EXECUTIVE SUMMARY

The Hill Air Force Base (HAFB) Environmental Management Directorate, Restoration Division (EMR) is conducting a Remedial Investigation (RI) at the Little Mountain Test Annex (LMTA), HAFB, Utah. The activities presented in this *Work Plan for Remedial Investigation of the Little Mountain Test Annex* were selected based on findings and results from earlier RI studies that focused on environmental contamination at the now disused sludge drying beds site located at the former LMTA water treatment plant. The primary contaminants of concern found at the site are trichloroethene (TCE) and dichloroethene (DCE) in groundwater at concentrations substantially exceeding Federal and State maximum contaminant levels (MCLs) for drinking water and groundwater. Consequently, the RI for the sludge drying beds site has been expanded to investigate the LMTA facility and Air Force property area radially from the beds using a sequential, multiple-method, investigation approach. This *Work Plan for Remedial Investigation at the Little Mountain Test Annex* provides rationale and establishes procedures for additional investigation work around the sludge drying beds site, the LMTA facility, and Air Force property area. The State of Utah, Department of Environmental Quality, Division of Environmental Response and Remediation and the U.S. Environmental Protection Agency, Region 8 reviewed this work plan. Neither agency had comments.

SCOPE OF WORK

The following tasks are consistent with the Task Order Statement of Work (SOW) issued by HAFB (24 July 2001) and comprise the scope of work for this additional investigation:

Task 1 Perform general planning and develop a schedule for preparation of this Work Plan, conduct of fieldwork, data handling and analysis, and reporting activities.

Task 2 Perform project coordination and conduct planning meetings.

Task 3 Evaluate the regulatory framework in which the RI is conducted.

Task 4 Prepare the Work Plan for this LMTA RI.

Task 5 Conduct field sampling activities that include:

1. Performing geophysical surveys consisting of seismic testing along three 3,600-foot lines and one 2,400-foot line, and two induced polarization/resistivity test lines along the two seismic lines near the sludge drying beds.

2. Performing Cone Penetrometer Testing (CPT) and Hydropunch groundwater screening sampling for VOCs (SW8260B) at 12 locations within the LMTA facility area and at 4 locations south and at 1 location west of the drying beds to aid in the selection permanent monitoring well locations.

3. Installation and development of 15 groundwater monitoring wells; sampling and analysis of soil/rock from 6 of these monitoring wells; and sampling and analysis of groundwater from 15 new monitoring wells (two events). The soil/rock will be analyzed for VOCs (SW5035/SW8260B) and SVOCs (SW8270C). The groundwater will be analyzed for VOCs (SW8260B); SVOCs (SW8270C); DRO and GRO TPH (SW8015M); methane, ethane, and ethene (RSK-175); tritium (liquid scintillation counting); total dissolved solids (EPA160.1); total organic carbon (SW9060); major cations – calcium, magnesium, manganese, total iron, potassium, and sodium (SW6010B); major anions – bromide, chlorine, nitrite, nitrate, sulfate and phosphate (EPA300.1); and alkalinity and carbonate (EPA310.1). In addition, the conductivity, potential of hydrogen (pH), temperature, dissolved oxygen, oxidation-reduction potential, and turbidity will be measured at the time of sampling. During

drilling, a groundwater sample will be collected directly from the bore hole for rush VOC analysis after groundwater has been intersected to aid in determining the next well location.

4. Sampling and analysis of groundwater from the four existing site monitoring wells, one existing underground storage tank (UST) monitoring well, and one off-facility water supply well (three events). The groundwater from the existing monitoring wells will be analyzed for all of the parameters in (3) above. The off-facility well will be analyzed for VOCs only.

5. Performing monthly groundwater elevation monitoring of all existing wells for one year and new wells as they are constructed.

6. Performing other related activities to accomplish the field program.

Task 6 Performing data validation and management.

Task 7 Performing investigation-derived waste characterization and handling in accordance with the Final Basewide Investigation-Derived Waste Work Plan (Radian, 1995) and recent HAFB guidance.

Task 8 Preparing a Strategic Plan for site management and remedial planning.

Task 9 Incorporation of the additional soil/rock data and groundwater investigation data into a Data Summary Report and continued development and refinement of the sludge drying beds and LMTA Site Conceptual Model.