

Development of a Master Environmental Reference Site (MERS) Remote Display for the YPG Countermine Facility

The objective of this project was to develop a remote display monitor that will display meteorological and soil data from the above-ground met station and the four instrumented MERS boxes at the Yuma Proving Ground Countermine facility. The display system was then located in the Control Building at the YPG countermine site to provide information on current and past soil environmental conditions. The primary data collected and available for remote display includes soil temperature, water content, and dielectric permittivity at varied depths in proximity to a number of varied targets in different soil media. The data from the field situated instrumentation provide useful information to support the Mines, Countermine, and Demolitions Engineering Team and associated clients.

Summary of Project Details:

We created the device from the following equipment:

- LG LV340C 55"-class full HD commercial LED TV
- OHN full motion TV wall mount
- Dell industrial computer and mouse
- RV50 cell modem and external antenna

The display itself mirrors a Desert Research Institute hosted website that is remotely accessible and password protected with permissions for client access coordinated through YPG and granted by DRI personnel. In addition to the current meteorological and soil conditions, historical data can be displayed as graphs and made available for search and download. Requests for historical data can be downloaded via the website or coordinated through DRI personnel.

Management Implications:

Environmental soil conditions, temperature, water content, and dielectric permittivity, have large impact on countermine detection technology. This remote display capability provides accurate, in situ measurements that inform projects.

