



# Geophysical Services

Environmental • Groundwater • Geotechnical

## Geophysics *for*

### Geotechnical Engineering Ground Water Resources Environmental Engineering

**Geophysical methods are effective tools for characterization programs. These “non-intrusive” techniques can greatly increase knowledge of the subsurface in a cost-effective manner. Geophysical techniques offer the following advantages:**

- Improve geologic interpretation.
- Positive interpolation between drill holes.
- Delineate and map subsurface faults, discontinuities and anomalous features.
- Site drill holes and test pits to avoid hazards.
- Map depth to bedrock, aquifers, aquitards, or other geologic strata.
- Delineate extent of saline groundwater contaminants.

## GEOPHYSICAL SERVICES

Northwest Geophysical Associates provides a wide range of geophysical consulting and field services:

- Program planning for maximum effectiveness.
- Field data acquisition.
- Data processing and computer analysis.
- Integrated geologic/geophysical interpretation.
- Presentation of results in the most effective format.

## GEOPHYSICAL METHODS

Northwest Geophysical Associates has experience using most geophysical methods commonly employed for groundwater, geotechnical, environmental and hazardous waste applications:

- **Electromagnetic Induction (EM)**
  - ♦ Rapid, cost effective mapping.
  - ♦ Locating buried metallic objects.
- **Seismic Refraction and Reflection**
  - ♦ Detailed mapping of the bedrock surface and other stratigraphic horizons.
  - ♦ Mapping faults, discontinuities and collapse features.
- **Ground Penetrating Radar**
  - ♦ Detailed, real time profiles of shallow soils.
  - ♦ Locating buried tanks and utilities.
- **Time-domain soundings (TDEM)**
  - ♦ Electromagnetic depth soundings for detailed groundwater investigations.
- **Magnetic Surveys**
  - ♦ Rapid profiling for geologic mapping.
  - ♦ Locating buried metallic objects.
- **Gravity Surveys**
  - ♦ Detailed microgravity surveys for geologic mapping.
- **Resistivity Sounding (VES)**
  - ♦ Vertical electrical soundings (VES) for geoelectric stratigraphy.
- **VLF Resistivity**
  - ♦ Rapid reconnaissance mapping for groundwater or environmental problems.
- **Borehole Logging**
  - ♦ Detailed stratigraphy from downhole geophysics.

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