

## **CONSTRUCTING A GEOPHYSICAL TEST SITE FOR RESEARCH AND EDUCATION ACTIVITIES: LESSONS LEARNED AND PRELIMINARY RESULTS**

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A geophysical test site (GTS) contains subsurface targets of known materials, orientations, and depths. These sites offer unique opportunities for geophysical research, training, and educational activities. GTSs provide platforms to investigate the penetration and resolution of different geophysical techniques for characterizing the shallow subsurface. GTS-based field exercises represent an interesting, motivating, rewarding, and enjoyable experience for both students and instructors. Recently, we have constructed a GTS at Corpus Christi, Texas (located at Texas A&M University—Corpus Christi). Our GTS (dimensions: 50 m × 50 m) contains several targets such as steel drums, plastic drums, plastic buckets, steel pipes, and well covers. The depth from ground surface to the top of the GTS targets ranges from 0.5 to 3 m. The GTS targets were selected to have magnetic, electric, and electromagnetic responses. These targets were chosen to simulate real-life situations. For example, the steel and plastic drums could represent chemical waste contamination, the steel pipes might represent part of a utility network (e.g., water, gas, electricity, telephone), and the well covers represent the heads of regular and/or abandoned wells. These targets were distributed along seven lines and grouped by material type. In this presentation, we provide a thorough description of the site location, subsurface geology, surface topography, and construction methodology, as well as the types, locations, orientations, and depths of the subsurface targets. We also provide lessons learned from the construction process that could serve as reference remarks for researchers interested in construction of new GTSs. Results of our preliminary magnetic and electromagnetic surveys are also provided. The research and education significance and implications of GTS surveys are also highlighted.