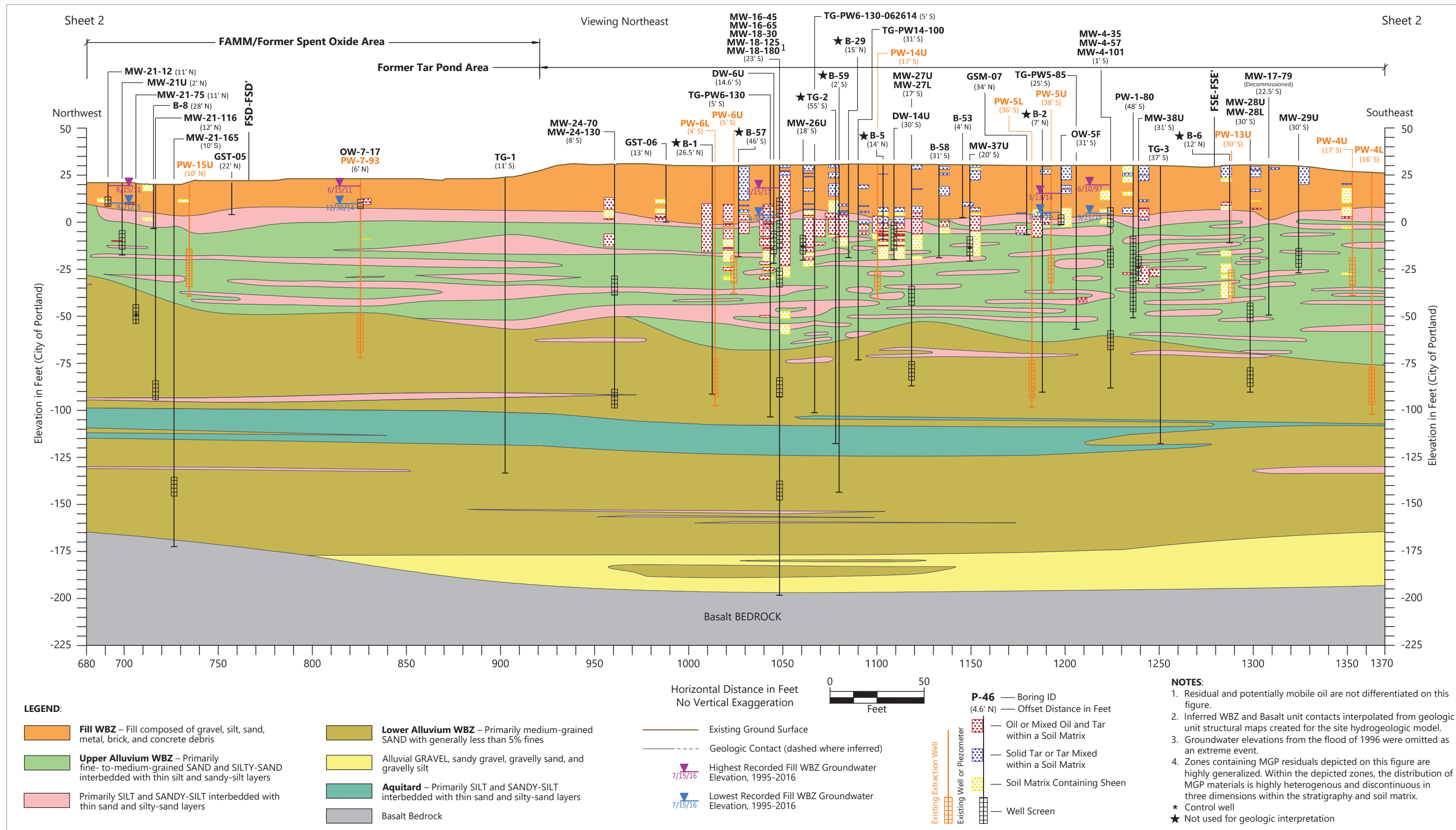


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Figure 3-3b
Cross Section FSA-FSA' – Sheet 1 of 4

Interim Feasibility Study
Gasco OU

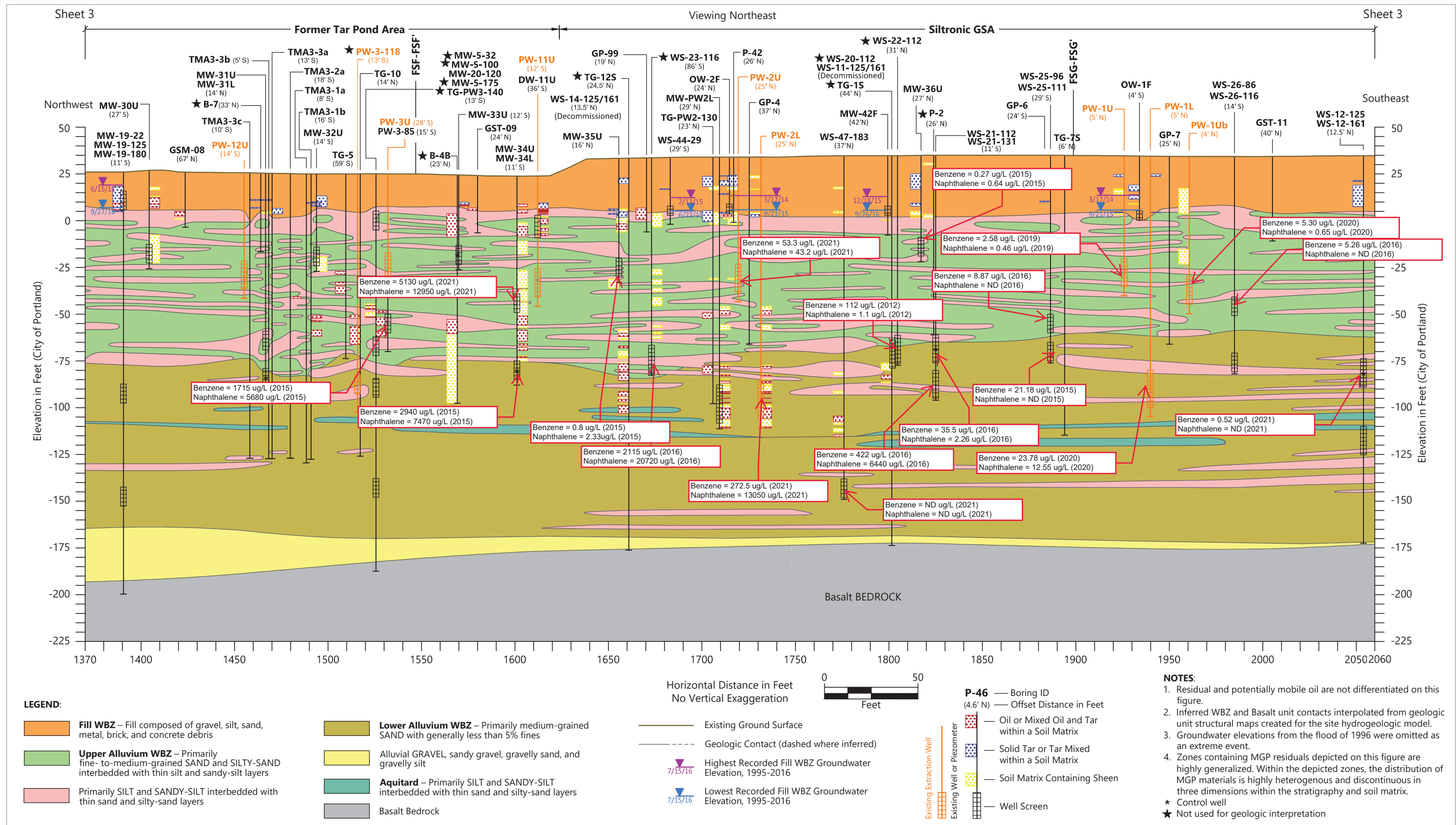


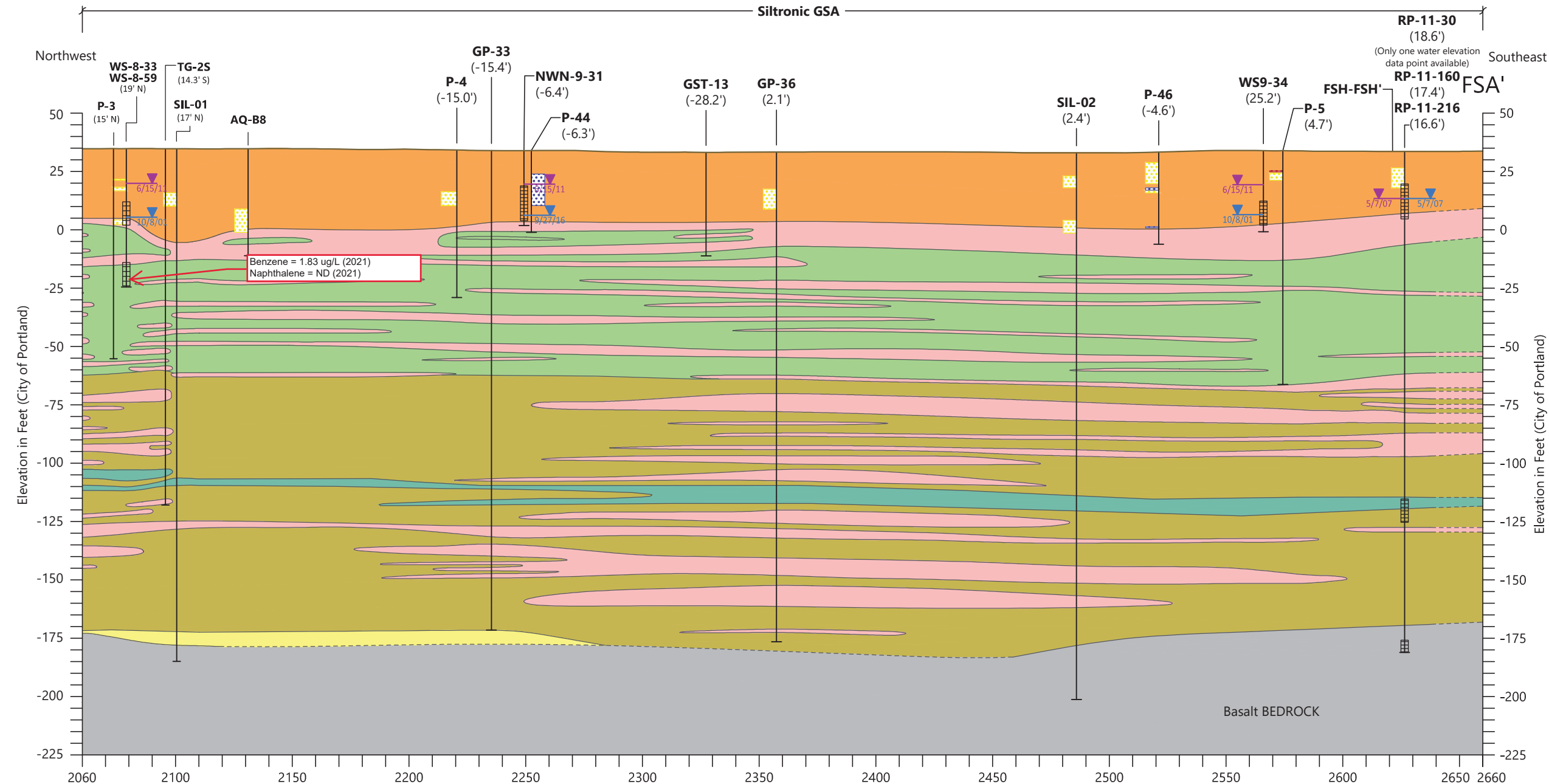
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Figure 3-3b
Cross Section FSA-FSA' – Sheet 2 of 4

Interim Feasibility Study
 Gasco OU





LEGEND:

- Fill WBZ** – Fill composed of gravel, silt, sand, metal, brick, and concrete debris
- Upper Alluvium WBZ** – Primarily fine- to-medium-grained SAND and SILTY-SAND interbedded with thin silt and sandy-silt layers
- Primarily SILT and SANDY-SILT interbedded with thin sand and silty-sand layers
- Lower Alluvium WBZ** – Primarily medium-grained SAND with generally less than 5% fines
- Alluvial GRAVEL, sandy gravel, gravelly sand, and gravelly silt
- Aquitard** – Primarily SILT and SANDY-SILT interbedded with thin sand and silty-sand layers
- Basalt Bedrock

- Horizontal Distance in Feet
No Vertical Exaggeration
- Existing Ground Surface
- Geologic Contact (dashed where inferred)
- Highest Recorded Fill WBZ Groundwater Elevation, 1995-2016
- Lowest Recorded Fill WBZ Groundwater Elevation, 1995-2016

- P-46** (4.6' N) — Boring ID
- Offset Distance in Feet
- Oil or Mixed Oil and Tar within a Soil Matrix
- Solid Tar or Tar Mixed within a Soil Matrix
- Soil Matrix Containing Sheen
- Well Screen

- NOTES:**
- Residual and potentially mobile oil are not differentiated on this figure.
 - Inferred WBZ and Basalt unit contacts interpolated from geologic unit structural maps created for the site hydrogeologic model.
 - Groundwater elevations from the flood of 1996 were omitted as an extreme event.
 - Zones containing MGP residuals depicted on this figure are highly generalized. Within the depicted zones, the distribution of MGP materials is highly heterogenous and discontinuous in three dimensions within the stratigraphy and soil matrix.
- * Control well
★ Not used for geologic interpretation

Appendix E

Laboratory Reports

Provided electronically in separate folders