

## Case Study



# Maui

The Maui field belongs to the Taranaki basin, a proven oil and gas province and the only hydrocarbon producing basin in New Zealand. An innovative 3D stratigraphic framework emphasizes its multi-story architecture, and offers new perspectives of development.

### Location:

Taranaki Basin

### Surface area:

680 km<sup>2</sup>

### Age of sediment:

Late Cretaceous to Miocene

### Geological context:

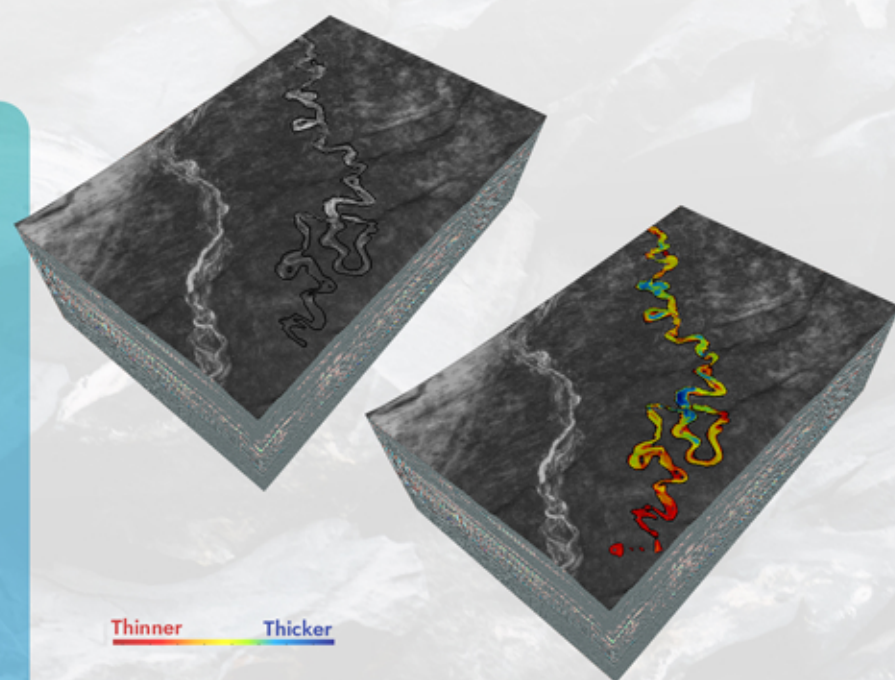
Low-relief fault bounded anticlinal structure, multi-directional rifting

### Depositional environment:

Stacked fluvial to deep marine channel systems

### Main challenges:

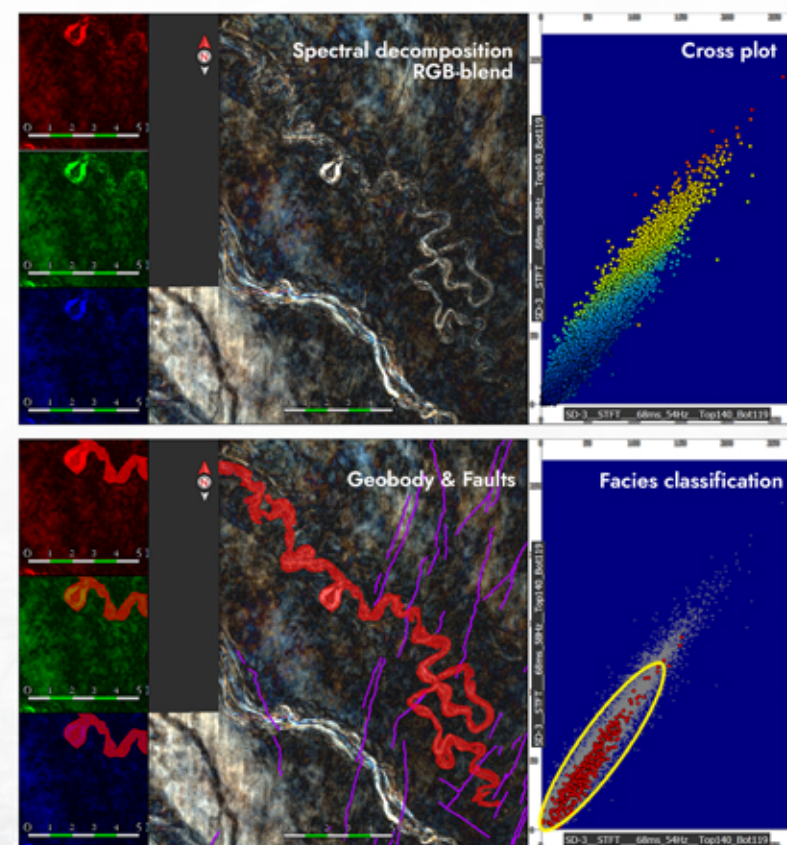
Multi-story, multi-source and multi-directional sedimentary supply & flow



Seismic expression of a turbidite channel and subsequent geobody isochore.

Seismic data sculpted with a key stratigraphic surface. The seismic traces envelope is mapped to enhance the seismic expression of a turbidite channel. The isochore data is eventually computed from the 3D-modeled geobody.

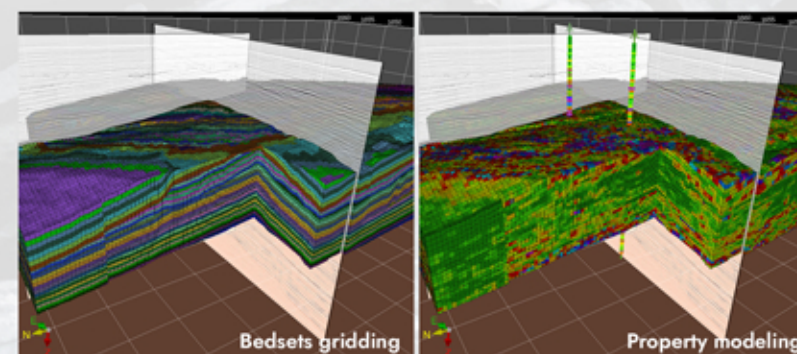
## Unravel your stratigraphic analysis



Geobody identification based on a 3-frequency classification

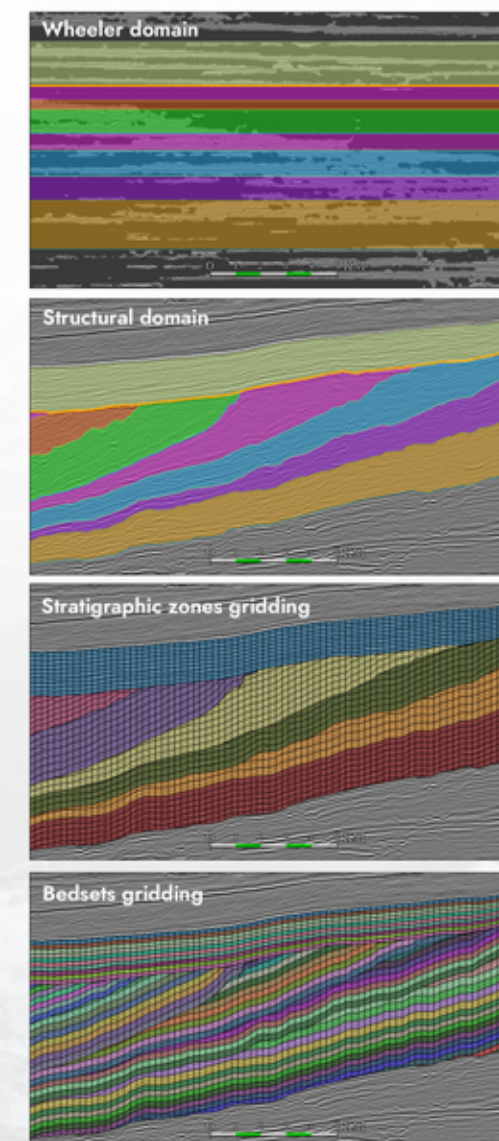
Stratal slice showing a turbidite system of which the seismic expression is emphasized by a Spectral Decomposition process and an RGB-blend visualization.

A cross plot of the 3 discrete frequencies combined with the creation of classes allow mapping encompassed data points toward modeling a geobody.



Stratigraphic grid filled with well log properties

Rock properties are propagated from well logs to populate the RGT model at a seismic sample precision. Several geostatistics methods are applicable for each stratigraphic unit, with a settable anisotropy. The grid cells are finally filled with the corresponding rock physics samples



Stratigraphic grid derived from seismic signal-driven RGT model

The key stratigraphic surfaces are delineated at a sub-sample precision, both in structural and Wheeler domains.

Stacking patterns & bedset terminations are managed within each systems tract.

Bedset dimensions are tied to log peaks and markers, and the spatial resolution is fully controlled thanks to an up/down scaling.

Data courtesy of New Zealand Petroleum & Minerals.