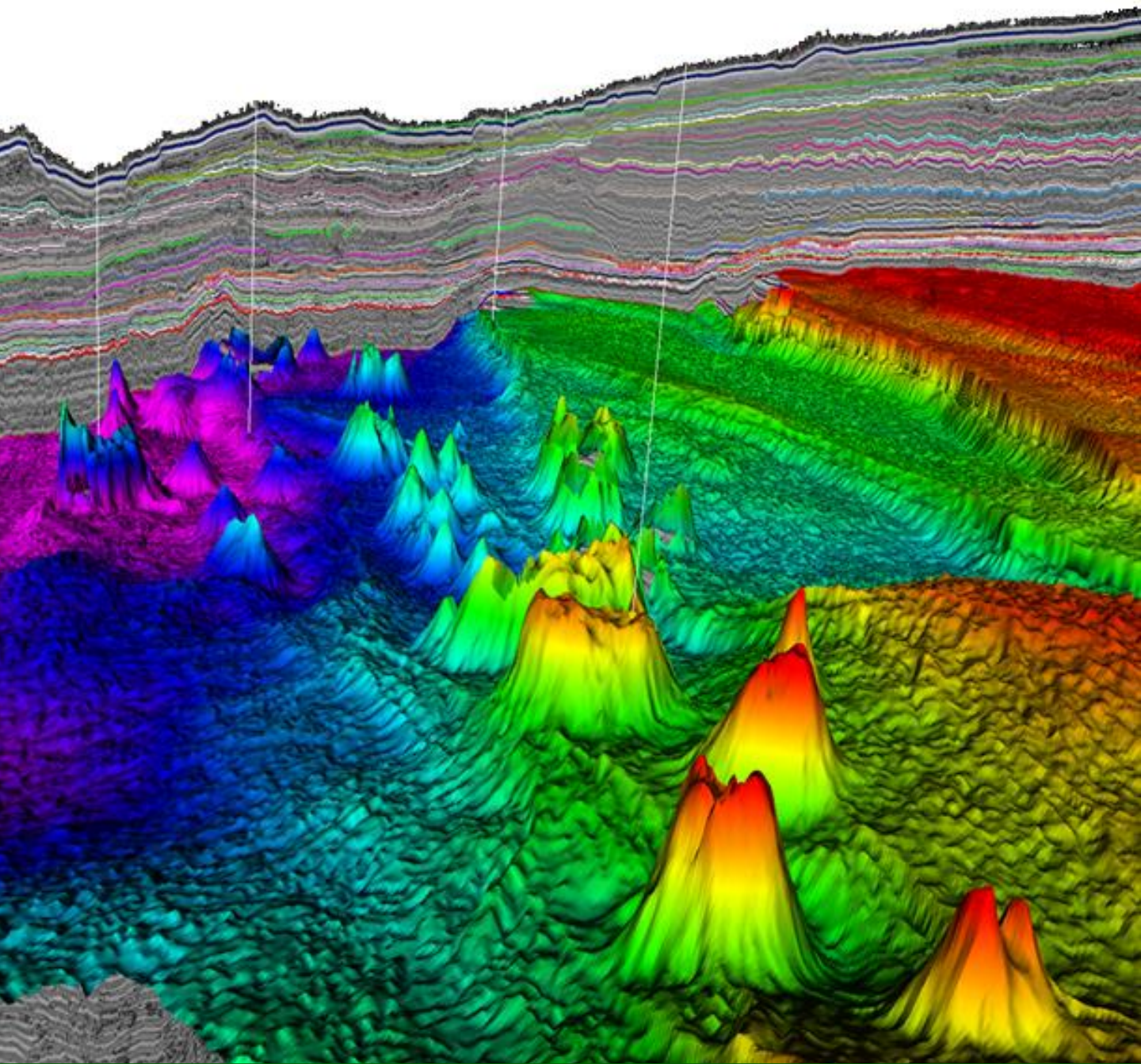




# Total Depth Exploration Services

**Established 1993**



Website: [www.totaldepth.com.au](http://www.totaldepth.com.au)  
Tel: +61 8 9382 4307 email: [info@td.iinet.net.au](mailto:info@td.iinet.net.au)  
21 Churchill Avenue, Subiaco, 6008



# Total Depth Pty Ltd

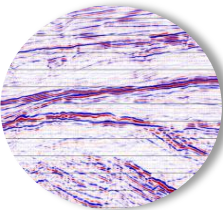
## Seismic Services

Total Depth Pty Ltd (Exploration Services) is a Geophysical Consultancy, which has provided exploration services within Australia and overseas since 1993. Total Depth provides a range of services to the resources sector (petroleum, coal and minerals) including; data collection, processing and interpretation. .

### Seismic Interpretation Services

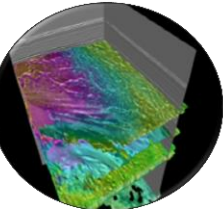
The company has a suite of specialist tools to provide unique interpretation services for seismic data. Total Depth will apply hybrid workflows created from existing and new technologies. Through this methodology, Total Depth is able to provide a unique perspective to any exploration project and can independently develop or validate geo-models that will assist in addressing elements of non-uniqueness. Some of the specialist tools used for seismic interpretation are detailed below:-

#### **Seismic Data Enhancement**



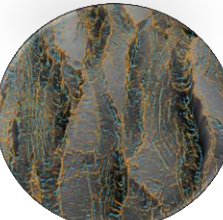
Noise Attenuation and Spectral Shaping processing services can significantly improve the SNR of seismic data. The analysis of any dataset is limited by its signal-to-noise ratio (SNR). When signal equals noise the data cannot be effectively dealt with. With better SNR, we can recover more bandwidth and higher peak frequencies from the data, enabling more detailed stratigraphical and structural interpretations.

#### **3D Seismic Volume: Pre-Interpretation Processing using Genetic Segmentation**



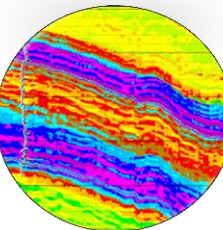
We provide fully automated pre-interpretation processing of seismic data producing a queryable spatial database of GeoPopulations. These populations of genetically and spatially compatible waveforms grow simultaneously throughout a entire data volume. Upon completion virtually every peak and trough surface in the volume is catalogued. The interpreter has much more time to focus on the significance of these surfaces and whether they are an important part of the geological model.

#### **Automated Geometric Surface Processing, Analysis and Object Extraction**



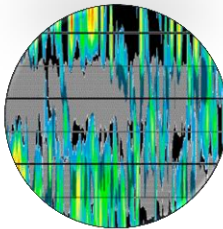
This processing technology can be applied to seismic surface attribute maps. Processing will calculate and extract geometric objects and catalogue them into a queryable spatial database. Since a fundamental property of any surface is its geometric characteristics, these properties reveal features and objects not easily identifiable by visual analysis alone, providing us with a better understanding of “any digital data” surface morphology.

#### **Seismic Consistent Inversion**



Seismic Consistent Inversion is different from other inversion techniques as it does not require well information or horizon information to estimate reflectivity or relative-impedance. The advantage of this process is particularly apparent in areas where well control is sparse and/or the interpretation is complex. Since well data or horizon information is not used in the estimation of reflectivity and relative-impedance, any available well data or horizon data can be used to validate the quality of the inversion or integrity of the well data or interpretation.

#### **Spectral Signatures Analysis**



Several techniques are used in the industry to examine different types of Seismic Spectral Signatures. Typically, spectral signatures are responding to either Lithological or Petrophysical changes (such as different pore fluids, affects the spectral attenuation of seismic frequencies (i.e. Gas attenuates Seismic frequencies more than Oil and Oil more than water). The spectral analysis techniques we apply can be used to identify both lithological or petrophysical changes and has been used successfully to identify and predict both structurally and stratigraphically trapped gas and oil accumulations.



# Total Depth Pty Ltd

## Alternative Exploration Surveys: AEM-PTP and Iodine Geochemical Surveys

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### AEM-PTP Airborne Geophysical Surveys



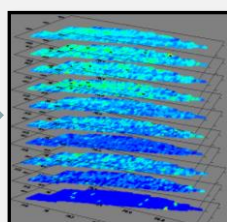
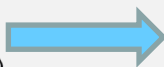
AEM-PTP Surveys

In collaboration with Pinemont Technologies, Total Depth provides passive airborne acquisition, processing and interpretation services of AEM-PTP data. The AEM-PTP (Airborne audio electromagnetics using passive transient pulses) technology measures a geophysical response to reduction and oxidation (REDOX) activity associated with upward fluid flow. REDOX cells often form as the result of outgassing from a hydrocarbon accumulation or in response to the upward flow of hydrothermal fluids (e.g. mineral deposits and geothermal).

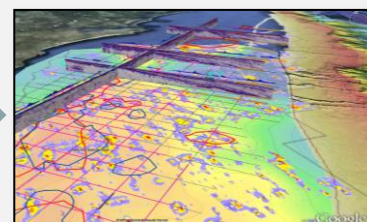
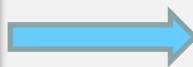
#### Services:



Acquisition

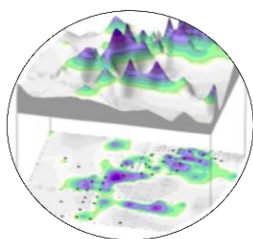


Processing



Integration and Interpretation

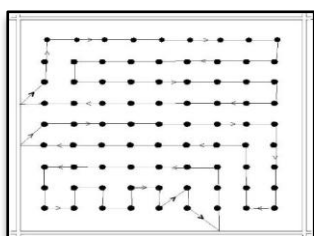
### Iodine Geochemical Exploration Surveys



Iodine Geochemical Exploration Surveys

In collaboration with Graystone Exploration Labs, Total Depth provides collection, analysis and interpretation services of iodine geochemical exploration surveys. Iodine has a number of unique properties that make it an excellent choice for geochemical exploration surveys. Soil iodine originates from the atmosphere and like all halogens, iodine is a strong oxidizer and reacts readily with hydrocarbons. Volatile hydrocarbons combine with iodine changing hydrocarbon gases into iodo-hydrocarbon solids. These compounds can be used to track hydrocarbon seepage.

#### Services:



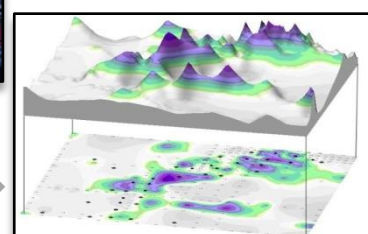
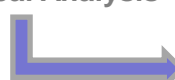
Survey Design



Data Collection



Geochemical Analysis



Integration and Mapping

### Total Depth Exploration Services

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