

Good as Goldie - the Goldie prospect from seismic to production

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Abstract

Goldie-1 was drilled during February 2001 as a 'Sole Risk' well by Indo-Pacific Energy Ltd within the Ngatoro Petroleum Mining Permit area, PMP 38148. Following evaluation of the drilling results, Shell International Petroleum Mining, through its ownership of Fletcher Challenge Energy, backed in for a 60% share to the Goldie new field discovery. The Goldie-1 surface location is approximately equidistant between the producing Ngatoro-1 and Kaimiro-10 oil pools and is some 2 km north of Ngatoro-1.

Goldie-1 was drilled as a deviated well to test the potential of a series of Mt Messenger Formation seismic amplitude anomalies identified in the Ngatoro 3D seismic data set. These anomalies were interpreted by analogy to the nearby Ngatoro and Kaimiro oilfields to represent oil-charged sandstone reservoirs within intra-formational mudstone seals. While a set of such anomalies, including the GO880 (Goldie) was originally identified and classified in 1996, Goldie-1 was the first exploration well to be based on the Ngatoro 3D seismic survey.

The primary target for the well, the 'GO880 amplitude anomaly', was intersected in the interval 1587–1622.4m AH (1160–1192.2m TVDSS) and was found to be a very fine to fine grained sandstone typical of the Mt Messenger Formation. This interval is now termed the G1/15-8 sandstone. Excellent oil and gas shows were noted during the drilling of this and other sandstone intervals of the well, and following wireline log evaluation Goldie-1 was completed to allow a series of cased hole tests to be undertaken. Production testing of the G1/15-8 interval proved successful and Goldie-1 is classified as a new field Mt Messenger Formation oil discovery. Pressure data demonstrates its separation from the adjacent Kaimiro and Ngatoro pools.

Production of the Goldie-1 well commenced at about 700 bopd in mid March 2001 with produced oil stored on site in tanks prior to being trucked to the Omata tank farm. Goldie-1 achieved pay-back in late June 2001 some 3 months after production commenced. As of mid-December 2001 cumulative production was 142,000 bbls of 33 degree API oil.

Author

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Good As Goldie

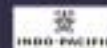
THE GOLDIE PROSPECT FROM
SEISMIC TO PRODUCTION



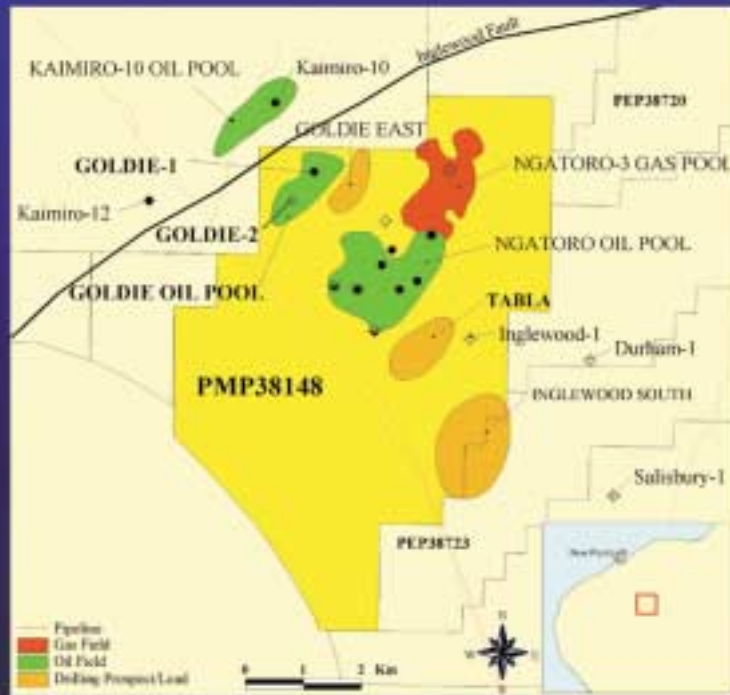
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ENERGY (NZ) LIMITED**

Outline

- Intro
- Exploration Summary
- Seismic
- GO880 Anomaly
- Goldie Well
- Production
- Future Plans



Goldie Location



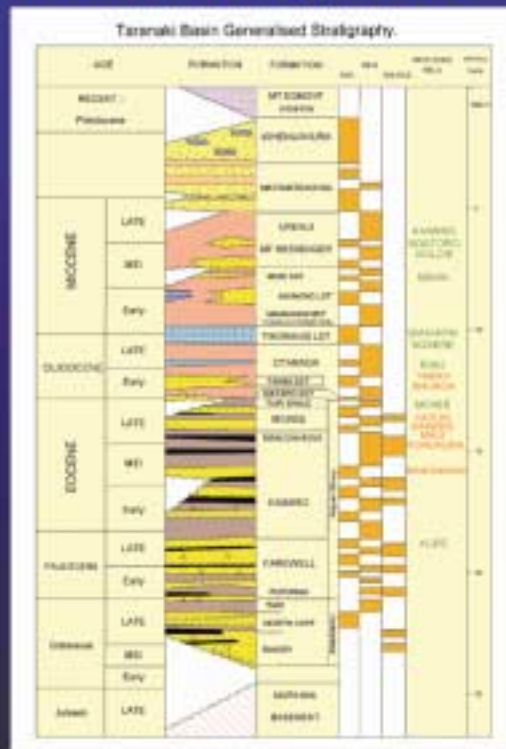
Aerial Photograph Ngatoro Area



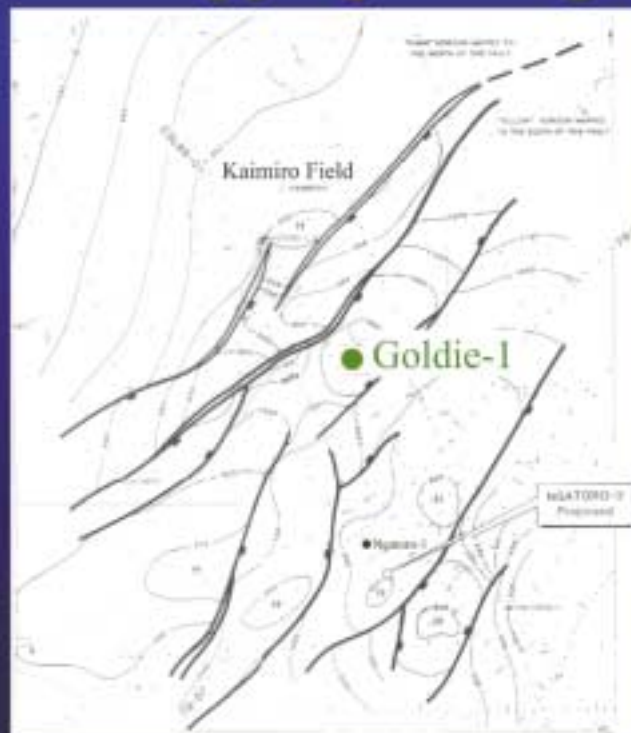
1 Kilometre



Taranaki Summary Stratigraphy



Ngatoro Mapping Pre Ngatoro-2



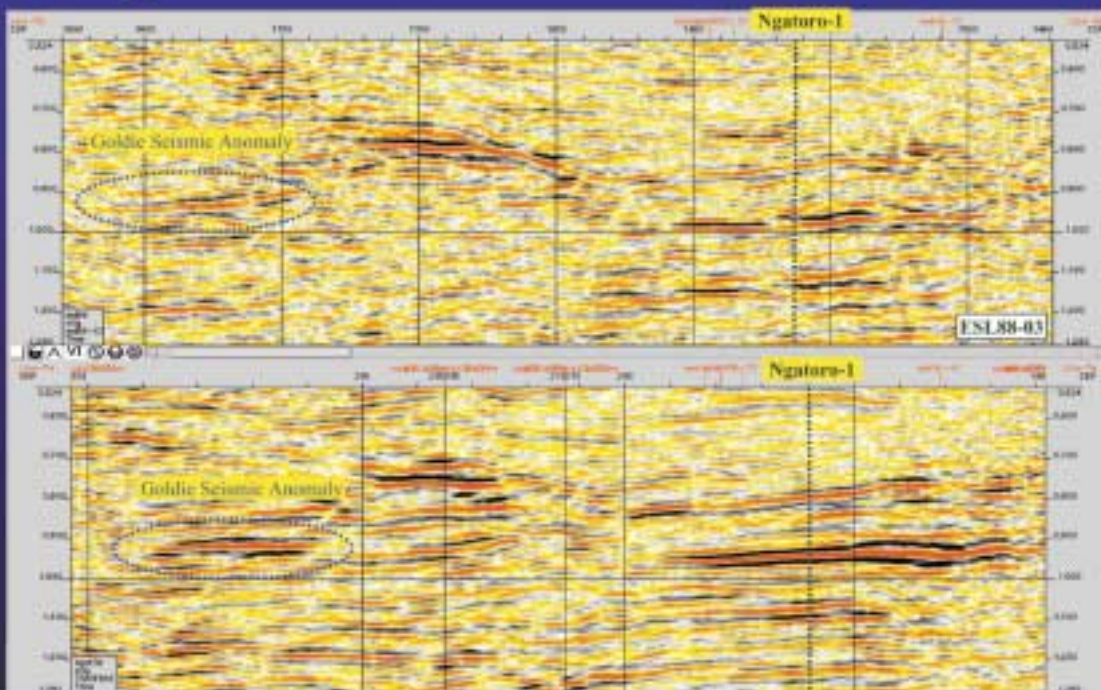
Ngatoro 3D



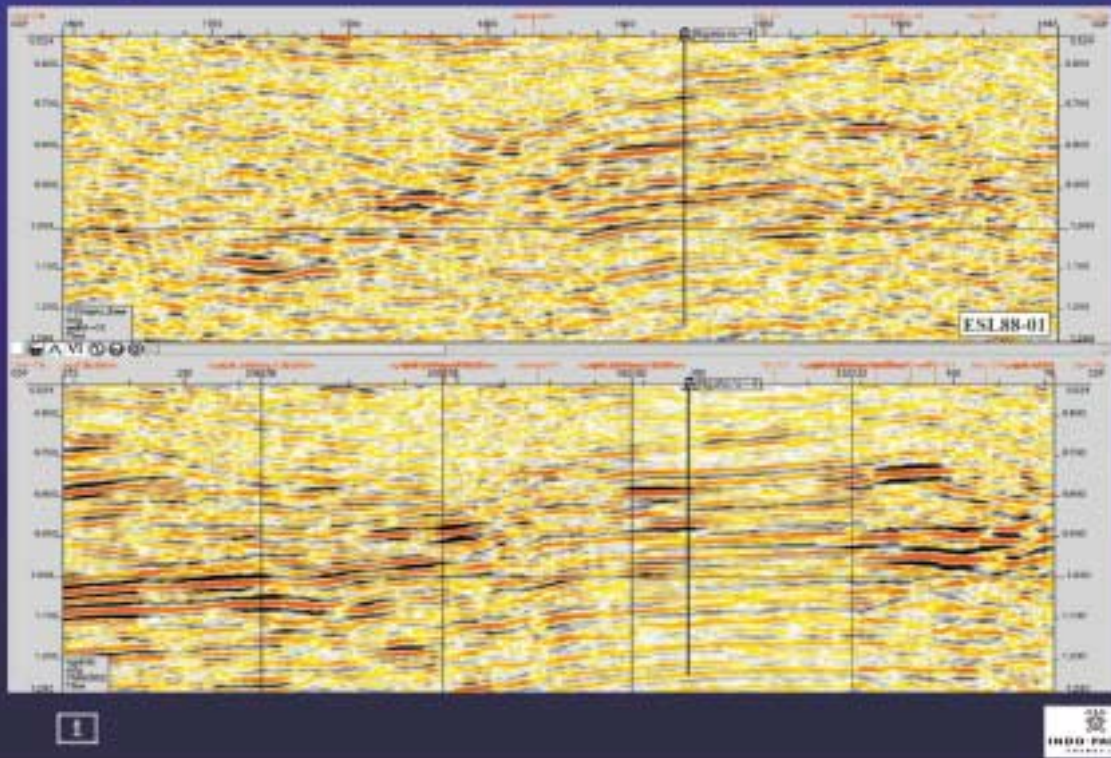
- Shot in 1995
- Source: 2kg Explosives in 10m deep shotholes.
- Covers approximately 41 km²
- Bin Size 15m x 30m
- Nominal Fold: 31



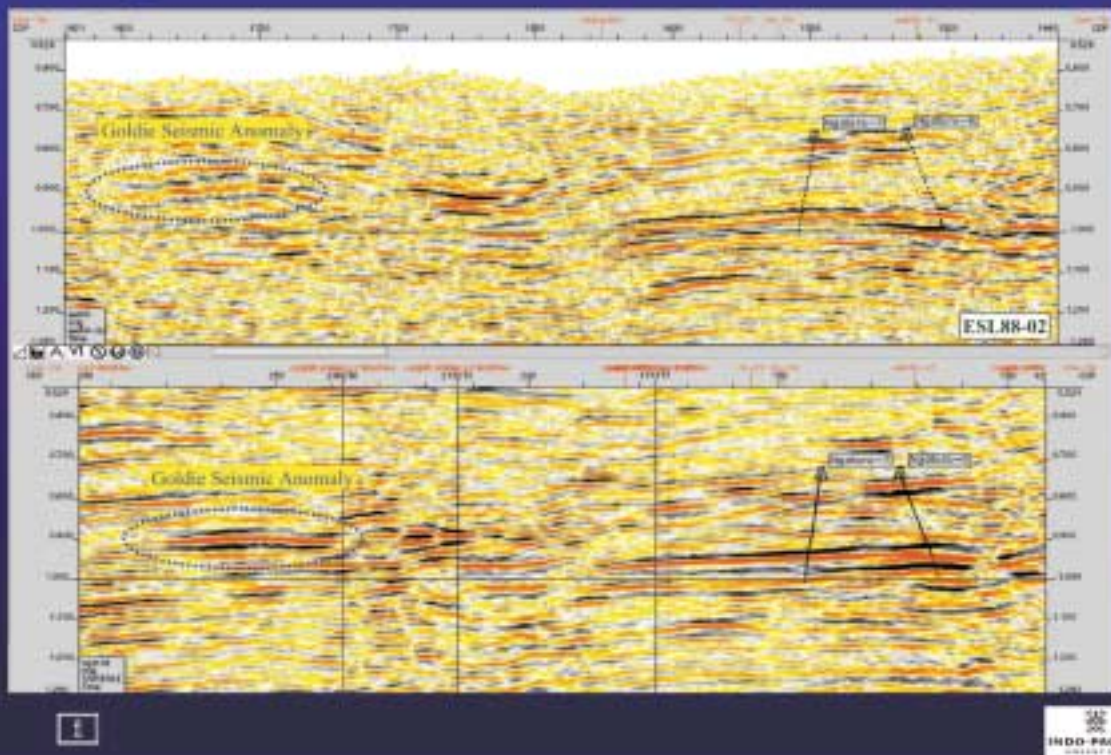
Comparison of 2D & 3D Seismic Data



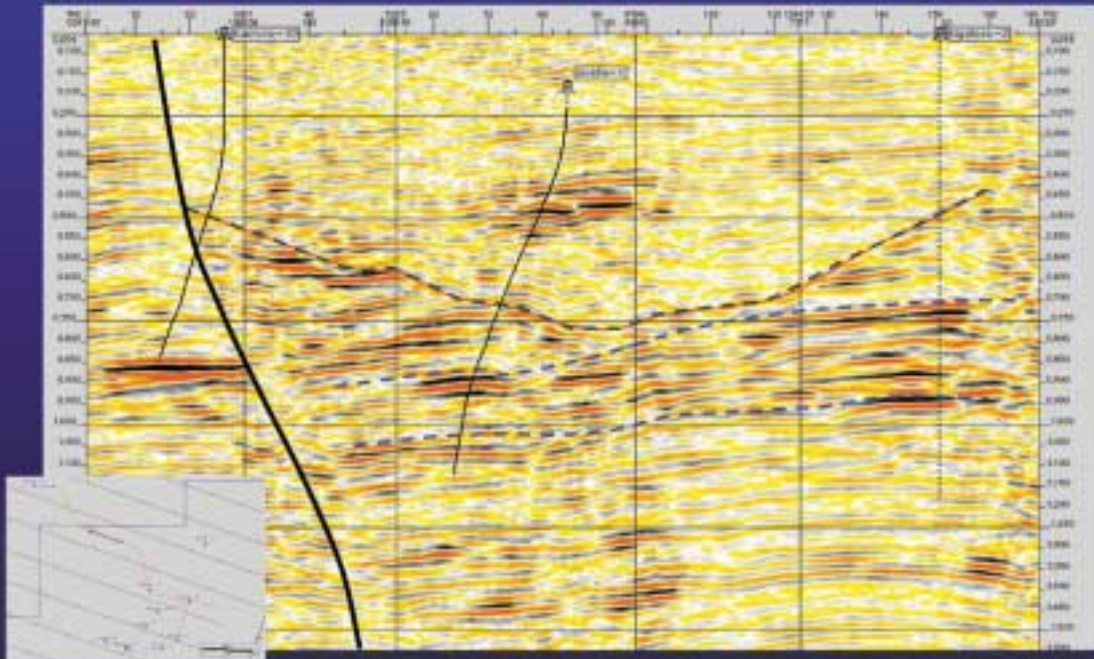
Comparison of 2D & 3D Seismic Data



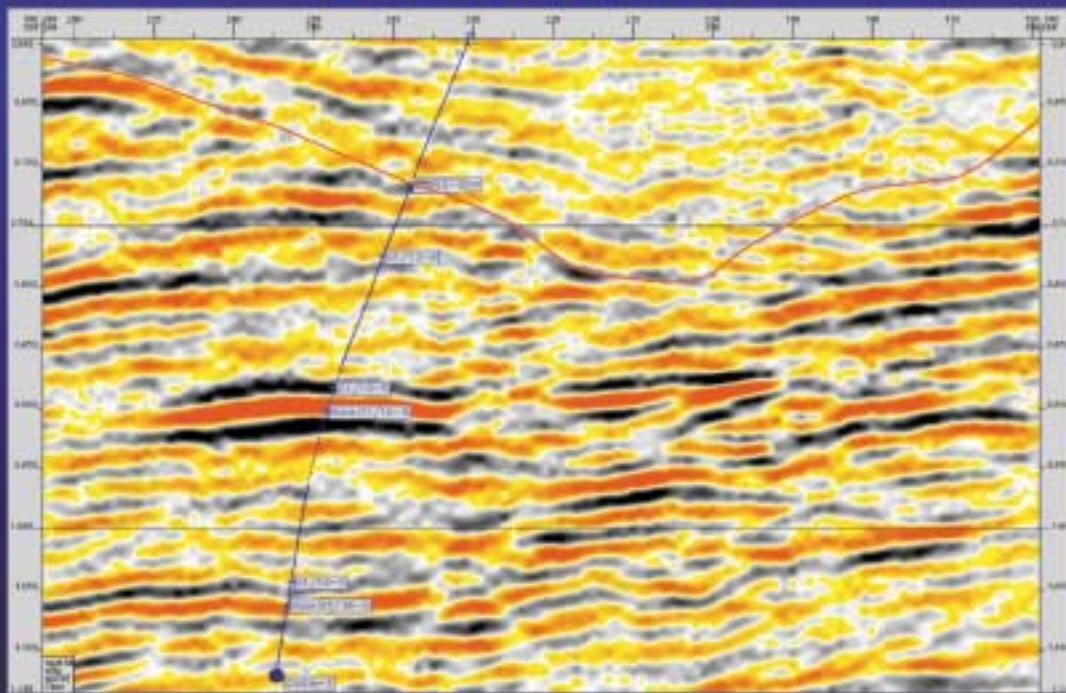
Comparison of 2D & 3D Seismic Data



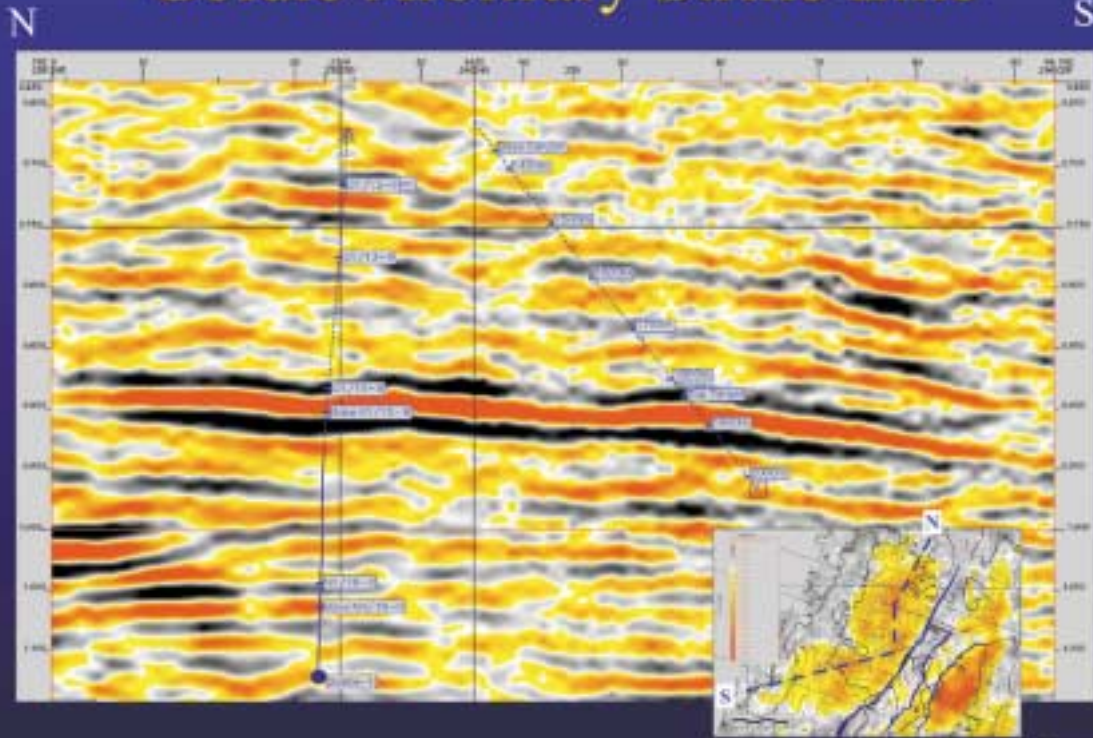
Kaimiro-10, Goldie-1, Ngatoro-2



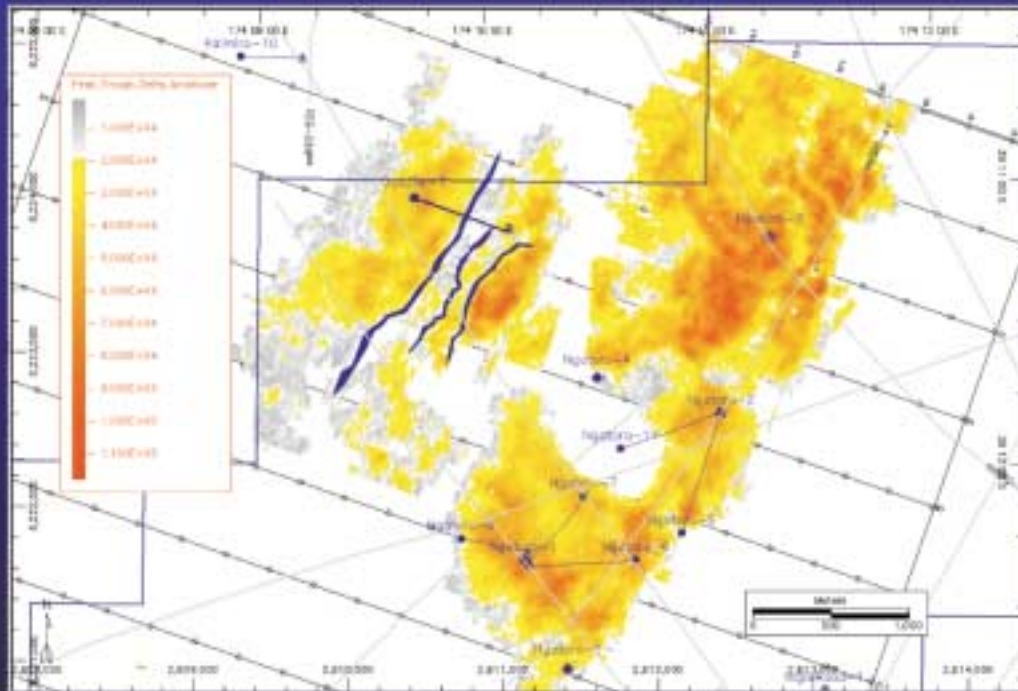
Goldie Dip Line



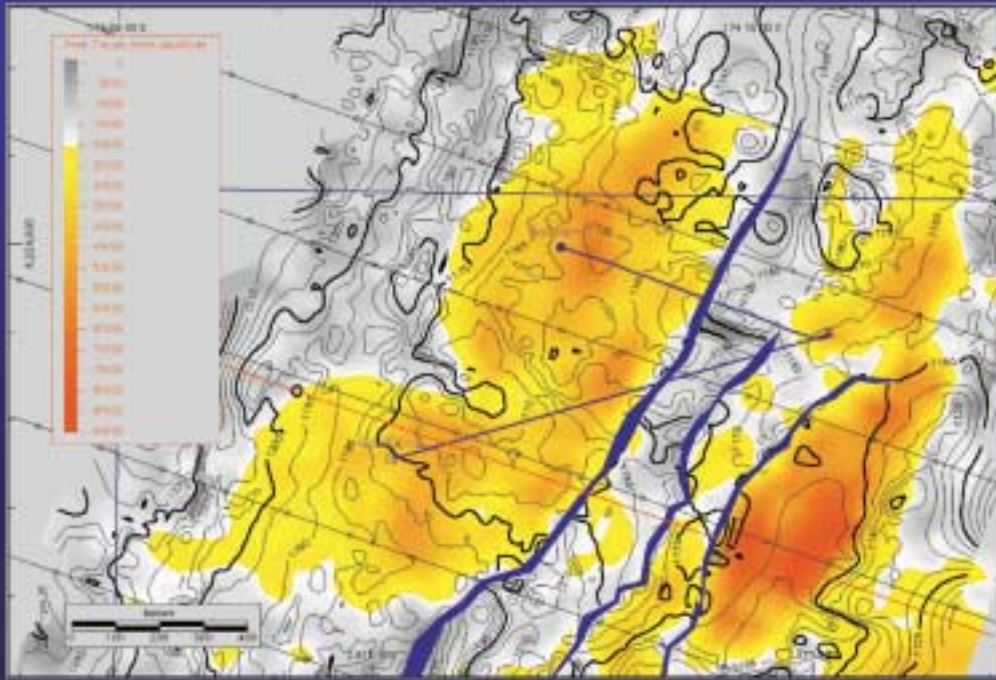
Goldie Arbitrary Strike Line



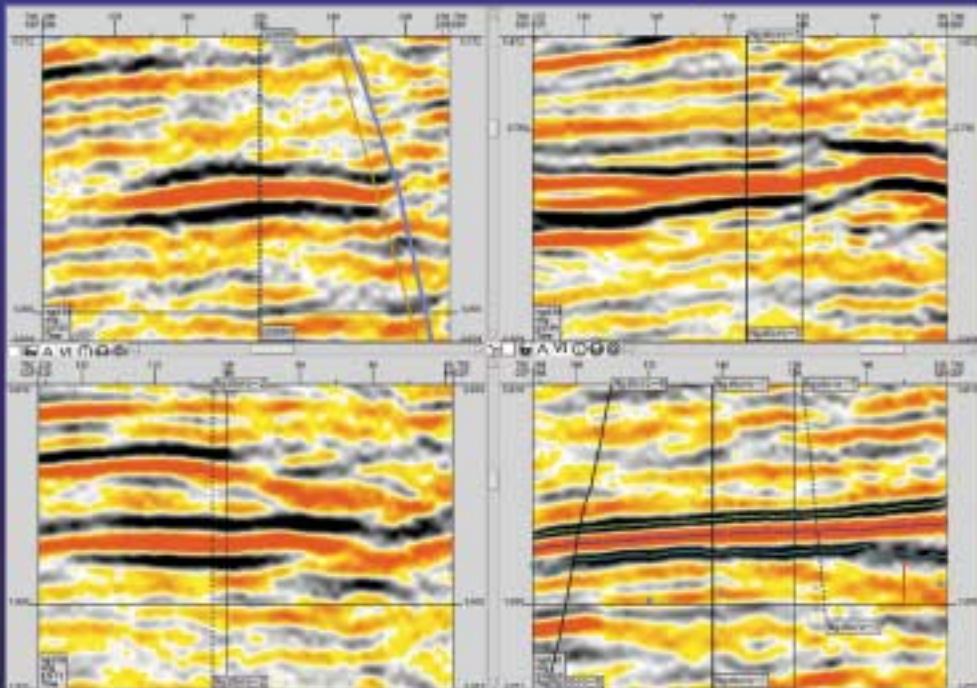
Ngatoro Area Amplitude Map



Goldie Depth & Amplitude Map



Goldie Seismic Comparison



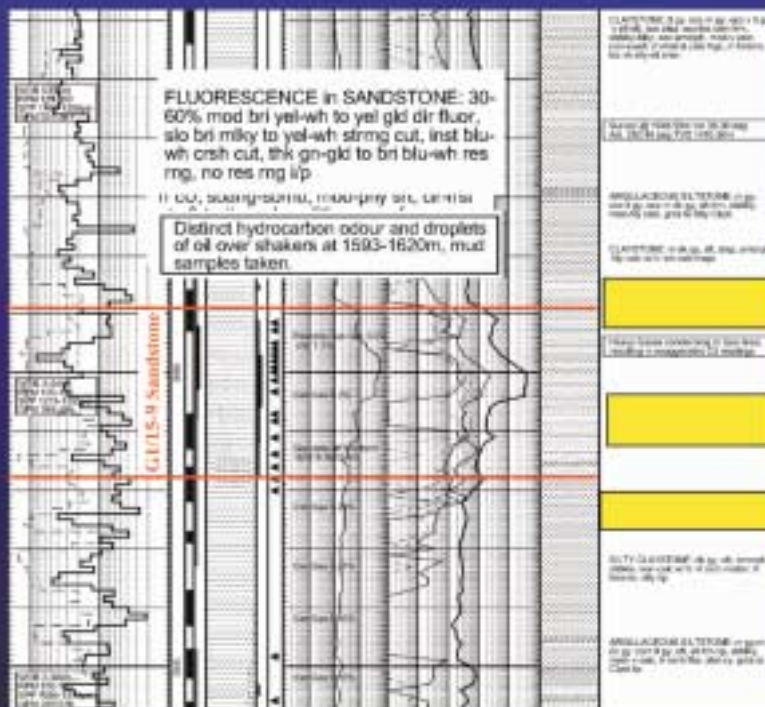
Goldie-1 Drilling



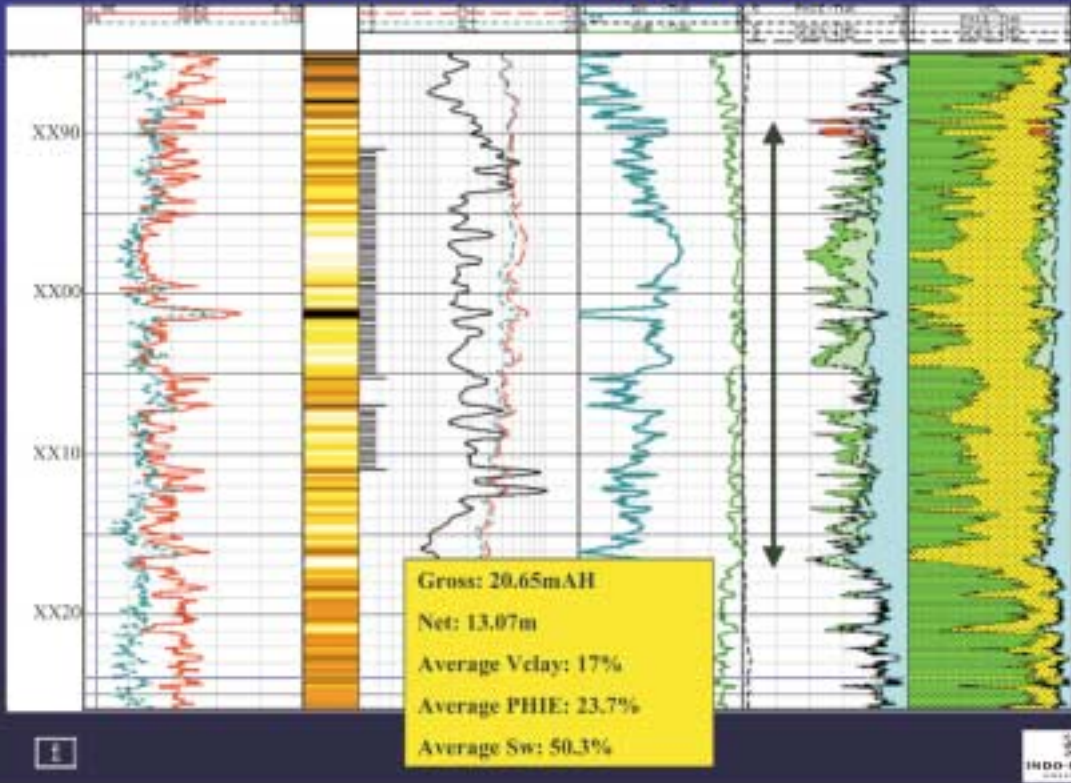
- Drilled using Parker Rig #252.
- Well spudded on the 2nd Feb 2001
- TD reached 15th Feb 2001.
- Drilled in three sections;
 - 17 ½” from surface to 51m.
 - 12 ¼” from 51m to 433m.
 - 8 ½” from 433m to 2065m TD.
- Deviated from top 8 1/2” section.
- Water based silicate drilling fluid
- 9.1 ppg through objective



Goldie-1 Mudlog



Goldie-1 Log Data

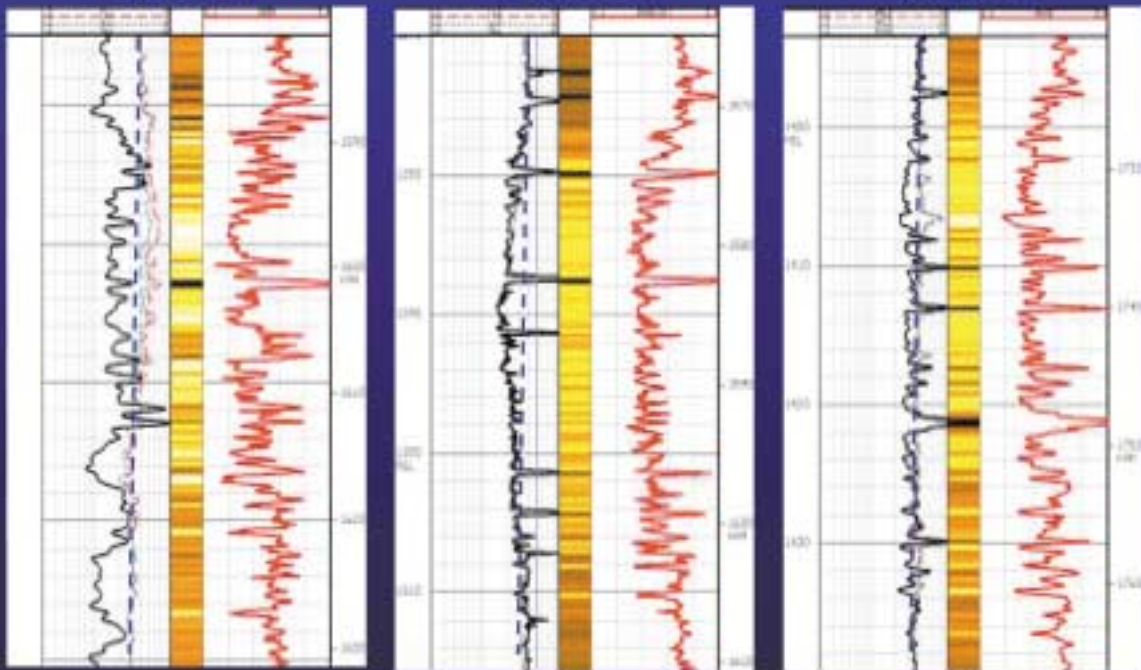


Log Comparison

Goldie-1

Ngatoro-2

Ngatoro-7



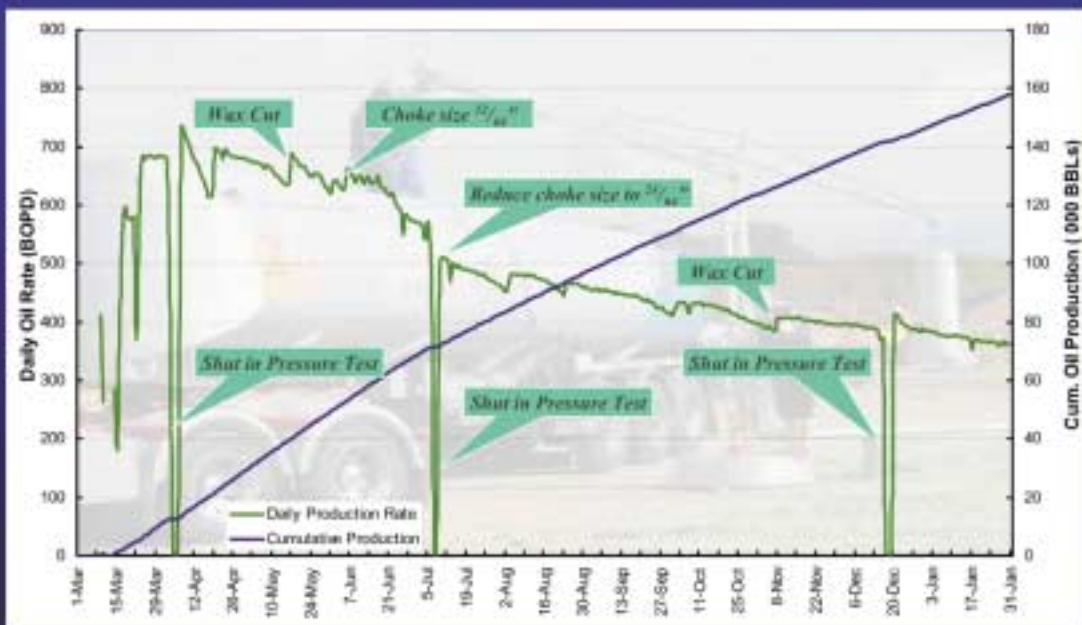
Goldie-1 Oil Properties



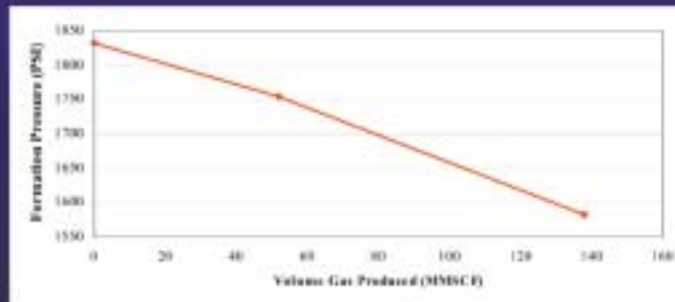
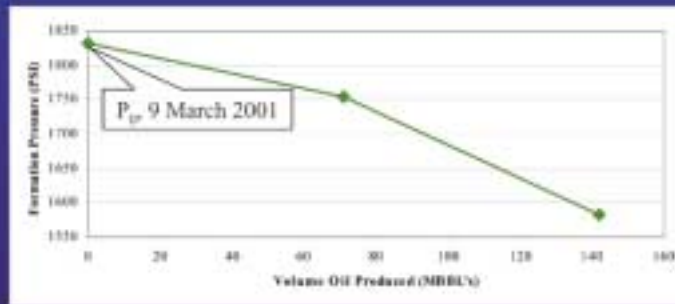
- Specific Gravity 0.86
- 33° API Oil
- Saturated at initial reservoir conditions
- 3% Wax content compared to 6% in Ngatoro wells.
- Pour point 4° C.



Goldie-1 Production



Goldie-1 Production



Goldie Oil Export



- Produced oil stored in tanks on site
- Loaded out to tankers
- Road transport to Omata Tank Farm

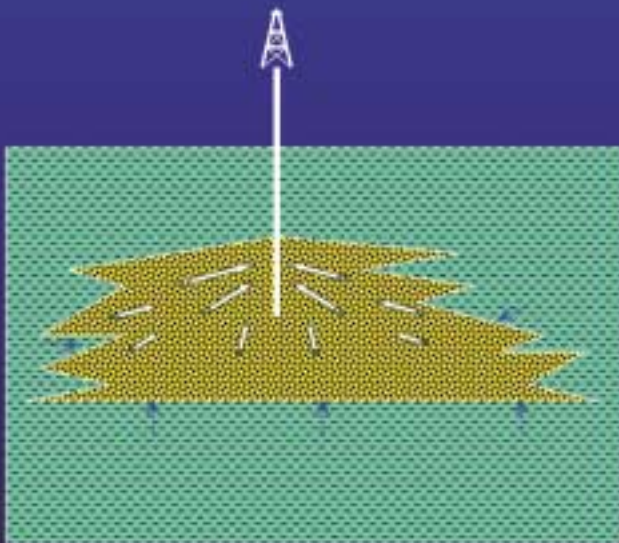


Future Work

- Voidage Replacement / Pressure Support.
- Goldie-2 Drilling.
- Co-produced Gas Sales.



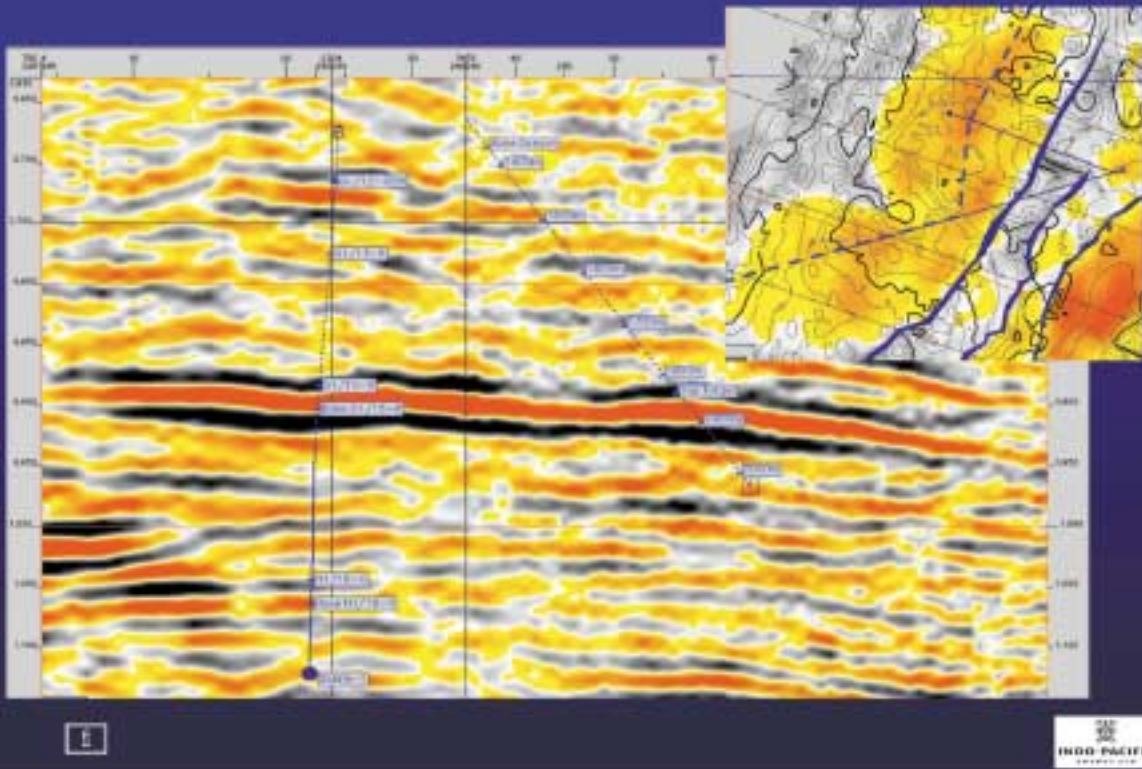
Future Work - Voidage Replacement



- Pressure decline rate greater than expected.
- Need to arrest this pressure decline.
- Probable water injection well.



Future Work - Goldie-2



Acknowledgements

- Thank you to Fletcher Challenge Energy Taranaki for permission to present this data.
- Staff at Indo-Pacific Energy for help in production