

## **3D Geophysical Modelling Services**

For comprehensive geophysical interpretation

### Summary

Geophysical data are best interpreted in tight integration with the geological data. We combine the most practical and effective geophysical forward modelling and inversion, 3D geological modelling and visualization technology to achieve meaningful, business-focused results. Our team has been at the forefront of the development and implementation of quantitative modelling and inversion across the range of geophysical methods. We understand the complexity of the issues and the need for practical, geologically-driven solutions. We work collaboratively with clients to provide dependable advice and maximum interpretational value.



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We have extensive experience working across a range of scales from regional to deposit, and across a range of mineral exploration business needs. Our team works with a broad range of modelling technology and data types to create and deliver meaningful, client-driven models that serve as the basis for decision making. Our approach reduces ambiguity and uncertainty within 3D models, supported and cross-validated by multiple data sets.

# Our consulting services provide a broad range of advanced processing, modelling, and inversion technology:

- » orebody detectability analysis
- » survey design
- » 3D constrained inversion
- » 3D geological modelling
- » integrated interpretation
- » targeting
- » contract research
- » software development
- » gravity
- » magnetics
- » resistivity
- » induced polarization
- » electromagnetics
- » minerals seismic
- » petrophysics
- » interpretation workflows

Our team works across the complete spectrum of geophysical techniques. We can provide turn-key analysis and interpretation services to your exploration team.



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### **Key Services**

## Advanced processing, modelling and inversion

We use the industry's best available software technology to create fully integrated earth models of any complexity. We use a broad range of geophysical data processing, modelling, and inversion tools. Mira Geoscience's GOCAD/SKUA-based geophysical modules provide a wide range of geophysical utilities and flexible workflow interfaces for the organized set up and execution of forward modelling and geologically constrained inversion, including pre-processing of data and post-processing of results.

Our interpretation platform allows for an easy transition between the required raster and vector data support required for geologists and geophysicists to work together on a single 3D model. 3D geological models are attributed with petrophysical properties and adjusted to quantitatively match the geophysical field data. Our structural, formational, and facies modelling software tools ensure that 3D geological models respect a consistent structural, stratigraphic, and topological framework in addition to ensuring consistency between the geological models and geophysical data. We work with an extensive set of 3D-GIS, exploratory data analysis, and visualization tools to ensure data integrity and enhance interpretational insight. We provide results in common 3D formats for the easy communication of ideas.

#### Data we work with

We ensure fast, intuitive, and accurate 3D earth models, regardless of your data types. We work with geological, geophysical, geochemical, and geotechnical data from standard mining industry format and modelling and interpretation software formats: ArcGIS, MapInfo, AutoCAD, GOCAD/SKUA, Gemcom, Surpac, CAE Studio, Vulcan, Geosoft, Leapfrog, ER Mapper, ioGAS, UBC-GIF, VPmg, Profile Analyst, Maxwell, WinDiso, Paradigm Seismic tools, and others.

#### Our team of experts

With almost 20 years of experience and over one thousand complex projects completed, we know the best practices for modelling and interpreting challenging geophysical data sets. We are specialists in finding innovative ways to increase value, reduce the limitations, and understand the meaning of geophysical data. Analyzing data sets within a proper geology-geophysics integration framework has proved repeatedly to be a cost-effective way of adding value to projects. We will host meetings anywhere for project review, interpretation, or investment purposes.

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