

Magnetotelluric (MT) Survey

Passive · Temporary · Non-Invasive

What Is a Magnetotelluric (MT) Survey?

An MT survey is a passive listening study that uses small, temporary sensors to record naturally occurring electromagnetic fields that constantly flow through the Earth. No energy is generated and nothing is transmitted into the ground.

The survey does not test for, detect, or extract hydrogen or any subsurface resource. It collects data on subsurface rock formations that are used to build digital geological models. This survey is only the first step in a multi-stage evaluation process.

What equipment will be utilized on your property?

An MT survey station uses simple, surface-based instruments to measure the Earth's natural electromagnetic fields. Each setup includes:

- Data logger at the center, records signals over time
- Electrodes (about the size of a Coke can) are placed in the ground (north, south, east, west) and area connected to the data logger via cables (~165 ft long)
- Induction coils (about the size of a baseball bat), are placed just below the subsurface aligned in three directions and connected via cables to the data logger



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How is the Equipment Installed?

- Site locations are accessed via existing roads or on foot when no road access exists
- Pre-deployment photos are taken to document existing conditions
- Electrodes and induction coils are buried using hand tools only
- Sensors are present for approximately 48 hours
- Equipment is then removed and the site is restored

What This Survey Does NOT Do

- ✗ No Drilling
- ✗ No Heavy Equipment
- ✗ No Emissions
- ✗ No Vibrations
- ✗ No Wildfire Risk
- ✗ No Impact to Animals
- ✗ No Electrical Charge
- ✗ No Noise

Environmental Protection

These surveys are non-invasive, surface-level measurements that pose no risk to property or water. The equipment is battery-powered with no chemicals, fuels, or hazardous materials. Sensors are small, temporary, and passive - they only record natural signals without emitting anything. Work is coordinated with local, state, and federal agencies to ensure compliance with all environmental protection standards.

Access is only granted with your permission. Equipment placement is coordinated with your feedback. These surveys are a first step to determine whether the area is suitable for further scientific study. Some surveyed areas never move beyond this phase. Any future work would require landowner permission, new permits, additional approvals, and further community engagement.