

HIGH DEFINITION SEISMIC ANALYSIS SOFTWARE

*85% of well log data
with no drilling*

Fast track results

*Can be included as part of
field development study*



www.dps-global.com

OVERVIEW

Having a better more accurate understanding of the composition of a reservoir before drilling is extremely valuable and key to ensuring that correct field development decisions are taken.

Through partner company Seismic Analysis Limited (SAL), DPS are able to offer a unique and proven 'virtual drilling' software as part of our FEED / conceptual studies.

'Virtual Drilling' provides a substantial increase in field information through higher resolution analysis to enable geologists, geophysicists and reservoir engineers to determine locations of oil and gas with more confidence and at reduced risk.

The mathematical solution provides a micro view of the seismic data (analysing each cell individually and measuring the effects of other cells spatially). The software provides basic imagery in 2D and uses various third party graphics applications to provide 3D views that cover:

- Velocity
- Lithology
- Effective Porosity
- Total Porosity
- Permeability
- Seal/Reservoir Characteristics

The data is ultimately returned to the client as reprocessed data so that the client may run the solutions through their own reservoir modelling software.



HOW IT WORKS

This technology is a proven seismic analysis software based purely on mathematics, allowing companies to process seismic data and produce an accurate estimate of the underground lithology (description of its physical characteristics), including the potential locations of oil & gas fields – giving up to 400% more information than standard software.

The algorithms and software required to undertake this analysis have been modelled and tested, and the results verified by a number of independent large oil exploration companies.

The software offers operators the ability to see opportunities, especially stratigraphic traps, that are invisible when traditional software is used. The system itself doesn't tell you exactly where reservoirs might be, but offers significantly more data to someone skilled in the art to allow them to interpret accordingly.

THE PROCESS

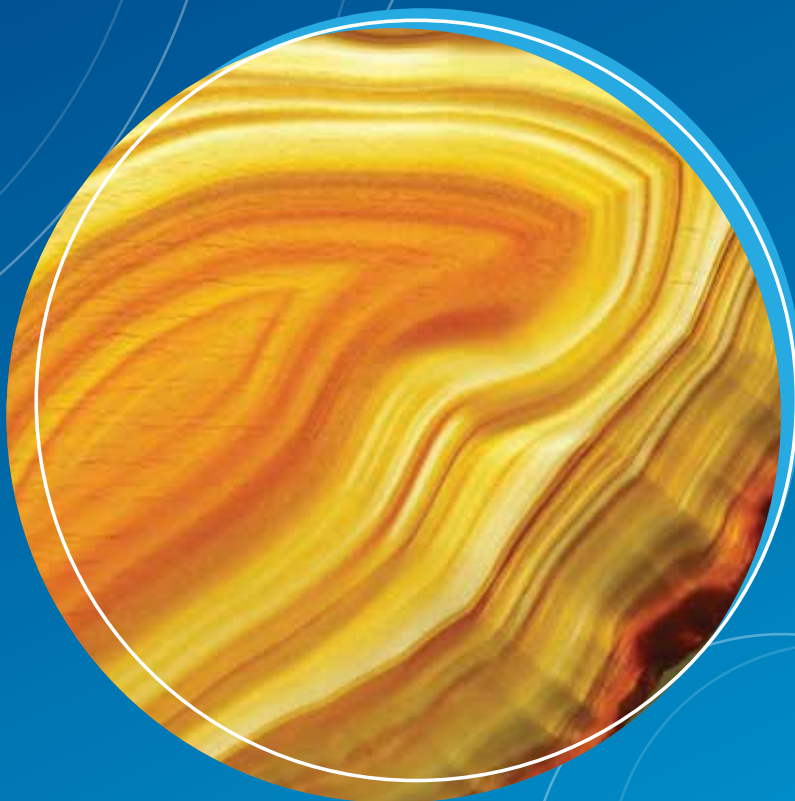
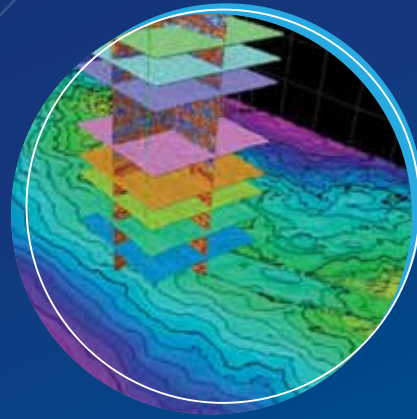
Data can be received from anywhere in the world, according to a specified structure and return results for the clients' geosciences teams to analyse and interpret.

Only a minimal amount of data (SEG-Y files and seismic velocity) is required, although Sequence Boundary Interpretation, Fault Maps and Well Data will increase the accuracy of the overall picture. Virtual Drilling can utilise older data to enable the client to make decisions about where new data or if there is a viable prospect.

The data will be processed and provided in a low resolution (map) data and high resolution (seismic wavelet ... wave-like oscillation) data format in accordance with the list below.

- Velocity
- Lithology
- Effective & Total Porosity
- Permeability
- Seal/Reservoir Characteristics

The output data will input into all established reservoir modelling software.



APPLICATIONS

The software does not require well data or regional knowledge in order for the information to be processed as it is a purely mathematical reprocessing of the data using an internally deterministic intelligent database.

As a result it has a large number of potential applications across the oil & gas industry including:

- i) Rapid re-processing of existing SEG-Y information to provide more information from within the SEG-Y data
- ii) Verification of well logs and existing findings
- iii) Virtual drilling - simulates the drilling process and predicts how the well will work and produce, based on the rock types and permeability.

This software is used by clients to increase the information they have so that they can make decisions with an increased risk of success in their field development.

This will be of particular use for the exploration and production of offshore marginal fields as the software is just as effective in 3,000ft of water. With the additional engineering capabilities of DPS we are also able to incorporate this as part of a more detailed field development study, offering suggested production solutions against associated CAPEX and OPEX considerations.



BENEFITS

This service is designed to offer a very fast and detailed analysis of a 2D or 3D dataset which may be integrated into a conventional workflow either as a one stop analysis of various prospects or alongside conventional techniques to act as a second opinion. Our approach is purely mathematical which results in clear geological and petro-physical values that are wholly objective. As a result it offers a large number of benefits to geophysicists, geologists and reservoir engineers which include:

- The software simply passes on the additional information about what is in the volume data set
- Recoverable reserves may be quantified more accurately and objectively so there is no confusion regarding the quantity of oil in the ground and the amount that may be available for production
- Able to quality control large quantities of data effectively
- Can produce a quantitative summary of opportunities to enable more informed and objective decisions
- Opens up the opportunity of marginal fields by providing more information to allow reservoir connectivity to be reviewed
- Reprocessing of additional data is cheaper than obtaining additional seismic data or drilling a dry well

Unlike other systems the software analyses every single data point on a seismic section in its own right. Each cell is not automatically defined by the cells around it. This is evident by the definition in the resolution of the results we provide.

This is a unique and cutting edge technology that offers a large number of benefits which can be employed to increase confidence in existing data analysis.

For further information, or to discuss a specific problem, please contact:

DPS (Bristol) Ltd
Serbert Road, Portishead
Bristol BS20 7GF
United Kingdom
t +44 (0) 1275 841 300
f +44 (0) 1275 841 301
www.dps-global.com