

## EXECUTIVE SUMMARY

This Corrective Action Plan (CAP) examines and recommends remedial alternatives for soil and ground-water contamination beneath underground storage tank (UST) Site 388 at Hill Air Force Base (AFB), Utah. Site 388 consists of a single 2,300-gallon capacity concrete UST used to store JP-4 jet fuel. The tank was removed in December 1987. Subsurface investigations at Site 388 have included closure sampling, subsurface investigations that included cone penetrometer testing (CPT), installation of a ground water monitoring well, installation of a bioventing infrastructure, and sampling and analysis of soil and ground water. Analytical results for soil samples collected during the closure and subsurface investigations indicate that elevated levels of benzene, ethylbenzene, toluene, xylenes and naphthalene (BTEXN) and total extractable petroleum hydrocarbon (TEPH) are present in soils to a maximum depth of 149 feet. Maximum BTEXN concentrations detected in soils were: benzene (16,000 micrograms per kilogram [ $\mu\text{g}/\text{kg}$ ]), toluene (127,000  $\mu\text{g}/\text{kg}$ ), ethylbenzene (60,000  $\mu\text{g}/\text{kg}$ ), m,p-xylenes (455,000  $\mu\text{g}/\text{kg}$ ), o-xylenes (128,000  $\mu\text{g}/\text{kg}$ ) and naphthalene (21,200  $\mu\text{g}/\text{kg}$ ). TPH concentrations were between 551 and 16,800 milligrams per kilogram (mg/kg). Total extractable petroleum hydrocarbons (TEPH) concentrations were in excess of 200 mg/kg. Ground water, encountered at a depth of 178 feet below ground surface, contained 1.1 microgram per liter ( $\mu\text{g}/\text{L}$ ) benzene; below the Federal Safe Drinking Water Maximum Contaminant Level (MCL) of 5  $\mu\text{g}/\text{L}$ . Based on laboratory analytical and field headspace data, approximately 31,000 cubic yards of contaminated soil are present at Site 388. Due to the depth of contamination and the presence of permeable soils beneath the site, in-situ bioventing is recommended as the preferred alternative for soil remediation. A pilot bioventing test was initiated in July 1993 under the Air Force's Bioventing Initiative Program. Monthly soil gas sampling and semi-annual in-situ respiration tests are recommended to monitor the progress of bioventing. Because benzene is the only contaminant detected in ground water, and it occurs at concentrations below its MCL, natural attenuation is recommended as the preferred alternative for ground-water remediation. To monitor the progress of natural attenuation, monitoring well T-388-001 should be sampled semi-annually and analyzed for BTEXN and TEPH until soil remediation is complete.