

Project Overview

Multi-Client Resources (MCR) in collaboration with DUG, has commenced a very large advanced 3D seismic reprocessing project over the hydrocarbon prolific Northern Carnarvon Basin of Australia's Northwest Shelf.

The Barrow-Exmouth 'BEX' Multi-Client 3D incorporates 21 legacy 3D surveys to provide a seamless 22,000km² 3D dataset reprocessed from field tape through DUG's advanced Broadband PreSDM sequence with high frequency FWI imaging over the major oil and gas producing fairways of the Barrow Sub-basin and Exmouth Plateau.

The project area extends from the western edge of Barrow Island covering oil and gas fields across the major part of the Barrow Sub-basin, including the Gorgon, West Tryal Rocks, Julimar, Pluto and Wheatstone gas fields along the Gorgon / Ranking Platform and northwest to cover the Satyr, Geryon, Eurytion and Io/Jansz giant gas fields on the Exmouth Plateau.

Proven multi-level structural and stratigraphic plays in the Triassic, Jurassic and Lower Cretaceous are abundant and within proximity to existing infrastructure.

The BEX MC3D will provide the industry with a superlative 3D imaged dataset processed through a very high end processing flow, including de-ghosting, de-multiple, anisotropic PreSDM and high frequency FWI imaging with preserved relative amplitudes that can be reliably used for input to AVO analysis and pre-stack inversion workflows. The BEX MC3D survey will allow E&P companies to undertake a more extensive evaluation of the remaining hydrocarbon potential in and around existing fields and infrastructure. Improve delineation of existing prospects, reveal previously unrecognized traps, identify by-passed hydrocarbons and address field tie-back potential.

With an industry focused on "more for less", with emphasis for "a cleaner energy future", the BEX MC3D survey is a cost and energy efficient project, creating more value from renewed seismic imaging, multi-purposed for both basin-scale and field/prospect specific evaluations to enhance exploration and recovery with minimal impact on the environment.

Processing Parameters

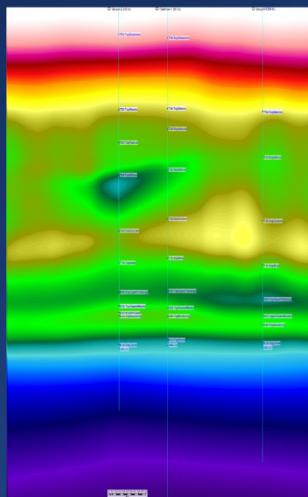
The BEX MC3D survey encompasses the merging and reprocessing of over 37,000 km² of 3D marine seismic data.

It incorporates 21 legacy surveys processed from field tapes through an extensive high-end flow, including DUG Broad, Regularisation, 3D SRME, Inversion-based Linear Noise Removal, Anisotropic PreSTM and PreSDM and high frequency FWI imaging.

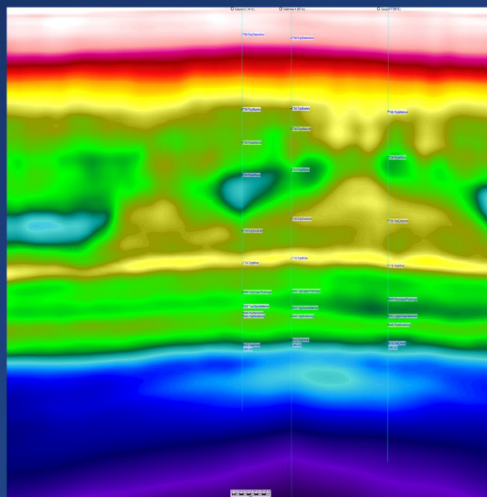
Deliverables

- Image gathers after migration
- Full fold stacks & angle stacks in time & depth
- Migration velocity fields
- High frequency FWI products up to 50Hz
- Navigation data & final processing report

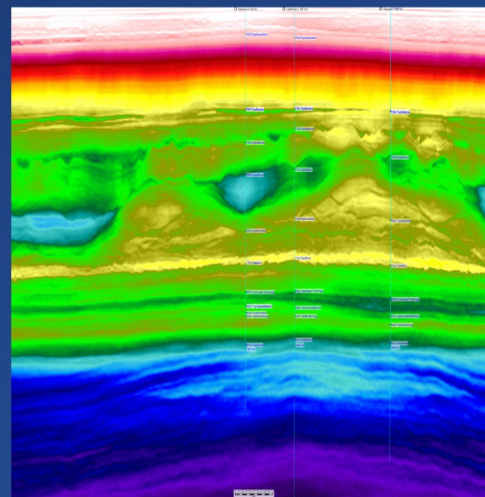
Legacy 3D Velocity Field
Arbline Geryon Field



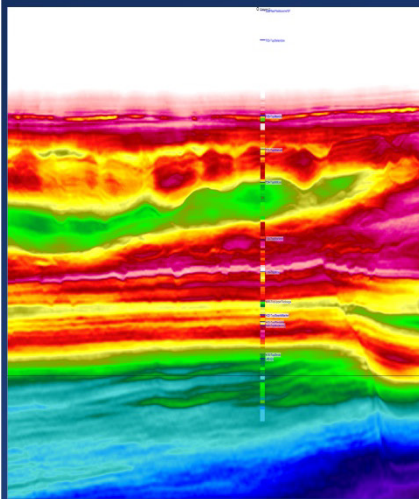
Reprocessed BEX MC3D 12Hz FWI
Arbline Geryon Field



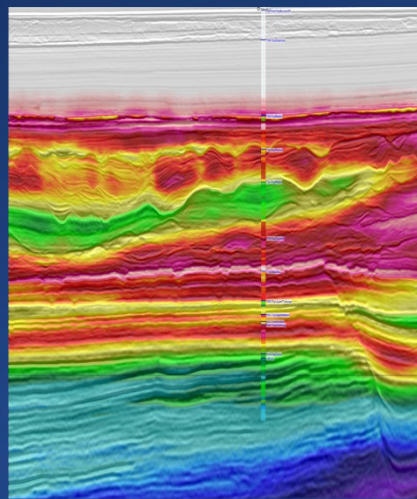
Reprocessed BEX MC3D 50Hz FWI
Arbline Geryon Field



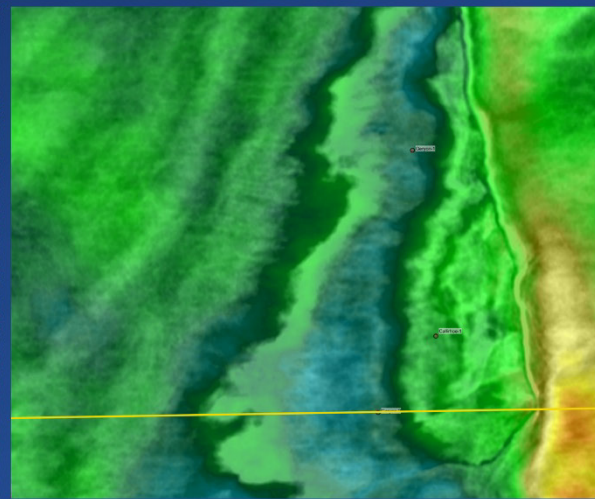
50Hz FWI
IL13009 TVDSS Intra-reservoir



50Hz FWI with PreSDM Overlay
IL13009 TVDSS Intra-reservoir



50Hz FWI with PreSDM Overlay
DS3030 TVDSS Intra-reservoir



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