

Soil and Groundwater Remediation Using Horizontal Wells

Watrous, New Mexico

Client

New Mexico
Environment
Department

Highlights

- ◆ Design-Build for a containerized SVE / air sparge treatment system coupled with an electric catalytic oxidizer
- ◆ Horizontal wells were used to expedite clean-up under existing buildings and highway right-of-way
- ◆ Used a field gas chromatograph to optimize the treatment zone and installation of plume delineation wells
- ◆ Achieved remedial goals in less than 12 months

The New Mexico Environment Department (NMED) Petroleum Storage Tank Bureau (PSTB) retained Daniel B. Stephens & Associates (DBS&A), a wholly owned subsidiary of Geo-Logic Associates (GLA), to lead the Design-Build project to remediate petroleum-contaminated soils and groundwater at the Moberg's Garage and Texaco Station sites. Soil vapor extraction (SVE) and air sparge technologies were applied through a series of horizontal wells to expedite clean-up under existing buildings and highway right-of-way, and protect municipal drinking water supply in Watrous, New Mexico.

To optimize the treatment zone, DBS&A analyzed groundwater from 22 soil borings extended to the water table using direct push technology. The DBS&A team used a field gas chromatograph to provide real-time results on groundwater quality, and optimize installation of plume delineation wells. Site investigation activities also included assessing the potential for vapor intrusion in structures located over the hydrocarbon contaminant plume.

DBS&A worked with a trusted equipment vendor to develop a containerized treatment system coupled with an electric catalytic oxidizer. SVE and air sparge blowers were equipped with variable frequency drives (VFDs) to provide flexibility during operation and maximize mass removal from the subsurface. A state-of-the-art telemetry system provided remote-start capability, and alarm notification to minimize system downtime.

DBS&A saw the project through to completion: from site investigation, to preparation of a Final Remediation Plan, to construction quality assurance (CQA), to as-built documentation, and to system operation and maintenance (O&M). DBS&A did it all and achieved remedial goals in less than 12 months.



DBS&A performed geochemical analysis of groundwater in the field, which allowed us to focus and optimize our long-term sampling strategy.



DBS&A is the local expert on utilizing horizontal remediation wells to expedite site remediation.