

RCRA Closure at a Former Manufacturing Facility

- EXPERIENCE
- INTEGRITY
- SERVICE

Beckman-Coulter Site, Fullerton California



This former manufacturing facility was used for design, testing, and manufacturing of electronic medical testing equipment. Sampling of soil, soil gas and groundwater revealed the presence of Polychlorinated Biphenyls, (PCBs) and volatile organic compounds (VOCs) including tetrachloroethylene (PCE), 1,1-dichloroethylene (DCE), 1,1,1-trichloroethane (TCA), and 1,1-dichloroethane (DCA). Site remediation is overseen by the United States Environmental Protection Agency, and California Department of Toxic Substances Control.

Hargis + Associates, Inc. (Hargis) was retained as the lead consultant on the project to support RCRA closure of the site for subsequent sale and re-development. Hargis conducted a RCRA Facility Investigation (RFI), Corrective Measures Study (CMS), Corrective Action Plan (CAP), and Corrective Measures Implementation (CMI). Hargis worked closely with BCI management and the regulatory agencies to formulate appropriate characterization and remedial action plans.

Site investigation activities included collection of soil vapor samples at more than 1,400 locations, collection of 600+ soil samples, drilling and construction of more than 100 groundwater monitor wells, and aquifer testing.

Soil remediation activities included excavation and treatment of over 130,000 tons of impacted soil using evaporative desorption technology (EDT) and backfilling the excavations with EDT-treated soil. Dense non-aqueous phase liquid (DNAPL) impacted aquifer



materials were removed using more than 80 large diameter auger excavation borings. Verification sampling was performed in all excavated areas to ensure remaining soils were below cleanup standards.

Source area groundwater was treated using in situ chemical reduction and included the injection of 600 thousand pounds of Zero Valent Iron. Hargis conducted natural attenuation evaluations for downgradient groundwater using a multiple lines of evidence approach that included statistical analyses, compound specific isotope analysis, and natural attenuation modeling. A monitored natural attenuation (MNA) program has been recommended as the selected remedy for downgradient groundwater at the site.

Soil closure was received and the Site was cleared for redevelopment in 2017. Groundwater monitoring in support of the proposed MNA remedy for downgradient groundwater is ongoing.

KEY ACCOMPLISHMENTS

- Developed Sampling and Analysis Plans to characterize soils, groundwater, soil gas and building materials.
- Completed comprehensive delineation of PCB, VOC, and other impacts by evaluation of over 600 soil matrix samples, more than 1,400 soil gas samples and groundwater samples from 90 monitor wells.
- Oversaw soil excavation and management of VOC and PCB contaminated soil and building material disposal.
- Conducted in-situ chemical reduction of source area groundwater.
- Conducted large diameter auger excavation of DNAPL impacted aquifer materials.
- Obtained regulatory approval of monitored natural attenuation (MNA) for downgradient groundwater.
- Submitted results in reports to EPA and DTSC, clearing the site for redevelopment.