GEOPHYSICAL CONSULTING
Data Processing
Interpretation Services

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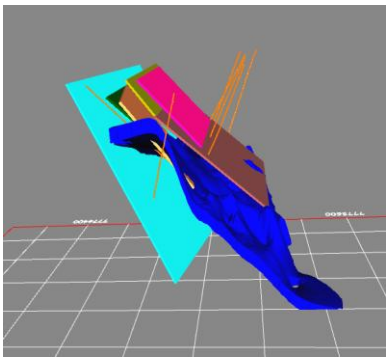


Eikon Technologies has been serving the geophysical community for over 30 years through its innovative and leading-edge software products for the processing, mapping and interpretation of geophysical data. We also provide contract survey design, data processing as well as advanced interpretation of non-seismic data for a variety of purposes.

Resource Exploration

Mining

- Data processing and quality control (QC) of survey data for exploration purposes
- Survey planning and design, contract negotiation, data and personnel management
- Delineation of ore deposits through detailed modeling and inversion
- Report writing and map creation

Oil and Gas

- Potential Field Processing and Interpretation – ground, marine, airborne
- Magnetotelluric Processing and Interpretation

Geothermal

- Advanced processing of CSAMT (Controlled Source Audio Magnetotelluric) data
- Accurate modeling and interpretation through our proprietary software, EMIGMA
- Supporting Time Domain, MT, Gravity and Magnetic field data

Engineering

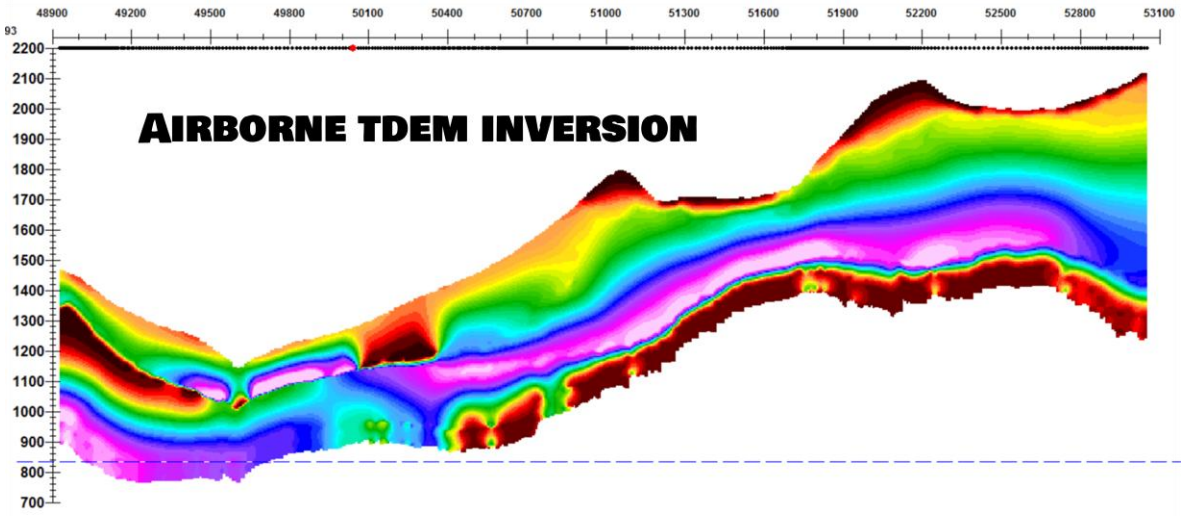
- Subsurface mapping including utility infrastructure mapping
- Location of buried objects such as drums, pipes and other structures

Environmental/Geotechnical

- Archeological site investigations, waste site characterization and mapping
- Groundwater exploration (aquifer and bedrock mapping)
-

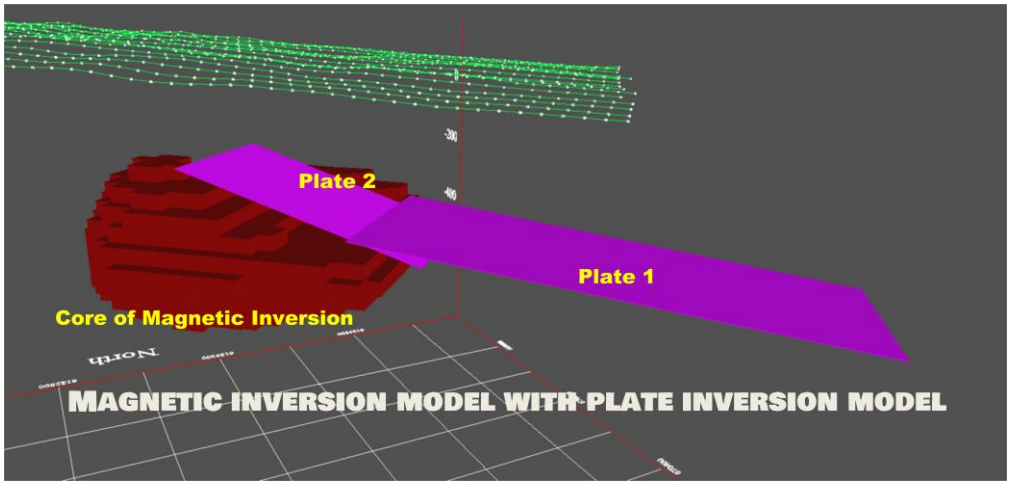
Quality Control for Airborne EM and Magnetics Surveys

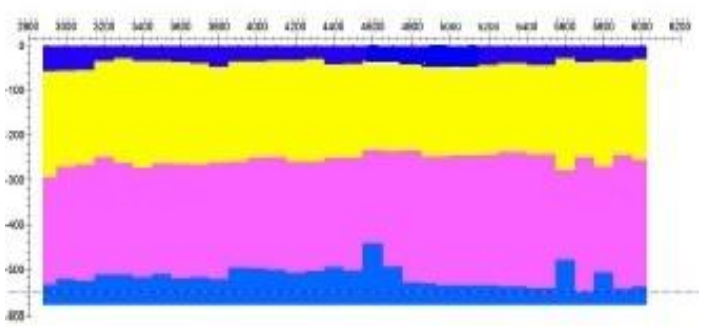
While airborne EM surveys are very useful, they are also very expensive. It is in your best interest to have your survey monitored for quality by independent experts, who specialize in time-domain and frequency-domain EM data from various helicopter EM systems as well as fixed wing systems. In addition to daily monitoring of both the EM and magnetic data and ensuring the collection of highest quality data, we offer prompt delivery of compilations and maps with interim results delivered during the survey and final products within a few days of the final flights. We also offer the most accurate magnetic processing results based on detailed analyses of base station and survey data as well as the best aircraft compensation techniques for fixed wing, UAV, helicopter stinger and towed arrays as well as drone aeromagnetics. It should be noted that most survey companies use a smoothing filter for compensation of aircraft effects rather than the properly derived mathematical functions. Proper compensation ensures that the fine features in your aeromagnetic data are properly derived. Additionally, if required, we can provide for the EM data: high-quality inversion sections and precise 3D modeling utilizing our advanced suite of algorithms. For the magnetic data, we can provide 3D modeling or inversion and an array of high-quality gradient products using our sophisticated gridding and Fourier techniques. Also, we can process your gradient data to properly de-rotate the data for aircraft orientations.



Ground TEM Data QC, Processing and Interpretation

Our years of experience in TEM data interpretation and processing provide us with a unique insight into TEM survey techniques and instrument behavior, which simply means the provision of the best quality data with the highest resolution for our clients. This is combined with our ability to offer highly-accurate and comprehensive interpretation and modeling results for your data. We offer combinedt interpretation of magnetic and EM. New thin sheet plate inversions offer the best in plate modeling and a new forward algorithm to accurately determine the effects not only of high conductive targets but also conductive targets which are magnetic. We offer these capabilities also for FEM data having the best tools for MaxMin , and VLF data.



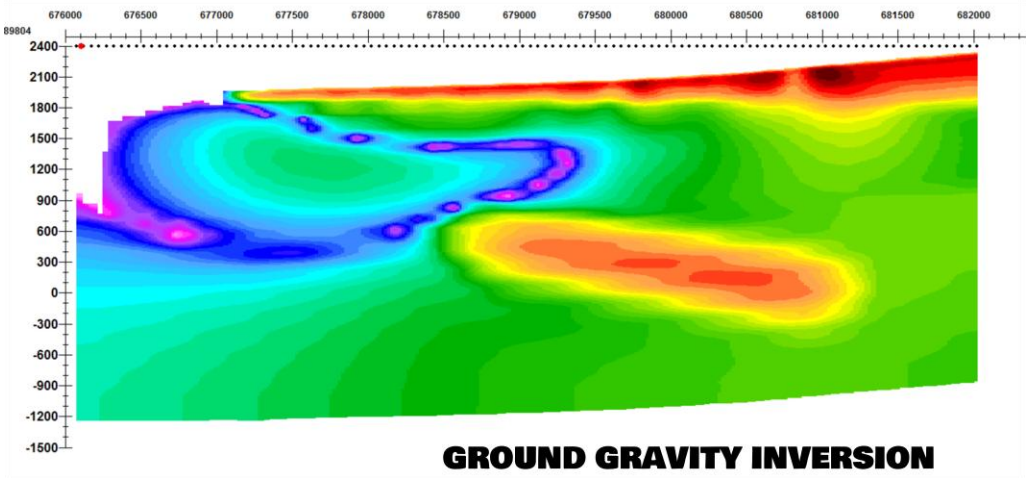


Specializing in wide-offset, deep TEM

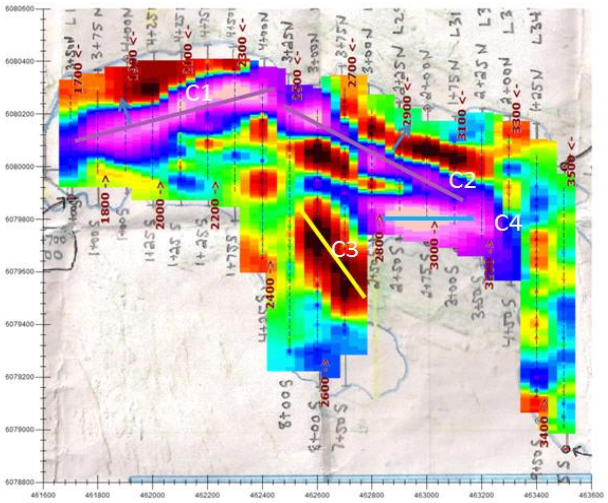
Soft and Hard Rock environments!

Resistivity Inversion Section from One Wide-Offset Loop Drilling Cofirmed

Magnetics and Gravity Data Processing and Interpretation



We are experienced in mining, geothermal and engineering applications for ground, underground, and marine surveys. We have developed the most accurate and comprehenive software and techniques for both gravity and magnetic data enhancing accuracy significantly over conventional approaches. We offer the most extensve capabilities for gravity and magnetic modeling as well as large model inversions using our own propriety multi-core apps providing unique interpretation capabilities. We provide map and model sharing formats with a wide range of mapping and CAD software platforms. We offer capabilities for ground/borehole gravity and magnetics and airborne magnetics



Combined Interpretation
of
Magnetics and MaxMin

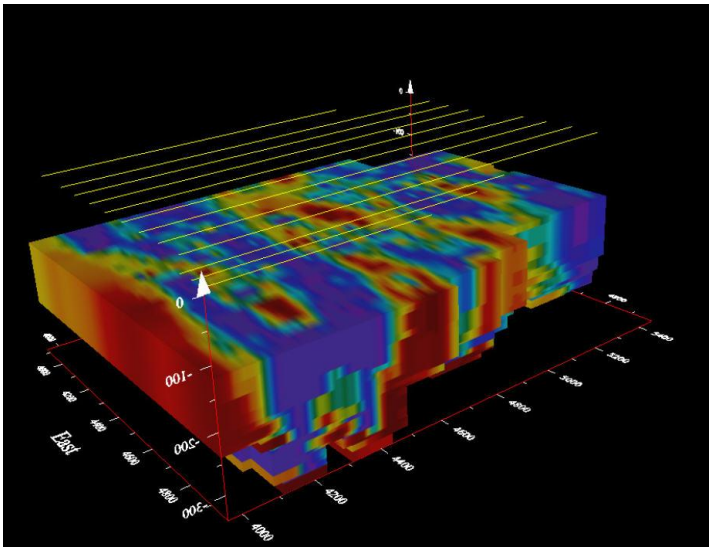
Resistivity/MMR/IP

Surface, Underground and Ground to Surface

QC, Processing and Interpretation

After extensive development to provide the very best in 3D modeling for IP and Resistivity and MMR data from complex surveys as well as inversion applications, we now offer high precision data interpretation for surface, underground and surface to borehole surveys. The ability to collect the right data and model accurately is critical in these procedures. We design not only precise data collection procedures, but also precise modeling techniques to include all the effects of the anomalous structure, the source and the background rock. Conventional forward and inversion modeling applications for both resistivity, MMR and IP solutions use only approximate techniques. We can provide you with numerous examples of incongruous interpretation results using physically implausable software.

Don't rely on smudgy, physically-inaccurate inversions!



3D Resistivity Inversion

Services for CSEM, CSAMT and Magnetotelluric

In many situations, the natural field sources are not strong enough or regular enough to provide the ability to collect high-quality data. In these cases, CSAMT is sometimes utilized. However, the user of such data should realize that a 3D source is used and this 3D source is not the plane wave of MT. Traditionally, this has led to the use of the data in the so-called far field. There is no need to make this assumption in our products, as CSAMT is treated like any other controlled source technique (CSEM) and the source characteristics are utilized accurately in both forward and inverse techniques. Thus, the source can be brought close to or even over the survey area. Our ability to use such interpretation capabilities provides you with accurate structural models and allows for all your data to be used, no matter the distance, the frequency or the azimuth. We have developed techniques to utilize both the electric and magnetic fields as well as multiple source arrays.

We are well known for MT data processing and interpetation skills as well as the techniques developed by our senior geophysicist, which are now standard around the world. Our principal has extensive experience, carefully analyzing and interpreting data from a wide range of instruments. We offer careful quality control as well as monitoring of surveys to ensure that the highest quality of data is collected. Dimensionality analyses are all offered as part of our service and appropriate techniques are applied to solve "statics" in the data. A simple use of TEM or resistivity data does not correct for the range of 3D statics that can occur in your data. From there, we offer interpretation of impedance and tipper data as well as forward and inverse modeling capabilities.

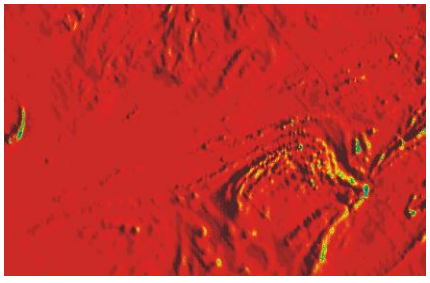
Survey Design and Contracting

We also offer survey design services to help you choose an appropriate survey for your exploration objectives while also providing quality control assistance during the entire process: From accurate modeling and inversion studies to finding an appropriate survey contractor as well as negotiating a suitable contract and then following through to ensure you receive careful data collection services and overseeing the delivery of final data products in a timely manner.

Airborne, Ground and Borehole data

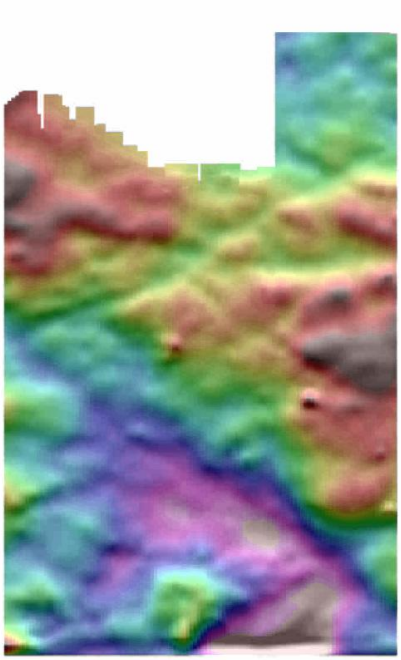
Data processing and Data Deliverables

We can perform all the basic plus advanced processing and quality control for your data and deliver the required data products as well as the final processed data and maps.



Airborne, Ground and Borehole

Reduction to the Pole (RTP) TMI
with horizontal derivative enhancements



Mathematically Derived Gradient Map

Processing Products

Magnetic and Gravity Corrections: With the use of our precise and unique algorithms, we can provide accurate and sophisticated data corrections including all of the basic data corrections as well as enhanced magnetic corrections for Ground, Airborne and Borehole surveys.

For gravity data, we offer the basic corrections, plus advanced techniques for topographic, bathymetric and isostatic corrections.

Ground, Airborne, Borehole and Marine surveys.

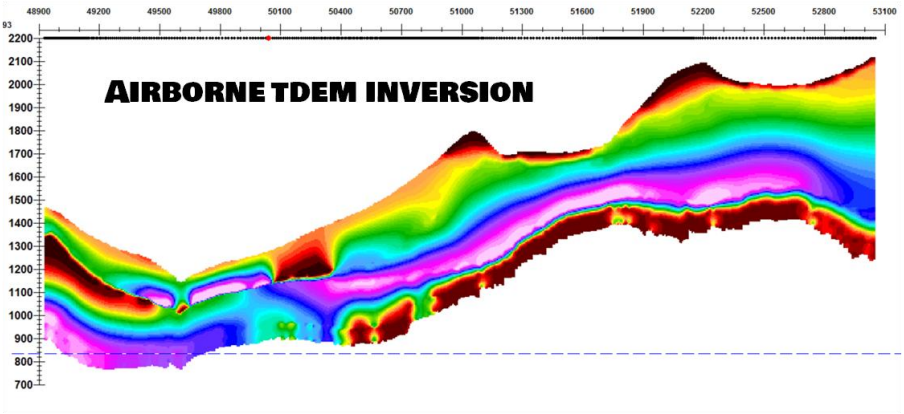
Magnetic and Gravity Gradients: With the use of our specifically-designed and accurate algorithms, we derive processed derivatives from total field data that are virtually indistinguishable from measured gradients and often considerably more accurate.

Gridding: Extremely accurate, high resolution, local gridding techniques originally designed for satellite data, but now available for airborne geophysics. Gridding techniques preserve the high spatial accuracy of your data along survey or flight lines. *Why spend millions on a modern survey and use ancient tools for producing your maps?*

Airborne Magnetic Processing: The most versatile and adjustable aeromagnetic compensation software with a simplified de-rotation for your measured gradients. Our approach utilizes a robust algorithm with appropriate filtering, which ensures sensitivity to small-scale features, not usually possible using conventional compensation software.We are the first to develop compensation for UAV and drone data.

Helicopter, drones, UAV and Fixed Wing

Airborne EM Processing: Accurate decay analysis maps for all airborne TEM systems, accurate apparent resistivity and depth estimates for your airborne HEM data. The most accurate inversion techniques for your airborne TEM surveys. 3D thin sheet inversions for airborne TEM and FEM. QC for correct elevations, waveforms and responses.



VTEM TDEM Inverse Rockie Mtns

Inversion Products

Gravity and Magnetics: Three dimensional, detailed inversions including inversion of your gradient and vector data from either airborne or ground surveys or any combination. A range of rock property constraints including use of properties derived from borehole or ground samples. For situations where data does not allow 3D, strike length defined 2D inversion.

Airborne Time-Domain: Extremely accurate, stacked, one-dimensional inversions for VTEM, Genesis, Xcite, SkyTEM and well as archived MegaTEM, GeoTEM, HeliTEM, TEMPEST and AeroTEM systems

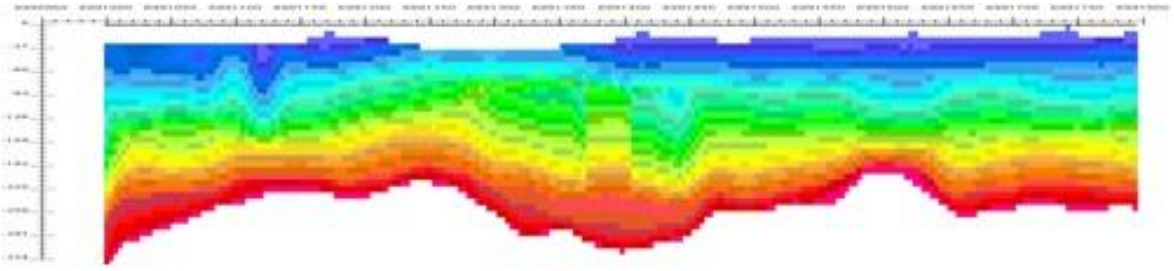
Airborne and Ground Frequency-Domain: Accurate, stacked, one-dimensional inversions or fast approximate conductivity-depth images. Our software is designed ground FEM systems including Max-Min, PROMIS, Geonics' EM-31/34/34R/38, CMD Explorer, GSSI and as well as archived GEM2/GEM3 data. We are able to handle order data from towed helicopter systems such as DIGHEM, Resolve or Impulse, as well fixed-wing systems including GTK and SGFEM.

Ground Time-Domain EM: Accurate one-dimensional inversions for either fixed or moving loop surveys. Ability to use both in-loop and out-of-loop data. Joint inversion of multiple offsets or multiple receiver orientations. As well, we can provide 3D thin-sheet inversions applied to full surveys, survey portions allowing for single and multiple component data. We can work with all TDEM systems.

Resistivity and IP: Detailed 1D and 3D constrained Resistivity Inversions using accurate electrode geometries. Remember, you cannot treat IP data as potential field data! We provide extremely accurate 3D IP models that take into account current interactions between structures as well as all IP interactions and EM effects.
Let our expertise and experience give you the INSIGHT you need!

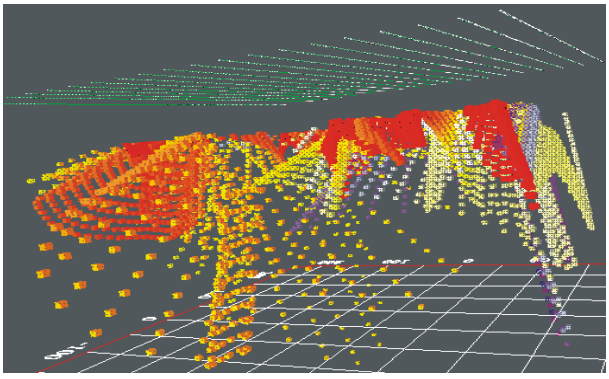
CSEM/CSAMT: Accurate and detailed 1D and 3D inversions utilizing true 3D source geometry. Utilizes a novel approach that accurately handles data not just in the *far-field*, but also in the *near- field* and the intermediate zone (between the *near* and *far* fields).

Natural Fields: 3D MT, ZTEM and AFMAG inversions.
Ability to invert the tipper vector data along with impedance data for MT inversions.



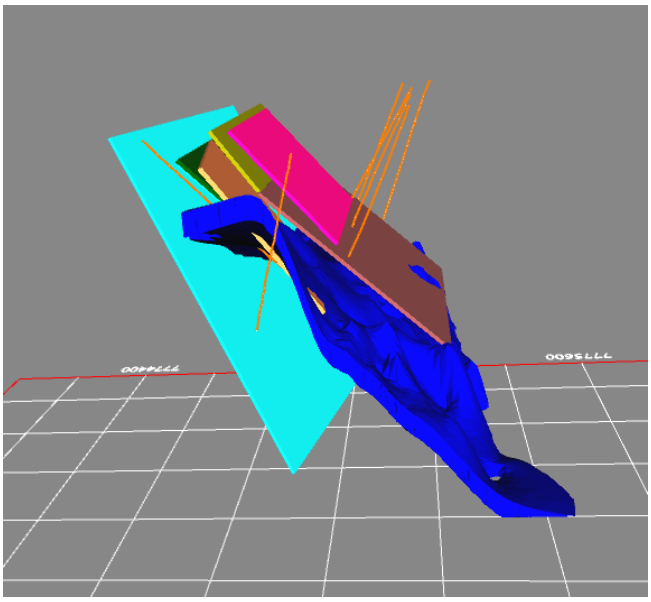
HEM Inversion

3D Extended Euler Depths: for Gravity or Magnetics using processed or measured derivatives from Ground or Airborne surveys. Post-processing and other tools available for target depth estimation.



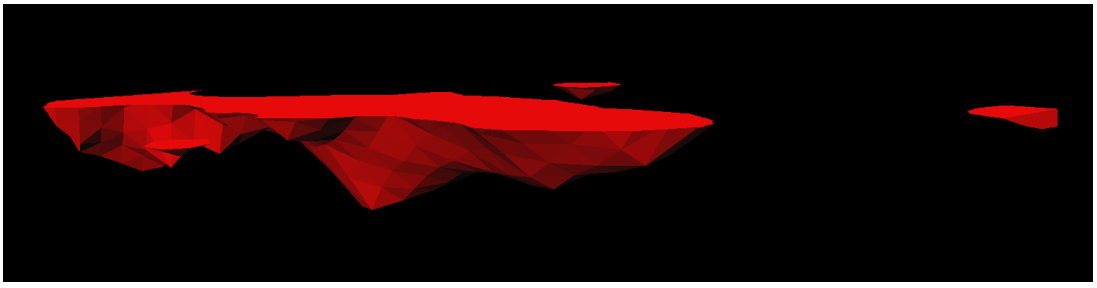
3D Geophysical Models

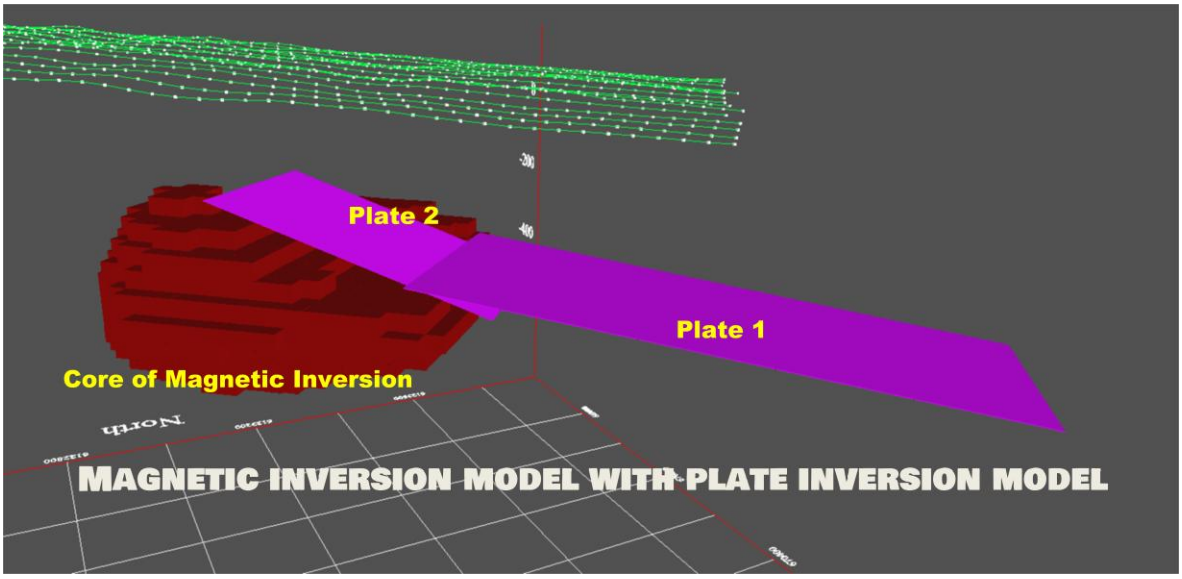
Before you drill, why not build an accurate 3D model of the geology from your geophysics? Having spent a significant amount on your data, why not spend a little more to get the edge you need for best drilling results? Models are exportable to various formats including 3D .dxf (AutoCAD), .asc (Vulcan) and .str (Surpac) for easy integration with other modeling software.



EM, Magnetic, Gravity, Resistivity or IP

We provide integrated models for all of your data related to your exploration objectives.





Free Detailed Data Evaluation

These days, you can't waste your exploration dollars. Many projects have data already collected but inadequately analyzed, processed and interpreted. There may be much more that could be mined from your data. But, you need to know if the people looking at your data have the skills to drill deeper into your data and produce useful information.

For new clients, we will undertake, at no cost, a detailed study and evaluation of one geophysical data set including any required modeling. We will provide you with a report suitable for adding to your assessment report, as needed. Our prices are also an advantage.

Email us for a quote!
Email: sales@petroseikon.com

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