

EXECUTIVE SUMMARY

James M. Montgomery, Consulting Engineers, Inc. (JMM) conducted a site characterization study for a portion of Building 225, Hill Air Force Base (Hill AFB), Utah that formerly housed a metal plating shop from the 1940s to 1972. During a utility trench excavation in this area in early 1989, potentially hazardous concentrations of several metals were found in some of the excavated soils. Before it was known that these soils contained metal contaminants, some of the excavated soils were removed from Building 225 and backfilled in an excavation at Well Site 6.

The scope of work consisted of a preliminary assessment and site inspection at Building 225 and a site investigation of the fill placed at Base Supply Well 6. The preliminary assessment (PA) in Building 225 consisted of analyzing preliminary soil sampling information, conducting interviews of persons who were present in the former plating shop, and reviewing existing information and documents regarding the former shop operations. The site inspection (SI) consisted of collecting and analyzing approximately 100 soil samples from 20 borings at selected locations in and around the old plating shop area. Information from the PA/SI was compiled to estimate a score based on the U.S. Environmental Protection Agency's (EPA) Hazard Ranking System (HRS).

The results of the PA indicated that significant quantities of hazardous materials were handled in the old plating shop on a daily basis including acids, bases, metal solutions, trichloroethene (TCE), and cyanide. Although waste TCE and cyanide were removed from the building for disposal, the other materials were ultimately discharged into floor drains connected to industrial drain lines that ran to the Hill AFB industrial waste treatment plant. Leakage from the floor drains is suspected as the primary source of the contaminants found in the subsurface soils.

The results of the SI sampling program indicate that metal contamination is present in soil beneath the old plating shop area. Metals of concern include hexavalent chromium, cadmium, and total chromium, and to a lesser extent, silver and lead. Hexavalent chromium concentrations range up to 1600 mg/kg in the subsurface soils. The distribution of hexavalent chromium appears to be widespread, although the areas containing moderate to high levels are localized. The cadmium contamination is generally localized to the southeastern portions of the old plating shop area where concentrations as high as 220 mg/kg are present. Total chromium contamination is also widespread beneath the old plating shop area where concentrations as high as 2900 mg/kg are present in the soils. The distribution of total chromium appear to be similar to hexavalent chromium. Concentrations of lead and silver are generally low, and they exceed background levels only in localized areas and depths.

The individual pathway HRS scores were generally low because there is no evidence of a groundwater release, and there is no opportunity for direct contact with contaminated soil. The groundwater migration pathway score was the greatest at 11.9, while surface water was 0.0, and air was 0.85. The overall HRS score was estimated to be 6.88, which was well below the 28.5 cut off score the EPA uses for including sites on the National Priorities List. However, several data gaps exist with regard to groundwater conditions, depth of metals contamination, and the possible presence of other types of contamination. For this reason, additional site characterization activities will be conducted under the Remedial Investigation/Feasibility Study (RI/FS) for this site.

The results of the site investigation conducted at Base Supply Well 6 confirmed that Building 225 soils placed as fill were from an uncontaminated portion of the utility trench excavation. For this reason, no further action is recommended for Supply Well 6.