

Former Dry Cleaner

Aquilologic staff was retained to investigate and remediate a chlorinated solvent problem that was threatening the public water supply of Santa Barbara, California. A former dry cleaning and laundry site was identified as a potential source of groundwater contamination by city and county agencies.

An investigation was conducted in accordance with a Cleanup and Abatement Order (CAO) issued by the Regional Water Quality Control Board (RWQCB). Assessment included an evaluation of the hydrogeologic conditions and the delineation of the lateral and vertical extent of contamination. Contaminants were identified in the vadose zone and within three discrete shallow water-bearing zones beneath the site. Major tasks completed during the assessment phase of investigation included:

- Completion of numerous soil borings, and construction of groundwater and soil vapor monitoring and extraction wells;
- Evaluation of the hydraulic properties of the shallow water-bearing zones through the use of slug tests and an aquifer test;
- Completion of treatability studies and evaluation of soil retardation coefficients to support remedial design and feasibility study activities;
- Development of a numerical groundwater flow and contaminant transport model to assist in both assessment and remedial activities;
- Preparation of a remedial action plan (RAP) reviewing several remedial alternatives for treatment of contaminated soil and groundwater; and
- Design, construction, and operation of a combined groundwater and soil vapor treatment system.

Groundwater extraction from three discrete shallow aquifers was accomplished through a network of on- and off-site recovery wells. Treatment of the extracted groundwater was accomplished through an ultraviolet light/hydrogen peroxide (UV/OX) system used in conjunction with a granular activated carbon (GAC) polishing unit. The soil beneath the site was treated using a soil vapor extraction (SVE) system with vapor-GAC.