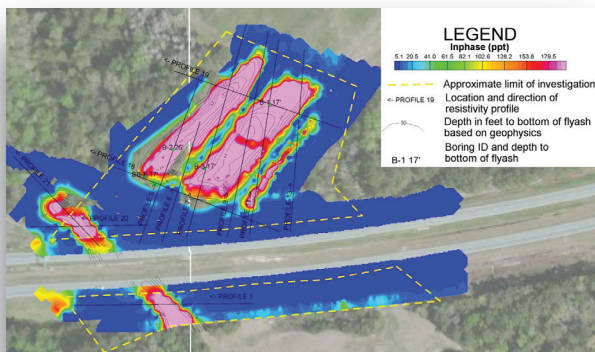


ELECTROMAGNETICS



APPLICATIONS

- Landfill and other burial delineation
- Contaminant leachate plume detection and delineation
- Acid mine drainage evaluation
- Underground storage tank detection
- Unexploded ordnance mapping
- Karst and void detection
- Groundwater exploration
- Mapping of aggregates/materials such as sand, clay, and gravel
- Ore deposit mapping

The electromagnetic (EM) methods include both frequency EM and time domain (TDEM) systems. Both utilize a transmitter and receiver. The frequency domain systems actively record the transmitted EM eddy current response directly, whereas the TDEM systems record later time secondary field eddy currents with the active signal turned off periodically. The eddy currents received are directly related to electrical properties of the subsurface.

The method affords very fast collection of data over large areas and is very effective at mapping changes in the ground conductivity from geologic variations and metallic objects buried to several feet underground. System configurations for frequency domain systems are typically highly portable while TDEM systems can range from towable systems to large loop systems several feet in dimension. Large loop TDEM systems can record later time secondary eddy currents from geologic features up several hundred feet deep.

Typical applications are for the detection of buried dumpsites, underground storage tanks, leachate or other conductive plumes, and deeper geologic structures. EM systems can also be used for locating buried utilities, particularly pipelines or other conductive utilities.

