

Perth Basin Oil

New light on an overlooked opportunity

INTRODUCTION

During 2018 – 2019 Triangle Energy developed a Perth Basin oil strategy initially centred on the producing Cliff Head Oil Field and the TP/15 coastal exploration permit with the Xanadu oil discovery, just offshore Dongara. Subsequently, Triangle is expanding its North Basin footprint with the surrounding WA-481-P exploration permit offshore and with the historical Mt Horner oil field production licence (L7) and EP 437 onshore.

The oil play in the North Perth Basin is highly prospective, however, it has received little attention in the last 10 years or more, despite a successful and lucrative track record with Cliff Head Oil Field offshore and the Mt Horner, Hovea and Jingemia Oil Fields onshore. This oil play is a sleeper in the basin.

PERTH BASIN OIL FOOTPRINT

Triangle's acreage expansion has focussed on the prospective eastern Abrolhos Margin offshore and the Bookara Shelf of the northern margin of the Dandaragan Trough onshore. The key oil plays in the Perth Basin lie on the basin margins, with oil displaced updip from Kockatea Shale source rocks within the basin centres of the Abrolhos Sub-basin offshore and the Dandaragan Trough onshore. Offshore, the eastern Abrolhos Margin oil fairway extends from the Dunsborough oil discovery in the north and at least as far south as the Xanadu discovery.

Triangle now has built this dominant acreage position encompassing a portfolio ranging from exploration to production opportunities, at high equity levels.

- Development drilling on Cliff head Oil Field extensions and bypassed oil;
- Cliff Head near field exploration;
- Attic, bypassed oil and field extensions to the Mount Horner Oil Field onshore; and

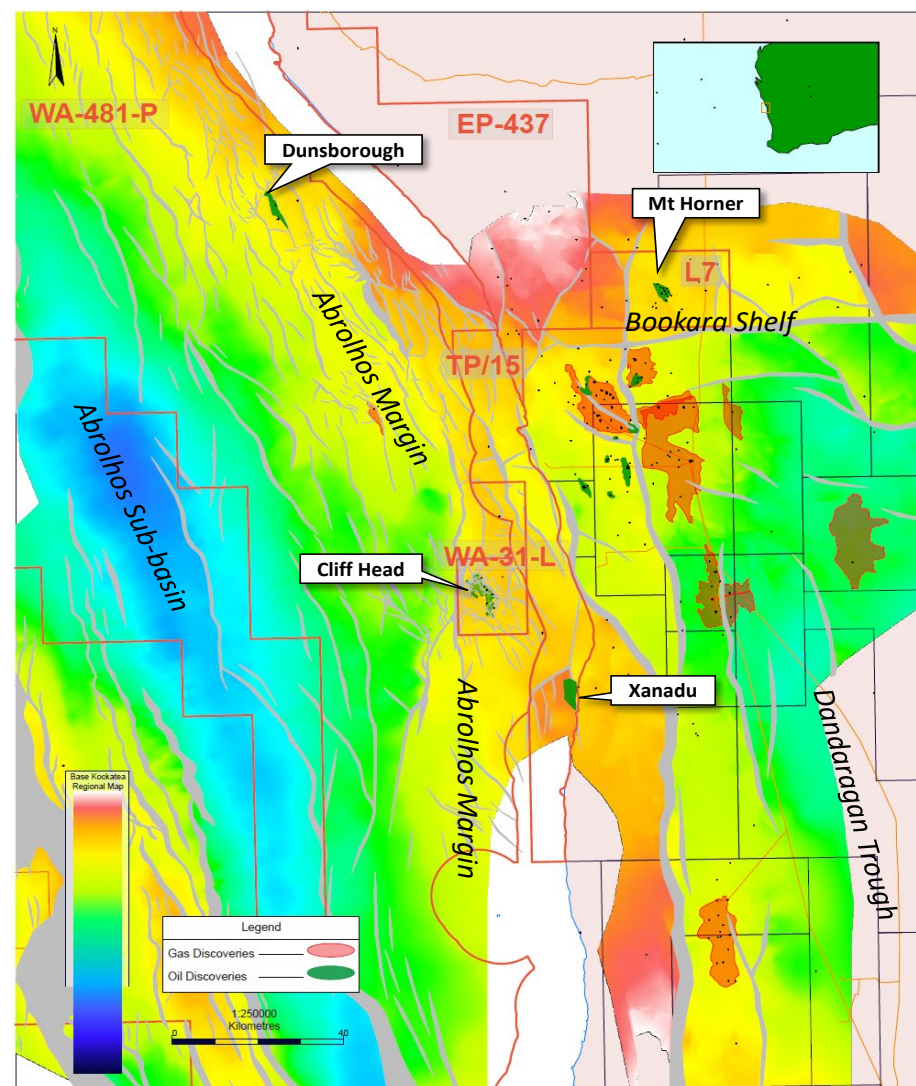


Figure 1: North Perth Basin Structure.

➤ Greenfields exploration chasing new play concepts in the eastern Abrolhos Margin and Bookara Shelf.

TRIANGLE'S APPROACH

Since 2016 Triangle has followed a proven path of the re-evaluation of assets that have lain dormant for some time – utilising the best “fit for purpose” technology and geological thinking to reinterpret the subsurface, evaluate potential opportunities and build a portfolio of drilling opportunities to ultimately test and, with success, produce.

The latest 3D seismic processing and geosteering technology have been applied at Cliff Head and the most recent geosteering technology will enable key development opportunities within the field. On the Bookara Shelf 3D seismic will be applied for the first time.

CLIFF HEAD

The Cliff Head Oil Field was discovered by the Cliff Head-1 in December 2001 in Permian aged Irwin River Coal Measures (IRCM) in 18 metre water

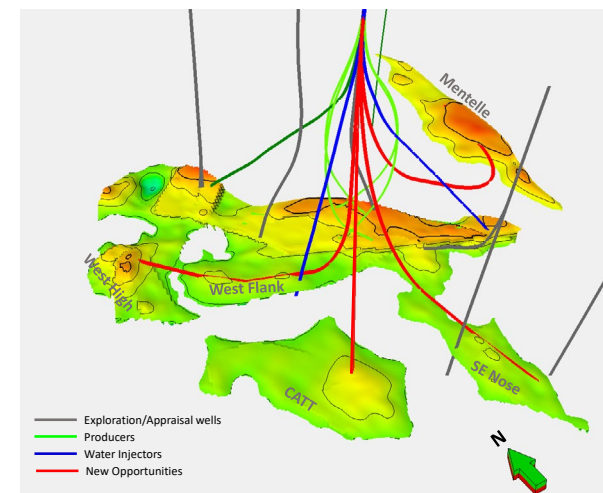


Figure 2: Cliff Head Field.

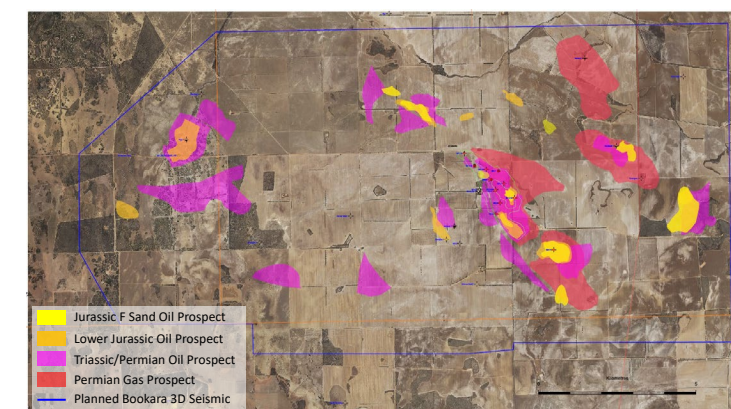


Figure 3: Bookara Shelf Prospects and Leads Map.

depth approximately 10km offshore of Dongara. The field commenced production in 2006 with initial rates of over 10,000 BOPD, peaking at 15,000 BOPD and has produced 16.4MMstb to date. The original field development was highly successful for the developers.

Triangle progressively acquired the asset during 2016 – 2018 as it recognised that a necessary second phase of development had not been contemplated. Opportunities such as the West High field extension (now part of the Western Development) are yet to be drilled.

Utilising newly pre stack depth (preSDM) reprocessed 3D seismic dataset Triangle undertook a rebuild of the subsurface interpretation and developed a portfolio of development and field extension appraisal/development and near field exploration opportunities that could be drilled from the Cliff Head Alpha platform.

The PreSDM reprocessing (utilising high-resolution tomographic velocity modelling) allowed a more confident definition of the subsurface structure, reducing its uncertainties. The evolution of geosteering technology over the last few years, such as directional resistivity logging, will enable not only the targeting but drilling of development opportunities within the field that were not previously possible, such as the Western Development and SE Nose wellbores.

Near Field exploration opportunities have also matured at Mentelle Updip and Catt prospects. Mentelle Updip has

sufficient size to materially extend the life of the Cliff Head asset.

The current portfolio of opportunities that can be drilled and completed from Cliff Head Alpha platform could return production to historical levels and extend the life of this asset to beyond 2030.

MT HORNER/BOOKARA SHELF

Triangle took an interest in the historical Mt Horner production licence with a strategy of evaluating potential attic and infill opportunities with 3D seismic technology and this strategy has now expanded to cover the wider oil potential of the Bookara Shelf.

The Bookara Shelf is highly prospective, but with little activity in the last 20 years. The area contains numerous wells with oil shows, log anomalies and DST oil recoveries that have never been actively pursued.

Triangle is targeting four key plays in the acreage with its proposed 3D seismic survey, ie:

- Jurassic oil targeting Mt Horner field attic/infill opportunities;
- Basal Triassic (Wagina) sandstone for oil;
- The Permian Kingia and High Cliff sandstone (IRCM) for oil; and
- The Permian Kingia and High Cliff Sandstone for gas in the Mt Horner hanging wall block.

As Triangle's evaluation of these opportunities progresses, long forgotten

oil columns are being rediscovered. For example an oil column is again interpreted in the Permian at Mt Horner 5.

3D seismic has never been applied to the area. The significance of these zones will be evaluated with the Bookara 3D seismic survey, scheduled at the end of 2021. A multi-well drilling campaign is planned to evaluate the range of opportunities anticipated to be de-risked by the survey. The Bookara Shelf has the potential to be the next Western Flank oil play of the Cooper/Eromanga Basin.

EASTERN ABROLHOS MARGIN EXPLORATION (WA-481-P AND TP/15)

The third leg to Triangle's oil strategy lies with its exploration acreage position on the oil prone eastern margin of the Abrolhos Sub-basin. The company initially took a position in this acreage recognising the similarity in play types to Cliff Head in the south of the acreage, made the more valuable as potential tie-backs to Cliff Head. Triangle is currently planning a 3D seismic survey to mature these leads to drill-ready prospects. The acreage also holds significant untested new standalone plays such as the Permian buttress play.

CONCLUSION

Triangle has delivered on its oil focused strategy in the North Perth Basin, securing a dominant basin wide acreage position with high equity in one of the few remaining oil opportunities within Australia. Drilling opportunities are being matured with a plan to return oil production from the basin to its past glory days. ▀