SENSORE | INTREPID GEOPHYSICS

Discovering more with AI & ML enhanced exploration and software solutions

SensOre and Intrepid's industry leading platform combines geoscience data, unique innovative software, machine learning and AI tools to accelerate decision making and improve resource discovery success.

Natural resources demand is set to grow exponentially in coming decades while discovery rates dwindle.

We're empowering industry to deliver on resource demand by extracting more value from the whole spectrum of geoscience data and providing more accurate, sustainable and affordable targeting solutions.

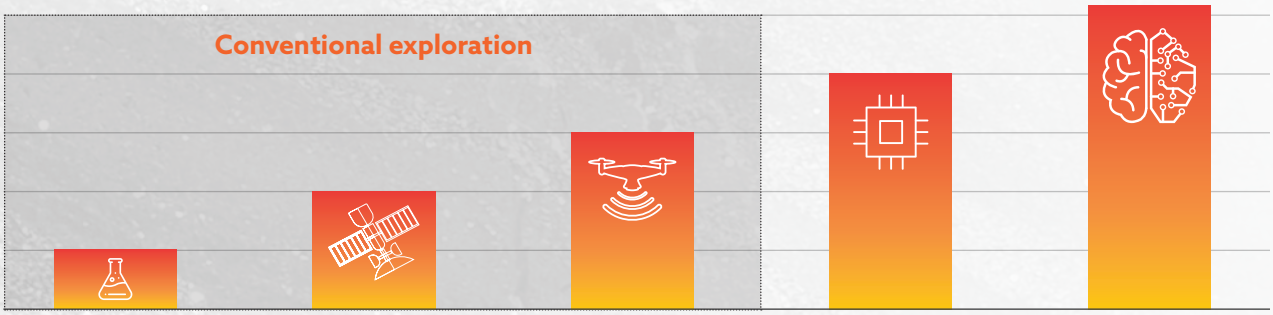
AI solutions to revolutionise resource discovery

Our product suite is built around the proprietary SensOre data cube, enabling data fusion to add value across the entire resources exploration pathway.

	Strategy Development	Area Selection	Target Generation	Target Testing	Resource Evaluation
Software	SDC	INTREPID 3D GEOMODELLER SDC	INTREPID 3D GEOMODELLER SDC	INTREPID 3D GEOMODELLER	GEOMODELLER
Services	INTERPRETATION INTREPID DATA CUBE SENSORE DISCOVERIES DATABASE SENSORE P-MAP SENSORE	INTERPRETATION INTREPID CAUCHY MOKSHA-AEM DISCOVERIES DATABASE SENSORE P-MAP SENSORE SAM SENSORE GEOCHEMISTRY SENSORE TEXT MINING SENSORE WormE®	INTERPRETATION INTREPID SimCLUST SENSORE CAUCHY MOKSHA-AEM DPT® SENSORE AGLADS® SENSORE DATA CUBE SENSORE SAM SENSORE iGOSSAN SENSORE WormE® TEXT MINING SENSORE GEOCHEMISTRY SENSORE	INTERPRETATION INTREPID SimCLUST SENSORE CAUCHY IGROCK SENSORE WormE® GEOCHEMISTRY SENSORE	SimCLUST SENSORE CAUCHY IGROCK SENSORE GEOCHEMISTRY SENSORE

Deploying SolaaS in resource discovery

SensOre is at the forefront of the AI revolution that is leading the 5th wave of industrialising resources discovery.



1st Wave
Geoscience data acquisition for detection

2nd Wave
Industrialising data acquisition for detection

3rd Wave
Industrialising via automated data analysis for detection

Industry 4.0 4th Wave
Industrialising through prediction via physical cyber systems for prediction

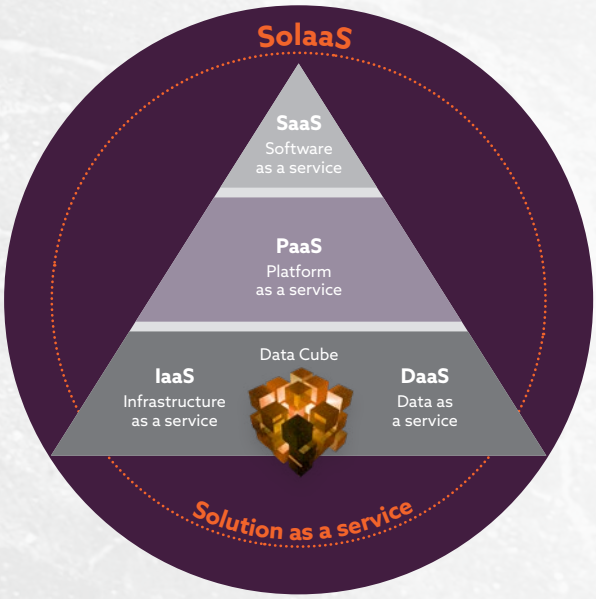
Industry 5.0 5th Wave
Industrialising through augmented human machine prediction Cyber biological ML and AI (ANI)

SensOre and Intrepid are accelerating their evolution into a **Solution as a Service** business; rolling data, software and platform into several solution services to deliver products assisting customers in making rapid and informed exploration investment decisions.

Solution as a service represents Industry 5.0, incorporating humans with Machine learning and AI.

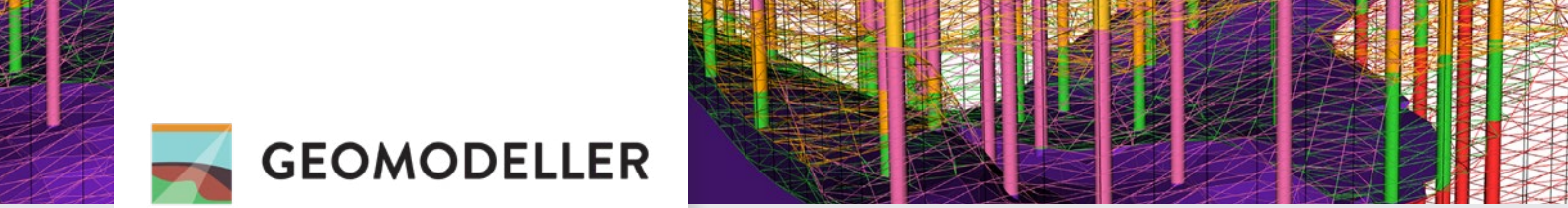
Software on its own requires constant tuning; it can't be adjusted once and left on "auto-pilot." This means if no one is properly implementing it for you, or targeting the analysis by asking the right kinds of questions, you run the risk of missing out on more elusive or actionable insights.

By putting humans back into the solution equation in the form of geoscience experts, SensOre Intrepid can deliver SolaaS to your project and help you accelerate discovery.



SensOre and Intrepid Software

SensOre and Intrepid's software solutions empower our clients with innovative science driven capabilities that deliver efficiency and high value exploration outcomes.



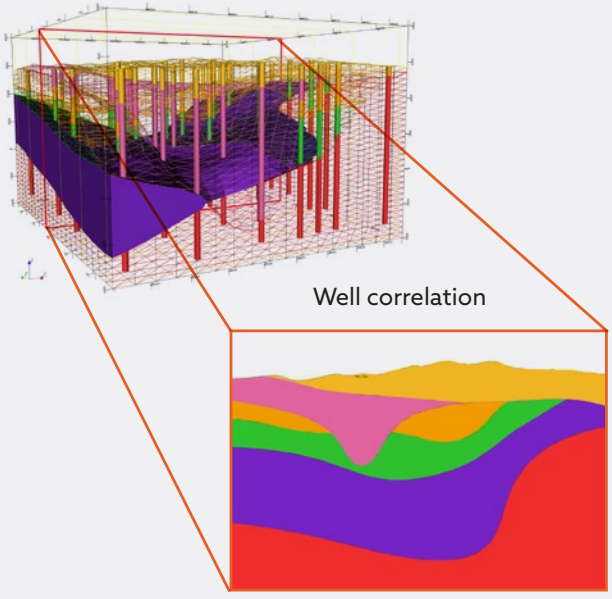
GEOMODELLER

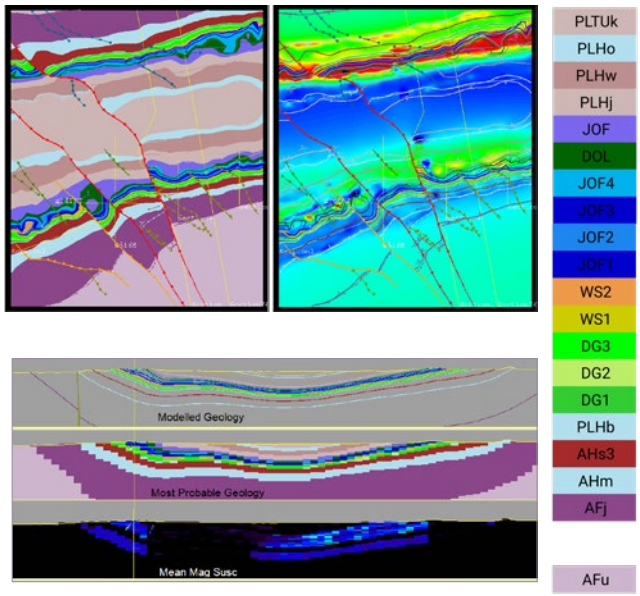
Minerals | Energy | Civil

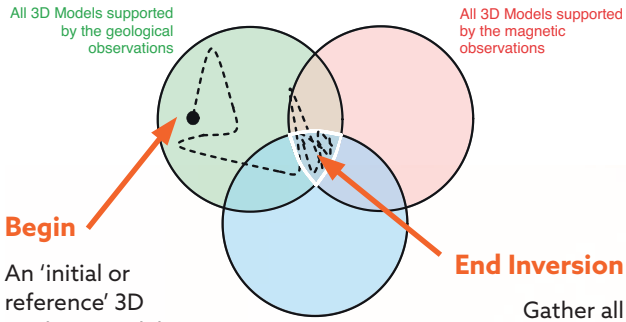
A modelling solution were geology meets geophysics. GeoModeller refines its implicit 3D Models with geophysical data, such as Gravity, Magnetics and Full Tensor Gradiometry, through a joint stochastic modelling process.

GeoModeller Key Features

- Set stratigraphic rules for your conceptual models, influenced by your geological and chronological sequences
- Manual and automatic well correlation
- Assign properties to each formation based on a probability distribution function to model with variation in density, susceptibility and velocity
- Calculate forward response from model of any potential field including gravity, magnetic, gravity & magnetic tensor
- Correlate geology, AEM inversions, and depth and structure from Intrepid 3D's Cauchy, WormE and other depth & interpretation tools
- Use powerful joint stochastic inversions to refine your base model







Begin

An 'initial or reference' 3D geology model produced to honour the geological observations

End Inversion

Gather all 3D geology models which are consistent with the observed geophysics to within a desired tolerance (ready for likelihood stats)

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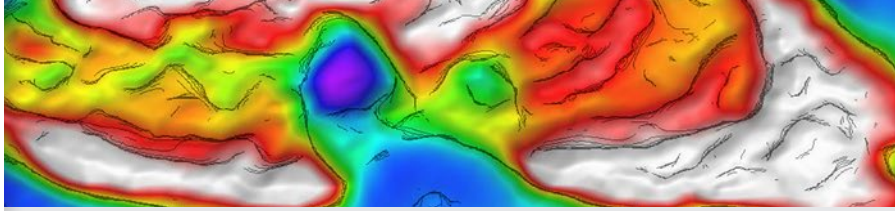
INTREPID 3D



Minerals | Energy | Environmental | Civil

An airborne and ground geophysical data processing and interpretation software suite. Intrepid 3D software provides a suite of features for multi-scale gridding, levelling, quality control and interpretations of geophysical data in an automated environment. Advanced features provide marine potential field data processing, depth-to-basement modelling, multi-scale edge detection and airborne radiometrics data processing. Industry specialists can make use of advanced features for processing full tensor and gradiometric data.

The Intrepid 3D database and tools supports target to continental amalgamations of 800+ data sets

Base Solutions

1. Import-Export
2. Utilities
3. Projections
4. Resample
5. Gridding
6. Editors
7. Visualisation

Processing Solution

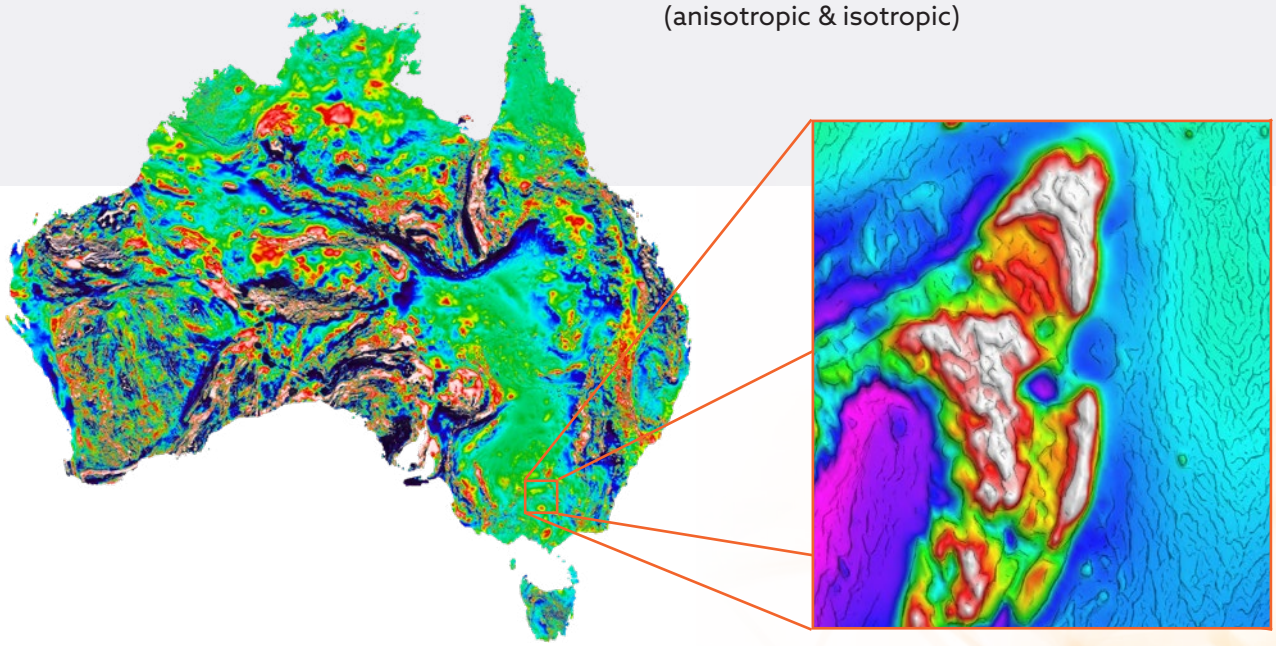
1. Line and Grid filter (inc VRTP)
2. Grid merge and operations
3. Leveling (tie and micro)
4. Radiometrics
5. Grid gradient
6. Corrections tools

Interpretation Solutions

1. Line and grid filters
2. Euler/Werner
3. Naudy for profiles
4. WormE automated structure
5. Multiple depth methods
6. Forward modelling - Mag, Grav and Tensor
7. Automated 2D/3D clustering (anisotropic & isotropic)

Tensor Solutions

1. Gridding
2. Levelling
3. Magnetics and gravity
4. Interpretation products



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INTERPRETATION
INTREPID

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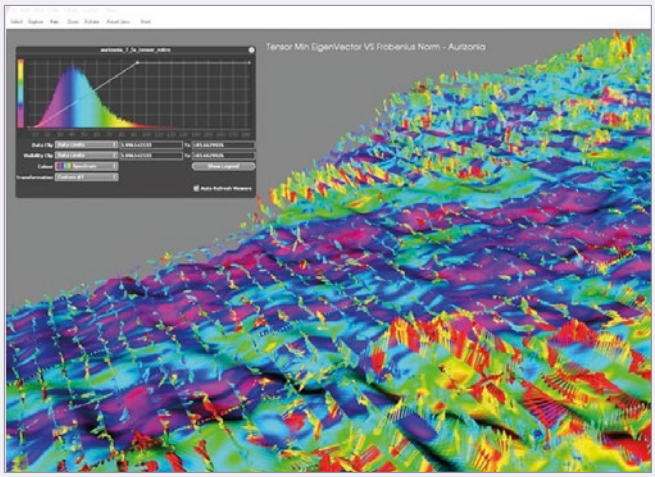
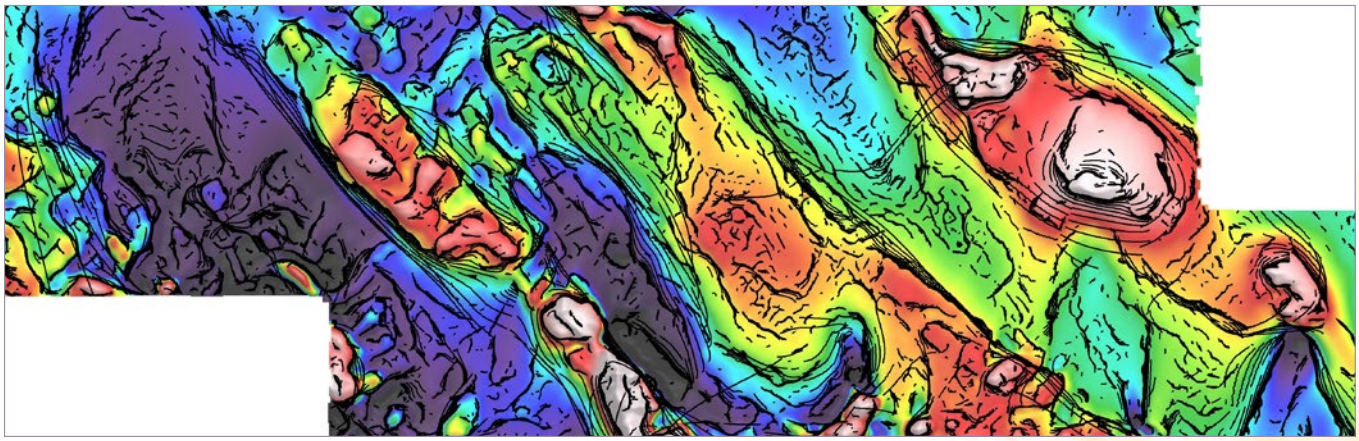
A World-leading geoscience solution. Intrepid 3D, our premier processing package, provides a full set of tools for processing, gridding and interpretation of ground, airborne and marine – gravity, magnetic and radiometric data. With support for Full Tensor gradiometry data processes, both FTG and Falcon, we can extract new geoscientific information such as depth-to-target, geometry and rock-properties.

Processing > Levelling > Terrain > Gridding > Interpretation

Intrepid Interpretation Key Features

- The proprietary algorithms preserve the tensors characteristics throughout its workflow providing more information, likewise, Cauchy downward continuation and 2.5D AEM inversion maintain and process the data in the medium and sample rate at which they were observed.
- This approach is superior to the commonly applied method of processing in steps on the individual raw data channels, then combining results into a tensor at a later stage.
- Intrepid's tensor workflow preserves tensor information and makes it available in our Interpretation and modeling tools. This comprehensive preservation of tensor information enhances discovery and targeting.





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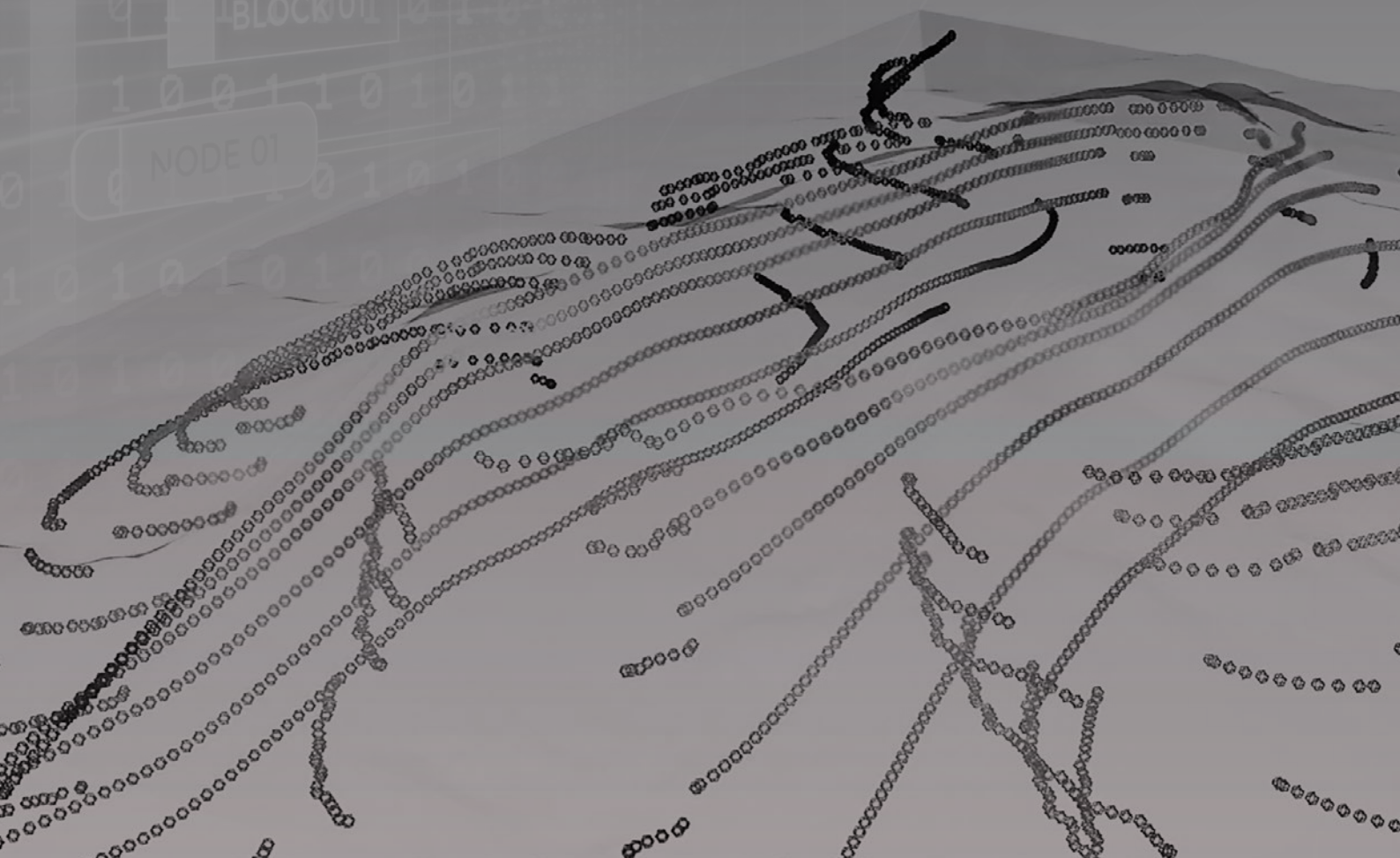
SensOre and Intrepid Services

SensOre and Intrepid's service offerings provide access to consultants who couple expert domain knowledge with our automated workflows and unique science to provide an accelerated path to discovery.



WormE®

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Multi-scale edge detection – geology from geophysics.

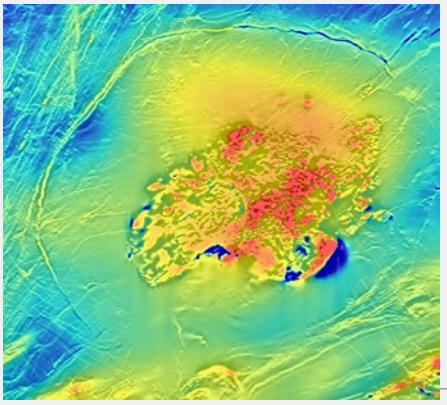
Powerful automated process of extracting geometrical and geological information from potential field datasets at a variety of spatial scales.

- Provides insight into the shape, location and depth of a buried geological structure and/or geophysical source.
- Derives 3D strings (worms) whose shape and associated parameters are a function of the subsurface 3D location of contacts between bodies of contrasting density and/or magnetic susceptibility.
- Aids in mapping geological structures and provides the initial steps in reconstructing and understanding the subsurface geology that constrains geometries with depth.

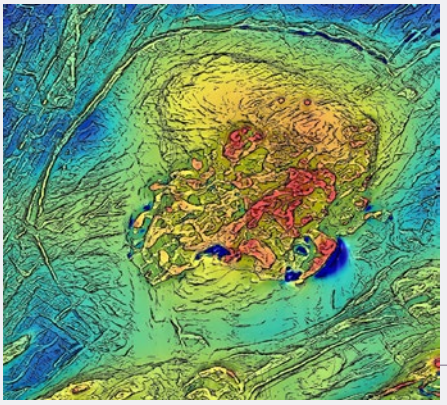
Multiscale edge detection – undercover mapping

- Uses geophysics of subsurface contrasting properties (susceptibility and density) to automatically estimate orientation and relationship of structures such as faults, lineaments and intrusions.

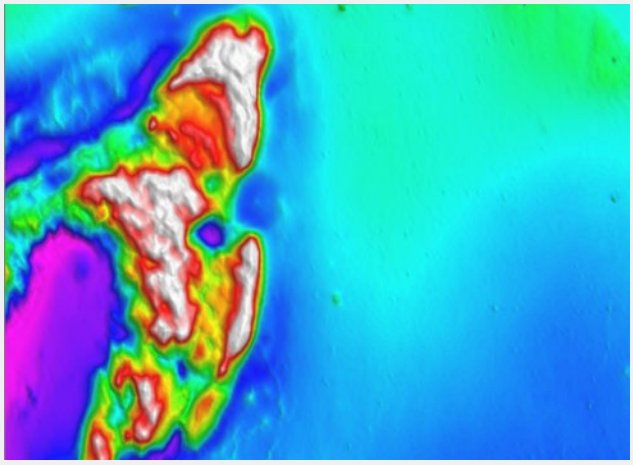
Multiscale edge detection – carbonatite example



RTP over RTP-1VD



RTP and Multi-Scale Edges



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CAUCHY

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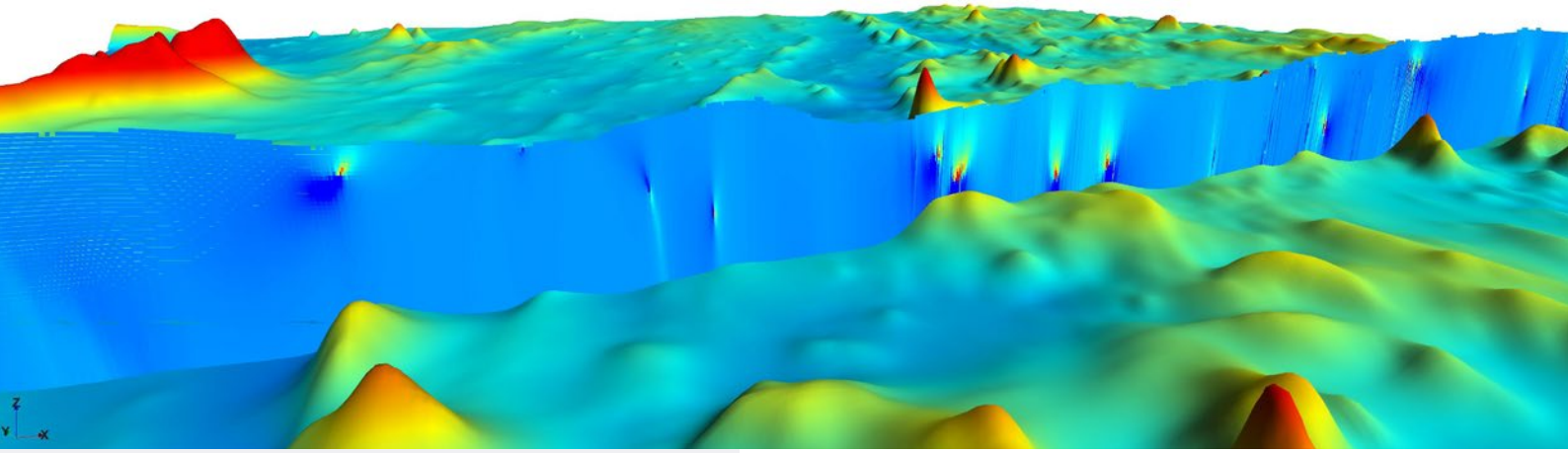
Game changing innovation. Cauchy high-order derivatives & downward continuation.

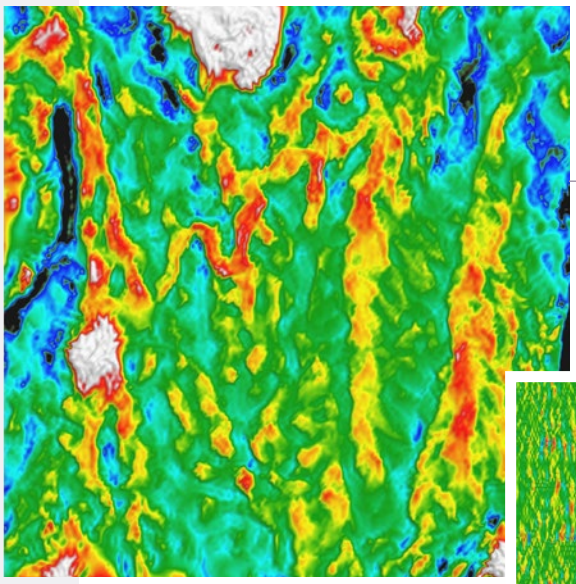


Cauchy Downwards Continuation use Complex Numbers (Padé Approximate) instead of Real Polynomial Series (Taylor Series)

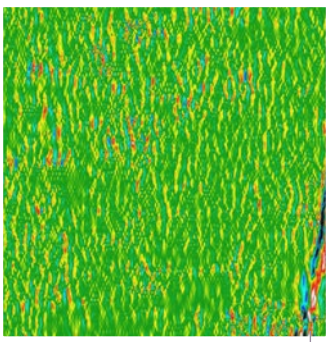
It is NOT inversion! No filtering to find bodies or the need to add artificial constraints to predict the signal at depth.

- Depth to target geometry & orientation
- Stable higher order derivatives and deep downward continuations
- Complex Trace Analysis
- Extracts up to 80% more information from existing magnetic, gravity & tensor gravity data
- High fidelity gradient estimation, detection with reduced ambiguity
- Stabilised potential-field data allowing higher order continuations

Viable high-order gradients immediately show more promise in higher detail interpretation applications.



Intrepid Cauchy – 3rd order derivative from gridded gravity data



Retail – 3rd order derivative from gridded gravity data

- High-order derivatives - 3rd, 4th, 5th and higher
- High fidelity
- Low distortion
- Preserves broad bandwidth signals
- Improved accuracy and stability
- Increased sensitivity for anomaly detection

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MOKSHA-AEM

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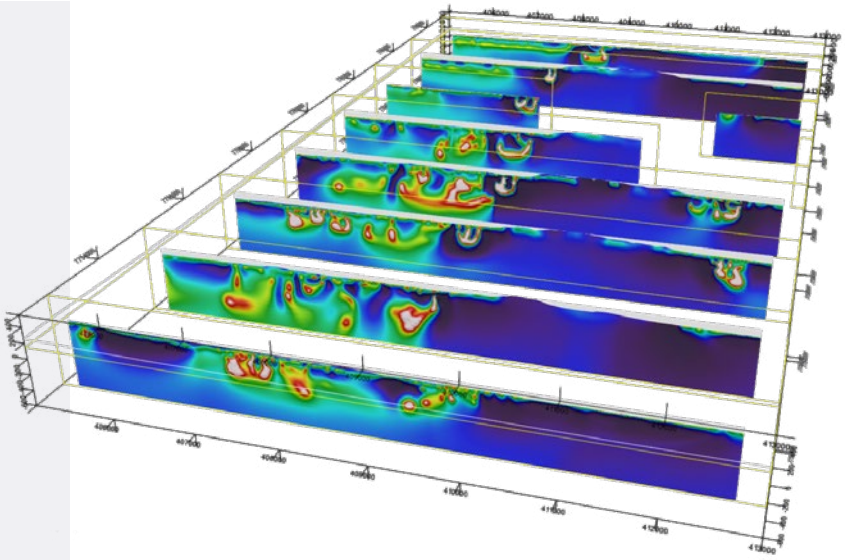
Moksha-AEM provides a 2.5D inversion for airborne electromagnetic survey data. Intrepid has developer Moksha 2.5D AEM inversion technology to produce coherent and spatially accurate images of subsurface conductivity in both cross-section and in plan. It is a marked improvement over standard CDI and 1D Inversions – particularly where 1D assumptions are not met.

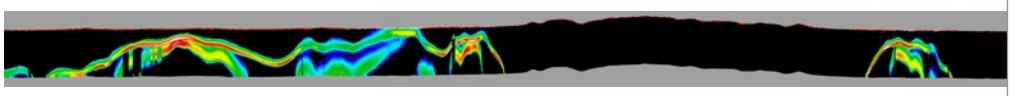
The technology is used to target minerals, water/salinity, structural geology and to link surface geochemistry to structure at depth. The 2.5D solution is ideal for:

- 3D complex geology
- Complex topography & variable acquisition height
- Forward modelling produces IP and superparamagnetic maps
- Process with higher resolution and resampling
- Generates depth slices that reflect geology, structural geology and geochemistry
- Moksha's advantage is that decisions can be made quickly as the lack of noise and artefacts (compared to retail solutions) reduces uncertainty.
- It can estimate the economic rock unit thicknesses, dips and fault definition at an accuracy that mitigates the need for pattern drilling

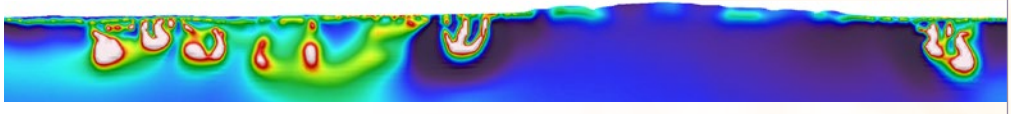


Correlation between the AEM and the Cauchy Downward Continuation magnetics is significant aiding in targeting depth, geometry and rock properties of different mineralisation systems and geology

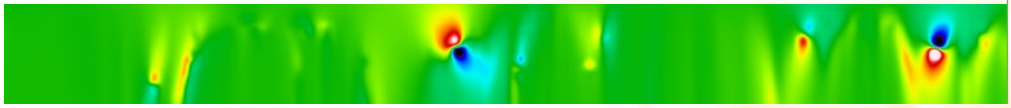
Retail 1D or non Maxwell Equation Solutions



Moksha 2.5 D Full Waveform



Cauchy Downward Continuation on the magnetics data collected with the above AEM data



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SimCLUST GEOPHYSICS

SimClust Geophysics. Identification and characterisation of "natural" petrophysical populations in Geophysical Data using our unsupervised ML SimClust workflow. We are also able to characterise petrophysical classes using available geochemical, metallogenic and geological data to provide greater geological context to the SimClust population.

Uses and advantages

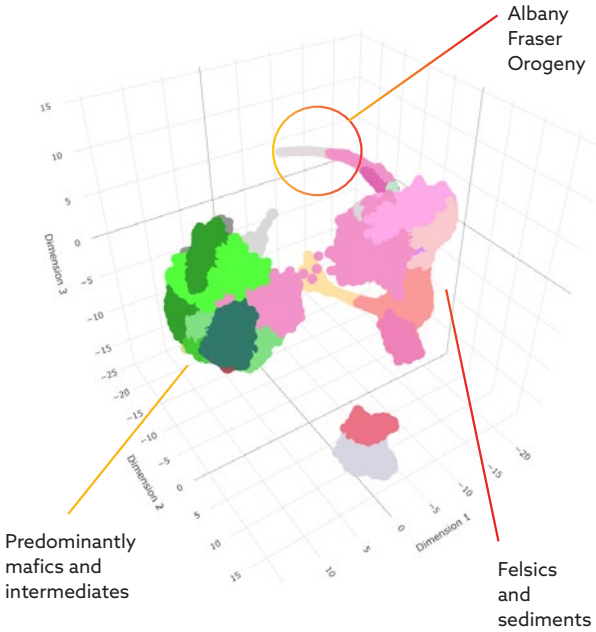
- Powerful proxy mapping tool in low-data density regions and areas under cover.
- Particularly useful when fused with geochemistry and buffer distances of SensOre's Discovery Data base to extract the geochemical characteristics of SimClust geophysical populations through the calculation of standardised residuals.

SimClust Geophysical Input Data

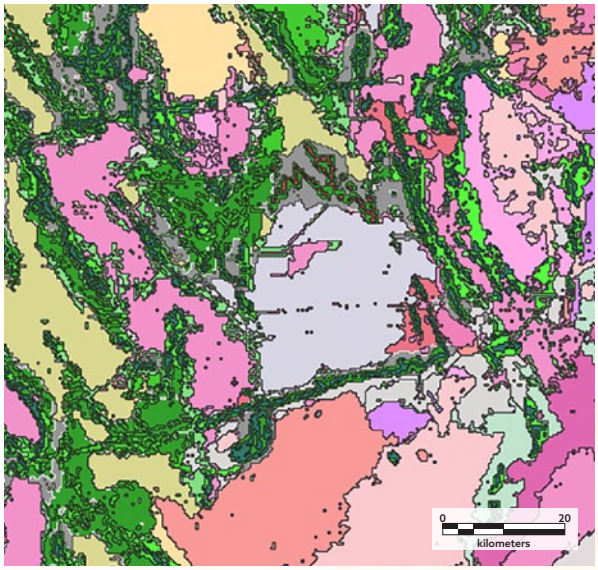
- Geophysical grid data
- Option to fuse your geophysical data with SensOre's large geochemical databases
- Option to further process the available geophysical data using the Intrepid technology stack (prior to SimClust analysis)

SimClust Products

- SimClust classes added to the original dataset provided by the client
- Data can be provided in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls)
- Interactive report which maps the SimClust Classes in 3D, and provides composition of the different SimClust classes
- GIS layers with the SimClust classes



Dimension reduced petrophysics, Widgiemooltha WA



SimClust petrophysics map, Widgiemooltha WA

SENSORE | INTREPID GEOPHYSICS

GEOCHEMICAL DATA CLEANING

SENSORE

Geochemical Data Cleaning and Enriching. All geochemical data sets invariably contain errors. These include locational errors (including drilling direction, sample location, etc.), units of measurement errors (i.e., mixing of ppb, ppm, percent values), errors in analytical techniques and sampling types utilised.

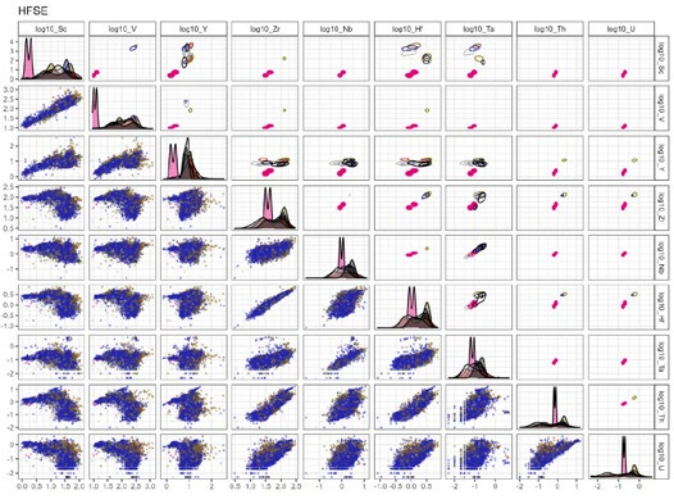
- SensOre has developed dedicated software applications which incorporate machine learning-based tools to aid our experienced geoscientists in detecting and rectifying these errors.
- SensOre also has access to the largest CLEANED geochemical databases in Australia. Leverage this cleaned data for your project locations.

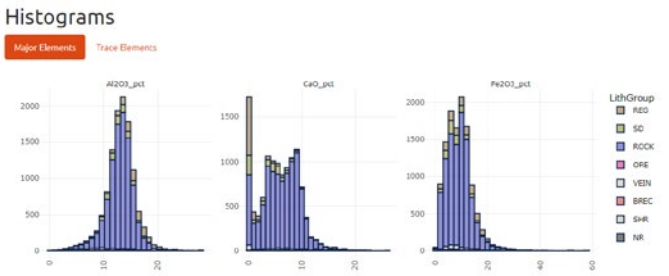
Geochemical Data Cleaning – Input Data

- Geochemical datasets in a variety of formats (.csv, .txt, .xlsx, .xls, .bak)
- Option to include SensOre cleaned geochemical databases

Geochemical Data Cleaning – Products

- Cleaned data in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls)
- Data cleaning / profiling report (interactive report)
- Data analytics report (interactive report)





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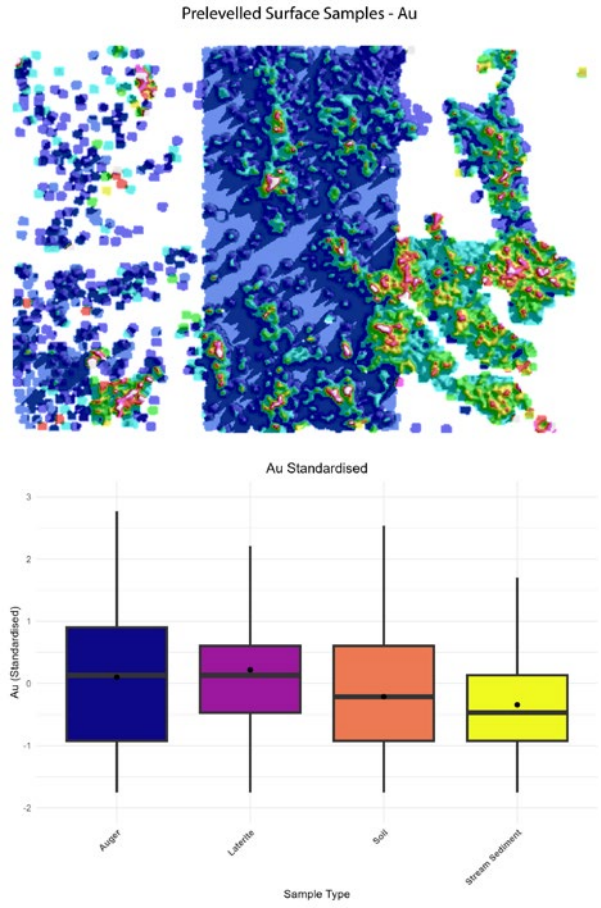
GEOCHEMICAL DATA LEVELLING

SENSORE

Geochemical Data Levelling. The variability of geochemical data sets are controlled by numerous factors. These include differing sample digestions, analytical techniques, sample mediums, lithologies.

- Differences in precision and accuracy can also severely distort assay data obscuring important patterns and trends related to mineralisation. In addition, variations in mesh size and in regolith material and geology will also affect geochemical variations.
- SensOre's skilled geochemists can level geochemical data to account for these differences minimising noise thus highlighting the mineralisation-related signal in the data.

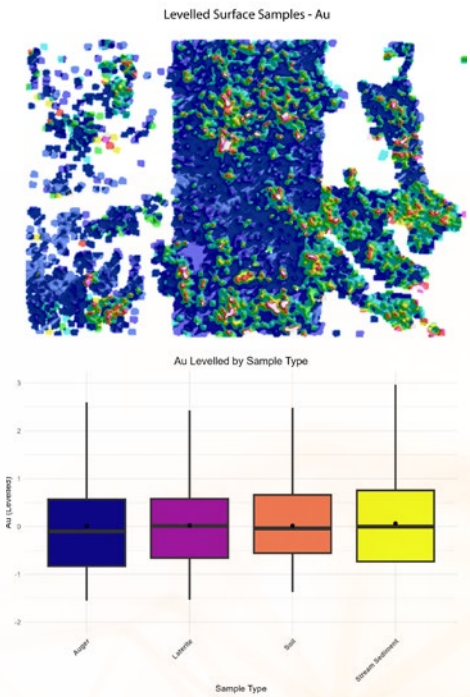


Geochemical Data Levelling – Input Data

- Cleaned geochemical datasets in a variety of formats (.csv, .txt, .xlsx, .xls, .bak)
- Option to include SensOre cleaned geochemical databases

Geochemical Data Cleaning – Products

- Levelled data in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls)
- Data levelling report (interactive report)



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GEOCHEMICAL DATA IMPUTATION

SENSORE

Geochemical Data Imputation. If enough correlated elements are available, SensOre can "Impute" missing geochemical data allowing it to be used by more advanced machine learning tools such as supervised and un-supervised classification and regression algorithms.

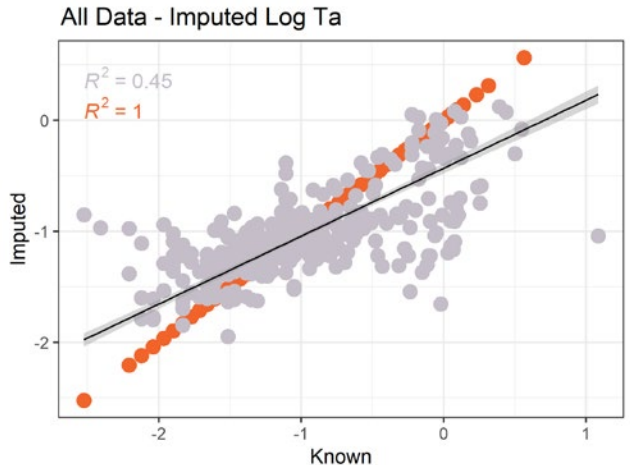
Differenct Geochemical datasets almost always suffer from issues associated with data below the level of detection (LOD), and/or poor analytical accuracy and precision approaching the detection limit (i.e. limit of quantification(LOQ)). When appropriate elements are available SensOre's team applies appropriate imputation techniques that minimise these issues.

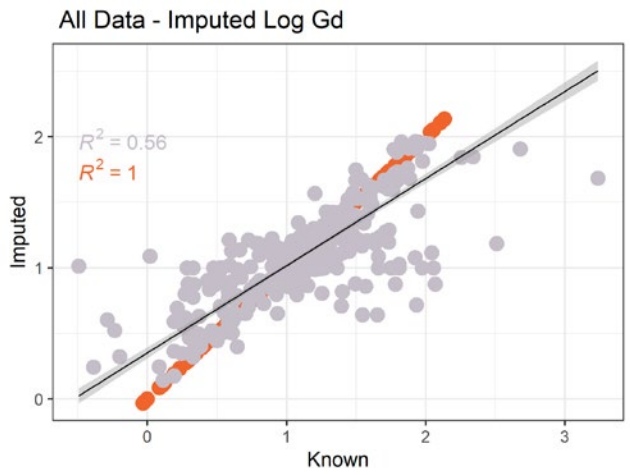
Geochemical Data Imputation – Input Data

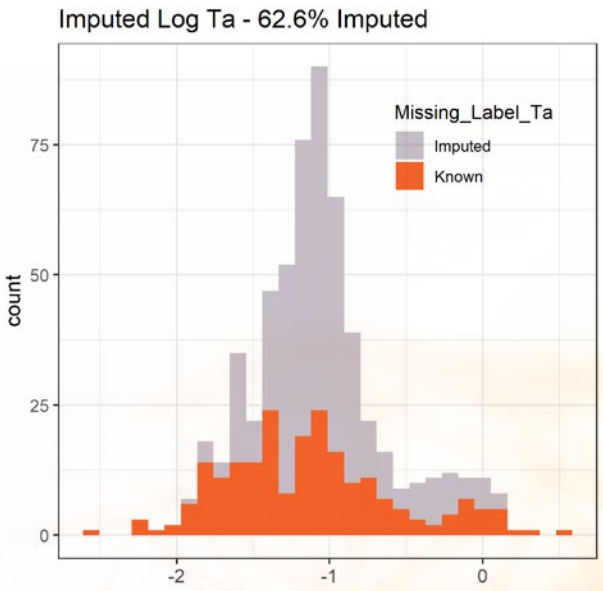
- Cleaned geochemical datasets in a variety of formats (.csv, .txt, .xlsx, .xls, .bak)
- Option to include SensOre cleaned geochemical databases

Geochemical Data Imputation – Products

- Imputed geochemical data in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls).







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SimCLUST GEOCHEMISTRY

SimClust Geochemistry. Identification and characterisation of "natural" geochemical populations of surface and drillhole point data using multiple, multivariate statistical models and our unsupervised ML SimClust workflow. Used for rock characterisation, exploration vectoring, identification of altered equivalents, differentiating regolith from saprock, etc.

Uses and advantages

- Powerful unsupervised validation tool for IGROCK, AGLADS and iGOSSAN results
- Powerful geochemical mapping tool

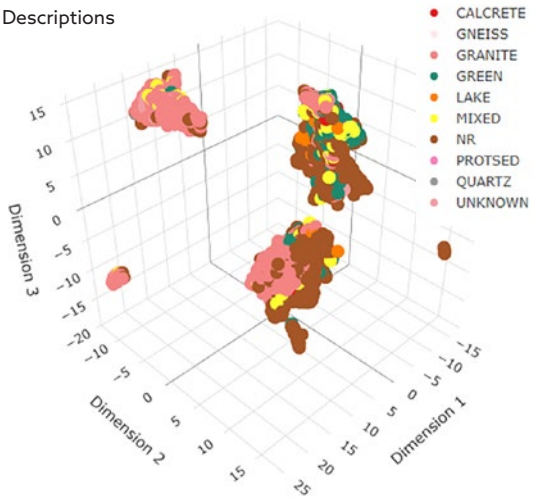
SimClust Geochemical Input Data

- Multielement geochemical data
- Option to fuse your geochemical data with SensOre's large geochemistry databases
- Option to further process the available geochemical data using SensOre geochemical technology stack (prior to SimClust analysis) including IGROCK, AGLADS, iGOSSAN

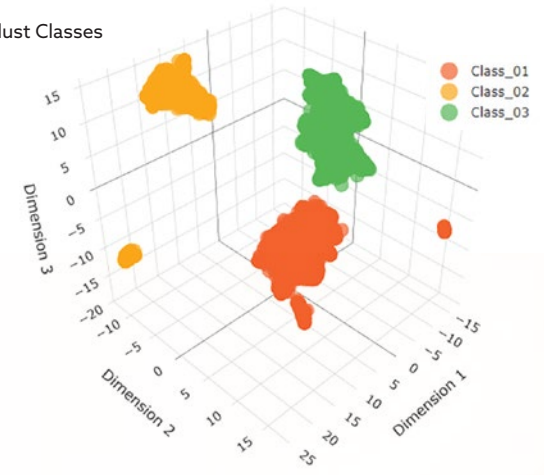
SimCLUST Products

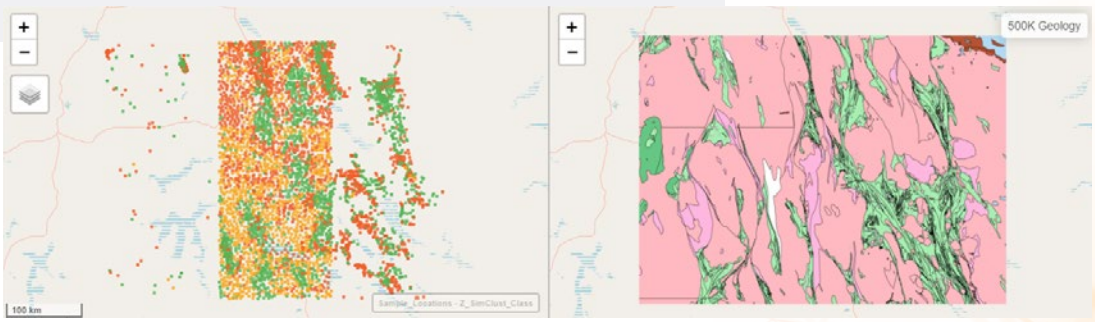
- SimClust classes added to the original dataset provided by the client
- Data can be provided in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls)
- Interactive report which maps the SimClust Classes in 3D, and provides composition of the different SimClust classes
- GIS layers with the SimClust classes

GSWA Descriptions



SimClust Classes





500K Mapped Geology

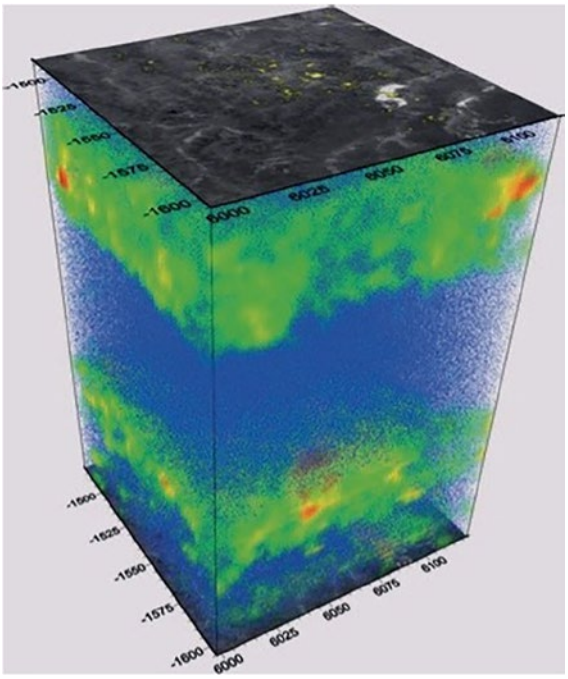
SENSORE | INTREPID GEOPHYSICS

DATA CUBE

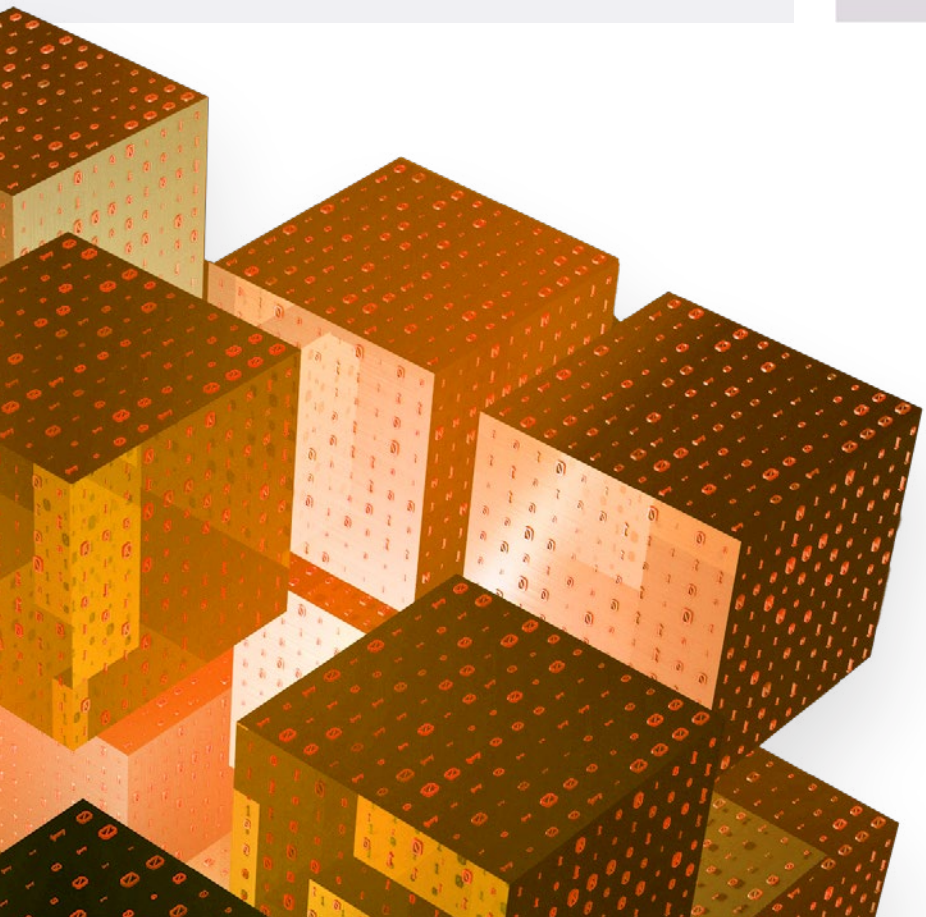
A Revolution in Geoscience Data Fusion. A multidimensional repository of cleaned and levelled geoscience data which continues to expand as SensOre acquires additional public and proprietary geochemical, geophysical, and geological data. Current Australian SensOre Data Cube contains more than 2,500 data layers and +60 billion discrete data points.

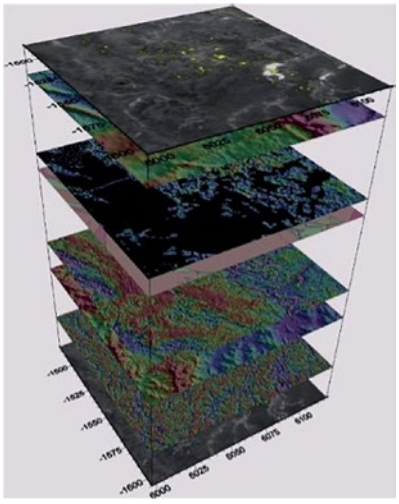
Competitive Advantage – Mining Industry

- Conventional exploration uses only 20-40% of data in separate, scale reduction, interpretive steps resulting in human bias.
- SensOre Adjacency Modelling (SAM), prospectivity modelling using geophysics and geology.
- SensOre DPT® uses all data simultaneously in single step to predict drill target.
- Objective to reduce number of targets tested and discovery costs 10 fold.
- Improved ability to "Fuse" Data especially geochemistry, geology & metallogeny with geophysics.



SensOre Data Cube





Conventional Exploration

P-MAP
SENSORE

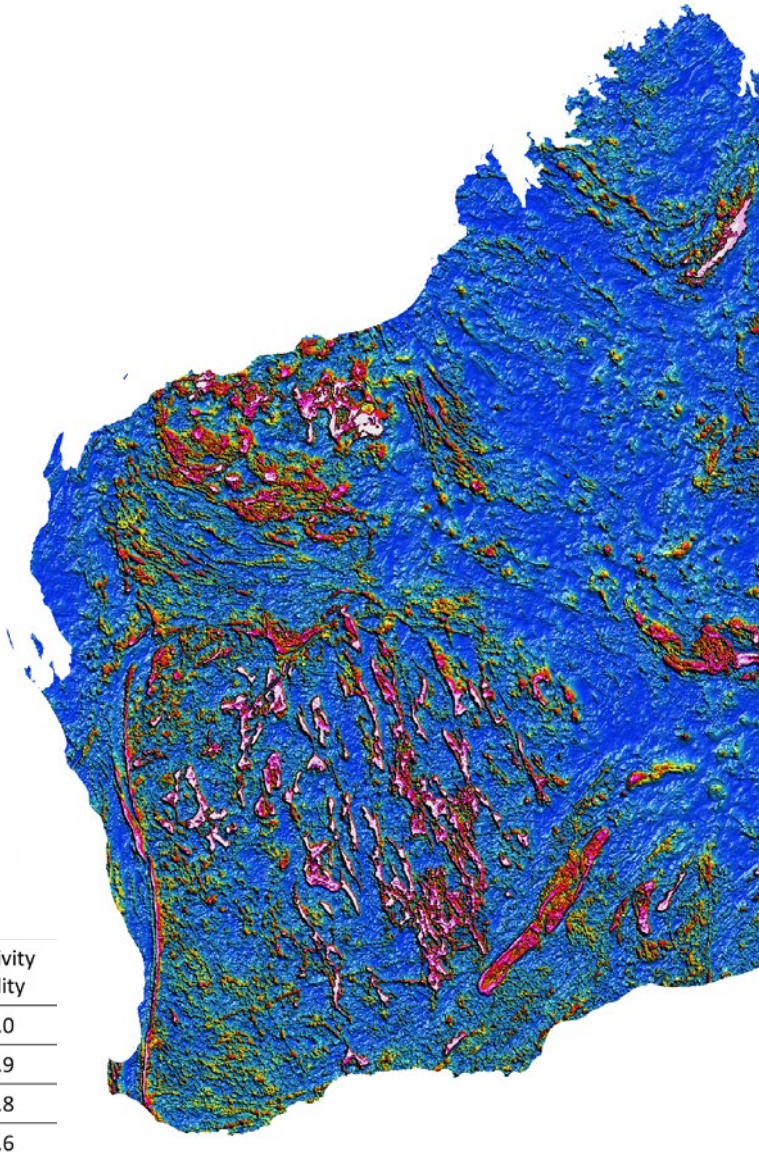
Regional prospectivity mapping. SensOre have developed prospectivity models using our extensive cleaned Discoveries Database as the training database. This is then fused with geological terms and phrases, as well as geophysical data to identify prospective geological terrains, both near surface and undercover.

Regional prospectivity mapping – Input Data

- SensOre's Discoveries Database for commodity of interest
- Text-mining from upwards of 9 geology maps and large & complex data sets such as WAROX and the Geoscience Australia point mapping databases
- SensOre's proprietary cleaned and curated geophysical and derivatives database from the SensOre data hyper-cube
- The option exists to enter client geophysical data

Regional prospectivity mapping – Products

- Regional prospectivity maps to identify/ confirm and predict prospective mineral trends
- Regional prospectivity maps for Au, Cu, Ni and/or Li



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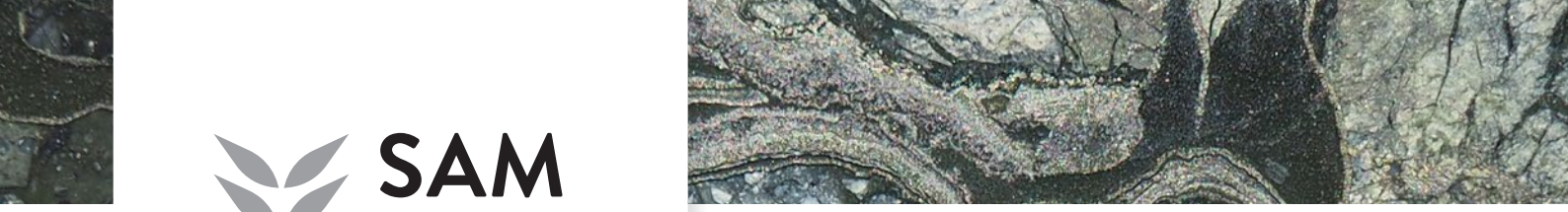
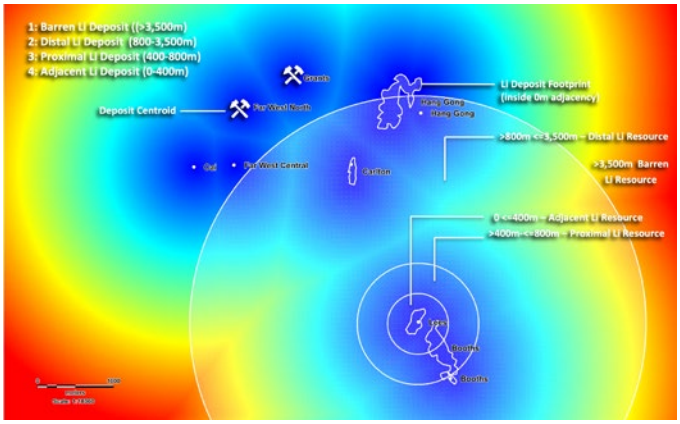


SAM
SENSORE

SensOre Adjacency Modelling (SAM). Ore deposits and their host rocks are commonly enveloped by geochemical enrichment and/or depletion patterns that provide clues as to their presence.

- SensOre's geochemists have access to the highest quality mineral deposit databases available to the industry in Australia (i.e. SensOre's Discoveries Database). Importantly, this database includes their resource footprints.
- At SensOre we use these deposit footprints to compute spatial proximity to your geochemical samples, thus allowing us to identify these signatures using highly advanced machine learning tools.
- Once these signatures have been quantified we can then search for them in other samples maximising the possibility of exploration success.
- This workflow can be applied to geochemical samples only, as well as geophysical data only, or both geochemical and geophysical data.



Adjacency Modelling (SAM) – Input Data

- SensOre's Discoveries Database for commodity of interest
- SensOre's proprietary cleaned and curated surface and drill hole database from our data cube
- SensOre's proprietary cleaned and curated geophysical and derivatives database from the SensOre data cube

Adjacency Modelling (SAM) – Products

- SensOre Adjacency Maps that identify/ confirm and predict prospective mineral trends and mineral systems by computing categorical probabilities of adjacency to ore deposits.
- SAM (SensOre Adjacency Model) probability maps for Au, Cu, Ni and/or Li.
- Outputs include predicted distance (i.e. vector-to-ore) to possible Ore.
- Categorisation of predictions into "Barren", "Host", "Distal", "Proximal" and "Ore" (or Footprint) can also be provided.

DPT®

Discriminant Predictive Targeting (DPT); An ML-target generation and validation technology. Using the SensOre Data Cube to make predictions regarding the location, size (i.e. endowment), grade (i.e. average ore concentration) and depth (i.e. metres to top and base of each deposit) of a given deposit.

Some of the advantages of our DPT® models include:

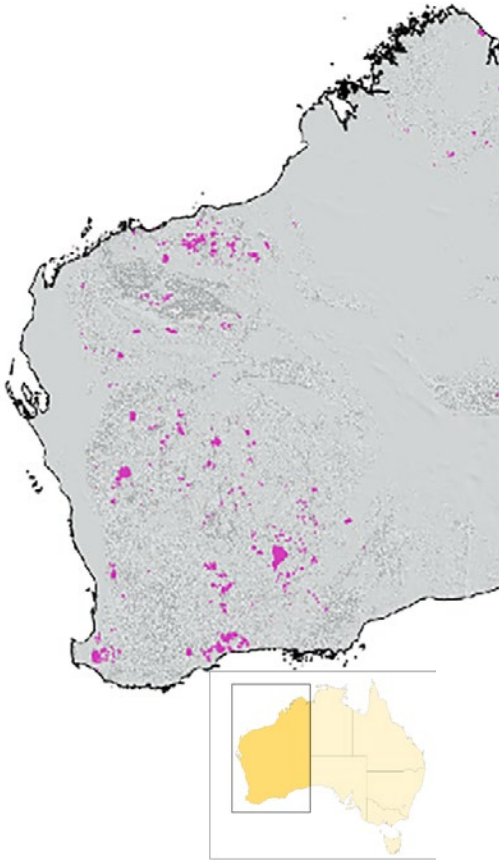
- One-step scale reduction from regional scale to drill target
- Higher predicted target economic discrimination for size, grade and depth of mineralisation
- Allowance for a smaller tenure footprint – good for the environment, carbon & physical – lowers liability
- x100 lower costs per discovery & per commodity unit
- More efficient deployment of capital & higher ROI

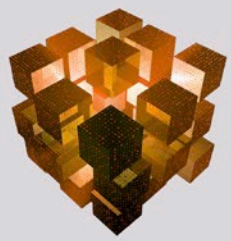
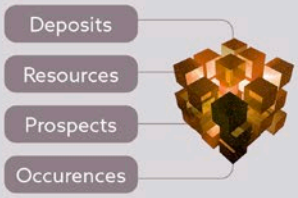
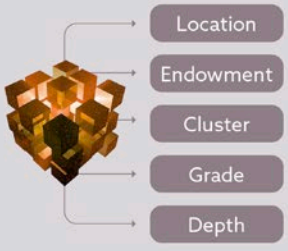
DPT – Input Data

- SensOre's Discoveries Database for commodity of interest
- All available data from SensOre's proprietary cleaned and curated Data hyper-cube

DPT – Products

- DPT® targets that identify/confirm and predict graticule-scale mineralised targets and graticule dimensions
- DPT® GIS graticules for (Au, Cu, Ni and/or Li, with predicted metrics for location, endowment, grade, depth and deposit type



Step 1 – Data	Step 2 – Train	Step 3 – Apply	Step 4 – Output
Data Cube Build - Input	Training	Predict & discriminate Targets	Acquisition & value add
1. Acquire, sort, clean 2. Feature Engineer 3. Integrate & store	Train individual ML algorithms using known endowment data	Predict & discriminate residual endowment using combined ML algorithms	Acquire interest in predicted residual endowment
			Open tenure - self acquisition 100% Open tenure - joint acquisition JV 3rd Party acquisition through JV

IGROCK

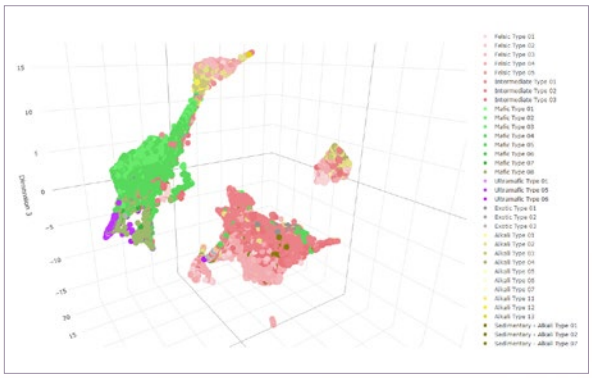
IGROCK is a supervised igneous protolith classification system. It uses extended multi-element geochemistry to classify igneous rocks into 42 different rock types. This information can be critical in defining the spatial distribution of geological sequences where the primary mineral assemblages are obscured or have been destroyed by hydrothermal alteration and/or weathering. IGROCK can also be used to classify those difficult to log samples from RC and air-core programs.

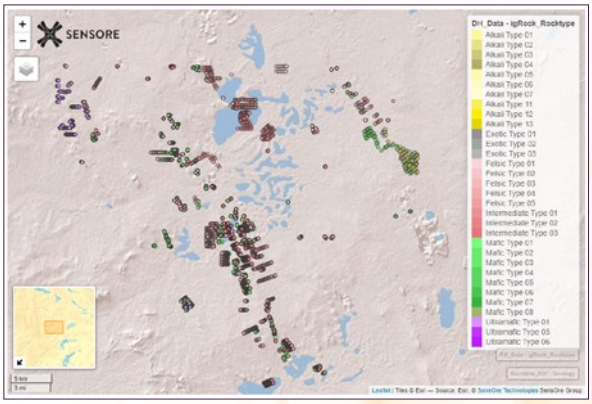
IGROCK – Input Data

- Cleaned geochemical datasets in a variety of formats (.csv, .txt, .xlsx, .xls, SQL)
- Option to include SensOre cleaned geochemical databases
- Option to compare to clients logging
- IGROCK requires as a minimum:
  - Al and Cr
  - Four of the following elements:
    - La, Ce, Pr, Nd, Pm, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Sc, Y
  - Three of the following elements:
    - Nb, Ta, Ti, Zr, Hf, Sc, Y
- An additional 11+ elements
- All other elemental data is welcomed as it can be used for reporting purposes (e.g. providing compositions of predicted protoliths). For example, major elements CaO, MnO, Na_2O, K_2O, Fe_2O_3, MgO, SiO_2, TiO_2, P_2O_5, LOI.
- For IGROCK analysis we recommend a four acid digest with an ICP-MS finish (e.g. ME MS61 from ALS, 4A/MS48 from Intertek Genalysis). XRF for major elements would be preferable, but not essential. Reach out to one of our geochemists to review the applicability of your current assay method.

IGROCK – Products

- IGROCK predictions added to original dataset provided by the client. Data can be provided in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls).
- Interactive report which maps the results of the IGROCK analysis in 3D, and provides composition of the predicted protolith groups.
- GIS layers with the IGROCK predictions.





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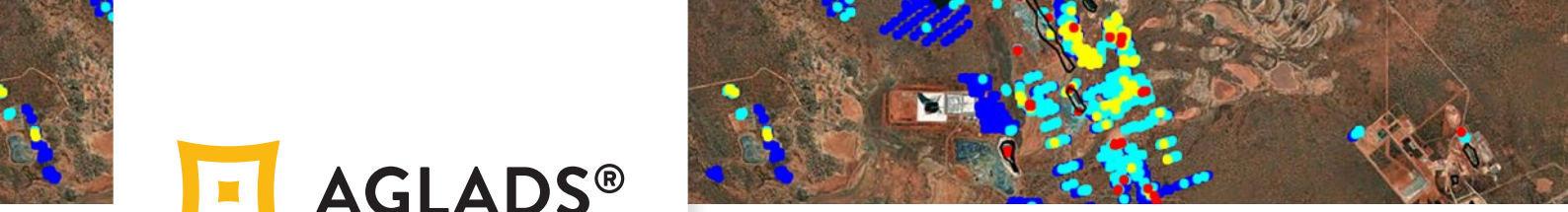


AGLADS®

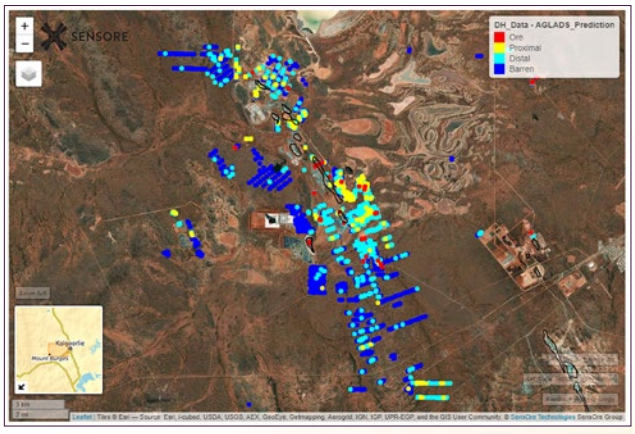
The Archean Gold Lode Alteration Detection System (AGLADS®) is a machine learning system that uses multi-element geochemical data to identify alteration of various types enveloping gold lode systems. AGLADS® provides geologists and engineers with 'Vectors to Gold Ore' by classifying drill samples as being distal to ore, proximal to ore, within an ore zone or barren.

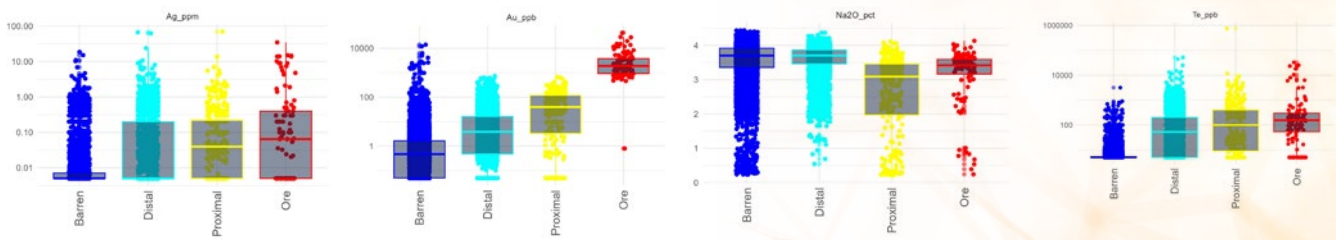
AGLADS – Input Data

- Cleaned geochemical datasets in a variety of formats (.csv, .txt, .xlsx, .xls, SQL)
- Option to include SensOre cleaned geochemical databases
- AGLADS requires as a minimum:
  - Au, Te and As
  - Eight of the following:
    - Ag, Ba, Bi, Cu, Ni, Pb, Rb, S, Sb, Se, Sr, V, W, Y, Zn, Zr
  - Six of the following:
    - Al_2O_3, CaO, Cr, Fe_2O_3, K_2O, MgO, LOI, MnO, Na_2O, Nb, P_2O_5, SiO_2, TiO_2
- All other elemental data is welcomed as it can be used for reporting purposes
- For AGLADS analysis we recommend a four acid digest with an ICP-MS finish for trace elements (e.g. ME MS61 from ALS, 4A/MS48 from Intertek Genalysis), and fire assay for Au (e.g. PGM-ICP27 from ALS, FA25/MS02 from Intertek Genalysis). XRF for major elements would be preferable, but not essential. Feel free to reach out to one of our geochemists to review the applicability of your current assay method.

AGLADS – Products

- AGLADS predictions added to original dataset provided by the client. Data can be provided in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls).
- Interactive reports which spatially map the results of the AGLADS classifier, and provides compositional break downs of the predicted AGLADS proximity classes.
- GIS layers of the AGLADS class predictions.
- Explainable machine learning models (provide insights into why predictions were made for individual samples).





SENSORE | INTREPID GEOPHYSICS

TEXT MINING

SENSORE

SensOre recognizes the potential of non-numeric data. Our text mining solutions have been tailored to transform embedded geological information into model-ready data.

We've developed advanced programmable text-mining solutions to convert geological data into numbers. Machine learning algorithms are then used to predict spatial adjacency for commodities and deposit types of interest with statistical output visualisation.

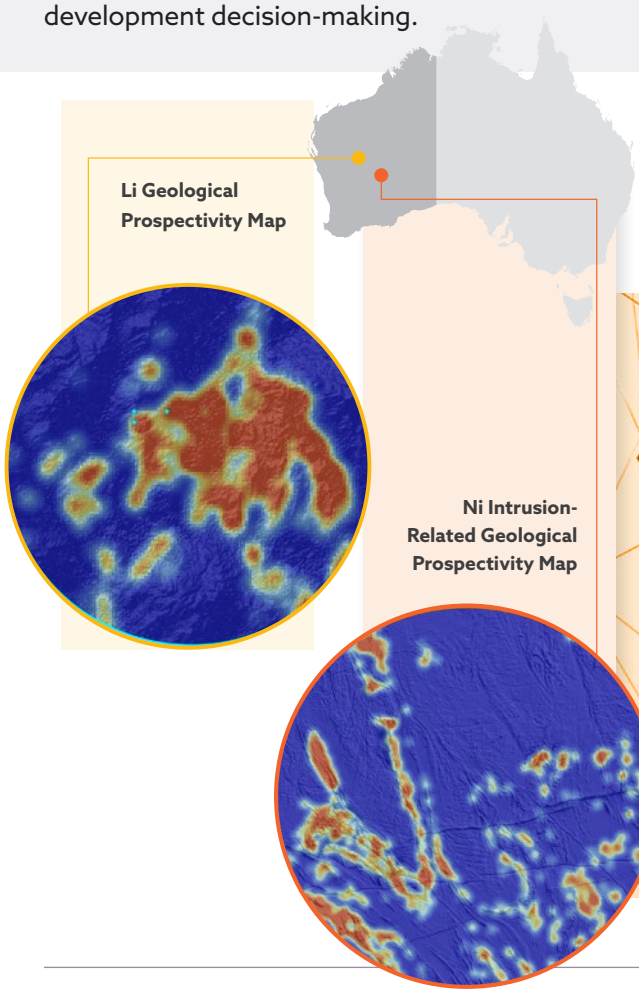
SensOre's insights into geological prospectivity can be used in exploration for terrane and region selection, and for project generation and ranking. Strategically, these maps can be used to probabilistically assess the geological prospectivity of any tenement for the commodities modelled, making them an invaluable tool for business development decision-making.

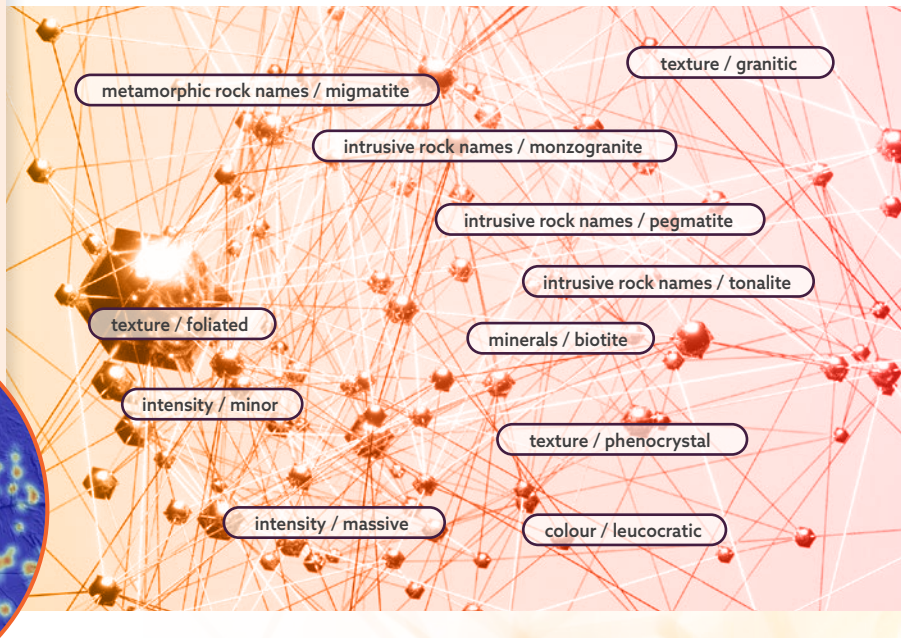
Text Mining of Digital Documents – Input Data

- Drilling logs
- Geological Maps – open or third party
- Geologists Mapping Observations (Survey)

Text Mining of Digital Documents – Products

- Imputed Geological dictionary with word frequency
- Word cloud or word network diagrams
- Spatial adjacency with mineral deposits





SENSORE | INTREPID GEOPHYSICS

GEOCHEMICAL FINGERPRINTING

SENSORE

Geochemical "Fingerprinting" of Assay data. Get the most out of your expensively acquired, multi-element geochemical data.

- Using SensOre provides bespoke solutions to help classify your assay samples into the classes YOU are interested in (e.g. mineralisation styles, alteration zones, metallurgical zones, etc.).
- SensOre will train advanced supervised classification models to "fingerprint" the geochemical signatures associated with your classes of interest. These models can then be applied to your own assay data to help classify your samples.
- SensOre can employ a range of machine learning algorithms to provide insights into not only which variables are important overall, but which variables were responsible in classifying a given sample.

Geochemical "Fingerprinting" of Assay data – Input Data

- Drilling SensOre will need to evaluate the available exploration geochemical data to be fingerprinted. This can be in a variety of formats (.csv, .txt, .xlsx, .xls, .bak).
- Data used to train the machine learning models can include client data, publicly sourced data or any of SensOre's large, cleaned, geochemical databases.

Geochemical "Fingerprinting" of Assay data – Products

- Classification results added to the original dataset provided by the client. Data can be provided in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls).
- Bespoke interactive reports of the results.

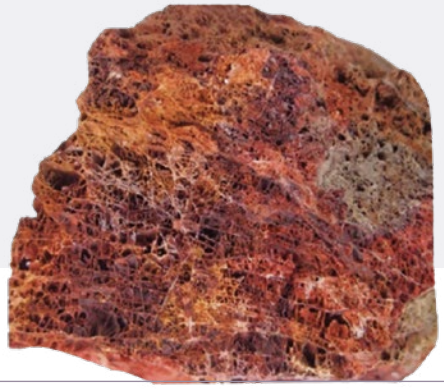
SENSORE | INTREPID GEOPHYSICS

iGOSSAN

Identification of Base Metal Potential of Suspected Gossans and Ironstones. Classification based on availability of extended multi-element geochemical data into most of the major surface expressions of Archean and Proterozoic Gossans (including false gossans) developed over economically significant mineralisation known in Australia. Gossan types include VMS systems, Broken Hill-type, Banded Iron Formation-related deposits known in the Mount Isa Inlier, gossans developed over sediment-hosted Cu-(Ag/Pb/Zn) deposits from the Mount Isa Inlier, nickel from komatiite and magmatic deposits and many other types.

iGOSSAN – Input Data

- Cleaned geochemical datasets in a variety of formats (.csv, .txt, .xlsx, .xls, SQL)
- Option to include SensOre cleaned geochemical databases
- Require at a minimum 15 of the following elements: Ag, Al, As, Au, B, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Dy, Er, Eu, Fe, Ga, Gd, Hf, Ho, K, La, Li, Lu, Mg, Mn, Mo, Na, Nb, Nd, Ni, P, Pb, Pd, Pr, Pt, Rb, S, Sb, Sc, Se, Si, Sm, Sn, Sr, Ta, Te, Th, Ti, Tl, Tm, U, V, W, Y, Yb, Zn, Zr. TBC depending on commodity and mineral system type.
- For iGossan analysis we recommend a four acid digest with an ICP-MS finish (e.g. ME MS61 from ALS, 4A/MS48 from Intertek Genalysis). XRF for major elements would be preferable, but not essential. Feel free to reach out to one of our geochemists to review the applicability of your current assay method.



iGOSSAN – Products

- iGossan predictions added to the original dataset provided by the client. Data can be provided in a variety of formats requested by the client (.csv, .txt, .xlsx, .xls).
- Interactive report which maps the results of the iGossan analysis (classes and class probabilities), and provides composition of the predicted iGossan classes.
- GIS layers with the iGossan class predictions and probabilities
  1. If it is a gossan derived from sulphides or an ironstone from surface weathering.
  2. If positive from 1 above, what type of mineral system the Ni sulphide is sourced from. i.e. Magmatic, Komatiite, Sedimentary hosted.
  3. If positive from 1 above, a prediction of commodity grade in sulphide.

iGOSSAN – Deliverables

- PowerPoint report including methodology and description
- Interactive report delivered in a client meeting GIS layer of samples

SENSORE | INTREPID GEOPHYSICS

Service Matrix – Client data & targeting services

	1. Client data & targeting services							R&D
Activity	**2.1 SensOre data services for Clients Data Cube(s) construction**			**2.2 Combined SensOre Client Data Cube construction**	**2.3 Client Prospectivity and Adjacency mapping**	**2.4 Client DPT®**	**2.5 Client targeting and analytics BVT**	**Research & development**
Services	2.1.1 Client Data sourced, audited, collated for analysis & extraction	2.1.2 Client data services; • Wrangling • Transform • Cleaning • Merging • Processing • Leveling • Feature engineering • Gridding	2.1.3 Client data ingestion & cube construction	Fusing SensOre + Client data Cube(s)	• Proprietary Prospectivity • GPred modelling • Adjacency mapping	Proprietary Full DPT	Targeting • AGLADS • 2.5D Moksha • Cauchy • WormE • Analytics • iDeposit • IGROCK • SimClust P • SimClust C • iChromite	Knowledge, Targeting & technology research
Product	Data Audit report	Cleaned & transformed data returned to client	SensOre data cube(s) • Camp • State • Terrane • Country	Combined SensOre Client Data Cube(s)	Proprietary Prospectivity Map(s) Adjacency Map(s)	DPT targets	• Drill Targets • Analytic Outputs	As designed & agreed
Data	Client data			Combined SensOre client	Combined SensOre client	Combined SensOre client	Combined SensOre client	Combined SensOre client
Ownership / Access	Data cube(s) to Client			SensOre used for targeting services	Client for term SensOre after term	Client for term SensOre after term	Client	Combined SensOre & Client
Staffing	Dedicated Client SensOre team + Client embedded secondments for projects >2 years			Dedicated Client SensOre team + Client embedded secondments for projects >2 years				
Funding	Client Funded $ TBD on data volumes and AOI. x% on commencement x% on delivery			Client Funded $ TBD on data volumes and AOI. x% on commencement x% on delivery of each product			$TBD on products used, deliverables and AOI	$TBD SensOre & Client Funded

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