Aerospace Field Testing Facility

The facility is located approximately 29 miles northwest of Los Angeles, California, in Ventura County. This 2,850 acre facility was used by various government agencies, including National Aeronautics and Space Administration (NASA) and the Department of Energy (DOE), and private aerospace manufacturing companies.

Activities at the facility since the late 1940s included research, development, and testing of liquid-fueled rocket engines. This has led to volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and perchlorate contamination of groundwater in fractured bedrock.

Since the early 1980s, multiple site investigations have been conducted into groundwater, soil, and surficial media contamination. In 1999, the Department of Toxic Substances Control (DTSC), under the Resource Conservation and Recovery Act (RCRA) Corrective Action program, identified three operable units (OUs): (1) saturated and unsaturated soil, (2) near-surface groundwater occurring within alluvium or weathered bedrock, and (3) groundwater within the deeper bedrock.

Aquilogic staff was involved in groundwater investigations in the deeper, fractured bedrock. The investigations involved determining the nature and vertical distribution of VOCs (trichloroethene [TCE], tetrachloroethene [PCE], 1,1-dichloroethene [1,1-DCE], freon-113, and extractable fuel hydrocarbons) in the permeable, sedimentary rock matrix. This was achieved by collecting rock cores at depth-discrete intervals, at multiple locations, and extracting the VOCs from the rock matrix (pore-water concentrations). Once the borings were completed (up to 800 feet below ground surface [bgs]), multi-level monitoring systems were installed. Depth-discrete groundwater samples were collected and compared with the rock pore-water concentrations at similar depths, to determine where back diffusion may be occurring. Groundwater elevation data was also collected at the depth-discrete monitoring zones within each multi-level monitoring system to determine where vertical hydraulic gradients existed that would enhance the downward migration of dissolved-phase contaminants.