



**Former Fort Ord
Monterey County
California**

Groundwater Cleanup Update
February 2023

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Ahtna

Fort Ord Groundwater: Definitions

ACL – Aquifer Cleanup Level, the cleanup goal for a COC in groundwater.

Aquifer – a body of rock or soil that is sufficiently permeable for groundwater to flow and serve as a water source.

Aquitard – a body of less permeable rock or soil between aquifers that retards the flow of water between the aquifers.

COC – chemical of concern.

CT – carbon tetrachloride, primary COC at OUCTP.

Groundwater – all water under the ground, not water on the surface (rivers, lakes, etc.).

Groundwater Divide – a boundary between groundwater basins; groundwater flows away from a groundwater divide.

MNA – monitored natural attenuation.

OU – Operable Unit, discrete portion of remedial response that manages migration, or eliminates or mitigates a pathway of exposure.

PCE – tetrachloroethene, primary COC at Sites 2/12.

Plume – area of aquifer or unsaturated zone in which COCs are present at concentrations greater than cleanup levels.

SGCL – Soil Gas Cleanup Level, the cleanup goal for a COC in soil gas.

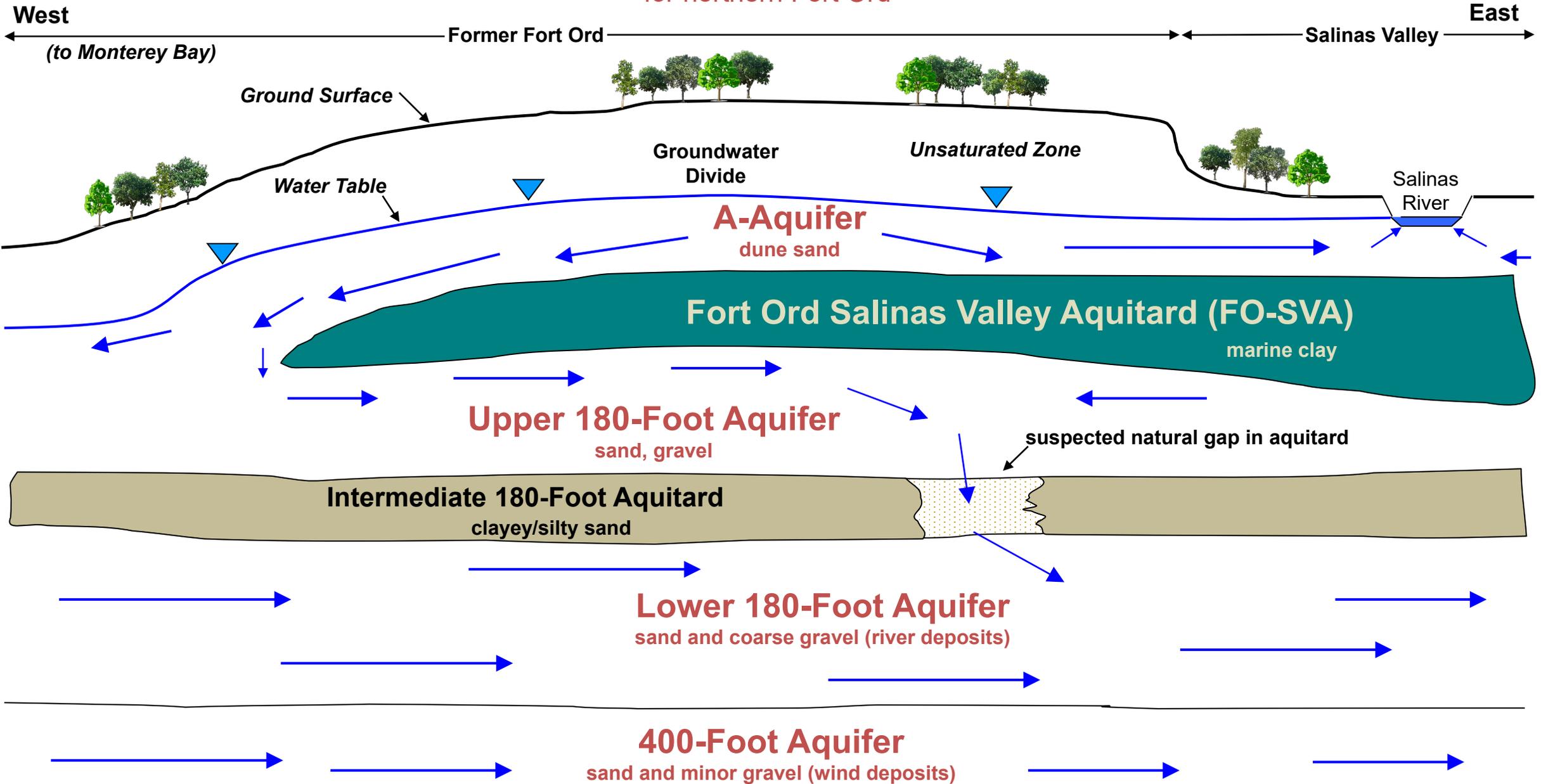
TCE – trichloroethene, primary COC at OU2.

Unsaturated Zone – the portion of the subsurface above the water table.

Water Table – depth below ground surface at which groundwater is found (at the top of the saturated zone). ▼

Interpretive Geologic Cross Section

for northern Fort Ord

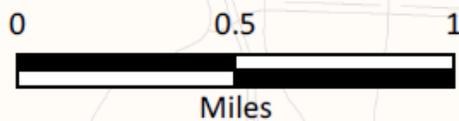


Current and Historical Plume Extents



Monterey Bay

City of Marina



EXPLANATION

September 2022 Plume Extent "Current"

- OU2 TCE A-Aquifer
- OU2 TCE Upper 180-Foot Aquifer
- OUCTP CT A-Aquifer
- OUCTP CT Upper 180-Foot Aquifer
- OUCTP CT Lower 180/400-Foot Aquifers
- Site 12 PCE Upper 180-Foot Unconfined Aquifer
- TCE Lower 180-Foot Aquifer

Maximum Historical Plume Extent "Before"

- OU1 A-Aquifer (TCE)
- OU2 A-Aquifer (TCE)
- OU2-Upper 180-Foot Aquifer (TCE)
- OUCTP A-Aquifer (CT)
- OUCTP Upper-180-Foot Aquifer (CT)
- OUCTP Lower 180/400-Foot Aquifers (CT)
- Sites 212 Unconfined Upper 180-Foot Aquifer (PCE)
- Sites 212 Unconfined Upper 180-Foot Aquifer (TCE)
- TCE Lower 180-Foot Aquifer

Aquifer Cleanup Levels (ACLs)
 Trichloroethene (TCE) = 5 µg/L (micrograms per liter)
 Carbon Tetrachloride (CT) = 0.5 µg/L
 Tetrachlorethene (PCE) for OUCTP and Sites 2/12 = 5 µg/L
 Tetrachlorethene (PCE) for OU2 = 3 µg/L
 OU1 cleanup is complete.

Sites 2/12 PCE
Upper Unconfined
180-Foot Aquifer

2ND AVE

Sites 2/12 TCE
Upper Unconfined
180-Foot Aquifer

OU2 TCE
A Aquifer

IMJIN PKWY

OU2 TCE
Upper 180-Foot
Aquifer

INTER-GARRISON RD

OU1 TCE
A Aquifer

RESERVATION RD

OUCTP CT
A Aquifer

CALIFORNIA AVE

OUCTP CT
Upper 180-Foot
Aquifer

OUCTP CT
Lower 180/400-Foot
Aquifers

ABRAMS DR

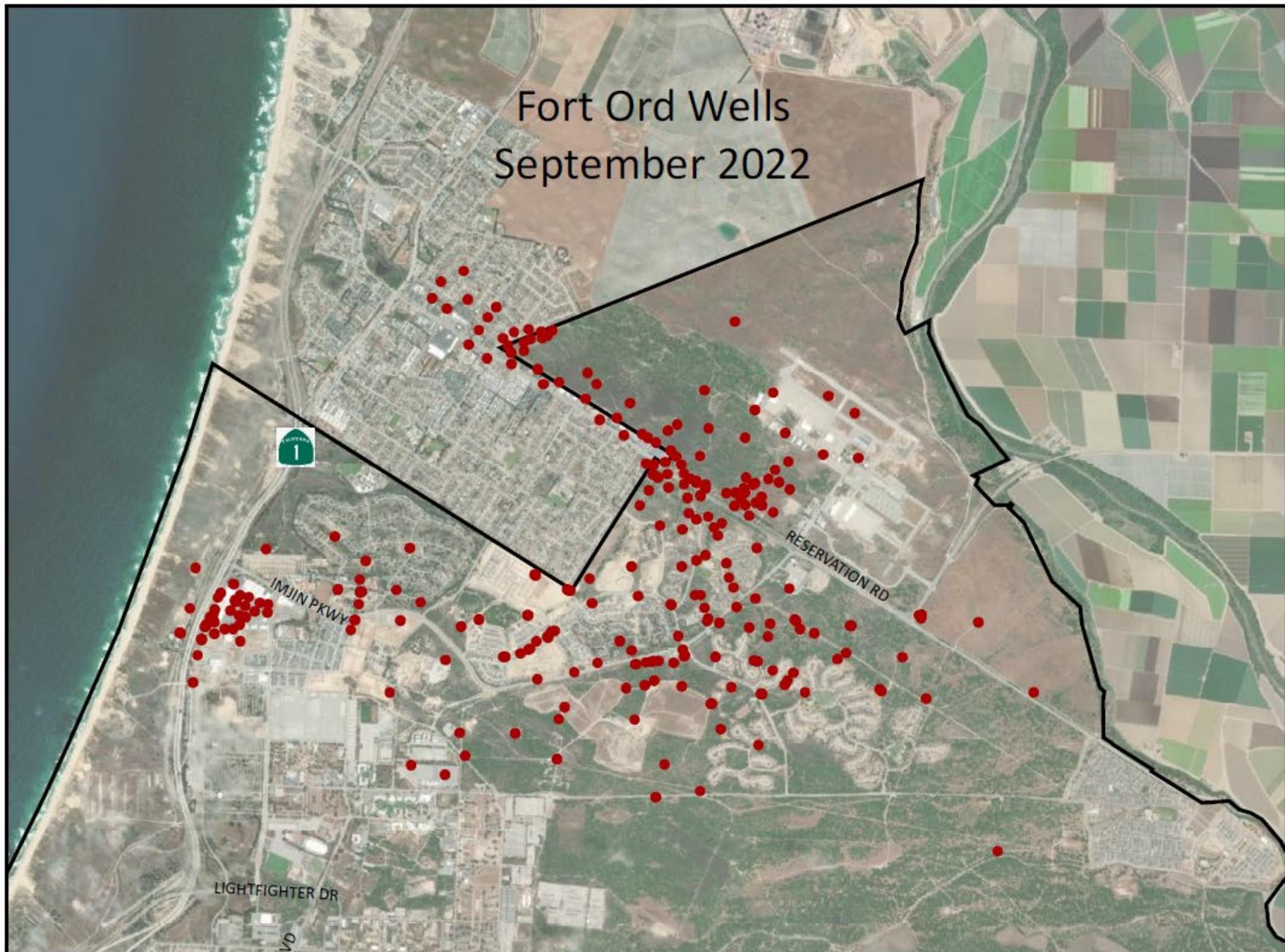
TCE
Lower 180-Foot Aquifer



Date: 1/11/2023

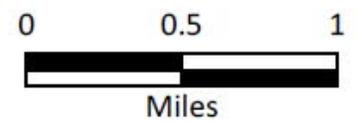


Fort Ord Wells September 2022



EXPLANATION

- Groundwater Monitoring Wells
- ⊕ Former Fort Ord Boundary

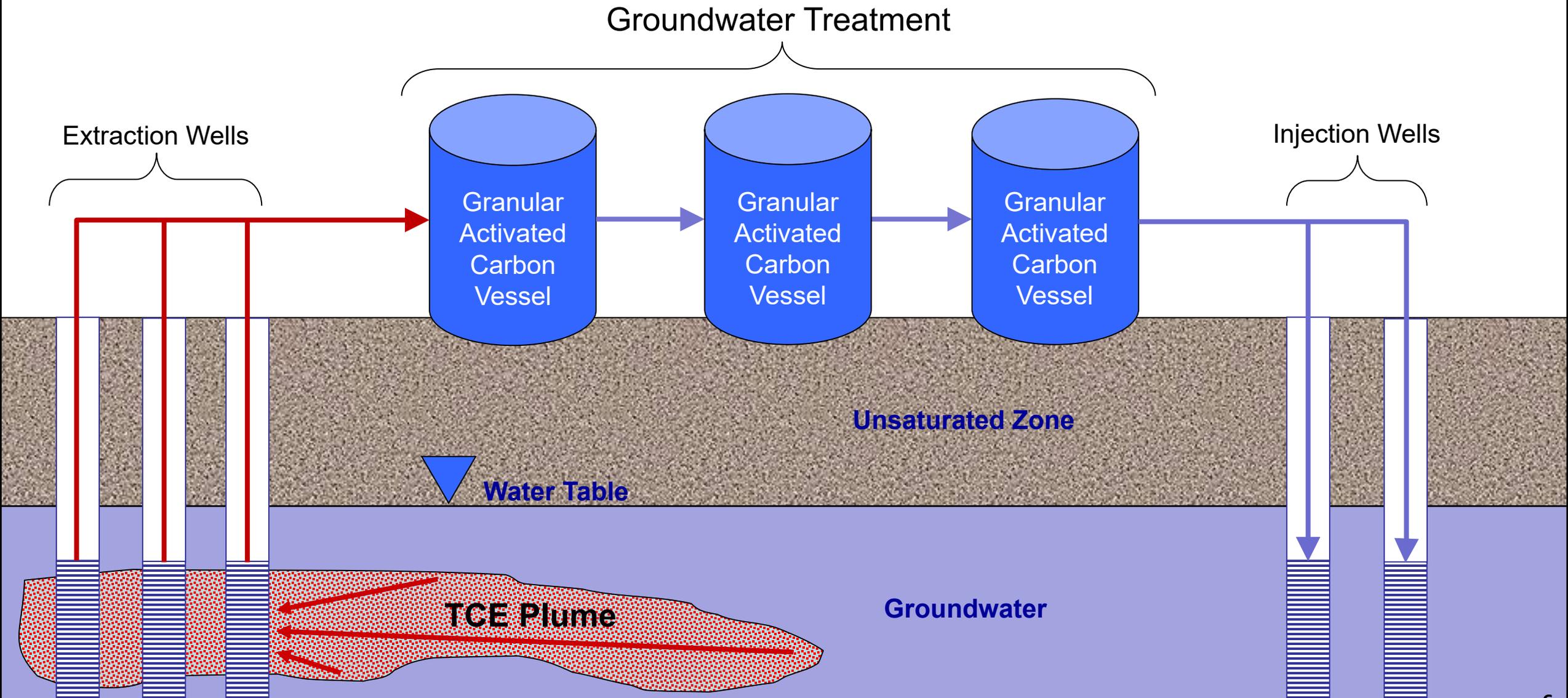


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Date: 1/11/2023



Groundwater Extraction and Treatment Systems Schematic



Groundwater Extraction and Treatment System Status

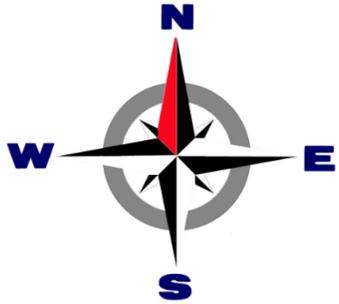
as of December 31, 2022

	OU2/OUCTP*	Sites 2/12
Treatment started	October 1995	April 1999
Gallons treated	9.314 billion	2.310 billion
Pounds of contaminants removed	956	496
Gallons of contaminants removed	76	39
Aquifers treated	A-Aquifer Upper 180-Foot Aquifer	Upper 180-Foot Aquifer

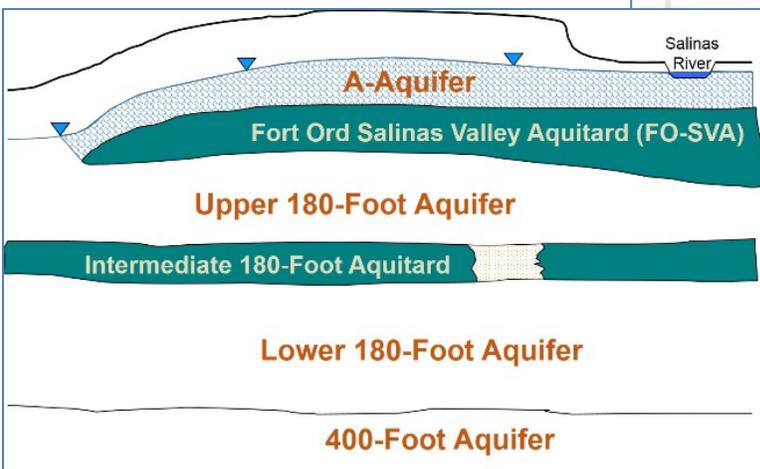
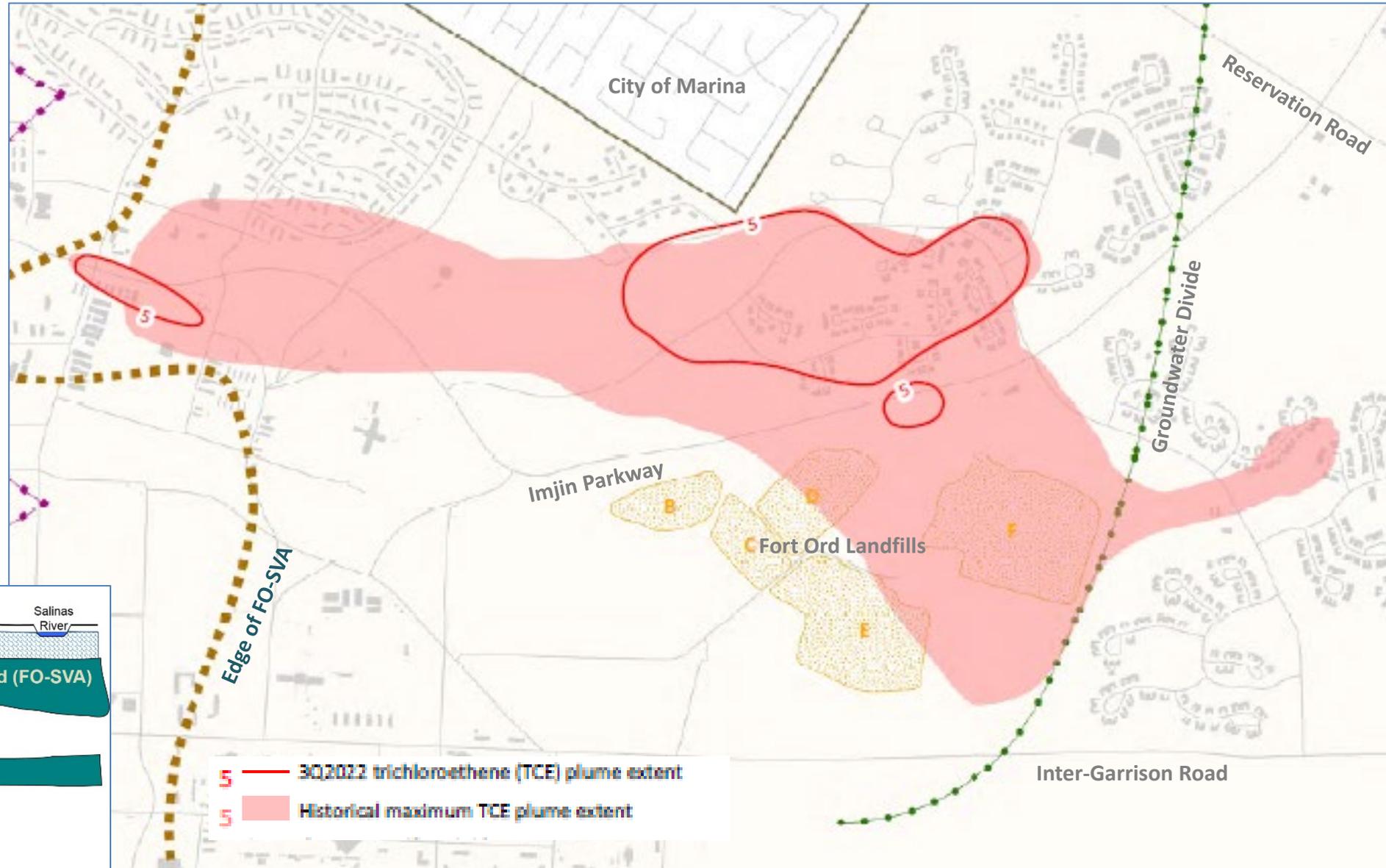
*The OUCTP remedy for the Upper 180-Foot Aquifer is connected to the OU2 groundwater treatment plant.

OU2 A-Aquifer

TCE at or above ACL (5 µg/L)

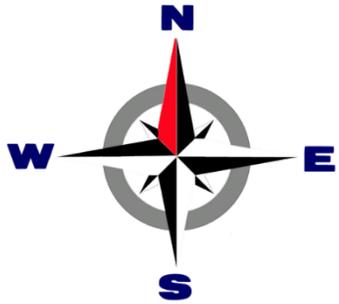


Remedy: Groundwater Extraction and Treatment

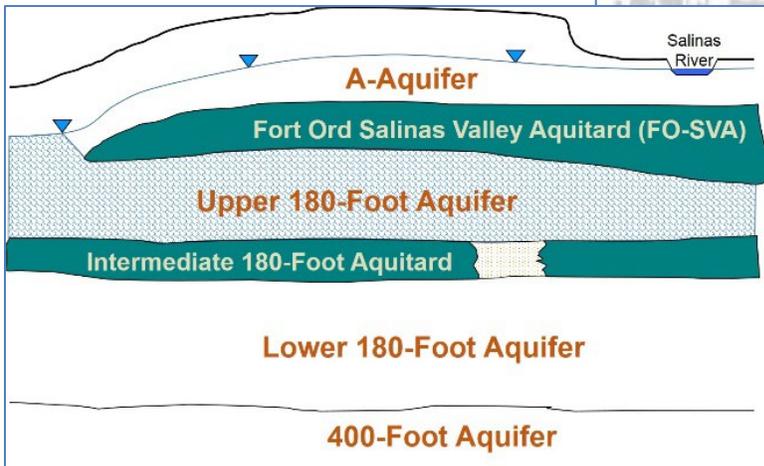
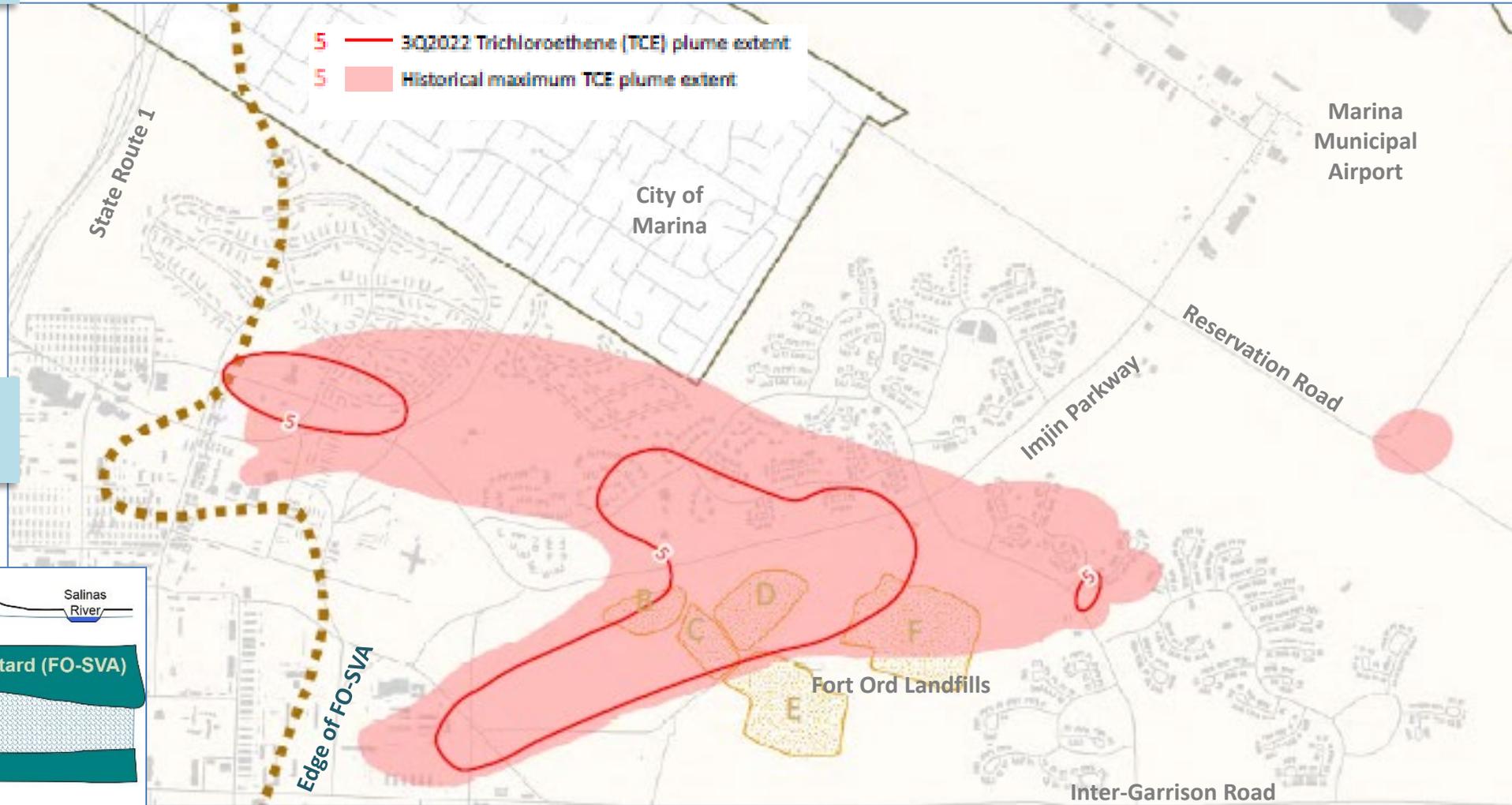


OU2 Upper 180-Foot Aquifer

TCE at or above ACL (5 µg/L)



Remedy: Groundwater Extraction and Treatment



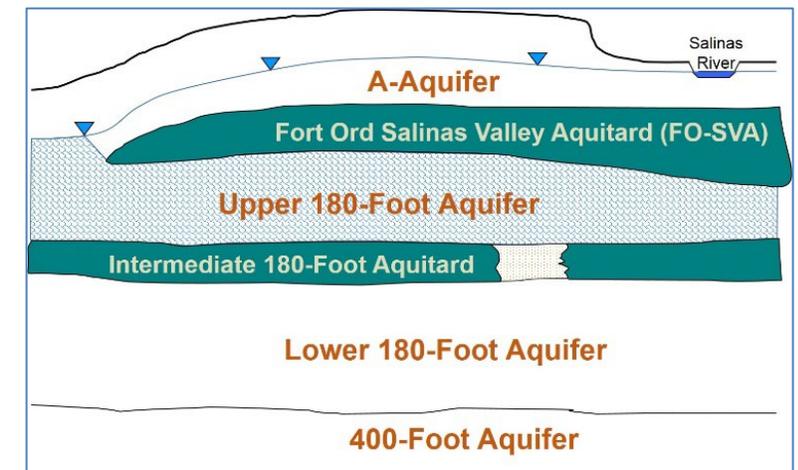
Sites 2 and 12 Upper 180-Foot Aquifer



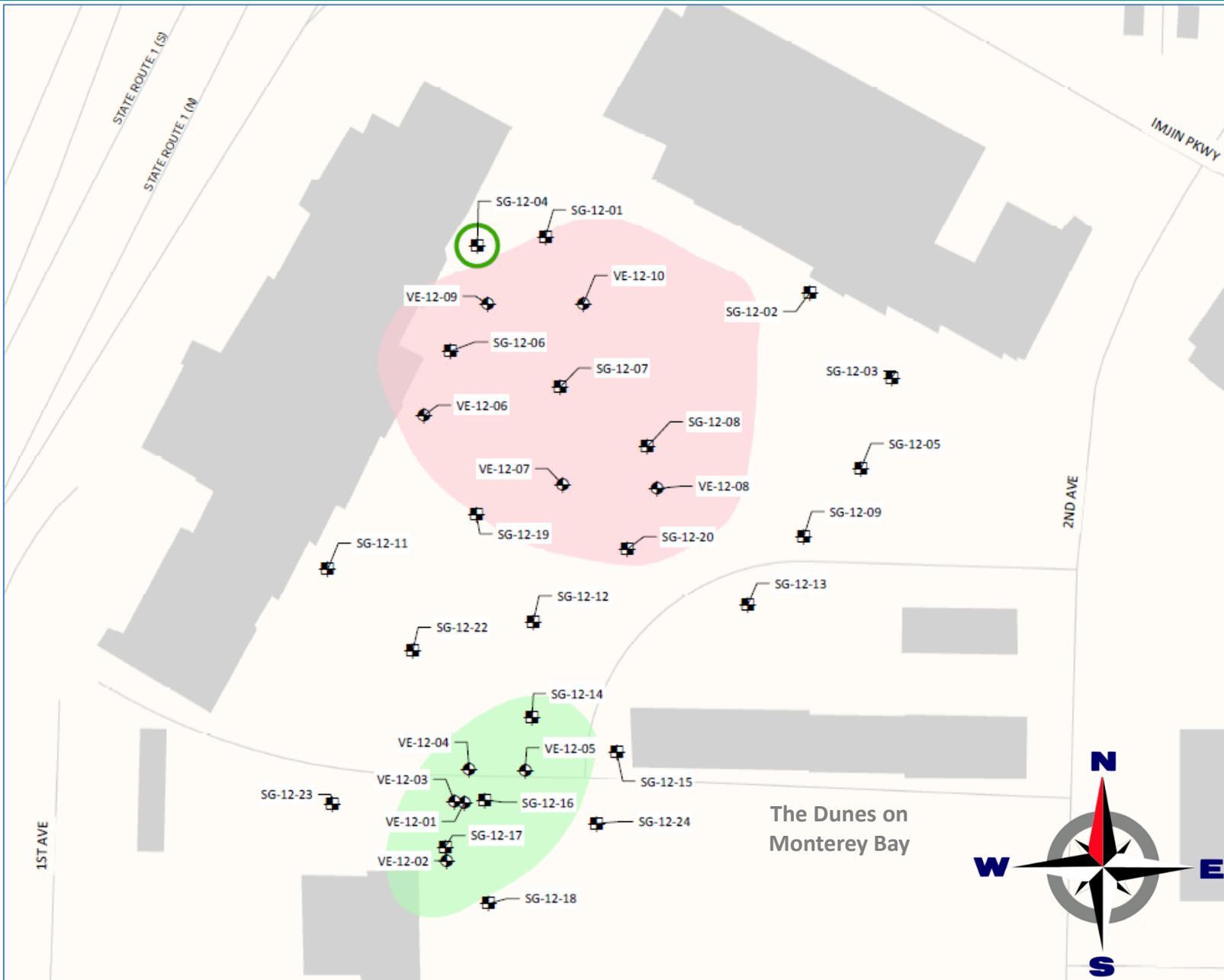
Chemicals of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in $\mu\text{g/L}$.

- 5  3Q2022 tetrachloroethene (PCE) plume extent
- 5  Historical maximum PCE plume extent (2011)
- 5  Historical maximum trichloroethene (TCE) plume extent (2000)

Remedy: Groundwater Extraction and Treatment



Sites 2 and 12 Unsaturated Zone



Site 12: Soil gas probe cluster

Site 12: Soil vapor extraction well

Chemical of concern (COC) Soil Gas Cleanup Level (SGCL) exceedance Contour in $\mu\text{g}/\text{m}^3$.

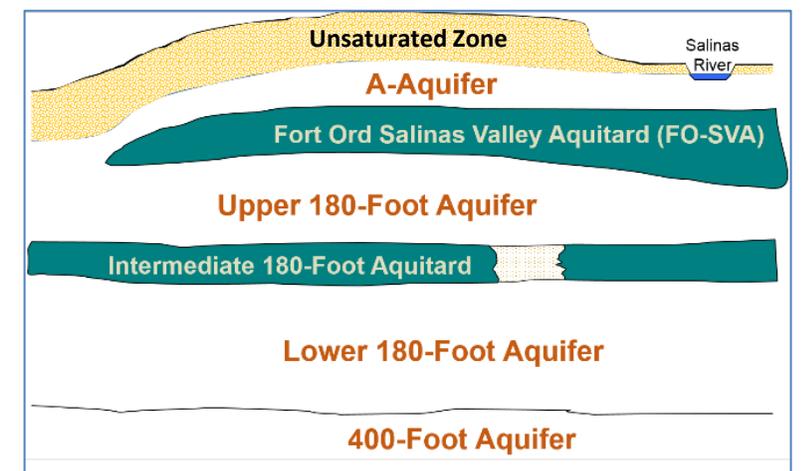
1,800 3Q2022 tetrachloroethene (PCE) plume
no current plume

1,000 3Q2022 trichloroethene (TCE) plume

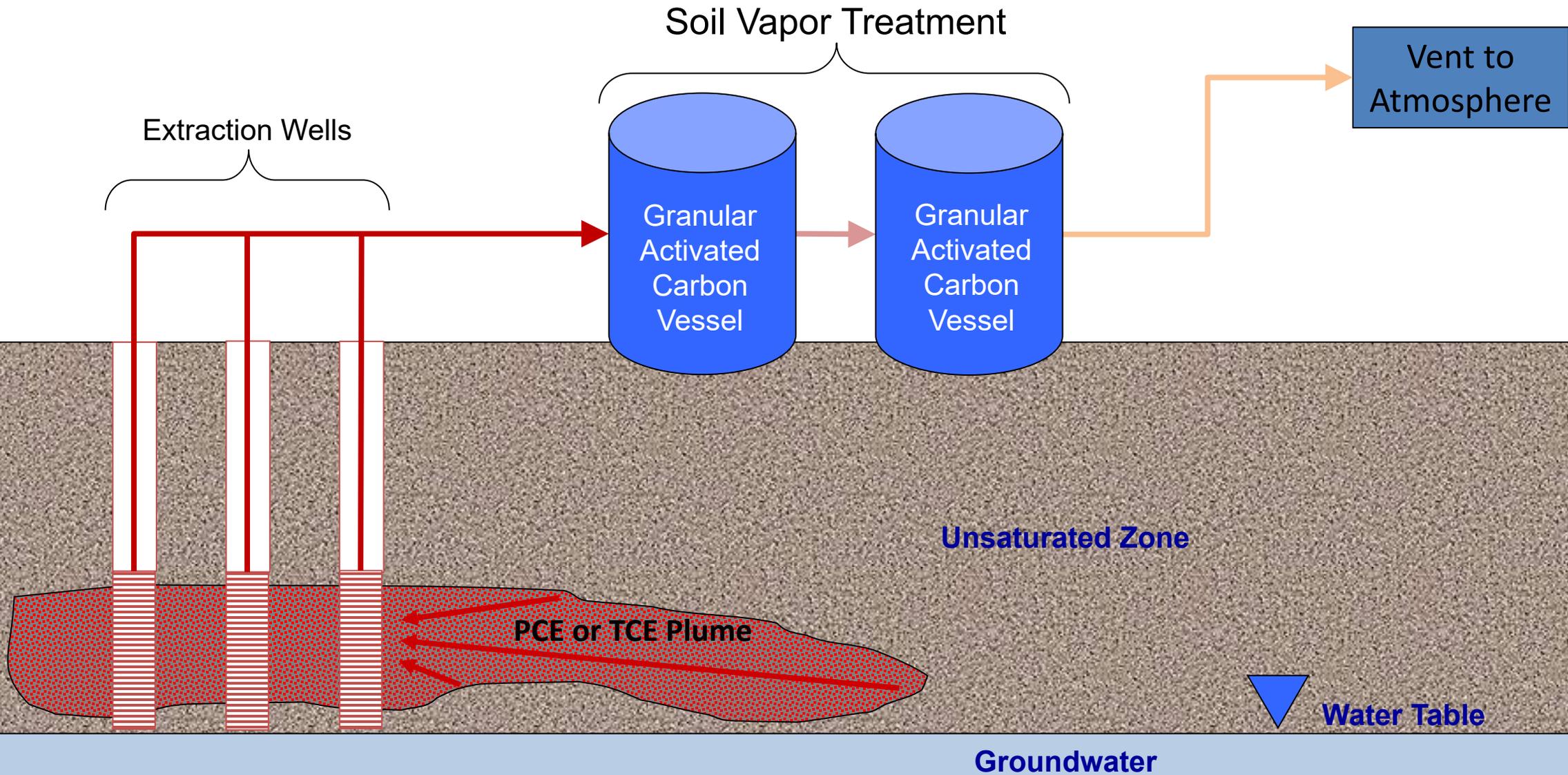
PCE above SGCL (June 2014)

TCE above SGCL (June 2014)

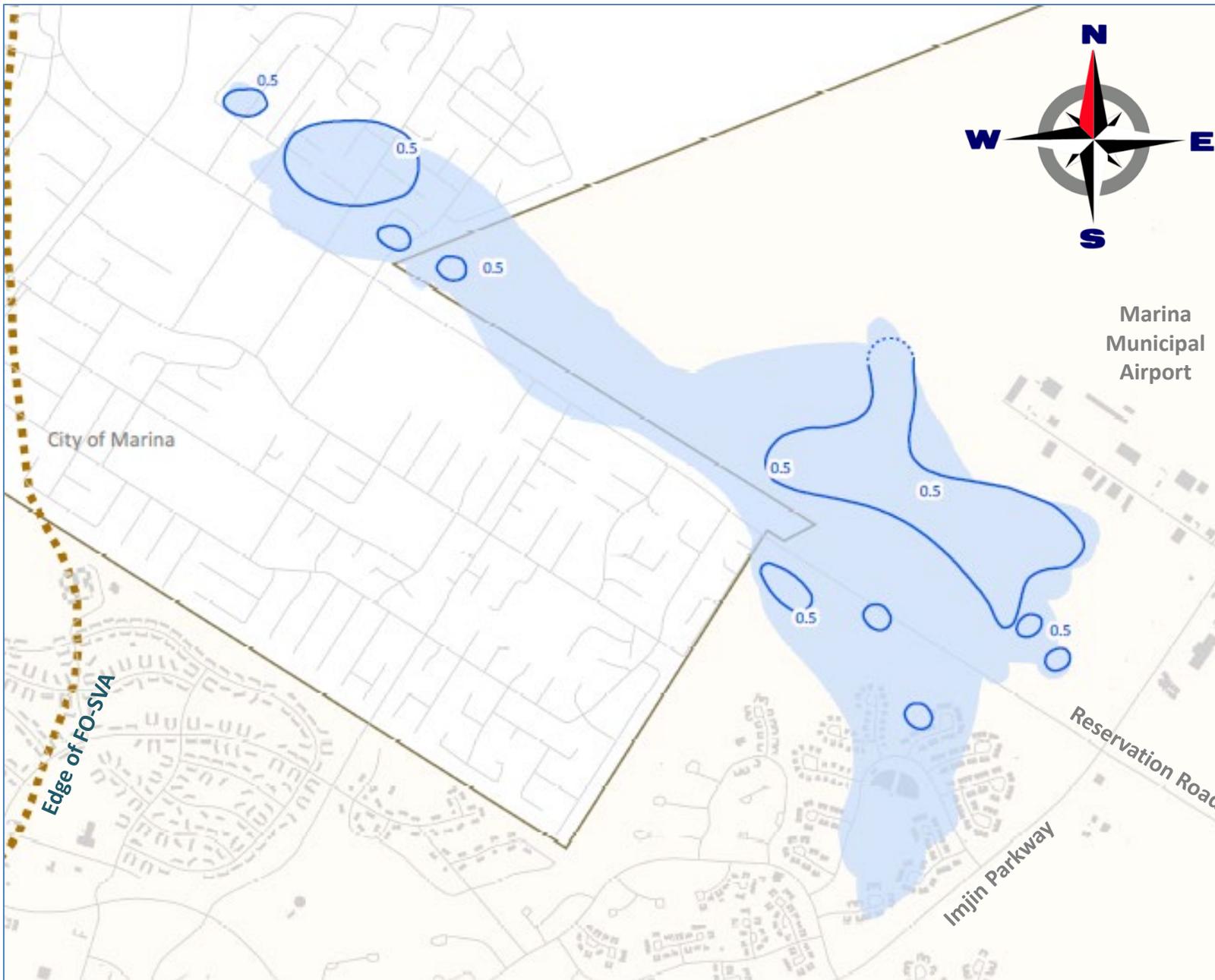
Remedy: Soil Vapor Extraction and Treatment



Soil Vapor Extraction and Treatment System Schematic



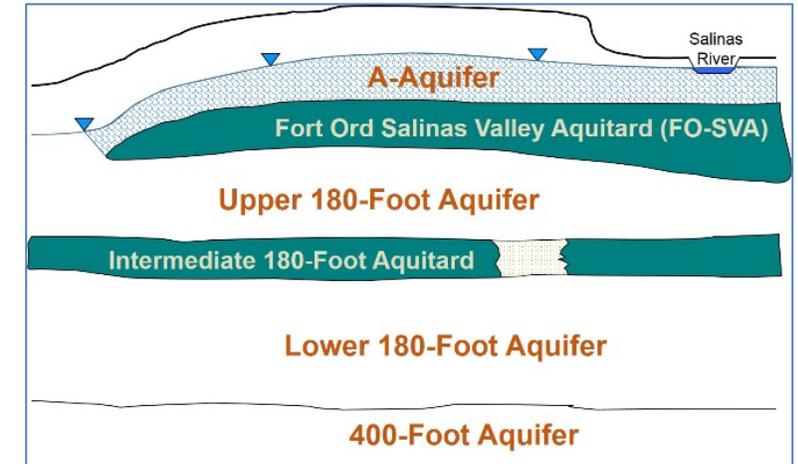
OUCTP A-Aquifer



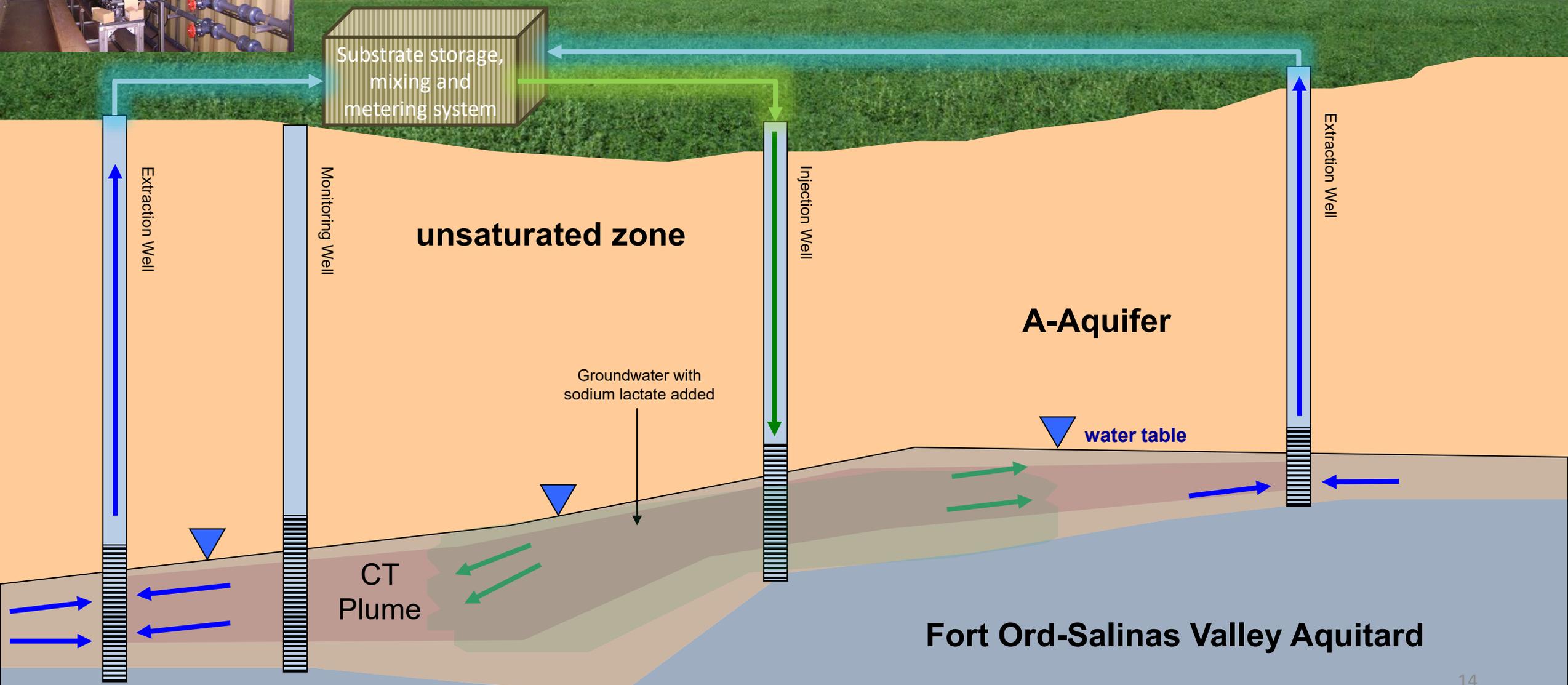
Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in $\mu\text{g/L}$.

- 0.5 — 3Q2022 Carbon tetrachloride (CT) plume extent
- 0.5 ····· 3Q2022 estimated CT plume extent
- 0.5 ■■■■ Historical maximum CT plume extent

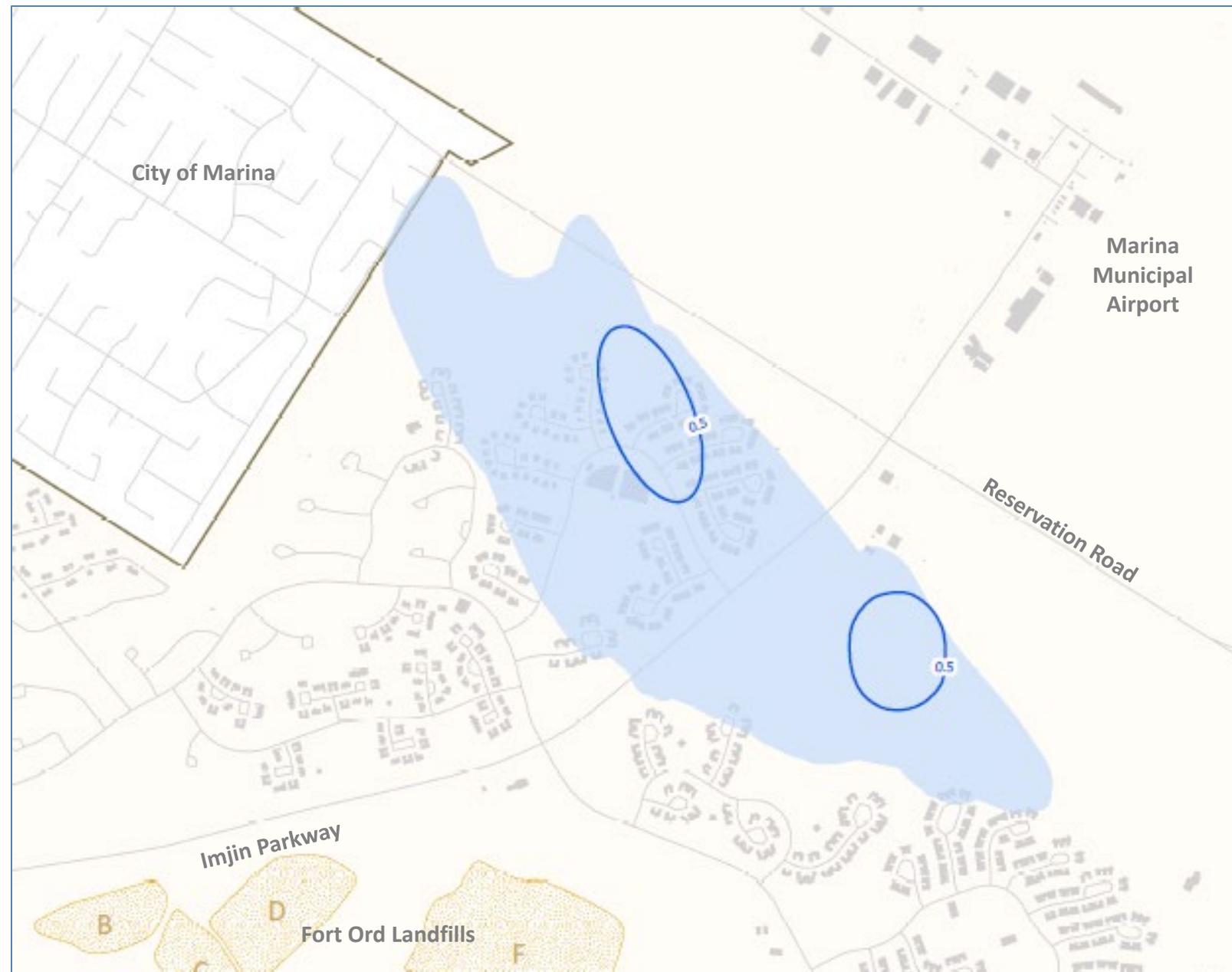
Remedy: Enhanced *In Situ* Bioremediation (EISB)



Enhanced *In Situ* Bioremediation System Schematic



OUCTP Upper 180-Foot Aquifer



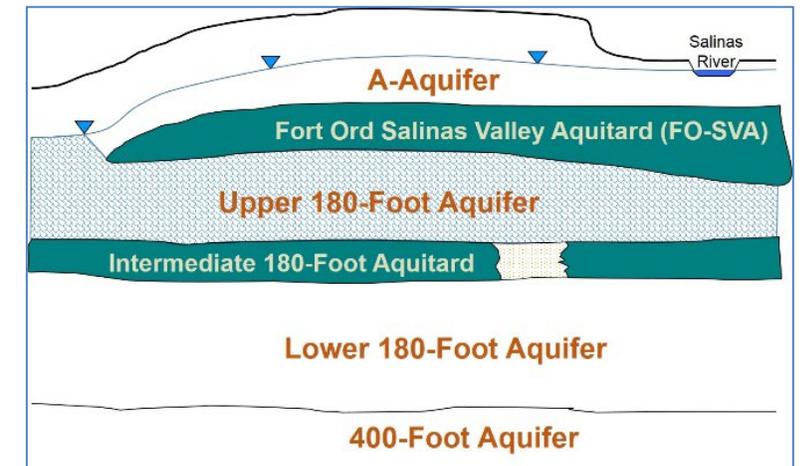
Chemical of Concern (COC) Aquifer Cleanup Level (ACL) exceedance contours in $\mu\text{g/L}$.

0.5 — 3Q2022 Carbon tetrachloride (CT) plume extent

0.5 ■ Historical maximum CT plume extent



Remedy: Groundwater Extraction and Treatment



OUCTP Lower 180-Foot Aquifer

Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in $\mu\text{g/L}$.

0.5  3Q2022 Carbon tetrachloride (CT) plume extent

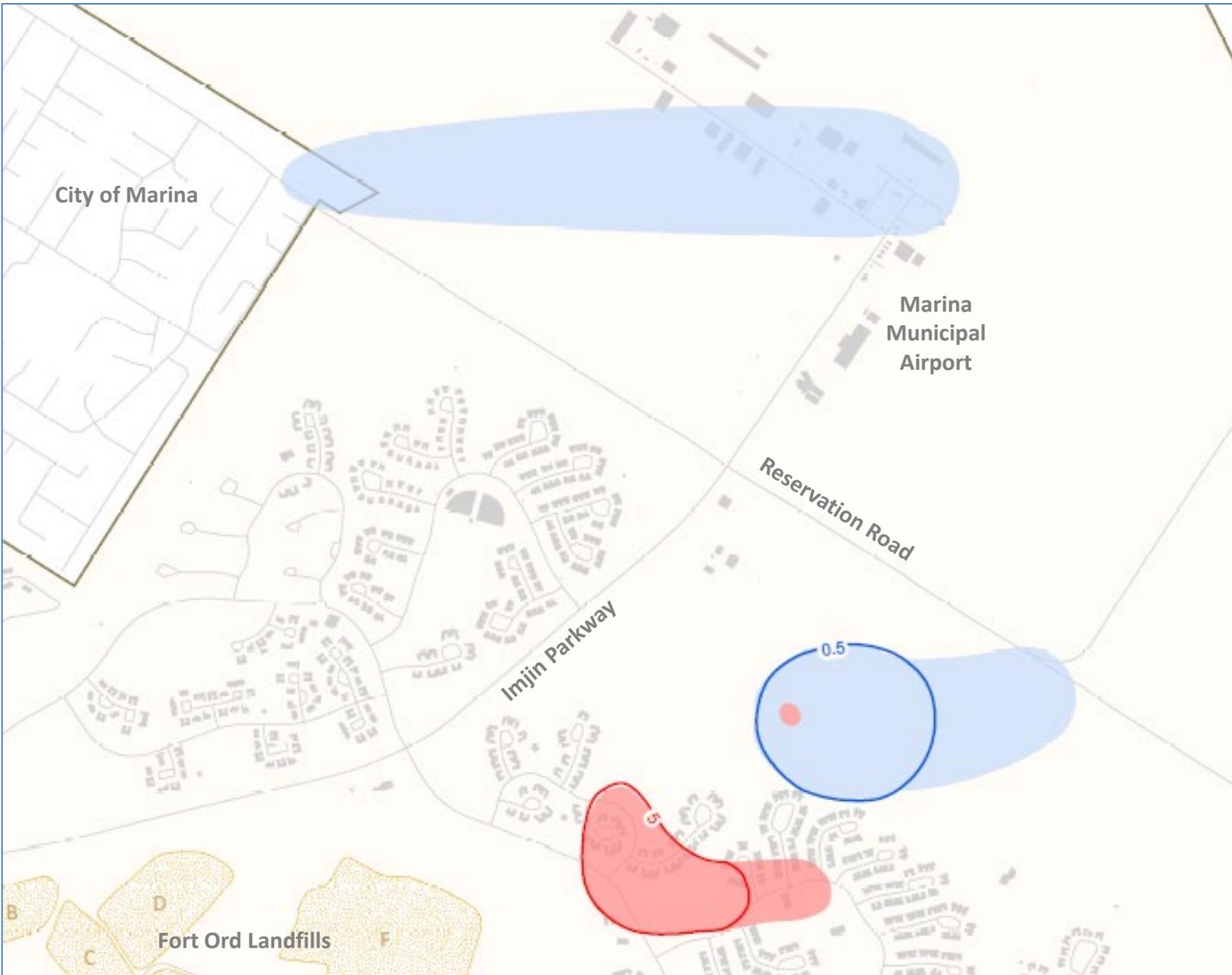
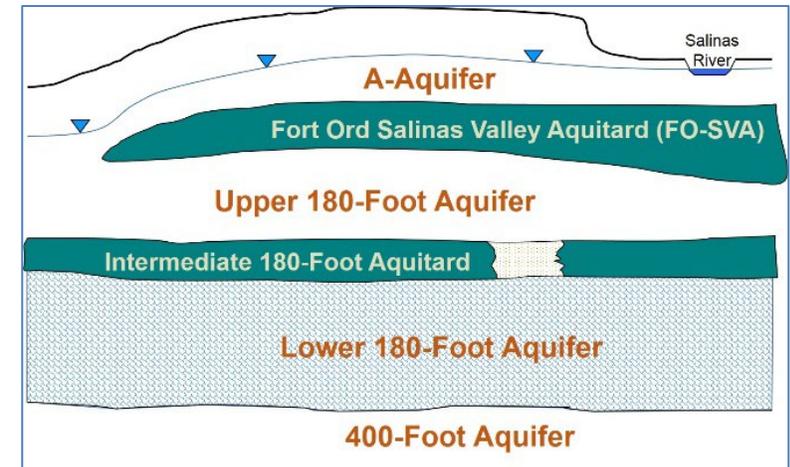
5.0  3Q2022 Trichloroethane (TCE) plume extent

0.5  Historical maximum CT plume extent

5.0  Historical maximum TCE plume extent



Remedy: Monitored Natural Attenuation



For Additional Information

Visit the Army's website at:
www.fortordcleanup.com

Visit the Fort Ord Administrative Record at:
Building 4463 Gigling Road, Room 101
Ord Military Community
Seaside CA 93955
(831) 393-9693
adminrecord@fortordcleanup.com

Visit the MCWD website at:

www.mcwd.org

2021 Consumer Confidence Report is available at:

https://www.mcwd.org/docs/ccr/2021/mcwd_ccr_2021_english.pdf

