

## **BACKGROUND**

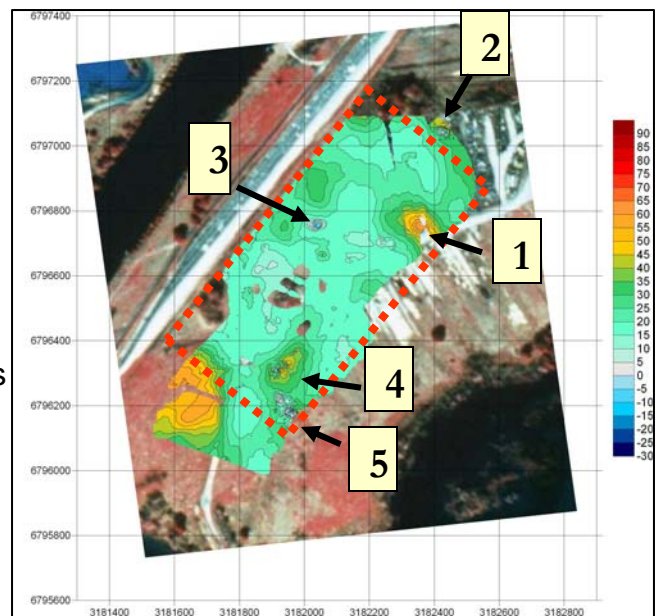
Texas Utilities contracted UIT and TBE Group to perform a geophysical survey at their Martin Lake facility in order to clear a large area for construction of a new generator. TXU was expecting to find old burial pits, trenches, and landfills resulting from general site use over the years. Much of the site in question had previously been used to store construction materials.

## **SCOPE**

Since burials could have been done at depths of 30 to 40 feet below current ground surface, a frequency domain electromagnetic survey technique was chosen and designed to penetrate to 40 or more feet. Over the course of the site investigation, 45,360 EM data points were acquired over 638,450 square feet. Results of the investigation show areas of buried metallic debris, potential burial pits, or trenches which consist of targets as big as 25 feet in diameter.

## **METHODOLOGY**

A DUALEM-4 geo-conductivity meter with a 4 meter transmitter-receiver coil separation was used to simultaneously record the terrain conductivity and in-phase measurements at two distinct depths. This data was recorded simultaneously with GPS position information using UIT's DAS data acquisition shell software and non-metallic survey cart. The EM data sets were merged with the position information and processed in order to generate two-dimensional contour maps of the terrain conductivity and in-phase results.



**Above:** Apparent conductivity results at the proposed main generating plant.

### **Feature Interpretations**

- 1 – Natural soil change
- 2 – Burial pit with metallic debris
- 3 – Shallow buried metallic debris
- 4 – Pit or trench with metallic debris
- 5 – Pit or trench with metallic debris