

Soil Remediation

Fracture Enhanced SVE

Fracture Enhanced Soil Vapor Extraction

GeoSierra has pioneered the use of hydraulic fracturing of low permeable soils for enhanced Soil Vapor Extraction (SVE). Tight soils are not amenable to conventional SVE due to their low permeability. Installing horizontal sand filled fractures in these soils significantly increases the soil mass permeability and greatly enhances the radius of influence of the SVE extraction wells. Fracture enhanced SVE significantly reduces the cost and time to remediate these tight soil formation.

GeoSierra has completed numerous fracture enhanced SVE projects at various sites throughout North America. Many of the projects are operating chemical or manufacturing facilities requiring horizontal fractures to be installed beneath and around existing buildings and utilities. The buildings are monitored by high precision bi-axial tilt meter and the fracture geometry recorded during injection by the active resistivity method.

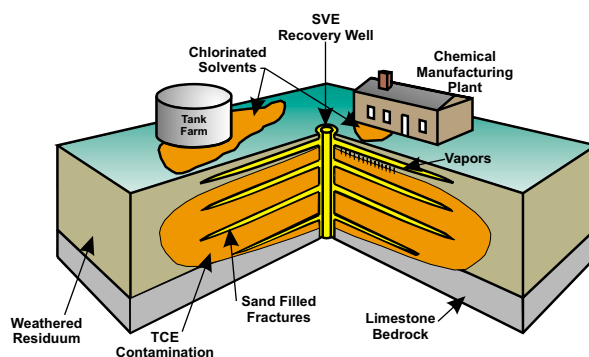


Fracture Enhance SVE System at a Military Base

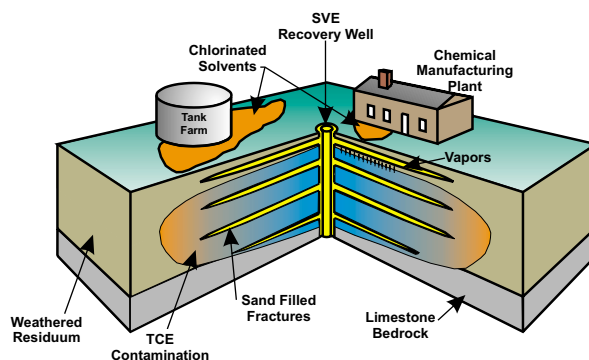


Construction of a Hydraulic Fracture Enhanced SVE System at an Operating Pesticide Plant

The fracture enhanced SVE system typically consists of a high vacuum high flow system to maximize the contaminant removal from the soil formation. A high vacuum stress is applied to the highly permeable fractures resulting in the rapid migration of contaminants in the soil towards the fractures. Such a system results in time to achieve remediation levels being typically 1-2 years.



Fracture Enhanced SVE at 0 years



Fracture Enhanced SVE after 1 year