



## Robotic Site Characterization Former Camp Swift RI/FS (K06TX030402)

**U.S. ARMY CORPS OF ENGINEERS**

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**Objective:**

Collect geophysical data utilizing an Unmanned Ground Vehicle (UGV) to increase productivity, survey coverage and minimize field labor requirements.

**Problem being solved:**

The Camp Swift RI/FS covers ~40,000 acres and TPP meetings with the regulators have resulted in a proposed **218 miles** of site recon data **and 428 miles** of initial man-portable single EM61 transect data to support RI/FS decisions. Additional transects and grids will be collected once the initial transect results are analyzed. There is a tremendous amount of manpower currently scheduled to perform this survey that could be performed in a faster process with higher data quality results.

**Describe the Technology:**

This project will incorporate an autonomous UGV towed geophysical array to collect data with much greater productivity, double the survey coverage in a single pass and lower labor requirements to fulfill the TPP requirements.

**Technical approach:**

CEHNC will modify an existing Cooperative Agreement with Auburn University, who will integrate previously developed and tested robotic survey algorithms on a rugged UGV platform. Auburn University and CEHNC will provide operational training to geophysicists from CEHNC, CESWF and the Camp Swift RI contractor, Tetra Tech Environmental Corporation (TTEC). Tetra Tech will then operate the robotic system as Government Furnished Equipment (GFE) to perform geophysical surveys in all appropriate and accessible areas of the project site.

**Expected DoD Benefit:**

The system dramatically increases productivity and minimizes labor requirements when compared to conventional man-portable systems. The increased data coverage that results from using an array of EM61 coils over a single coil allows limited discrimination ability to be performed on the resulting data. The system has the benefit of not requiring UXO tech support in areas that have not had a surface clearance performed on them prior to the geophysical survey. This project will demonstrate how to accelerate field RI/FS investigations for future MMRP projects.

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