

Designed for Precision 

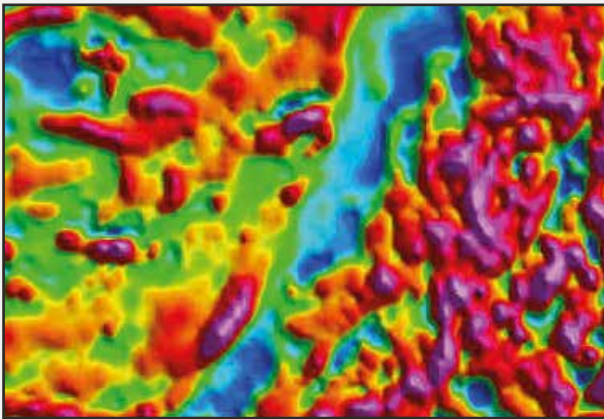
Airborne

GEOPHYSICAL SURVEYS

METHOD

Airborne Technologies offers horizontal magnetic gradiometer on fixed-wings aircrafts. Measuring the gradient enhances the resolution of complex geology and improves the localizing of magnetic anomalies.

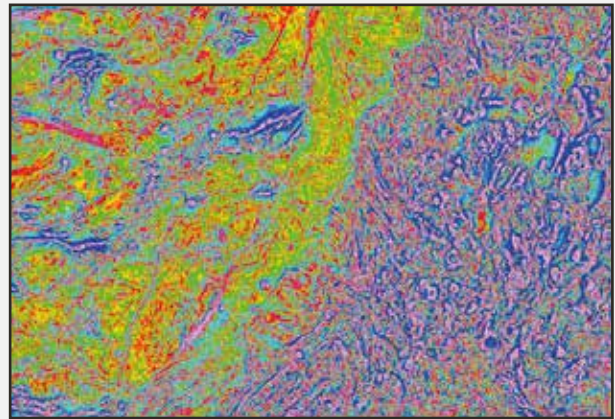
- Total field and horizontal magnetic gradient recorded at the same mission
- Better resolution of near surface magnetic bodies
- More geometric information compared to total filed measurements
- Higher sensitivity to smaller bodies



Total field magnetic anomaly

APPLICATIONS

- Regional structure mapping, mapping of non magnetic lithologies, estimating unit thickness and continuity depth
- Basin mapping for stratiform copper and placer gold
- Detailed basin mapping for oil and gas
- Mapping of layered complexes
- Greenstone belt mapping
- Precise location of contacts, dykes and faults
- „Magnetic axis“ within many of the magnetic units
- Indication of the dip of some magnetic units
- Discrimination between cultural and small geological sources such as Kimberlite



Magnetic 1st vertical derivative

PRODUCTS AND DELIVERABLES

- Digital data
- Raw- and compensated magnetometer readings
- Aircraft position (adjusted trajectory)
- Additional sensor data (GPS/IMU/Altimeter)
- RTP (pole reduced) or RTE (equator reduced) anomaly
- Wave number filtered derivatives
- Upward field continuation of the magnetic field
- Quantitative interpretation of the magnetic anomaly
- Hard copy maps
- Magnetic anomaly maps
- Structural maps
- Additional maps (tbd by the customer)



Figure of Merit Flight

OUR SERVICES

Survey planning and management

- Permissions and over flight rights
- Survey design and pre flight calibration
- On site logistics and security in austere regions
- Regional assessment

Data acquisition & quality control

- Magnetics
- Gamma ray spectrometry
- Gravity
- Remote sensing (LiDAR, Hyperspectral, Thermal, etc.)

Geophysical data processing

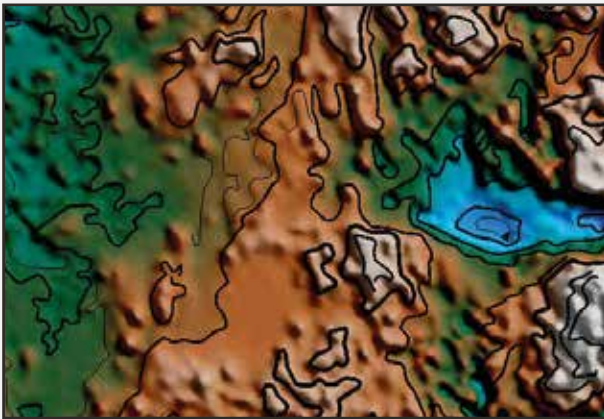
- State of the art processing techniques
- Proved in-house developments and solutions

Data interpretation

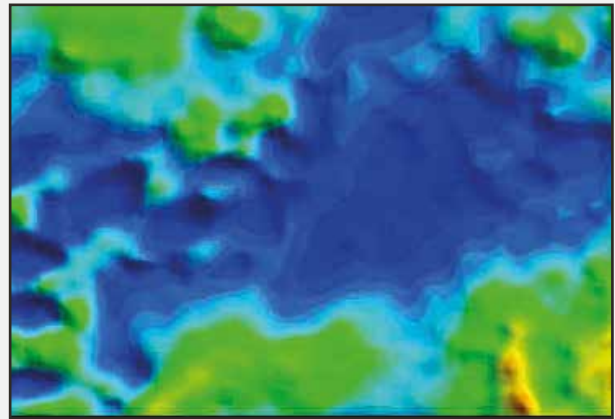
- Extensive potential field experience
- Integration with other geophysical exploration and remote sensing data

Research

- Geophysical data processing
- Efficient instrumentation for survey operation



Digital elevation model



Bouguer anomaly



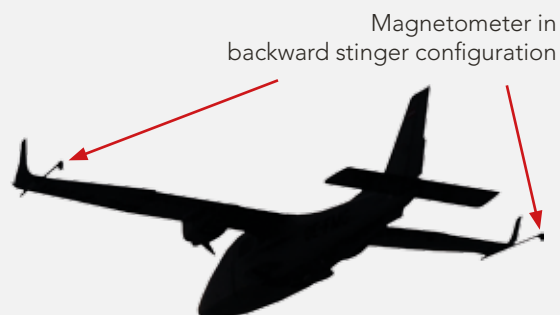
OUR STRENGTHS

- Broad range of geoscience solutions due to latest sensor technology
- An own fleet of aircraft guarantees reliability for the customer
- Enhanced processing and interpretation through own developments



SYSTEM SETTINGS (Platform)

- Horizontal gradient configuration (10.6 m gradient)
- 2 pilot, 1 operator capability
- Tri-axial fluxgate for aircraft compensation
- Up to 8 hours endurance with additional tanks without refuelling stops
- Radar altimeter and GPS/IMU for flight path recovery
- 0.1 nT aircraft noise
- Additional sensor capabilities (Gravity, Gamma Ray, LiDAR, Hyperspectral, Thermal)
- Fully EASA certified



SYSTEM SETTINGS (Sensor Equipment)

- Operating principal
Self-oscillation split-beam cesium vapor (non-radioactive Cs-133)
- Operating range 15.000 – 105.000 nT
- Gradient tolerance 40.000 nT/meter
- Operating zones 10 – 85° and 95 – 170°
- Sensitivity 0.0006 nT
- Noise envelope 0.002 nT 0.1 to 1 Hz
- Absolute accuracy < 2.5 nT throughout range



ABOUT THE COMPANY

We are an Austrian private limited company based at the Wiener Neustadt Airport. Our company consists of a team of experts in aviation, system engineering and geo-data acquisition.

Our scope of services includes the integration of any Airborne Remote Sensor into the customers' platform, the development of customized ISR Turnkey Solutions as well as the acquisition and processing of geo information for governments, police, military and many sectors of industry.

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