



Profiler

Multi-Frequency EM Conductivity Meter

The Profiler EMP-400 is GSSI's powerful electromagnetic induction tool. This EM product was built from the ground up using a proprietary source cancellation and calibration system to create superior signal stability at an affordable price.

Typical Uses

- Environmental assessment
- Archaeology
- Geological investigation
- Site assessment
- Ground water investigation
- Agricultural research



Acquire Data

- User-friendly system
- Unmatched signal stability
- Multi-frequency system

Deliver Results

- Flexible battery options
- Real-time results
- Files are stored on internal memory and structured in Excel format

Premium Mobility

- Lightweight – weighs under 10 pounds
- Wireless data logger eliminates cable noise
- Integrated GPS
- Environmentally sealed system that is durable and easy to transport



Profiler Solutions

Geophysical and environmental professionals require a reliable and accurate means to examine soil conditions and structures found beneath the surface of the earth. GSSI's GPR and EM instruments have long been the choice for geophysical investigations with a wide range of high precision, field proven tools.



Versatility and Functionality

The Profiler EMP-400 is a frequency domain, electromagnetic profiling system. By acquiring multiple frequencies, the user can select the frequencies that provide the best results for a specific application.

The Profiler system's mechanical structure and electronics are designed for maximum structural and thermal stability. These key features minimize signal drift and maintain an accurate zero level and system null across the full bandwidth of the system, whereas signal drift is a common problem with traditional EM instruments.



Partnering GPR and EM Technology

Use GSSI's Profiler EMP-400 as a stand-alone geophysical instrument or as a complimentary tool to our GPR products. Many companies find EM to be an effective survey method for large-scale environmental assessments, such as UST and drum locating, plume mapping and landfill delineation.

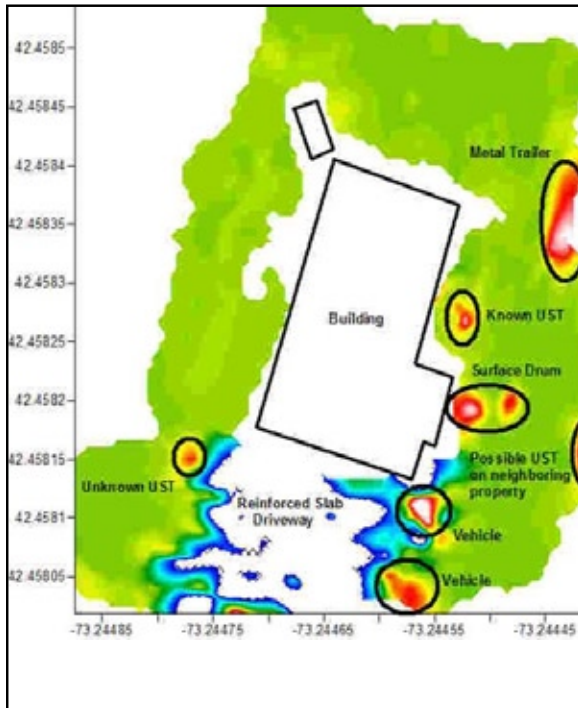
By using the Profiler as a quick reconnaissance level survey tool, users are better apt to narrow down areas of interest on large survey sites and use GPR to concentrate on anomalies.



Data Solutions

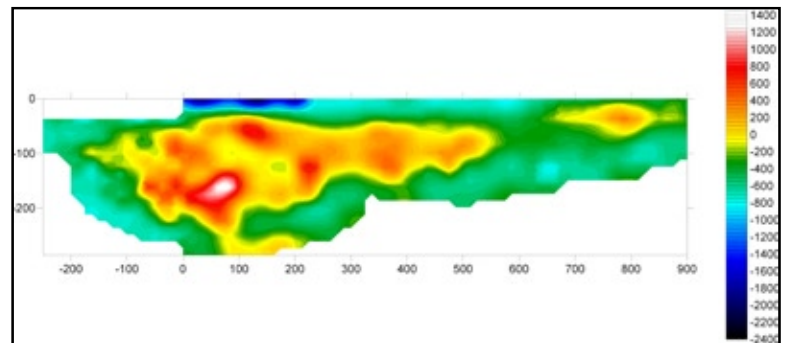
The Profiler can be configured to simultaneously measure up to 3 frequencies between 1000 Hz and 16,000 Hz. The system can be deployed in either the vertical or horizontal dipole mode.

Environmental Assessment



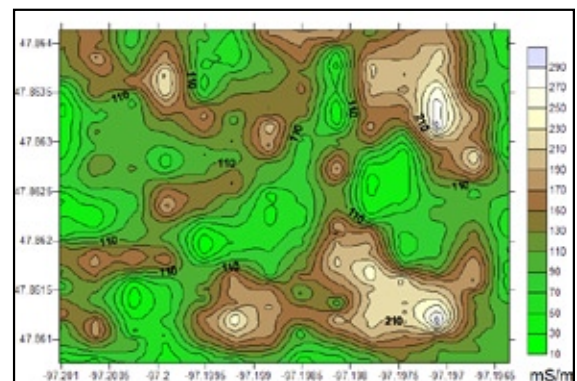
Data from a former industrial site with different types of subsurface targets, including contaminants in the soil caused by abandoned USTs. Note use of GPS for data positioning.

Landfill Delineation



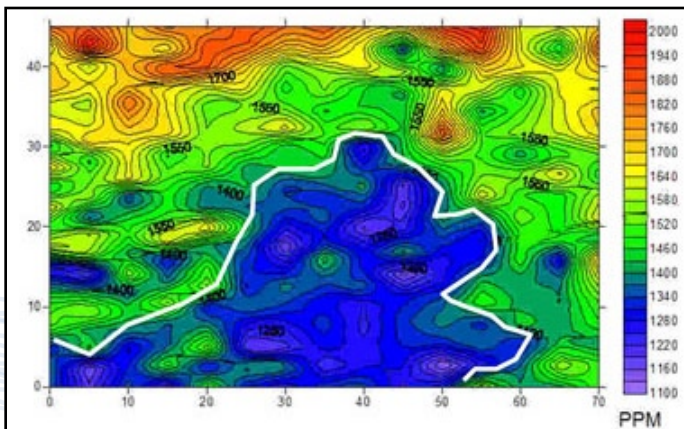
Soil conductivity map of a former landfill site indicating lateral extent of areas of high conductivity caused by landfill refuse.

Precision Agriculture



Data shows areas of high conductivity that are the result of salt intrusion into the overlying soils.

Geological Investigation



Data illustrates the lateral extents of a resistive anomaly common to sinkhole geology.

Electromagnetic Induction Method Explained

EM instruments contain two sets of coils that are located on opposite ends of the tool. One set of coils is used to transmit a primary magnetic field, which generates an electrical current into the ground. The induced current then generates a secondary magnetic field, which is sensed by the coils in the receiver end of the instrument. Data is then displayed on a control unit indicating the conductivity of the earth.

EM Equipment

The Profiler system is made up of two main components:

- 1 EM instrument; which is comprised of the transmitter (a), receiver (b) and electronics enclosure (c)
- 2 PDA; the instrument interface



System Specifications

System	
Coil Spacing	4 ft (1.21 m)
Operational Bandwidth	1 kHz to 16 kHz
Memory	248.5 MB 180,000 continuous data points 360,000 discrete data points
Power	Re-chargeable Lithium Ion battery or 8 (eight) AA batteries
Data Transfer	Microsoft® Active Sync
Display	2.2 x 2.9 in (5.58 x 7.36 cm) color screen
Records up to 3 frequencies simultaneously	Measurement values: In-phase: PPM Quadrature: PPM Conductivity: mS/m
Mechanical	
Dimensions	57.5 (l) x 9.5 (w) x 4.9 (h) in (1.46 m x 24 cm x 12.4 cm)
Weight	9.9 lbs (4.5 kg)
Environmental	Water Resistant

Profiler Includes

- Profiler EMP-400 System with wireless, handheld computer
- 12-channel GPS
- 2 batteries
- Battery charger
- Carrying strap
- Rugged transit case
- Instruction manual
- Training (at GSSI: NH or CA)

