

HeliMAGer™ system

Geophysics GPR International Inc. has designed and built an advanced new heli-borne multi-sensor magnetic system for low ground clearance, close line spacing survey operations. The system was designed by experts with over 20 years experience in aeromagnetic surveying, in collaboration with aeronautical engineers. The result is a very stable, low noise platform¹.

HeliMAGer™ survey advantages

- A unique design, stable, low noise platform
- Low ground clearance, tight line flying in any terrain
- True measured lateral, longitudinal and vertical gradients
- Replace ground surveys or minimize ground follow-up
- Free of costly line-cutting & clearing
- Lightweight and compact system for easy mobilization world-wide



Applications

- **Mineral exploration** (base metals and gold)
- **Diamond exploration** (detailed surveys)
- **Oil and gas exploration**
- **Environmental**
- **Buried ferrous metallic object** detection (UXO, pipelines, etc.).

The advantages of gradient measurements

HeliMAGer™ gradient measurements can increase the total field resolution by approximately 30%.

Thanks to its 6 m distance between the lateral sensors, a **HeliMAGer™** survey with a 75 m line spacing is equivalent to a single sensor line spacing of 50 m.

This reduction in the number of flight lines results in a substantial drop in the total survey cost.

Heli-borne vs. Fixed-wing

- Able to keep a lower ground clearance (improved sensitivity)
- Able to keep a more constant ground clearance (tight draping)
- Slower flying speeds (higher data density)
- Able to operate in remote areas (no runway required)

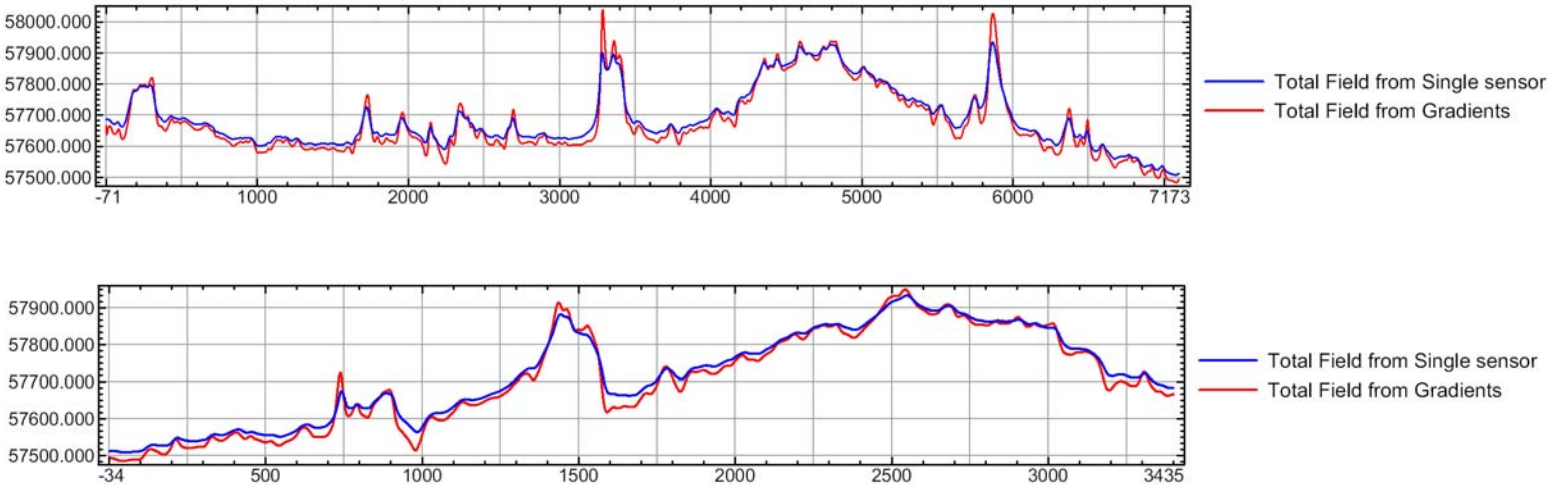
Features

- A unique new bird design providing aerodynamic stability and capable of maintaining a **low ground clearance** over areas of **rugged topography**
- A sub-metre precision real-time DGPS and a radar altimeter, **both antennas are mounted on the bird** to ensure positional accuracy
- A very robust, lightweight and portable system means **rapid mobilization** to the survey area, **world-wide**
- For use with **any type of helicopter**: Hughes 300, R44, Bell 206B / L , Astar BA, B2 or B3, Lama, etc.
- **Latest technology** Geometrics high-sensitivity cesium vapour magnetometers, with a sensitivity of 0.003 nT (@10 Hz), and a **sampling rate of up to 20 Hz**

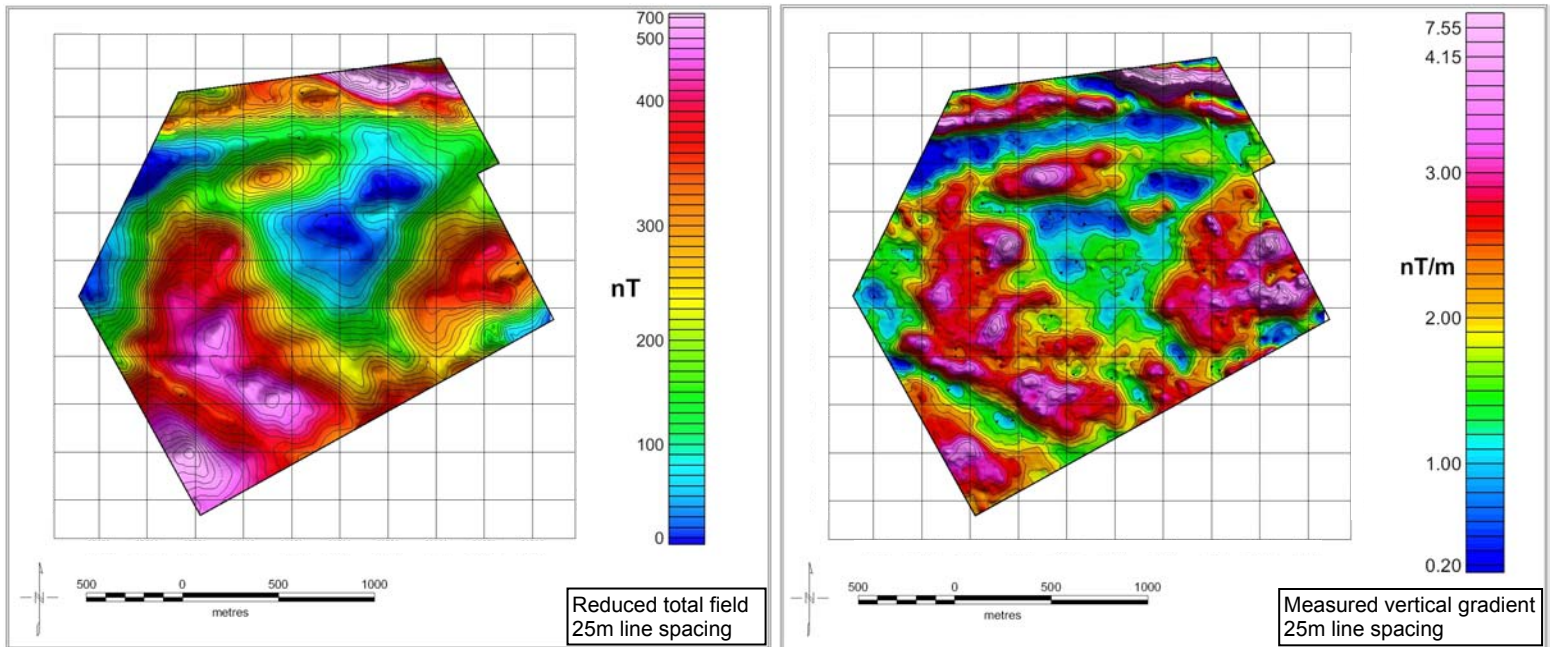
¹ Patent No. : US 6845936 B1

Comparison between Single sensor and Gradient measurements

The comparison between profiles corrected using traditional methods (Diurnal, Lag, and Heading) and profiles reconstructed using the lateral gradients shows the advantage of gradient measurements. The magnetic anomalies on the profiles below present a higher resolution and a better dynamics on reconstructed profiles using the gradient measurements.



Total field results versus vertical gradient results



Data provided courtesy of SOQUEM Inc. and EXPLORATIONS MINIÈRES DU NORD Inc.

Contact us today to find out how your exploration programme could benefit from a HeliMAGer™ survey.