



July 22, 2025

Mr. Wes Thomas
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
700 NE Multnomah Street, No. 600
Portland, Oregon 97232

EE Project No. 2708
DEQ ECSI File Nos. 84 and 183

**SUBJECT: No Longer Contained-In Determination Request, NW Natural Gasco Former
MGP Operable Unit, 7900 NW St. Helens Road, Portland, Oregon**

Dear Mr. Thomas,

The NW Natural Design Team (comprising Anchor QEA, Severson Environmental Services, Inc. [SES], and Ede Environmental, LLC), on behalf of NW Natural, is transmitting information for your use in completing a No Longer Contained-In (NLCI) Determination for contaminated groundwater at the Gasco Operable Unit (OU).

This NLCI request was elicited by the publishing of a new directive¹ by the Oregon Department of Environmental Quality (DEQ) that provides agency staff guidance regarding the assessment of whether contaminated environmental media containing listed hazardous waste can be safely disposed as non-hazardous waste. A stated objective of the new directive is to promote remediation at contaminated cleanup sites where the U.S. Environmental Protection Agency (EPA) Contained-In Policy² has required management of environmental media (soil, sediment, and water) as hazardous waste under certain situations.

The information included in this NLCI request pertains to contaminated groundwater at locations on the Gasco OU where concentrations of hazardous constituents from F002-listed spent trichloroethene (TCE) hazardous wastes are below the updated risk-based concentrations applicable to a NLCI determination, and from which extracted groundwater is

¹ Oregon Department of Environmental Quality, 2024. *Internal Management Directive: Conducting Contained-In Determinations for Environmental Media*. July 25, 2024.

² 63 FR 65877 (May 25, 1998), "The Contained-In Policy". EPA requires that soil (and other environmental media), although not wastes themselves, be managed as if they were hazardous waste if they contain hazardous waste or exhibit a characteristic of hazardous waste.

being managed in a manner approved by DEQ through an on-site wastewater treatment facility permitted under the Clean Water Act (33 U.S.C. §§1251-1387).

Background Information

The Portland Gas & Coke Company (PG&C) constructed an oil-manufactured gas plant (MGP), known as the Gasco facility, on the current NW Natural property in 1912 and 1913. The Gasco facility was operated as an MGP from 1913 to 1956. The northern portion of the current Siltronic property (within the Gasco OU) was used for MGP residuals management during a portion of this time frame. PG&C sold the property now occupied by Siltronic in 1960. Siltronic constructed a silicon wafer manufacturing plant on the property in 1978 with plant operations commencing in March 1980 and formerly used trichloroethene (TCE) in its production of silicon wafers.

Based on the operational history of the Gasco OU, the following is the typical suite of contaminants evaluated within the Gasco OU:

- **MGP/Hydrocarbon Wastes:** Cyanide; total petroleum hydrocarbons; polycyclic aromatic hydrocarbons (PAHs); volatile organic compounds (VOCs), including benzene, toluene, ethylbenzene, and xylenes (BTEX); and metals.
- **Siltronic Spent TCE Wastes:** TCE and TCE breakdown products: cis-1,2-dichloroethene (cis 1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), 1,1-dichloroethene (1,1-DCE), and vinyl chloride (VC).

Contamination classified as “MGP/Hydrocarbon Wastes” generally resulted from former MGP operations or hydrocarbon-related sources. Toxicity characteristic (TC) regulatory levels have been determined by the EPA and DEQ as not applicable to MGP wastes. As such, TC waste codes (D004 through D043) are not applied to environmental media assumed to be impacted solely by MGP-related contaminants.

Per the draft Contaminated Media Management Plan (CMMP)³ for the Gasco OU, environmental media contaminated with “Siltronic Spent TCE Wastes” are laboratory-tested, and contaminant concentration data are screened to determine whether the material would require disposal as a RCRA spent halogenated solvent waste code F002-listed hazardous waste (spent TCE halogenated solvent). For these media to be removed from consideration as a hazardous waste, a “no longer contained-in” determination must be made, and based on the July 2024 *Internal Management Directive – Conducting Contained-In Determinations for*

³ Anchor QEA, LLC, 2021. *Contaminated Material Management Plan, NW Natural Gasco Site*. November 19, 2021.

Environmental Media, this determination should include comparison to the DEQ risk-based concentrations (RBCs) for the Construction & Excavation Worker Receptor Scenario. If groundwater contaminated with Siltronic spent TCE wastes has concentrations of the TCE-related compounds greater than the threshold values provided in the table below (Construction and Excavation Worker RBCs), then the groundwater will require management as F002 listed hazardous waste. Alternatively, if the groundwater has concentrations of TCE-related compounds equal to or less than the threshold values provided in the table below, then, under the new IMD, those concentrations would support a DEQ NLCI determination to eliminate management of the pumped groundwater as an F002 listed hazardous waste.

Table 1: 2024 Groundwater Threshold Values for DEQ NLCI Determination

F002 Constituent	F002 Contained-In Threshold Value⁴ (µg/L)
TCE	430
Cis-1,2-DCE	18,000
Trans-1,2-DCE	180,000
1,1-DCE	44,000
VC	960

Siltronic Pre-Treatment System

The Siltronic Pre-Treatment Facility is designed to remove TCE and its degradation products (F002 constituents) from extracted contaminated groundwater before it is pumped to the Main Groundwater Treatment Plant for the NW Natural Gasco site for processing. As described above, spent TCE and its degradation products related to Siltronic's former solvent use are considered by the Oregon DEQ to be RCRA F002 listed hazardous waste constituents. Other contamination within the water routed to the Siltronic Pre-Treatment Facility includes MGP- or other petroleum-derived constituents.

Based on the treatment of the spent TCE and its degradation products within the Siltronic Pre-Treatment Facility, the solids generated during treatment (sludges and spent granular

⁴ DEQ, 2023. *Risk-Based Concentrations for Groundwater in an Excavation, Construction & Excavation Worker Receptor*. Revised August 2023.

activated carbon) are residues from the treatment of an F002 RCRA listed hazardous waste. NW Natural understands the “derived-from” rule to require presumptive management of these residuals as RCRA F002 listed hazardous waste if the influent to the Siltronic Pre-Treatment Facility contains F002 listed waste, regardless of presence or concentration of F002 constituents in the residuals.

With a NLCI determination for F002 listed hazardous waste from DEQ for groundwater influent to the Siltronic Pre-Treatment Facility then 1) this pre-treatment system would no longer be treating an F002 listed hazardous waste, and 2) NW Natural would no longer need to presumptively manage the treatment residues derived from the Siltronic Pre-Treatment Facility as F002 RCRA listed hazardous waste.

Siltronic Pre-Treatment System Influent Quality

The Siltronic pre-treatment system is plumbed to receive groundwater pumped by the existing HC&C source control system within the Alluvium Water Bearing Zones (WBZs) along the Gasco OU shoreline down-gradient of Siltronic’s historical spent TCE release. Data reported in the *Enhanced In-Situ Bioremediation (EIB) Performance Monitoring Program Progress Report*⁵ (and data collected by Siltronic under the Joint Order) shows that the EIB application has over time reduced F002 constituent concentrations in groundwater at these down-gradient shoreline locations. The reduction in shoreline area F002 constituent concentrations in groundwater over time, in tandem with the DEQ’s new directive identifying the Construction & Excavation Worker Receptor RBCs as the threshold values appropriate for NLCI determinations, provide the basis for this demonstration and request.

Groundwater influent concentrations at the Siltronic Pre-Treatment System are collected by SES on a monthly basis and tested for VOCs, PAHs, select metals, oil and grease, and total cyanide. This testing has been completed monthly and reported to DEQ semi-annually since starting full-time, full-scale operation of the HC&C system in 2015.

All monthly F002 constituent data for influent to the Siltronic Pre-Treatment System collected between June 2015 and June 2024 are included in Table 1 (attached Excel spreadsheet). For comparison, Table 1 also shows the F002 NLCI thresholds used by NW Natural and DEQ on the Gasco OU prior to the 2024 DEQ directive, as well as the new 2024 DEQ-directed F002 NLCI threshold values. As shown on Table 1, concentrations of F002 constituents within the

⁵ MFA, 2023. *Enhanced In Situ Bioremediation Performance Monitoring Program Progress Report*. Prepared for Siltronic Corporation. August 14, 2023.

Siltronic Pre-Treatment System influent have declined over time, with routinely detected constituents limited to cis-1,2-DCE and vinyl chloride. Cis-1,2-DCE concentrations have not exceeded the previous (lower) NLCI threshold of 70 µg/L in monthly influent samples since June 2017. Vinyl chloride concentrations have declined over time although nearly all detections remain higher than the former (lower) NLCI threshold of 2 µg/L. Cis-1,2-DCE and vinyl chloride have never been detected in any influent sample at concentrations equal to or greater than the current (2024) NLCI threshold values of 18,000 µg/L and 960 µg/L, respectively. The maximum detected cis-1,2-DCE concentration (387 µg/L in July 2015) and vinyl chloride (95.3 µg/L in July 2015) are well below the current (2024) NLCI threshold values, with concentrations of these constituents having steadily declined since that time. As summarized in Table 1, the most recent available influent sample determined 1,2-DCE to be non-detected (<4.0 µg/L) and vinyl chloride to be detected at 5.2 µg/L.

Based on evaluation of Siltronic Pre-Treatment System influent data collected monthly since 2015 relative to the current 2024 threshold levels, the untreated groundwater recovered by the existing HC&C system (Alluvium WBZ groundwater at shoreline locations) does not contain concentrations of F002 constituents that would result in an F002 waste code.

Updated Contaminated Media Management Area

With regard to in-situ concentrations of F002 constituents in groundwater, Figures 1 through 15 depict current condition groundwater data (updated through March 2024) for the Fill, Upper Alluvium, and Lower Alluvium WBZs. As shown on these figures, only concentrations of TCE and vinyl chloride are present in groundwater at any location at concentrations greater than the current 2024 threshold values. For the most part, the location where these threshold value exceedances have been detected correlates to the immediate area surrounding the TCE release source area between the Fab 1 Building and the Central Facilities Building. A single exception to the preceding is within the Lower Alluvium WBZ (WS-24-111) near the northern corner (down-gradient side) of the Fab 1 Building where the current vinyl chloride concentration exceeds the 2024 threshold value.

Based on the above, NW Natural proposes that an updated contaminated media management area for TCE and associated breakdown products (TCE-CMMA) be defined as related to generation of groundwater that, if removed, may require management as an F002 listed hazardous waste. The proposed TCE-CMMA for groundwater within the Fill WBZ includes the TCE release source area between the Fab 1 Building and the Central Facilities Building. The TCE-CMMA for the Alluvium WBZs (grouped into a single TCE-CMMA) has conservatively been extended from the source area so that it includes the WS-24-111

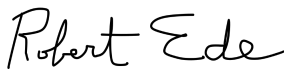
location and associated downgradient area beneath the Fab 1 Building. The proposed CMMA for the Fill and Alluvium WBZs are included on the respective Fill and Alluvium WBZ current condition cVOC groundwater concentration maps included as Figures 1 through 15. All removed groundwater from this updated TCE-CMMA would be laboratory-tested, and contaminant concentration data would be screened relative to the current NLCI threshold values to determine whether the material would require disposal as a RCRA spent halogenated solvent waste code F002 listed hazardous waste (spent TCE halogenated solvent).

NLCI Request and Updated TCE-CMMA

Based on the information included in this letter, NW Natural requests a NLCI determination for F002 listed hazardous waste from DEQ for groundwater influent to the Siltronic Pre-Treatment Facility from the existing HC&C system or any groundwater removed from locations beyond the limits of the proposed updated TCE-CMMA within the Fill or Alluvium WBZs. As stated above, groundwater removed from areas within the boundaries of the updated TCE-CMMA will require testing and screening relative to the current NLCI threshold values to determine whether the material would require disposal as a RCRA spent halogenated solvent waste code F002 listed hazardous waste (spent TCE halogenated solvent).

Should you have any questions, please contact the undersigned.

Sincerely,



Rob Ede, RG

Principal

[rede@edeenvironmental.com](mailto:redede@edeenvironmental.com)

Attachments:

- 1) Table 1: Monthly Siltronic Pre-Treatment Facility Groundwater Influent Concentrations
- 2) Figures 1 –15: Groundwater Concentration Maps for TCE and TCE Degradation Products

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Mike Crystal, Severson Environmental Services, Inc.

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Terry Driscoll, ADA, Inc.

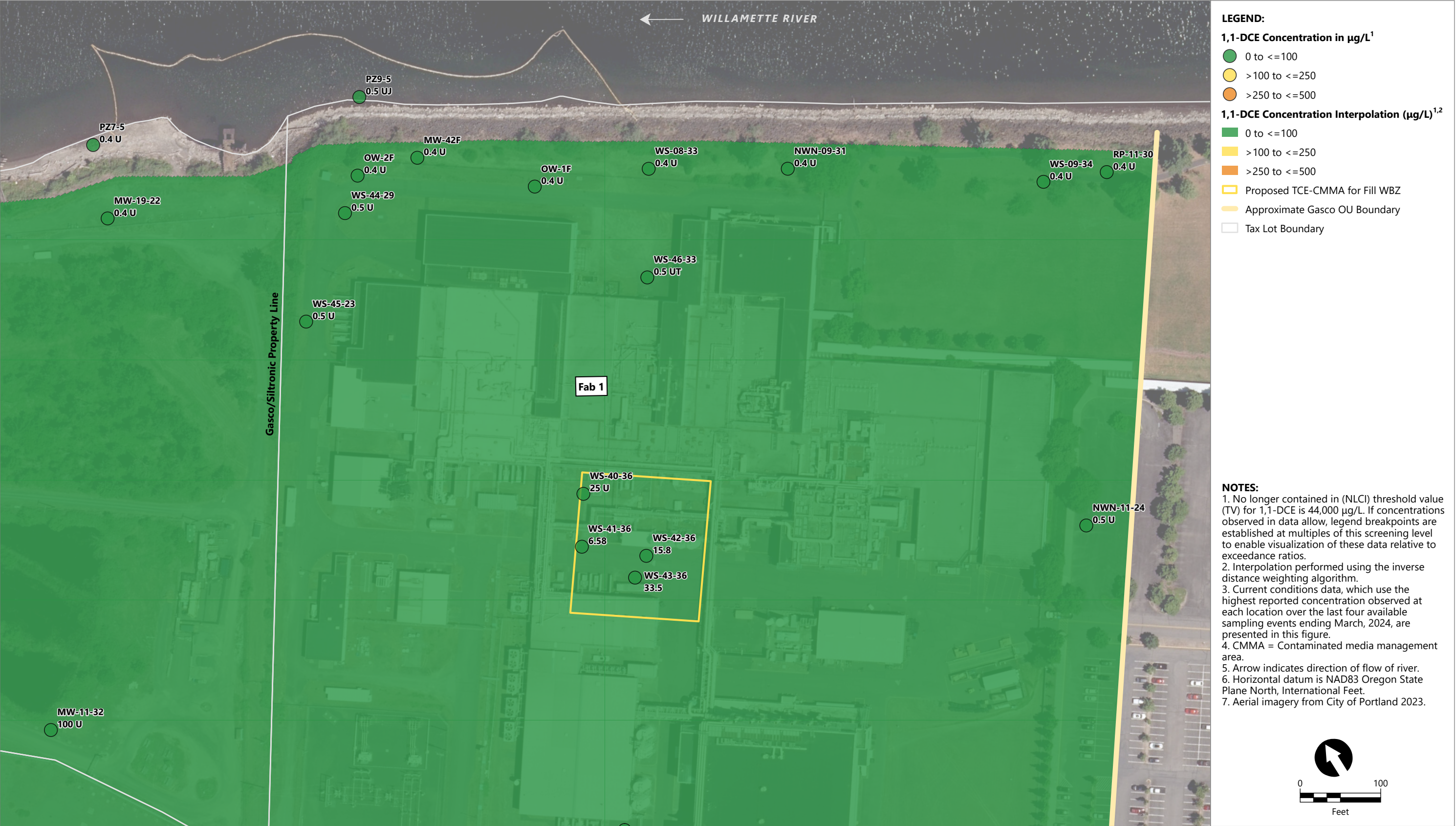
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Courtney Savoie, Maul Foster Alongi, Inc.

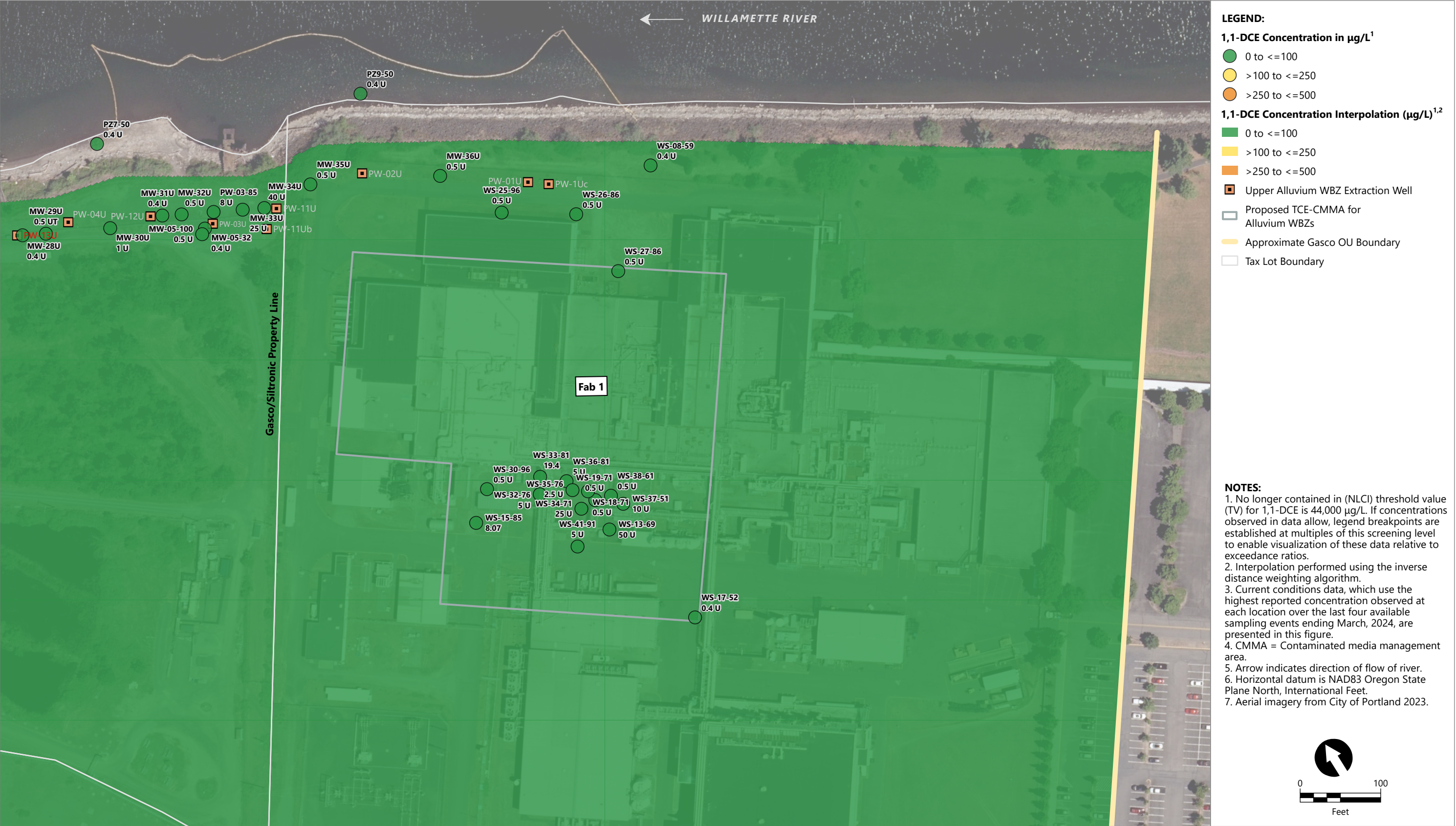
Mike Murray, Maul Foster Alongi, Inc.



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Figure 1
Current Conditions 1,1-Dichloroethene Concentrations in Fill WBZ
NLCI Demonstration for Siltronic Groundwater-TCE-CMMA Evaluation
Siltronic OU



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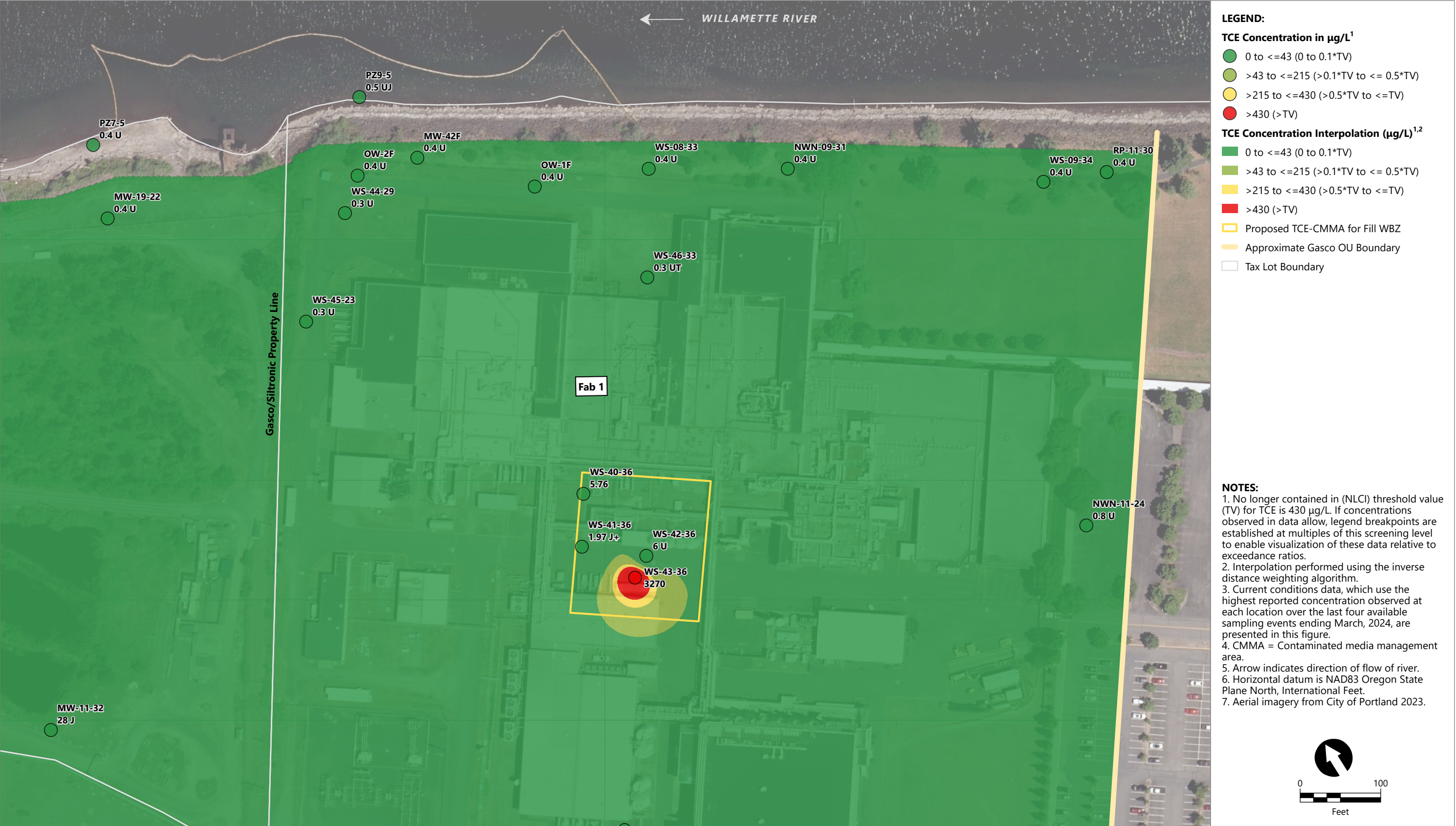
Figure 2
Current Conditions 1,1-Dichloroethene Concentrations in Upper Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater-TCE-CMMA Evaluation
Siltronic OU



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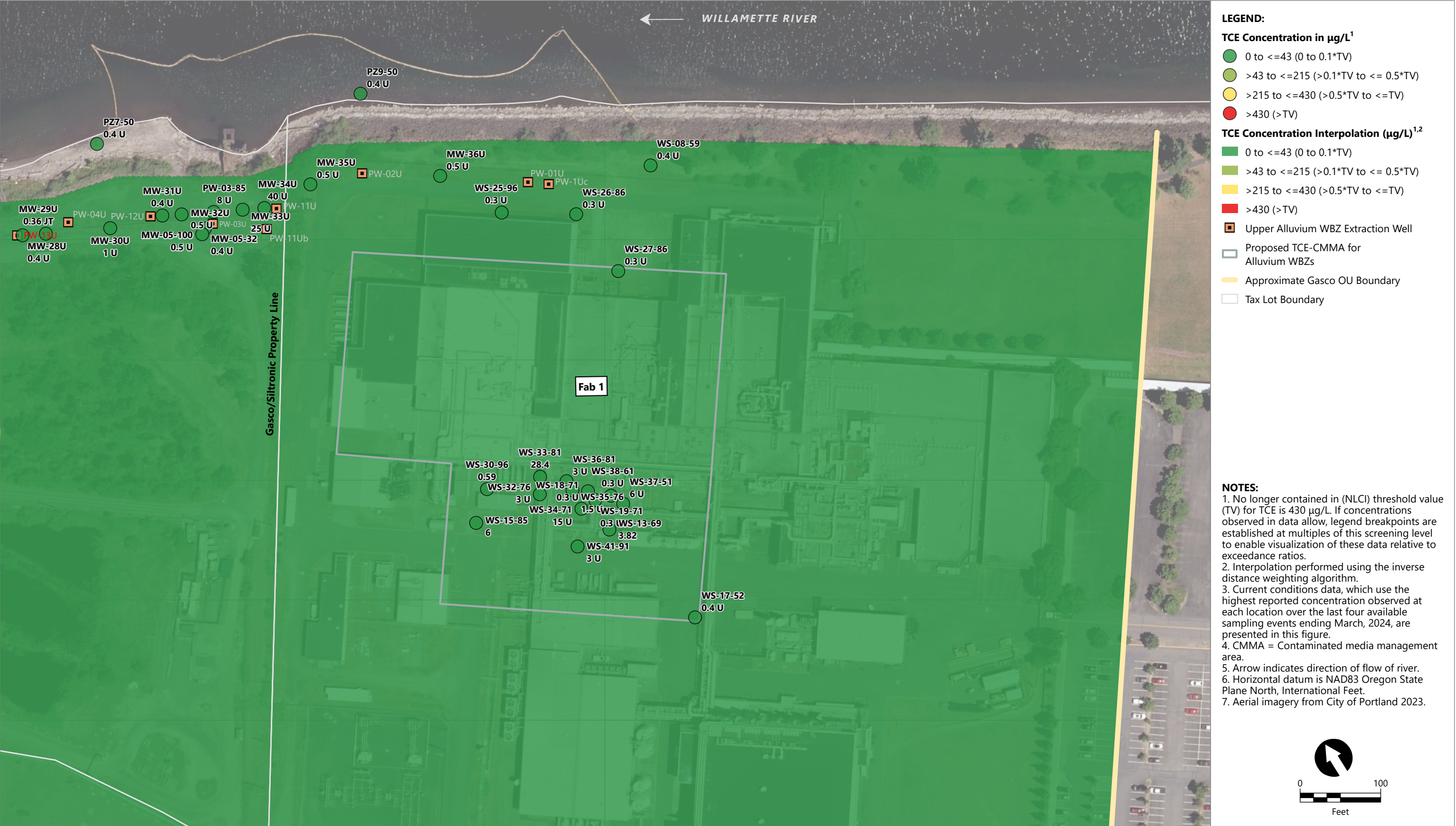
Figure 3
Current Conditions 1,1-Dichloroethene Concentrations in Lower Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater–TCE-CMMA Evaluation
Siltronic OU



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Figure 4
Current Conditions Trichloroethene Concentrations in Fill WBZ
NLCI Demonstration for Siltronic Groundwater–TCE–CMMA Evaluation
Siltronic OU



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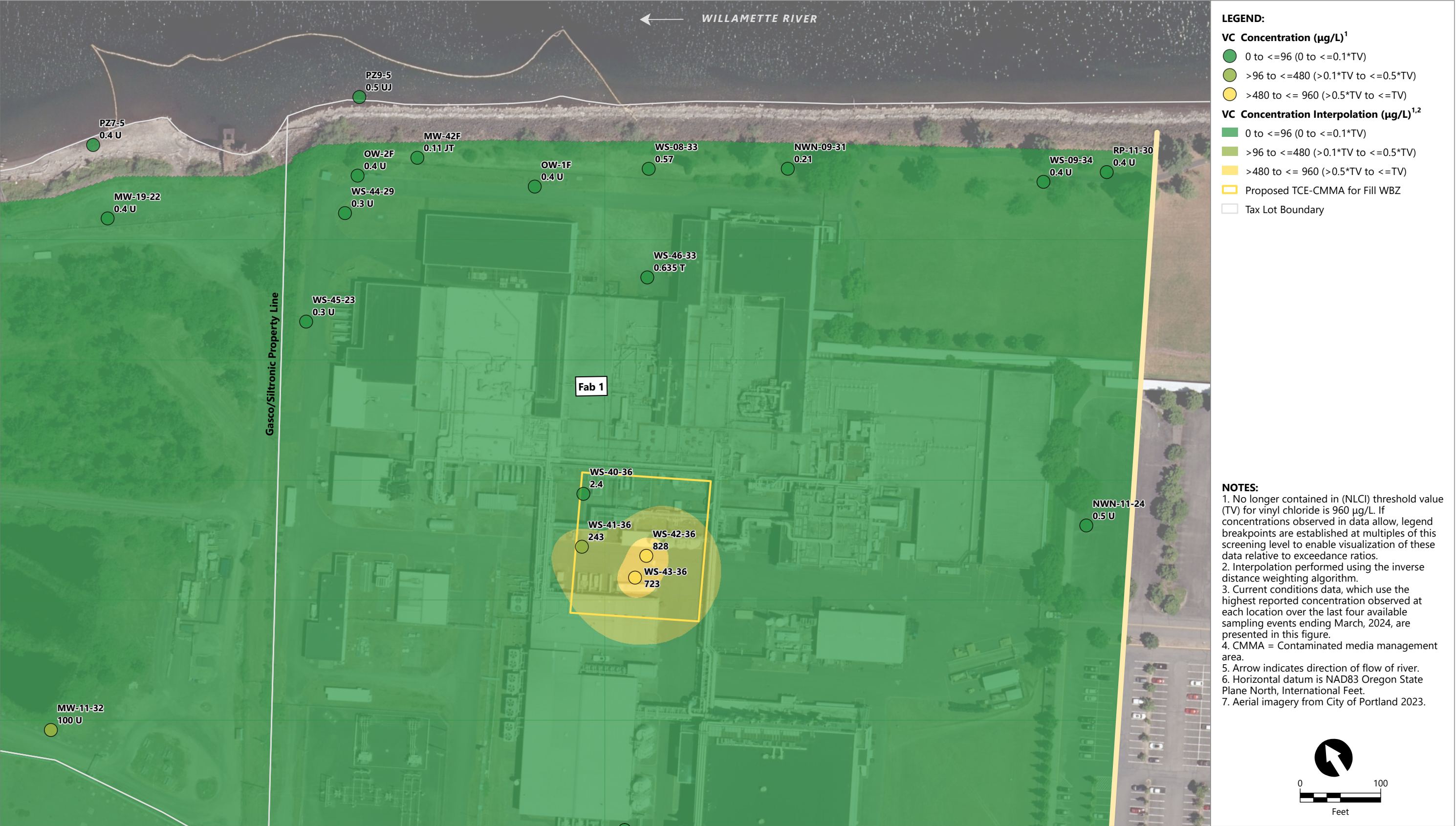
Figure 5
Current Conditions Trichloroethene Concentrations in Upper Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater-TCE-CMMA Evaluation
Siltronic OU



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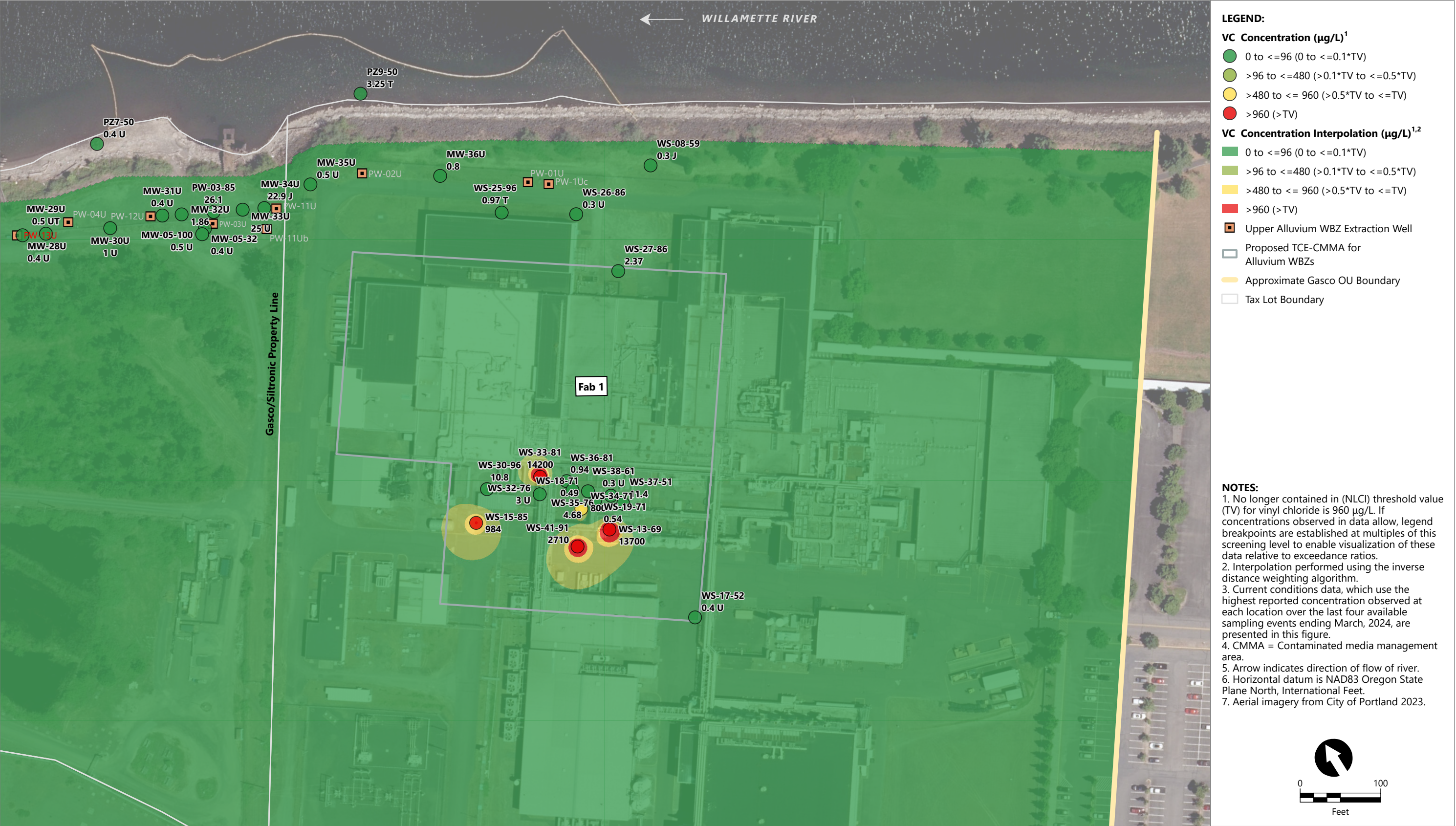
Figure 6
Current Conditions Trichloroethene Concentrations in Lower Alluvium WBZ
NLCL Demonstration for Siltronc Groundwater-TCE-CMMA Evaluation
Siltronc OU



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Figure 7
Current Conditions Vinyl Chloride Concentrations in Fill WBZ
NLCI Demonstration for Siltronic Groundwater–TCE–CMMA Evaluation
Siltronic OU



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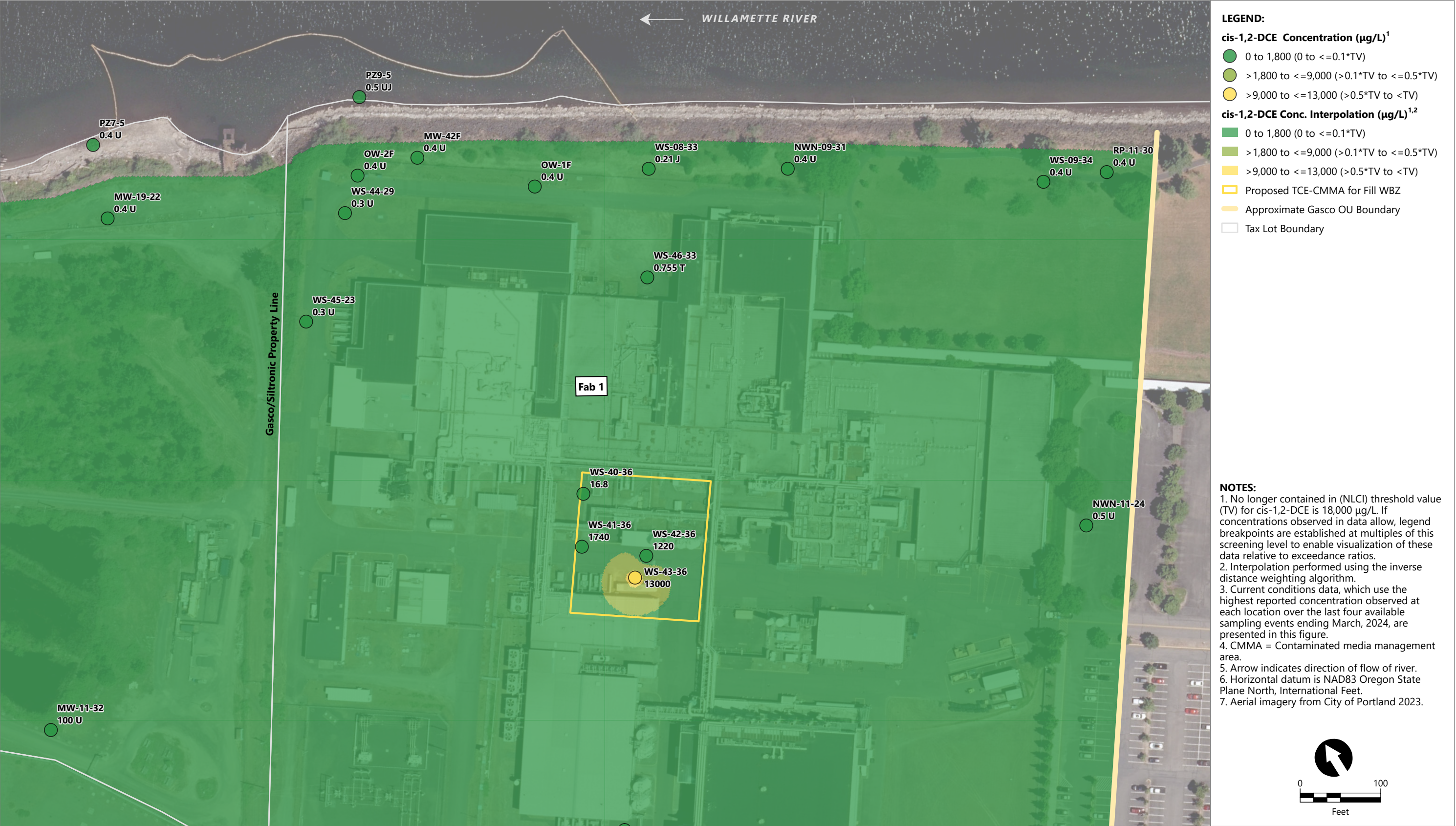
Figure 8
Current Conditions Vinyl Chloride Concentrations in Upper Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater-TCE-CMMA Evaluation
Siltronic OU



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Figure 9
Current Conditions Vinyl Chloride Concentrations in Lower Alluvium WBZ
NLCI Demonstration for Siltronc Groundwater–TCE-CMMA Evaluation
Siltronc OU



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Figure 10
Current Conditions cis-1,2-Dichloroethene Concentration in Fill WBZ
NLCI Demonstration for Siltronic Groundwater–TCE–CMMA Evaluation
Siltronic OU



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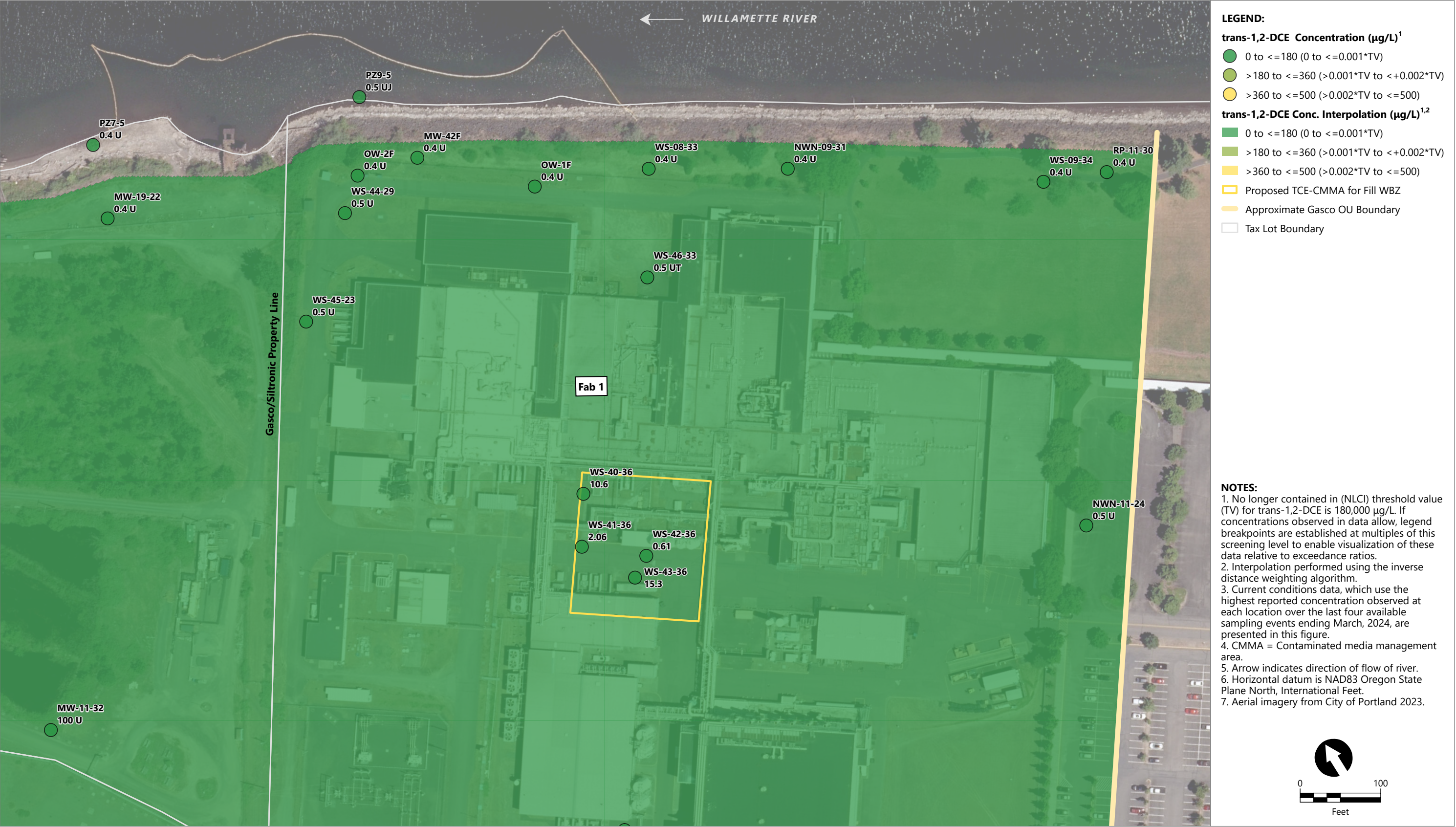
Figure 11
Current Conditions cis-1,2-Dichloroethene Concentration in Upper Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater–TCE-CMMA Evaluation
Siltronic OU



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Figure 12
Current Conditions cis-1,2-Dichloroethene Concentration in Lower Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater–TCE-CMMA Evaluation
Siltronic OU



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Figure 13
Current Conditions trans-1,2-Dichloroethene Concentration in Fill WBZ
NLCI Demonstration for Siltronic Groundwater–TCE–CMMA Evaluation
Siltronic OU



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Figure 14
Current Conditions trans-1,2-Dichloroethene Concentration in Upper Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater-TCE-CMMA Evaluation
Siltronic OU



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Figure 15
Current Conditions trans-1,2-Dichloroethene Concentration in Lower Alluvium WBZ
NLCI Demonstration for Siltronic Groundwater–TCE-CMMA Evaluation
Siltronic OU