



RCRA Facility, California

Beacon Sampler

Summary

Media:	Soil gas
Study Type:	Site characterization
Technology:	Accumulation
Peer Reviewed:	No
Publication Date:	September 2017

Site Description

General Site Description and Conditions

The site is a 900-acre facility that is no longer in operation. The site was undeveloped land used primarily for ranching prior to 1968. It operated as the site of a research and development facility of military ammunitions and explosives from 1968 through 1990 and has since been decommissioned and demilitarized. Other site activities included assembly and testing of munitions and components. All but one of the on-site structures has been demolished. Orchards operate on portions of the former facility.

Contaminants of Concern (COCs)

Contaminants associated with explosives, semivolatile organic compounds (SVOCs), volatile organic compounds (VOCs), and total petroleum hydrocarbons (TPHs)

Sampling Frequency of COCs

Only one round of sampling has been performed for this initial phase of site characterization. A grid system was used for the passive soil gas survey to identify potential source areas.

Technology Used

A total of 157 passive samplers were deployed to characterize soil gas site conditions and assess potential for vapor intrusion. Beacon adsorbent samplers were installed in 0.5- to 1-inch boreholes using a hammer drill to a depth of approximately 3 feet below ground surface (bgs). Once the samplers were installed (suspension in the borehole at depth of 1.5–2 feet bgs), the boreholes were plugged with aluminum foil and then covered with tamped soil. The samplers were left in place for a minimum 13-day sampling period. At the end of the sampling period, the samplers were retrieved and sent to Beacon Environmental Services, Inc., for analysis of volatile petroleum hydrocarbons and VOCs using modified U.S. EPA 8260C.

Results were reported in nanograms (ng), with method detection limits for most of the analyzed VOCs listed as 25 ng. A few VOCs were reported as having method detection limits of 10 ng, including trichloroethene (TCE), tetrachloroethene (PCE), and vinyl chloride (VC). Method detection limits for TPH-DRO (diesel range organics) and TPH-GRO (gasoline range organics) were 5,000 ng.



Remedial Phase

The Beacon passive samplers were used for site characterization, to identify potential source areas of soil gas contamination and determine any appropriate and needed corrective measures.

Outcome

The passive soil gas sampling results helped identify potential source areas and facilitated targeted soil sampling to be conducted where TPHs and VOCs were detected.

Case Study Source

Amec Foster Wheeler Environmental & Infrastructure, Inc., RCRA Facility Investigation Report, X Site in California, Amec Foster Wheeler Environment & Infrastructure, Inc. (Oakland, CA).