

PROJECT HIGHLIGHT

CLIENT: Industrial facility

LOCATION: Northwestern California

TECHNOLOGY: Pneumatic Fracturing

LITHOLOGY: Sand, clay

CONTAMINANTS: TCE, PCE, DCE, VC,
TCA, PAHs

PNEUMATIC FRACTURING AT A RAILYARD NEXT TO A HISTORICAL BUILDING

Site Information

Cascade applied Pneumatic Fracturing at a rail yard site located adjacent to a 150-year-old historical building in Northern California where contaminants, such as volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons and metals had been detected in the soil and groundwater. The contamination stemmed from historic onsite activities.

Approach

To address the presence of VOCs in the subsurface, a soil vapor extraction (SVE)/CatOx system was installed. Although a significant amount of VOCs had been removed from the upper sand layer, the presence of these contaminants was still detected in the clay layer. As a result, Pneumatic Fracturing was applied to increase the permeability in the clay zone.

The process required the application of Pneumatic Fracturing to address a discrete clay layer (16-20 ft. bgs) within the formation. The unique challenge of this project was applying the technology without damaging the nearby historical building.

RESULTS

After Pneumatic Fracturing, concentrations in the extraction gas increased significantly and vacuum influence was extended to wells previously not influenced. The fracturing activities did not impact the structural integrity of the historic building which was only 20 ft. from the injection points.

