

NINGALOO VISION OPERATIONS

Ningaloo Vision Operations comprises three subsea oil field developments located in the Exmouth Basin offshore North West Australia, serviced by a single Floating Production, Storage and Offloading vessel (FPSO), the *Ningaloo Vision*.

The operation comprises the Van Gogh oilfield development, which commenced production in 2010, and the nearby Coniston and Novara oilfield developments, which were tied back to the Van Gogh subsea infrastructure in 2015 and 2016 respectively.

The facility, including the vessel, is operated by Quadrant Energy on behalf of joint venture partner Inpex.

Ningaloo Vision FPSO



THE VAN GOGH, CONISTON AND NOVARA OILFIELDS

The *Ningaloo Vision* FPSO is stationed approximately 65 km north of Exmouth in North West Australia, in Commonwealth waters. It services the Quadrant Energy-operated Van Gogh, Coniston and Novara oilfields in the Exmouth Basin.

The Van Gogh development comprises 13 subsea wells, including 10 multi-lateral production wells, tied into two large subsea manifolds, along with a single two-way gas injection/flow back well, and two water injection wells. Flexible flowlines and risers link the subsea infrastructure to the *Ningaloo Vision*, via a disconnectable turret mooring system.

The Coniston and Novara fields are located approximately 8 km north of the *Ningaloo Vision*, and comprise six production wells at Coniston and one at Novara. These connect to the Van Gogh subsea manifolds via a subsea manifold for Coniston and a Pipe Line End Manifold (PLEM) for Novara.



Dry gas required for gas lift is supplied from the FPSO, via 4-inch and 6-inch gas injection lines. A dedicated umbilical connects the new manifold, PLEM and associated trees to the Van Gogh infrastructure, providing chemical injection, control and monitoring capability.

Dual 12-inch production flowlines tie the Coniston/Novara fields into the existing Van Gogh infrastructure, before passing well fluids up to the FPSO via flexible flowlines.

ABOUT THE NINGALOO VISION FPSO

The *Ningaloo Vision* has purpose-built topside facilities which separate, stabilise and dehydrate oil and gas drawn from the subsea fields. Oil is stored on board and is periodically offloaded to tankers via a surface-level flexible pipe, while gases are reinjected.

Normally crewed by just 20 people, the *Ningaloo Vision* can accommodate more than 60 for maintenance campaigns. Design processing capacity is 150,000 barrels of liquids per day, including 63,000 barrels of oil, and total oil storage capacity up to 540,000 barrels.

Production from the Van Gogh oilfield commenced in February 2010.

KEY FEATURES

- Operated by Quadrant Energy (Quadrant Energy 52.5% / Inpex 47.5%)
- Van Gogh development commenced production in February 2010.
- Coniston/Novara fields were tied back to the Van Gogh field development with first production in 2015 and 2016 respectively.
- Operating water depths range from 340 - 400 metres.

DEVELOPMENT MILESTONES

JUL 2016	First Oil from Novara
MAY – JUN 2016	Novara 4H Drilled
APR 2015	First Oil from Coniston
JAN 2014 – APR 2015	<i>Ningaloo Vision</i> off-station for modifications
DEC 2011	Joint Venture Partners Final Investment Decision for Coniston/Novara development
FEB 2010	Oil production commences at Van Gogh
MAY 2007 – DEC 2009	<i>Ningaloo Vision</i> fitted out for FPSO activities
OCT 2008	Construction work begins on Van Gogh field
2003	Van Gogh field discovered
2000	Coniston field discovered
1989	Novara field discovered