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Former Preco Site Modeling & amp; Remediation

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Peer reviewed

Former Preco Site Modeling & Remediation 6300 East Slauson Avenue, City of Commerce, CA 90040



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University of California, Irvine

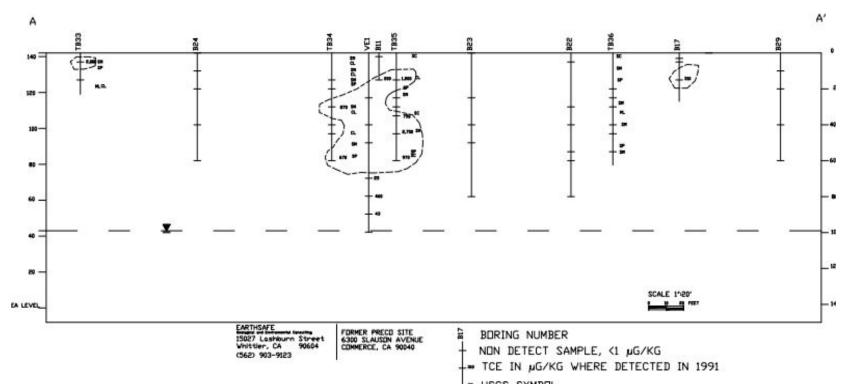
INTRODUCTION/BACKGROUND

The former Preco site, a historically industrial property that focused on metal manufacturing, has been identified as an area with significant environmental contamination due to the presence of trichloroethylene (TCE), tetrachloroethylene (PCE), and 1,4-Dioxane in groundwater. These chlorinated solvents, which are commonly used in industrial processes, pose serious risks to human health and natural resources. While Soil Vapor Extraction (SVE) was previously implemented within the site to reduce volatile contamination, it did not resolve shallow groundwater contamination or eliminate the source of the plume.

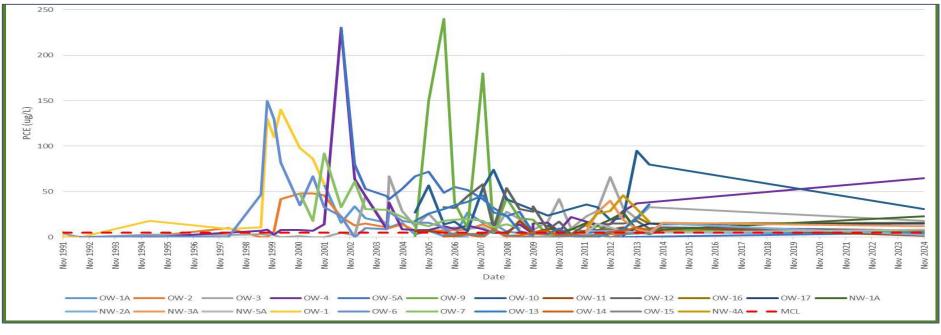
With this current project, there are 2 goals:

- 1. Create a model showcasing the site wells and contamination
- 2. Create a remediation action plan (RAP) to combat PCE and TCE at the site in the long-term.

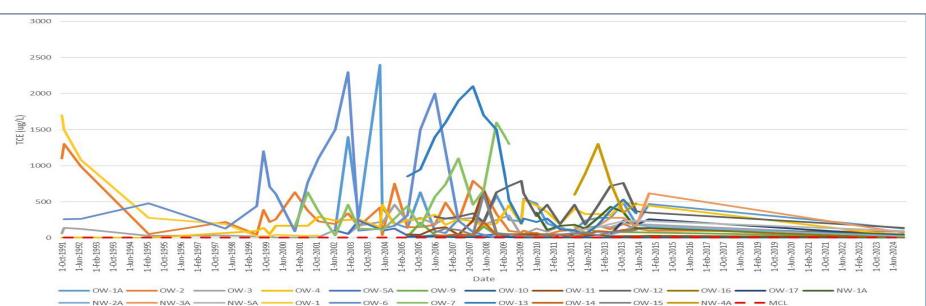
SITE HISTORY/REMEDIATION



Cross Section of the Former Preco Site with Plume Contamination in 1991

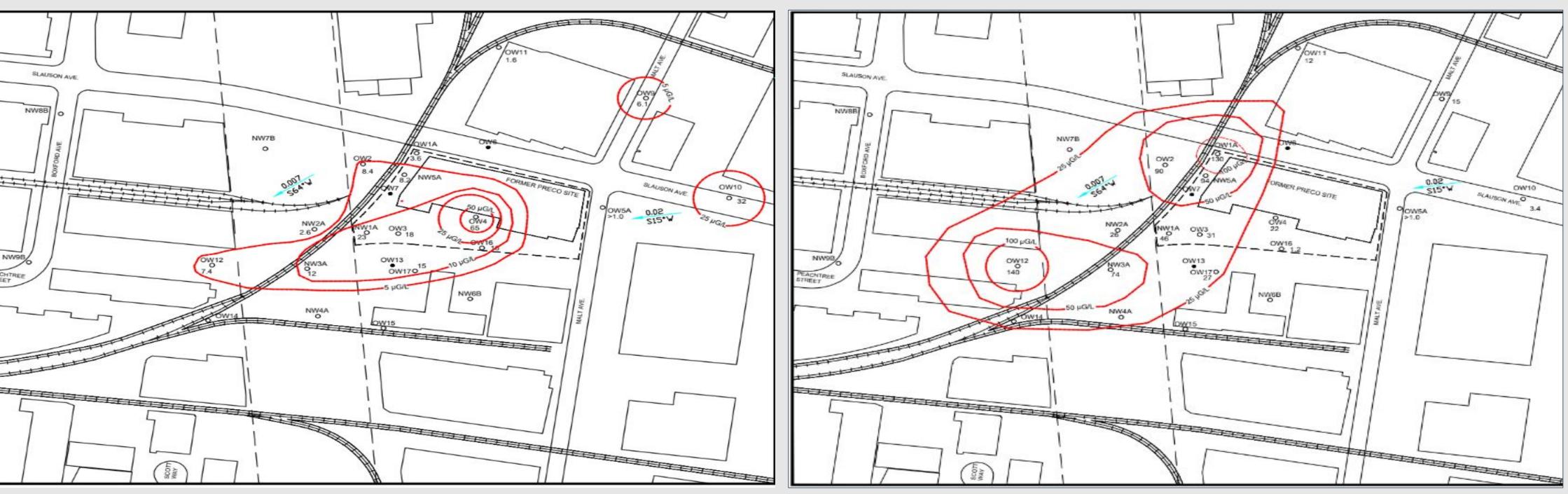


History of PCE Detection in Shallow Aquifer

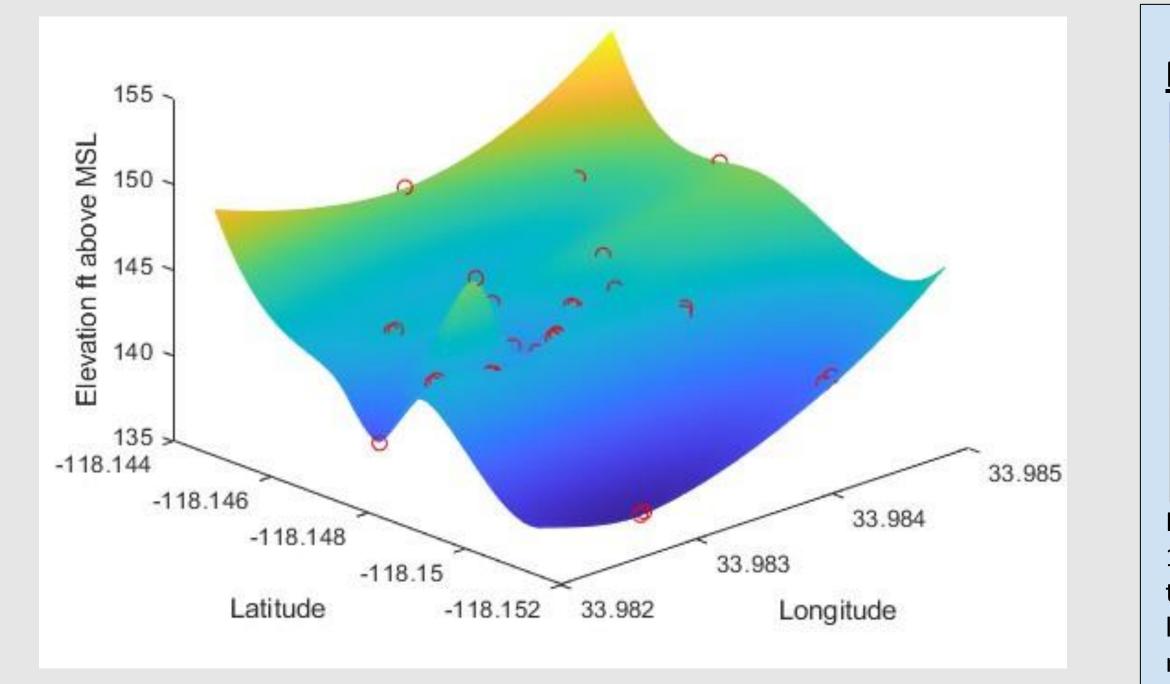


History of TCE Detection in Shallow Aquifer

CURRENT SITE CONDITIONS



Plume area of PCE (Left) and TCE (Right) contamination



Mesh Map of Groundwater Levels with Top of Wells Included



Solar-Powered SVE Used for Remediation



REMEDIAL ACTION PLAN

METHOD	DESCRIPTION	PROS	CONS	RELATIVE COST
No Remediation	No Action	- Low cost - Minimal site disturbance	-Regulatory non- compliance risk - Plume migration	Low
In-Situ Permeable Barrier	Reactive Barrier Installed Underground	- Minimial Maintenance - Abiotic Degradation	- Biofouling - Hard Installation	High
Dehalococcoides Bioaugmentation	Bacteria Breakdown	- No excavation or pumping - Combinable with other Technologies	- Anaerobic Conditions - Long Treatment Time Frame	Medium
Pump and Treat	Groundwater Pumped Out of Ground and Discharged	-Complete Contaminant Removal -Prevents Plume Nigration	-High O&M Costs - Slow Mass Removal	Very High

For remediation, we will partner with **Regenesis** to address residual TCE, PCE, and 1,4-Dioxane contamination using **PlumeStop**[®], an in-situ activated carbon technology that immobilizes and treats solvent plumes. This method provides a cost-effective, long-term solution compared to pump-and-treat or SVE, which previously fell short to meet local regulations.

NEXT STEPS

- Develop a 3D model to visualize key site parameters, ensuring data consistency with AI-based interpolation.
- Contact Regenesis for Cost of Remediation

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