

Investigation, Groundwater Flow and Transport Modeling, and Remedial Design and Construction for High Energy Research Facility

Menlo Park, CA



Since 1995, EKI has provided a broad range of environmental consulting services to the SLAC National Accelerator Laboratory (SLAC), a 426-acre facility, located in Menlo Park, California, devoted to experimental and theoretical research in particle physics. On-site use of volatile organic chemicals (VOCs) has produced areas of groundwater contamination.

On behalf of SLAC, EKI prepared a Feasibility Study Report (FS) for remediation of VOCs and semi-volatile (SVOCs) in soil, soil gas, and groundwater at four distinct sites within SLAC. The FS Report was prepared pursuant to National Contingency Plan guidance pursuant to an Order from the Regional Water Quality Control Board. EKI also prepared the subsequent Remedial Action Plan (RAP). EKI has conducted remedial investigations involving construction of groundwater monitoring and extraction wells, planned and executed hydrogeologic testing programs, constructed a 3-dimensional digital groundwater flow model and conducted fate and transport modeling for VOCs in the saturated zone to guide the design and construction of groundwater remedial actions at the facility.

On the basis of this work, EKI designed, provided construction oversight and permitting services, and installed several dual-phase extraction (DPE) systems. The DPE systems comprised of 23 wells for simultaneous extraction of groundwater and soil gas and included an air stripper for groundwater treatment and carbon adsorption for soil gas treatment.

EKI also prepared an Operations and Maintenance Performance Evaluation Report related to the ongoing remediation effort, tested the reinstalled and new DPE wells, and evaluated upgrades to the DPE system to correspond to the new well field capacity.