

EXECUTIVE SUMMARY

This Final Remedial Investigation (RI) Report was prepared for the Little Mountain Sludge Drying Beds Site at Hill Air Force Base (AFB), Utah. The report objectives are to characterize the site contamination, assess the risk associated with the concentrations of contaminants found, determine if any additional RI work is required, and describe potential remedial action responses, if any are required. The site has not been listed on the NPL.

The Little Mountain Sludge Drying Beds Site is located in Weber County within one mile of the eastern shore of the Great Salt Lake. The site is situated in a missile component hardness test facility operated by Hill AFB.

The disposal site consists of two shallow, unlined beds about 40 by 50 feet each. Each bed has an outfall joined with a drainage ditch which drains towards the Southern Pacific railroad about 2,000 feet south of the site.

The drying beds were used originally for disposal of clarified sludge from raw water treatment of river water. They were unused following the discontinuance of the water treatment. In the mid-1970's, phenolic paint strippers from Hill AFB were disposed of in these beds. Both beds are completely fenced in for access control.

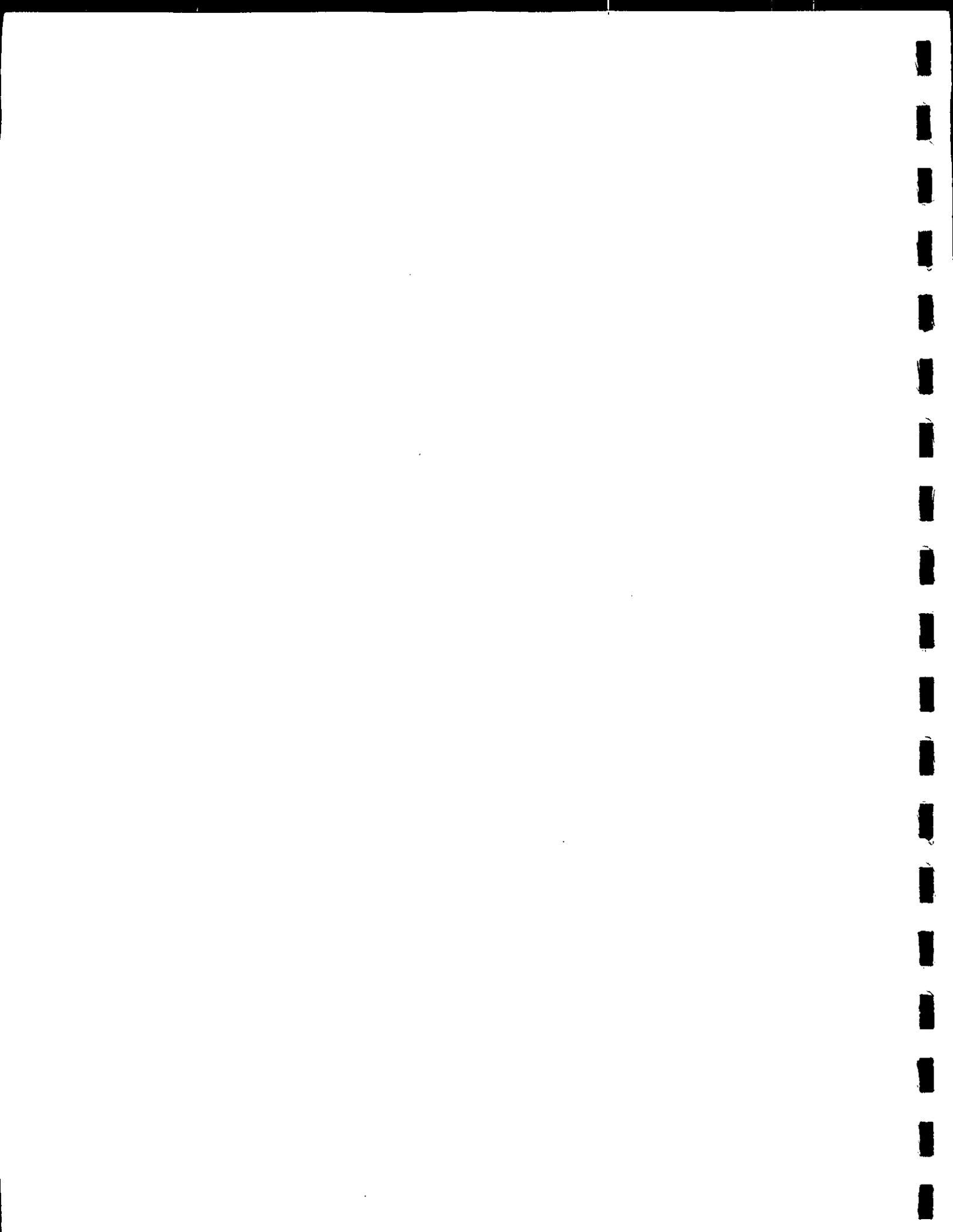
The site is inside the main gate of the Little Mountain Test Annex, which is under the jurisdiction of Hill AFB. Although abandoned structures are near the site, no active facilities are within about 1,000 feet of it.

No residences or commercial establishments were observed within visible distance within the hilly boundaries of the site and shorelines of the Great Salt Lake. About 70 to 80 people are located in the Annex. Most of the land within a 4-mile radius of the site is vacant or devoted to limited cattle grazing.

No drinking water wells exist within three miles of the site. The groundwater in the vicinity of Little Mountain is too saline to use as drinking water or for other purposes. Water supply for the Little Mountain Test Annex is piped from a source in a watershed separate from the one where the site is located.

The area around Little Mountain receives about 18.9 inches of precipitation annually. Evapotranspiration far exceeds precipitation in the study area and is not conducive to generation of leachate from onsite wastes. The nearest surface water body, the Great Salt Lake, is not considered to be impacted by site contamination.

During the RI field activities, the waste, soil, and sediment media in and outside the drying beds were sampled and air quality was



screened for volatile organic substances as part of the site-specific health and safety plan for the RI workers.

Solid-medium samples were analyzed for 13 priority pollutant metals and total phenols; and analytical results indicate that:

Arsenic, beryllium, cadmium, chromium, copper, lead, nickel, zinc, and total phenols are present in onsite sludge; and all but beryllium are present in the outfalls immediately outside the beds.

Concentrations of detected priority pollutant metals increase with increasing distance from the sludge drying beds, peak at a point where runoff from both beds combines into one stream (Outfall #2), and then decrease within the drainage ditch with increasing distance from the beds.

The above pattern holds true for total phenols, but their concentrations are reduced more rapidly with increasing distance after leaving the drying beds and were below detectable levels at the upper reach of the drainage ditch about 100 ft down-gradient from Outfall #2.

The risk of exposure to site chemicals is negligible (i.e., chemical concentrations in offsite areas are at or anticipated to approach natural background levels) via the groundwater, surface water, sediment, and biota pathways.

Risks characterized under realistic maximum assumptions for the inhalation and ingestion routes of exposure resulted in total sub-chronic and chronic Hazard Indices (HIs) of 0.14 and 0.013, respectively, for noncarcinogenic effects. Since both indices are less than unity, no adverse noncarcinogenic effects are anticipated given the exposure assumptions adopted in the assessment.

Given the conservative approach taken for this evaluation, including the assumptions:

- 1) that all chromium present is hexavalent,
- 2) the inclusion in the assessment of beryllium, cadmium, and nickel, which have been demonstrated as carcinogens only in industrial workplace environments that may not be relevant to exposure to this site, and
- 3) the scenario of 3 hours a day exposure for facility personnel,

the estimated excess lifetime cancer risk (approximately 10^{-6}) is acceptable. Accordingly, no further CERCLA action is recommended for the site. If the site is to be utilized for other purposes in



the future, Hill AFB intends to prepare and implement a closure plan prior to site utilization.

Lacking actual concentration data for volatile and semivolatile organic compounds (VOCs and SVOCs), it is difficult to characterize the risk associated with these compounds in the source materials at the site.

It is recommended that Hill AFB collect additional samples of site source materials to a 6-inch depth and have them analyzed for VOCs and SVOCs using EPA methods SW-8240 and SW-8270, respectively. This data would then be used to further characterize and quantify potential risk associated with VOCs and SVOCs, if they are detected at the site. Also, the data might then be included in the Decision Document.

If the data reveals no significant additional risk, no further remedial investigation or feasibility study activities should be recommended under CERCLA based on the:

- Lack of evidence that contaminants are migrating extensively within and immediately downgradient of the site.
- Location of the site in an isolated area with no usable groundwater.