



# **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.

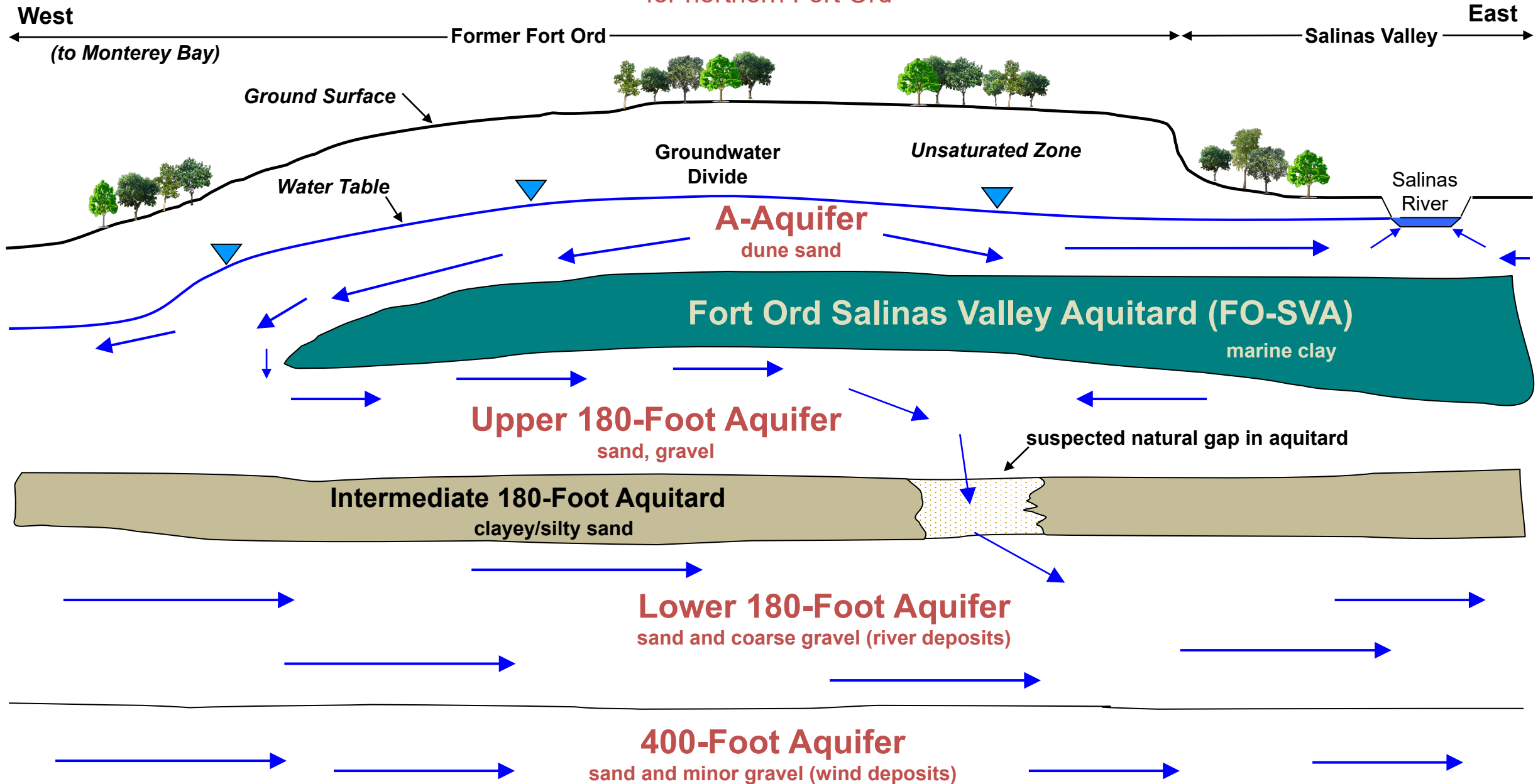
**TCE** – trichloroethene, primary COC at OU2.

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

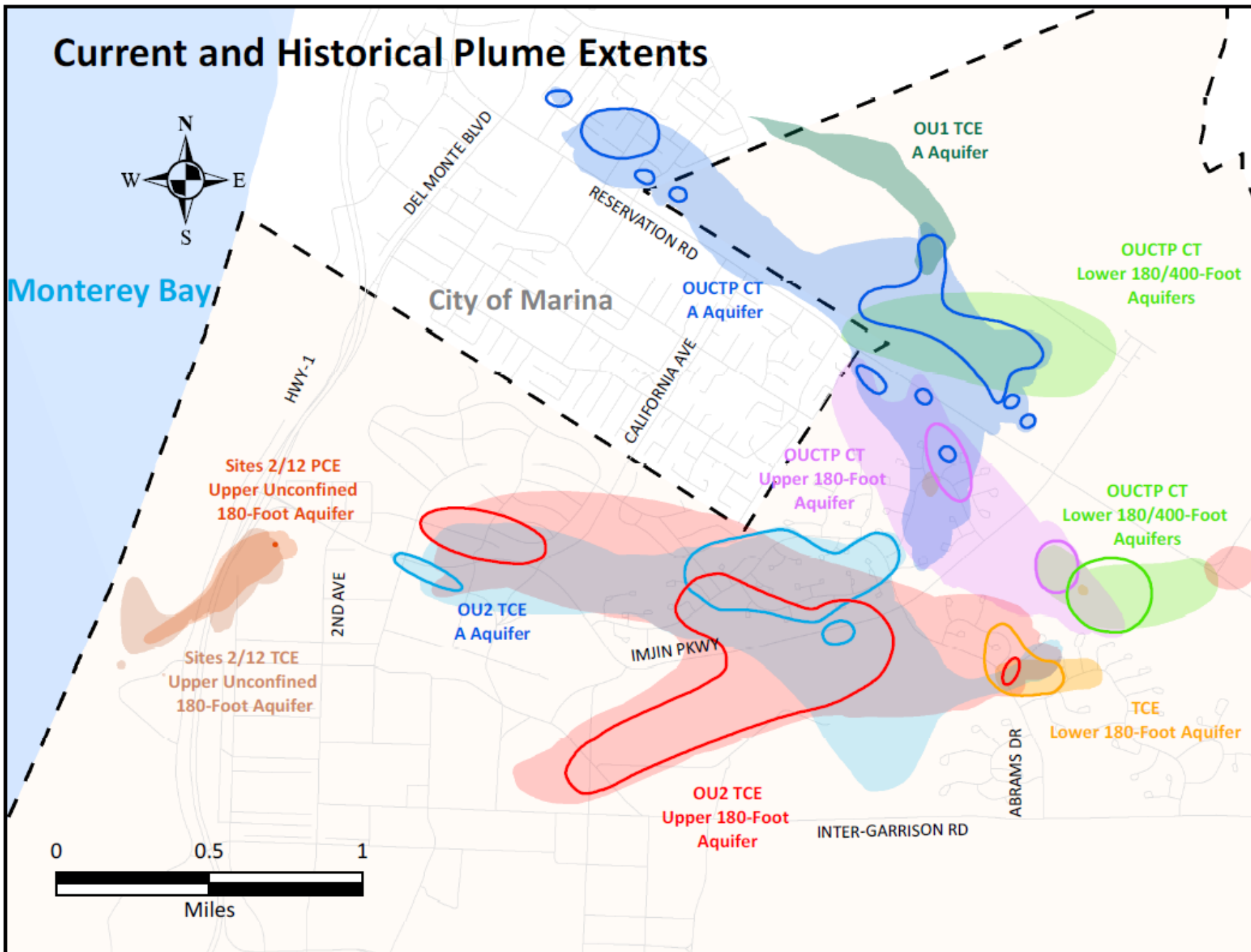
**Water Table** – depth below ground surface at which groundwater is found (at the top of the saturated zone).▼

# Interpretive Geologic Cross Section

for northern Fort Ord



# Current and Historical Plume Extents



## 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.

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Date: 1/11/2023

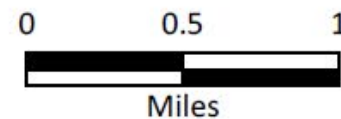




# Fort Ord Wells September 2022

## EXPLANATION

- Groundwater Monitoring Wells
- ⊞ Former Fort Ord Boundary

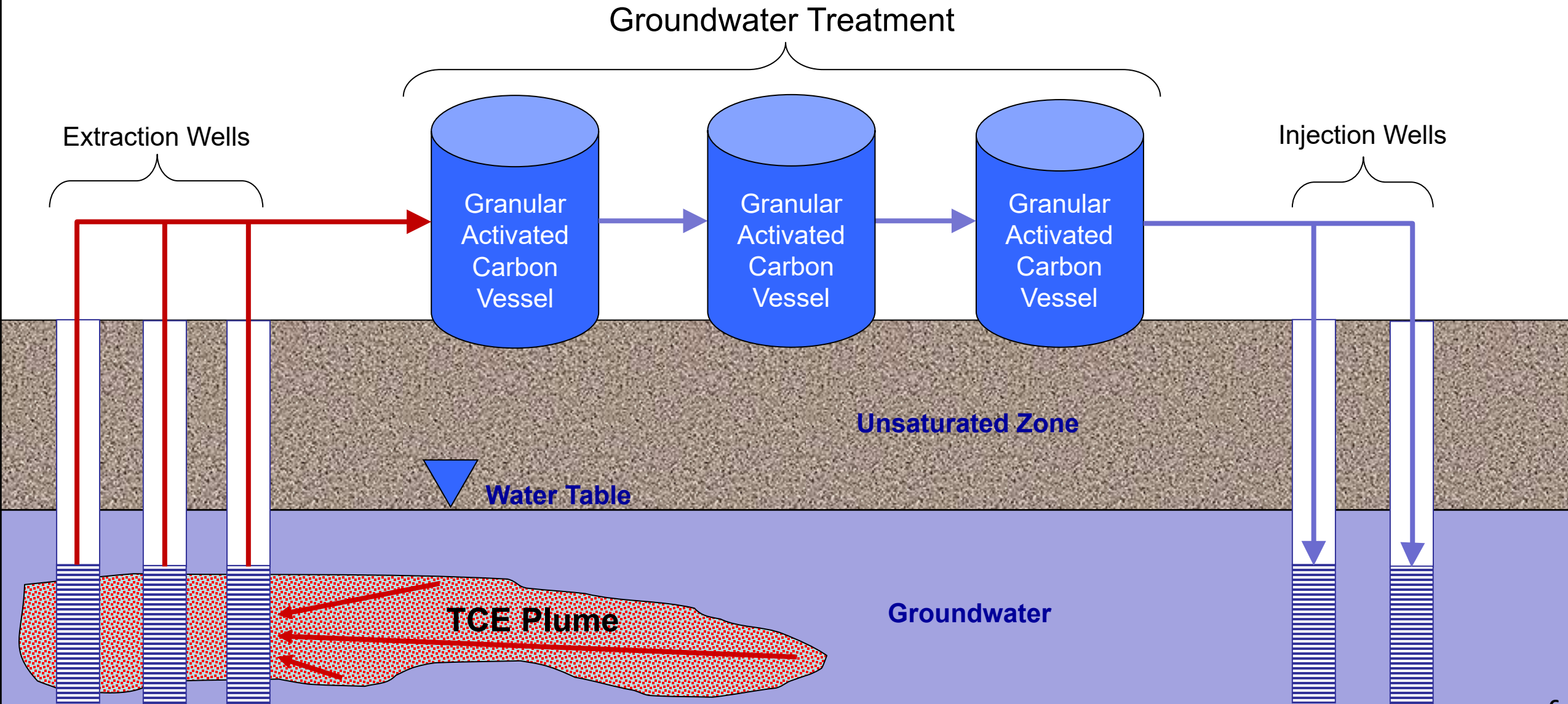


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Date: 1/11/2023



# Groundwater Extraction and Treatment Systems Schematic





# Groundwater Extraction and Treatment System Status

as of December 31, 2022

	<b>OU2/OUCTP*</b>	<b>Sites 2/12</b>
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

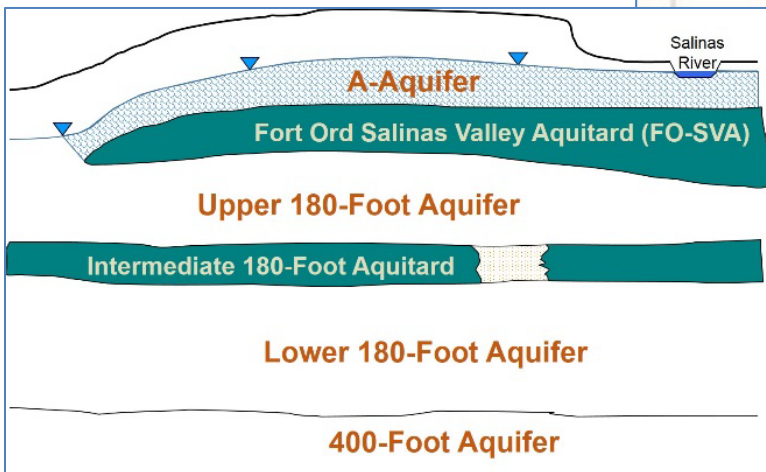
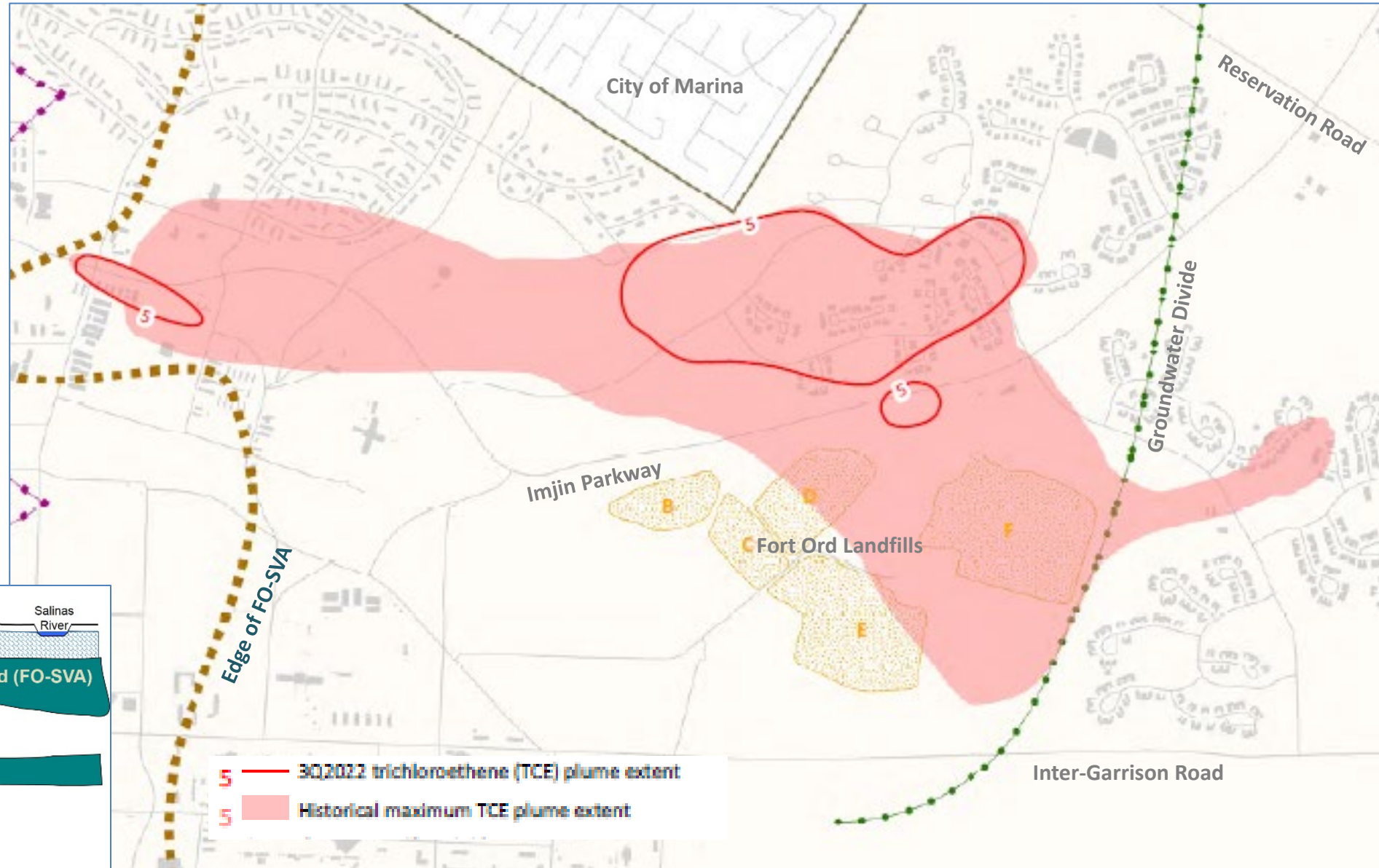
\*The OUCTP remedy for the Upper 180-Foot Aquifer is connected to the OU2 groundwater treatment plant.

# OU2 A-Aquifer

TCE at or above ACL ( $5 \mu\text{g/L}$ )



Remedy: Groundwater Extraction and Treatment



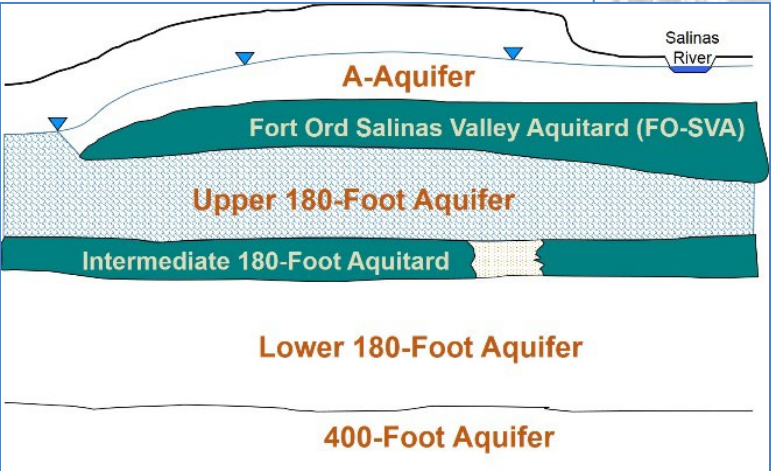
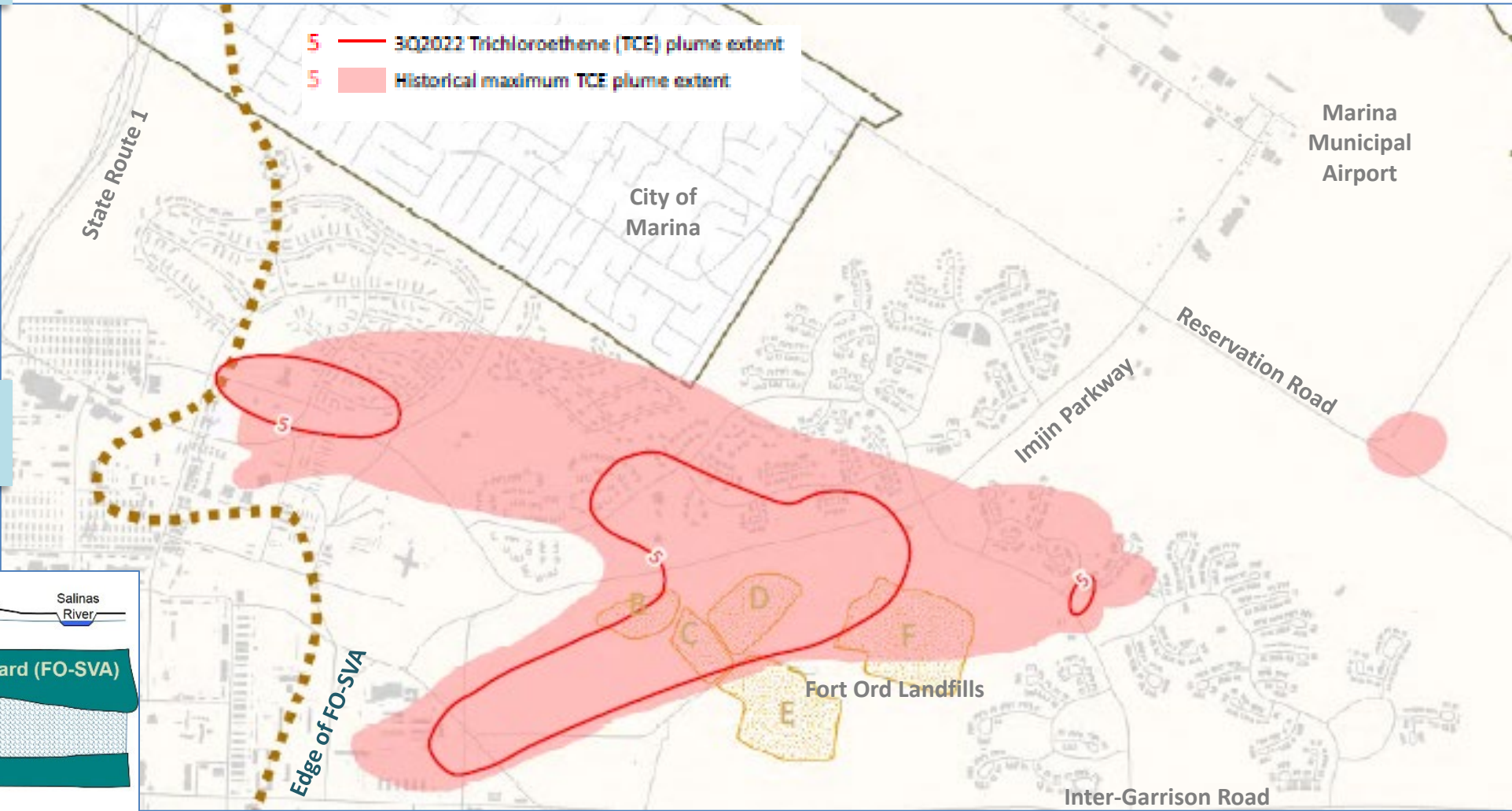


# OU2 Upper 180-Foot Aquifer

TCE at or above ACL (5  $\mu\text{g/L}$ )






Remedy: Groundwater  
Extraction and Treatment



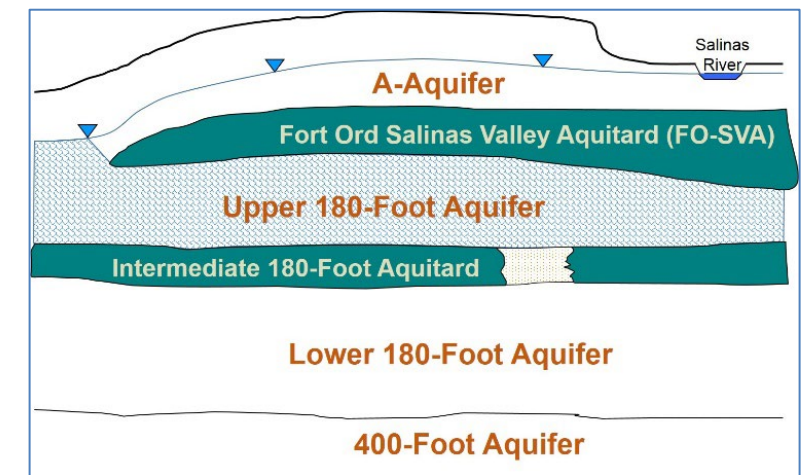
# Sites 2 and 12 Upper 180-Foot Aquifer



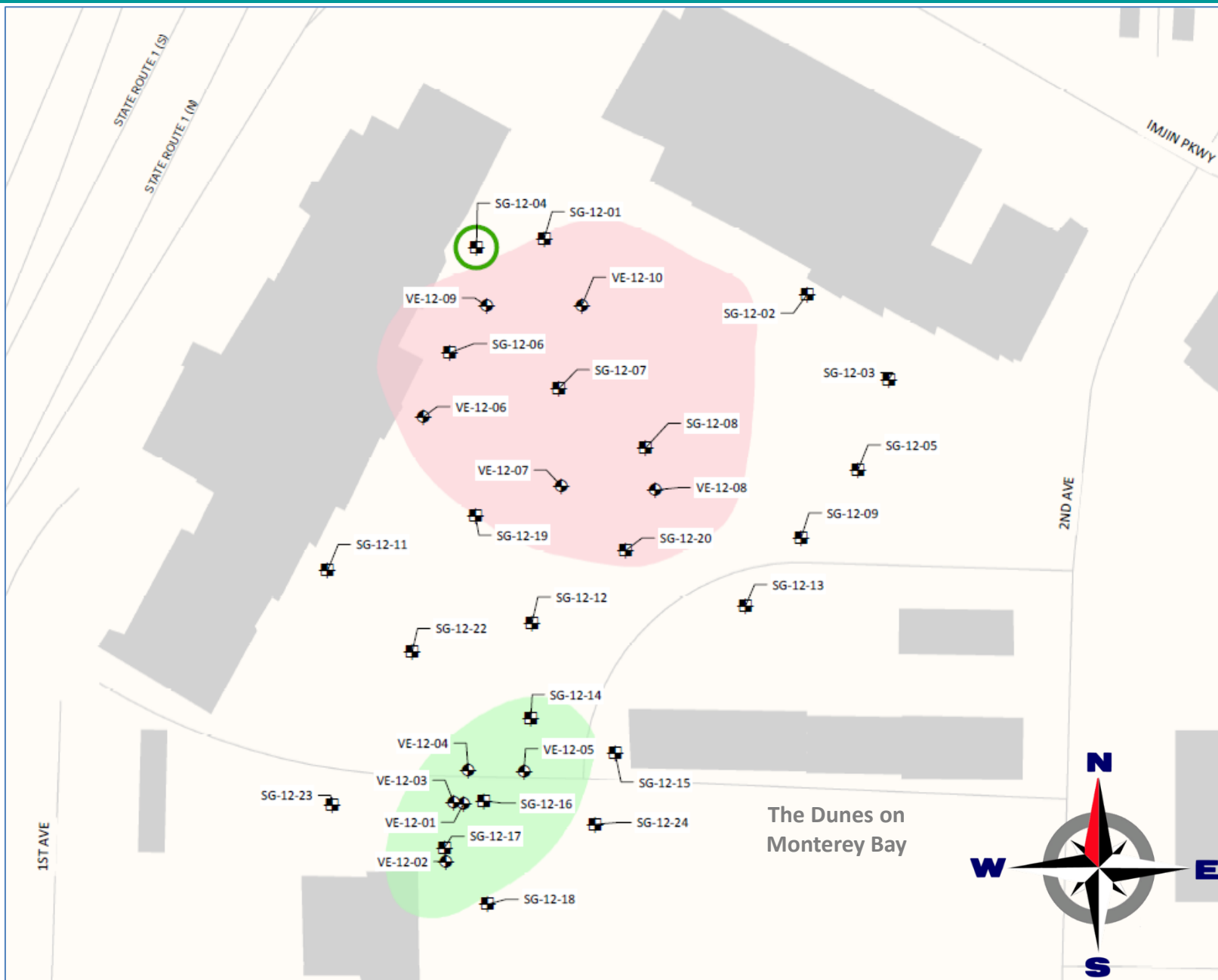
Chemicals of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in  $\mu\text{g/L}$ .

- 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  $\mu\text{g}/\text{m}^3$ .

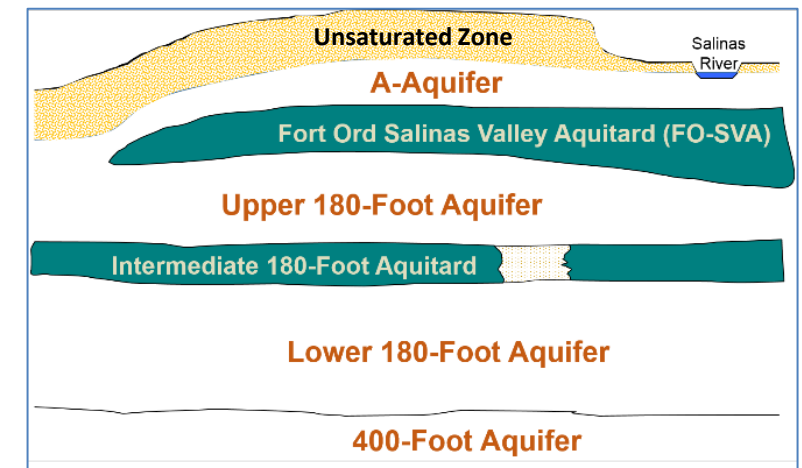
1,800 3Q2022 tetrachloroethene (PCE) plume  
no current plume

1,000 3Q2022 trichloroethene (TCE) plume

PCE above SGCL (June 2014)

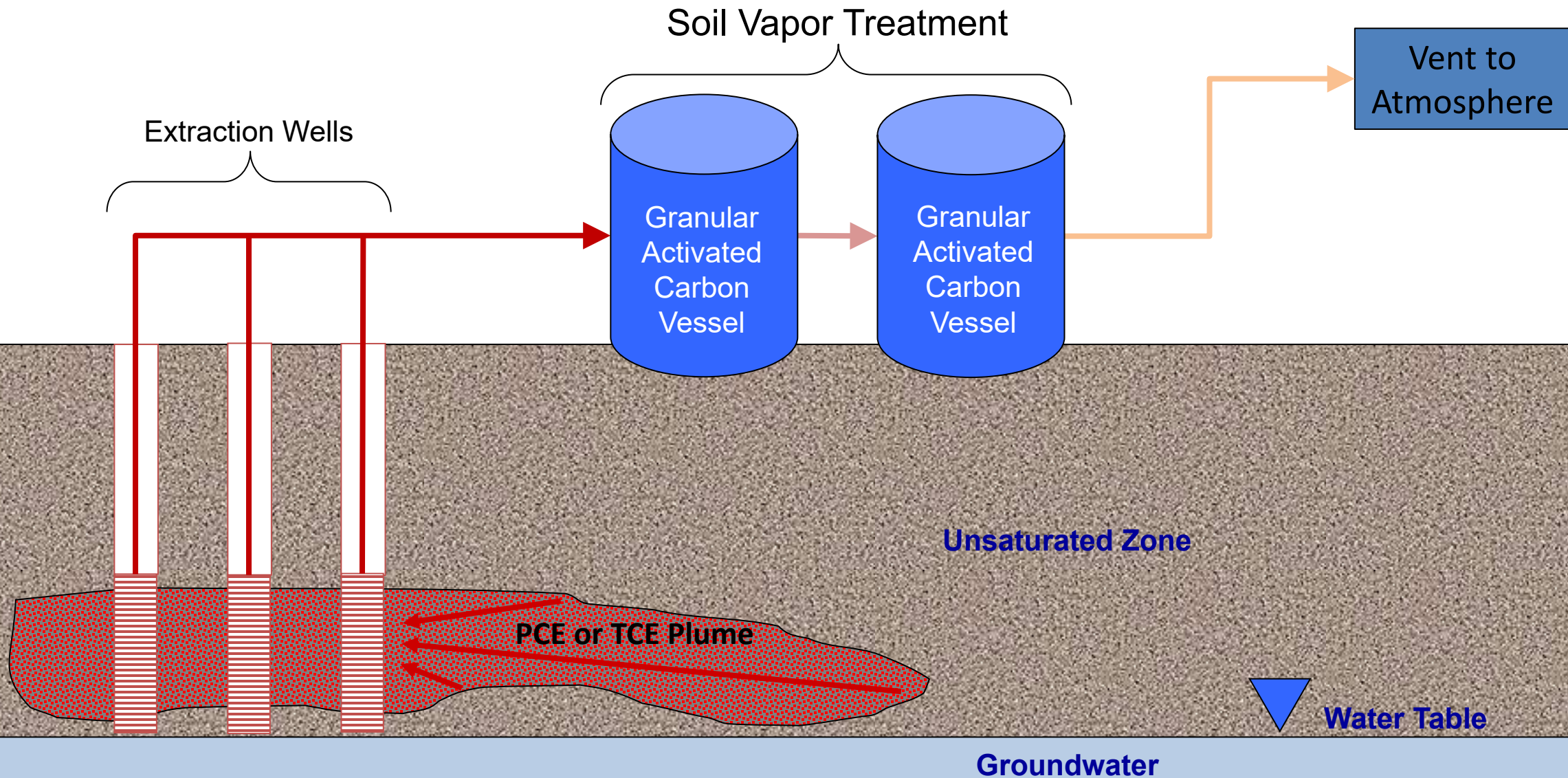
TCE above SGCL (June 2014)

Remedy: Soil Vapor Extraction and Treatment

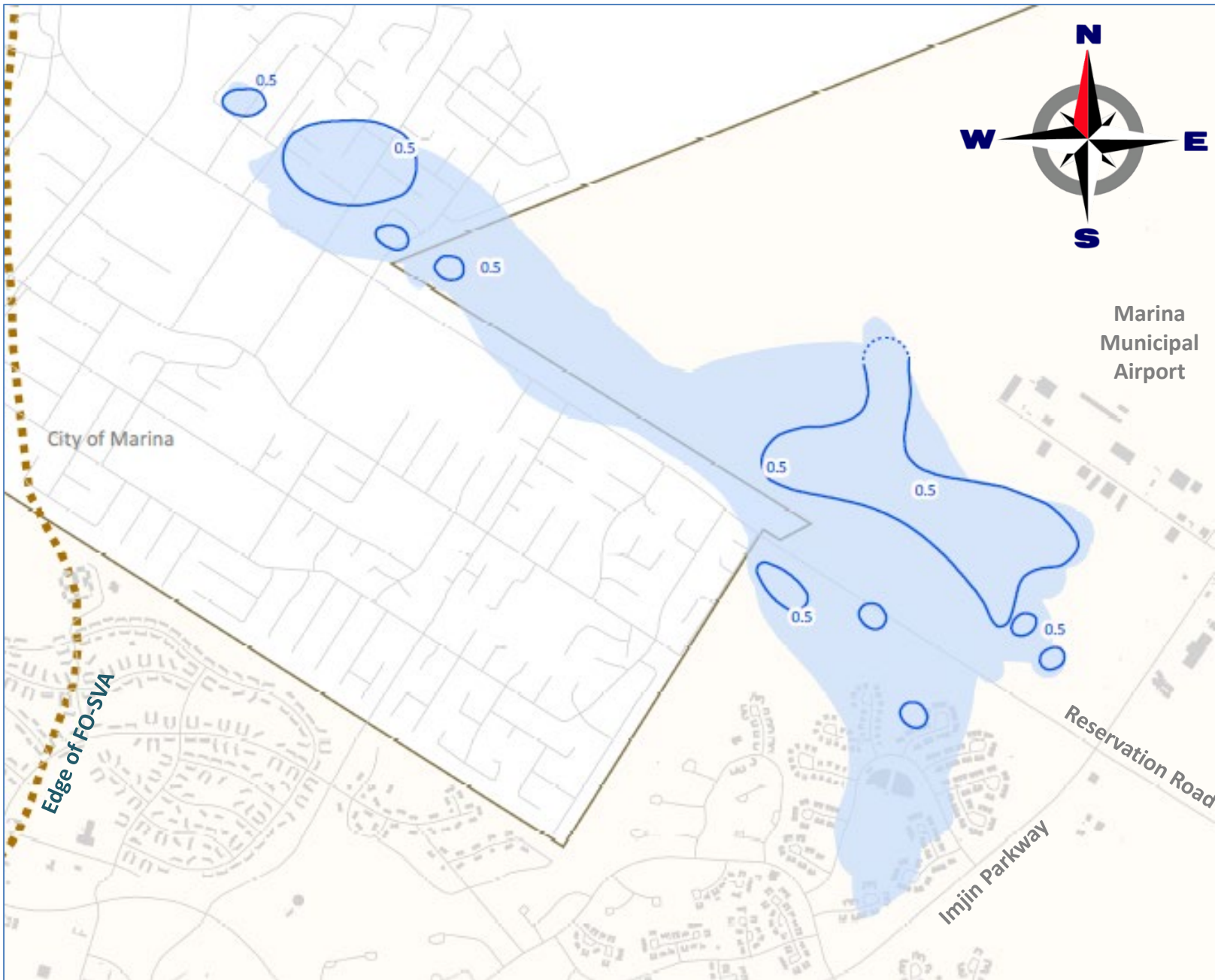




# Soil Vapor Extraction and Treatment System Schematic



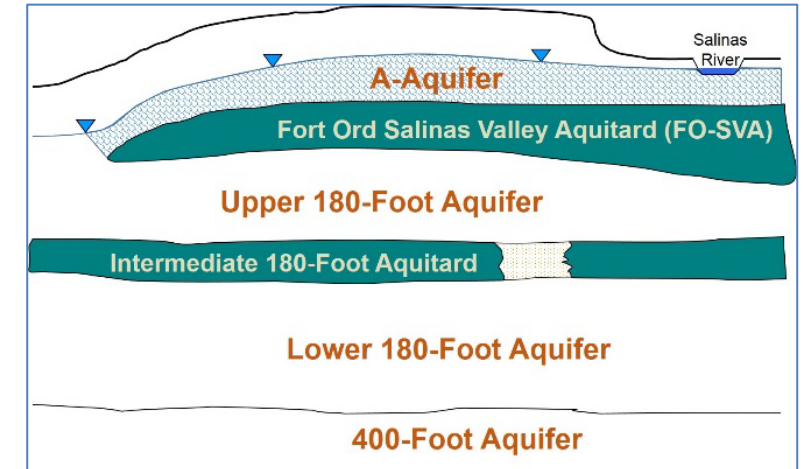
# OUCTP A-Aquifer



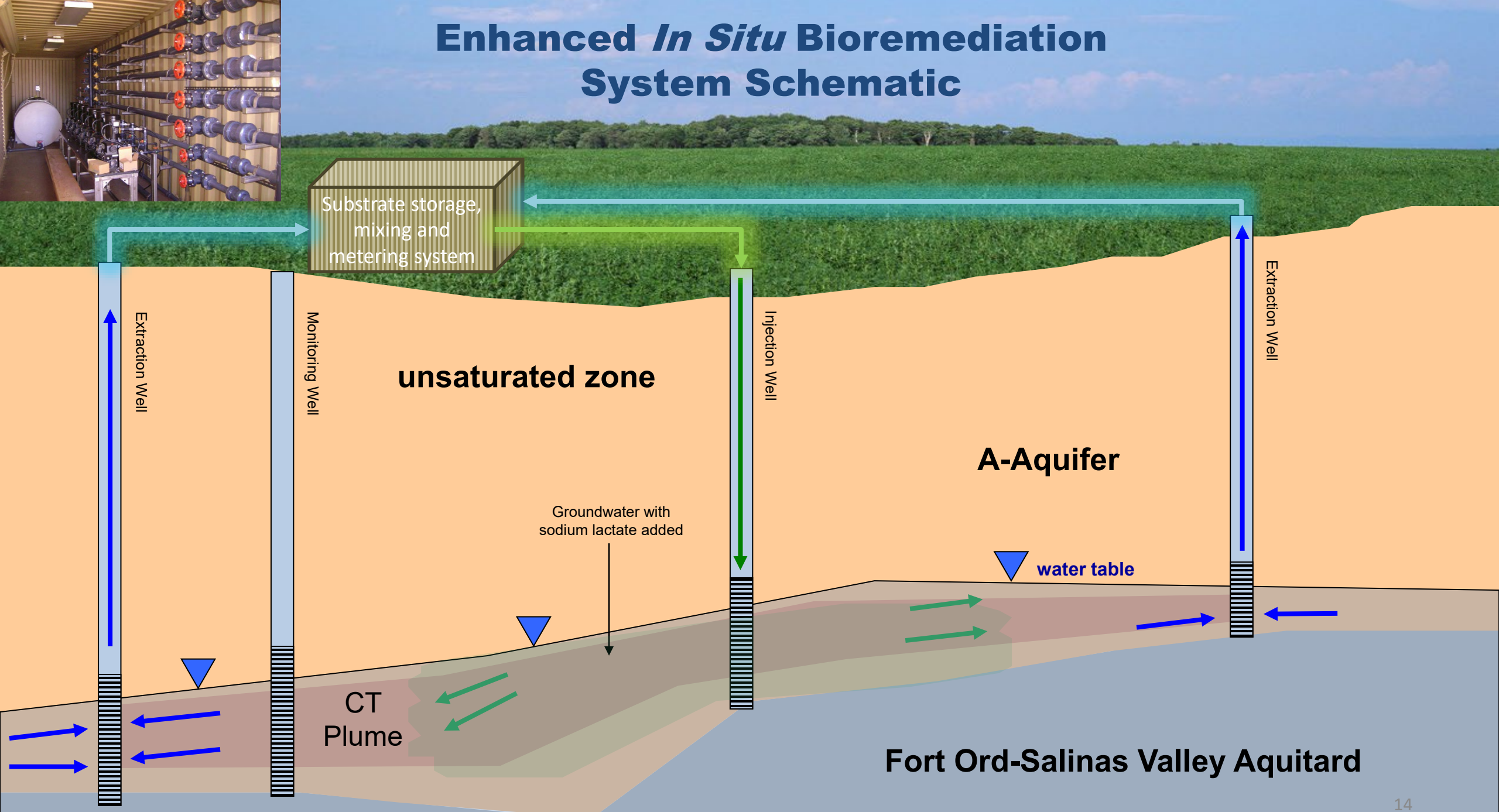
Chemical of Concern (COC) Aquifer Cleanup Level (ACL) Exceedance Contours in µg/L.

- 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)

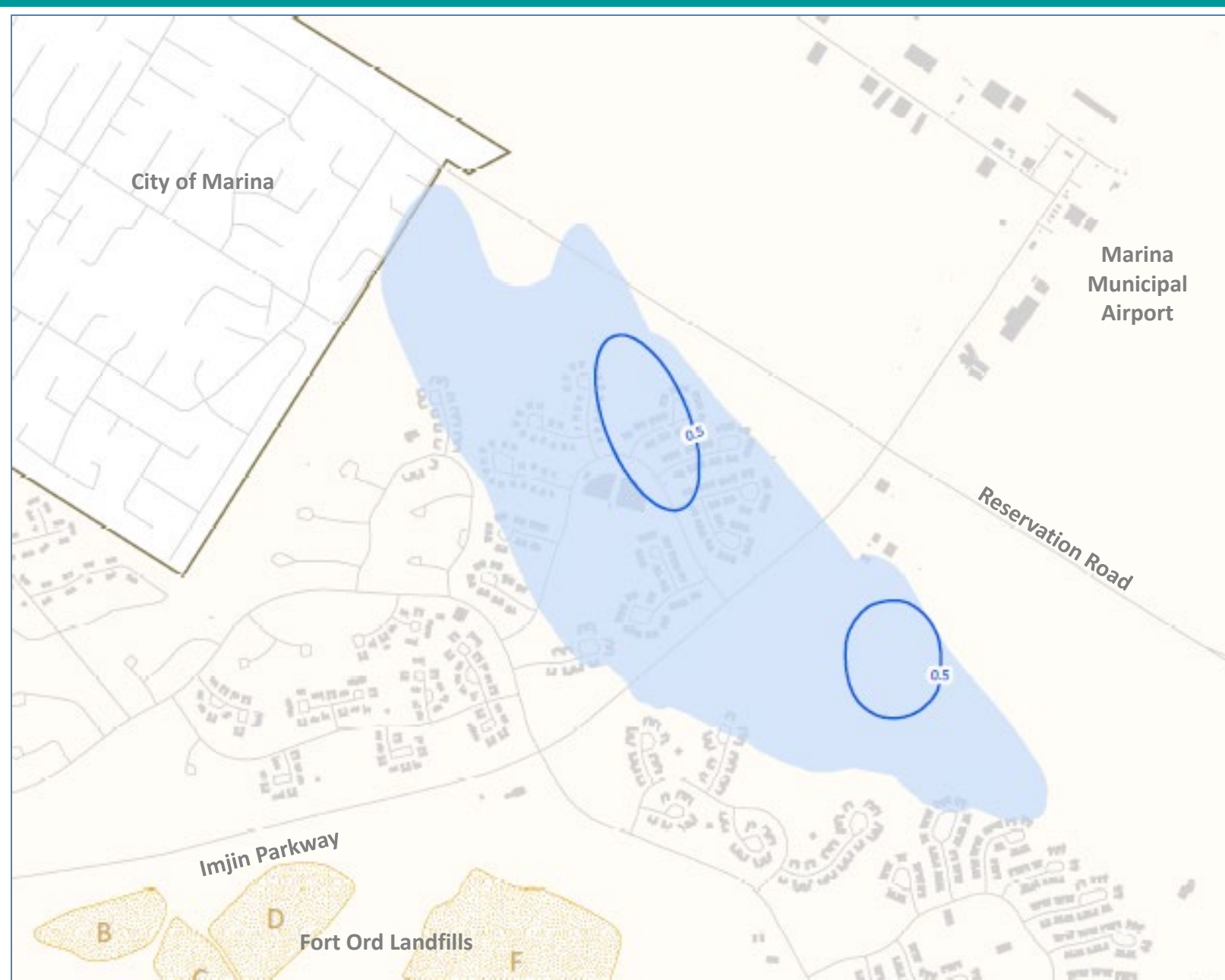


# Enhanced *In Situ* Bioremediation System Schematic





# OUCTP Upper 180-Foot Aquifer



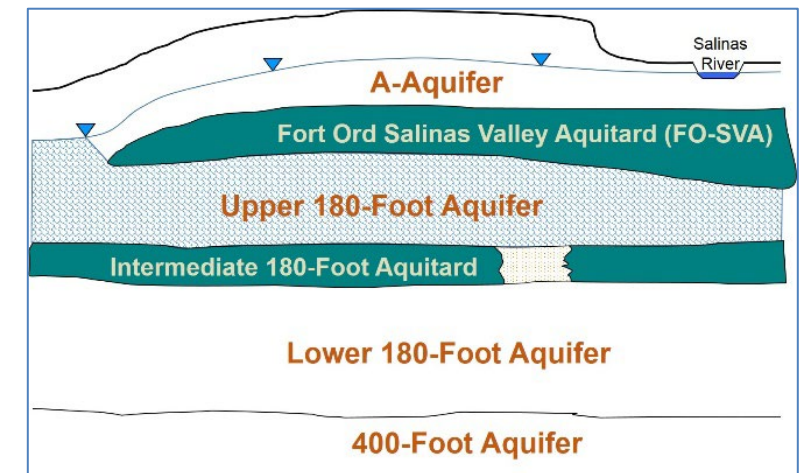
Chemical of Concern (COC) Aquifer Cleanup Level (ACL) exceedance contours in  $\mu\text{g/L}$ .

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 µg/L.

0.5 — 3Q2022 Carbon tetrachloride (CT) plume extent

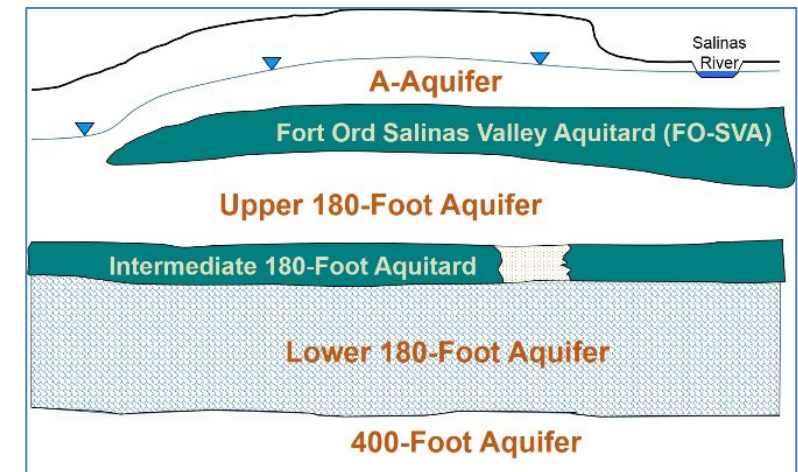
5.0 — 3Q2022 Trichloroethane (TCE) plume extent

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](http://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](mailto:adminrecord@fortordcleanup.com)

Visit the MCWD website at:  
[www.mcwd.org](http://www.mcwd.org)

2021 Consumer Confidence Report is available at:  
[https://www.mcwd.org/docs/ccr/2021/mcwd\\_ccr\\_2021\\_english.pdf](https://www.mcwd.org/docs/ccr/2021/mcwd_ccr_2021_english.pdf)

