

Former Paint Manufacturing Facility Treated for MIBK, BTEX

RRS Implements Cost-Effective, Turn-Key Remediation in Low-Permeability Soils

Project Highlights

- Soil and groundwater impacted with both BTEX and MIBK.
- Low-permeability soil was of a concern to the client, however very little surfacing was witnessed post-injection.
- RegenesiS Remediation Services (RRS) finished the project in half the time and nearly half the cost of competing firms.

Project Summary

Site operations at a former paint manufacturing facility in Northern California caused soil and groundwater to be impacted with MIBK and BTEX compounds. The site was under an order for clean-up through the regional water quality board and the treatment was designed to use in situ chemical oxidation (ISCO) to reduce contaminant mass in the source area before transitioning to MNA.



RegenesiS Remediation Services applied PersulfOx into low permeability soils without surfacing.

Remediation Approach

Comprised of what the consultant described as “San Francisco Bay Muds” or essentially clay soil with sand stringers, the site had challenging geologic conditions. At first, the client was apprehensive about the ability to inject PersulfOx® into the tight soils without surfacing. However, a turn-key approach was devised during the design of this project, with an emphasis on minimizing product application costs and addressing any possible surfacing issues. A total of 29,644 pounds of PersulfOx was applied by RRS in two applications, through a total of 58 direct-push points and 2 injection wells at the site. The product was applied at a 20% solution for a total injection volume of 15,691 gallons.

The injections were completed in half the time and nearly half the cost of what other injection contractor firms proposed.

The capabilities of the RRS team, trailer and ability to manifold and inject into four points at one time resulted in significant time and cost savings for the client. Monitoring is ongoing.

Technology Description

PersulfOx is a sodium persulfate-based chemical oxidation technology which destroys both hydrocarbon and chlorinated solvent-type contaminants in the subsurface. PersulfOx contains a built-in catalyst which activates the persulfate component and generates contaminant-destroying free radicals without the need for the addition of a separate activator.

RRS is a dedicated team of scientists and engineers whose primary function is to provide environmental engineering and consulting firms with specialized groundwater and soil remediation planning, design, verification and application services.

Site Type: Manufacturing

Contaminant of Concern:
Petroleum Hydrocarbons,
MIBK

Concentration:
MIBK- 1200 mg/L and 260 mg/kg
B- 1.4 mg/L and 0.5 mg/kg
T- 27 mg/L and 120 mg/kg
E- 9.2 mg/L and 100 mg/kg
X- 50 mg/L and 480 mg/kg

Remediation Approach:
In Situ Chemical Oxidation

Soil Type: Clay with Sand
Stringers

Technology Used: PersulfOx