

sales@geomatrix.co.uk

www.geomatrix.co.uk



# Geophysical Exploration Equipment Platform

The Geophysical Exploration Equipment Platform (GEEP) provides a faster more efficient survey method allowing for multiple instruments to be mounted simultaneously.

This reduces survey times and allows fast coverage of large or complex areas.

Efficiency is achieved by allowing multiple instruments (or sensors) to gather data simultaneously without the need for extra surveyors.

Positional grids are also made redundant as the GEEP comes equipped with a fully integrated Differential GPS, used to both accurately position the data, and display the survey route on screen.

GEEPLog software allows for real time QC of the data as readings from each instrument and sensor used are displayed in real time via the WLAN.

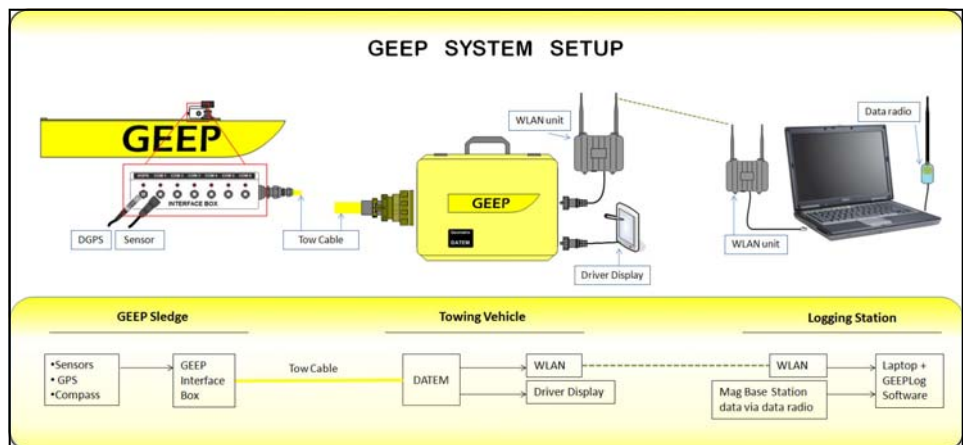
## Survey Benefits

- **Reduced survey time**
- **Real time QC of data**
- **No need for pre-defined Grids**



GEEP with attached mag deck for multiple magnetometer arrangements.

## GEEP Components



- **Geophysically invisible sledge** - Allowing for many instrument configurations.
- **Interface Box** - Compatibility for any instrument (continuous RS232 string required). With built in compass, humidity and temperature sensors.
- **Tow cable** - Providing power to the sledge and data to the DATEM
- **DATEM** - Converts and combines the instrument signals for Wi-Fi transfer.
- **Logging Station** - A laptop PC running the GEEPLog software
- **Driver Display** - No need for pre defined grids as the display shows your survey lines.



GEEP with subsidiary deck for EM34 survey

Geomatrix Earth Science Ltd

20 Eden Way

Leighton Buzzard

Beds LU7 4TZ

Tel: +44 1525 383438

Fax: +44 1525 382200

Email: sales@geomatrix.co.uk

www.geomatrix.co.uk

GEOMATRIX EARTH SCIENCE LTD

# GEEP

# GEEP vs Convention

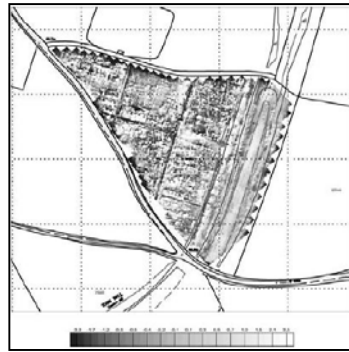
Pictured opposite are two data sets, one collected using the GEEP system, and the other using a conventional walking survey.

**Both** surveys were conducted over the same site (an old Roman City).

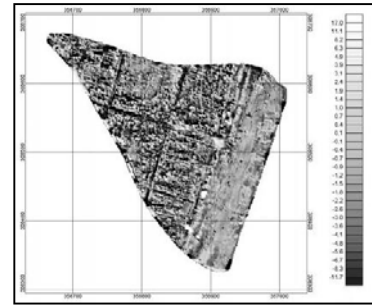
**Both** surveys were conducted using Caesium vapour magnetometers.

**Both** surveys showed the same linear features.

**One** survey took 3 days to complete, while the GEEP survey took only 3 hours!



*Magnetic data collected using a walking survey - Collection time = 3 Days*



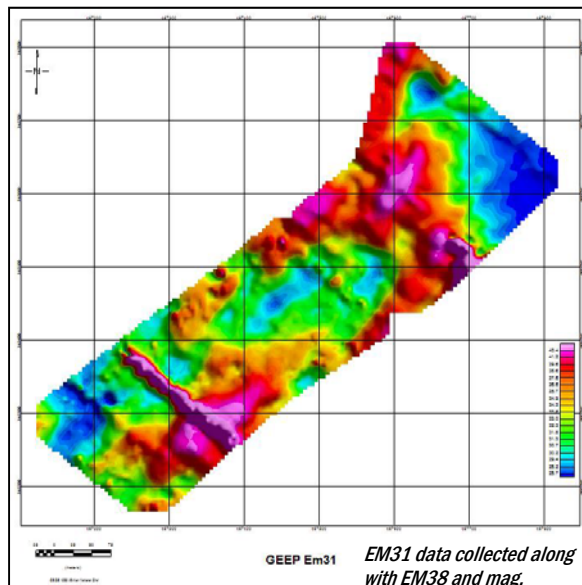
*Magnetic data collected using the GEEP  
Collection time = 3 Hours*

Reduced survey times due to multiple sensors surveying the area in one pass. DGPS gives positioning with no need for a survey grid.

## Large areas covered quickly!

This 700m x 200m field was surveyed using the GEEP. The sledge was loaded with 2 magnetometers, 2 EM38's and an EM31. Displayed to the right is the data from the EM31 component of the survey, clearly indicating the pipe running across the field.

This large area of approximately 15 hectares was traversed at approximately 6m line intervals and took just over 3 hours to complete. The towing vehicle was travelling at speeds of 6-7km/h.



*EM31 data collected along with EM38 and mag.  
Collection time = 3 hours.*

## GEEPLog

GEEPLog is the software used to handle all the data acquired from GEEP. Run on a remote logging laptop PC, the GEEPLog software records the data string received from WiFi connection and displays the data in real time plots

on the screen.

As well as displaying all the sensor data from the sledge, GEEPLog can also handle values from an external data source. For example this could be a magnetic base station. These readings are all compiled 5 times a second and written to file along with the DGPS, compass, temperature and humidity values from the sledge.

GEEPLog also allows you to input your sensor positions, check DATEM battery and temp status, view the driver display plot and start/stop and pause recordings.

The post-processor ensures that separate ASCII files are generated for each of the instruments.

## Applications

GEEP is suitable for many terrains and applications including:

- Archaeological prospection
- Mineral Exploration
- Engineering Site Investigation

GEEP can be configured to combinations of many sensors to include:

- EM conductivity, EM31, EM34, EM38
- Magnetometer
- Magnetic gradiometer
- Capacitive coupled resistivity (CCR)
- TDEM metal detector
- Gamma Ray Spectrometer

Popular sensor combinations include:

- Magnetometer + EM38 +  $\gamma$  Ray
- EM31 + EM38 + Multiple Magnetometers
- Multiple gradiometer + EM38

### Current Developments

#### More than just an EM61!

We are currently in process of developing a synchronization between EM61MK2's and Caesium mag sensors, to enable you to load multiple mags and EM61's to the sledge, thus further increasing coverage and reducing survey time.

#### How long will my survey take?

A GEEP coverage calculator will shortly be posted on the website ([www.geomatrix.co.uk](http://www.geomatrix.co.uk)) to enable you to determine the number of hours required for the GEEP to survey an inputted area. Use this to determine how much time buying a GEEP could save your company!



*GEEP loaded with 4 mag sensors and an EM38*