

# Barrow Island Provision of Engineering Services

## PROJECT DETAILS:

Location:	Barrow and Thevenard Islands, Western Australia
Contract Value:	A\$10 million annual
Contract Period:	October 2008 - October 2011 (ext. option to October 2013)
Safety Statistics:	Manhours: 69,286 LTIFR: 0 (As at 31 March 2011)



## CLIENT: Chevron Australia Pty Ltd

### Scope of Work:

Clough AMEC are completing an engineering services contract for Chevron to support its oil production facilities at Barrow and Thevenard Islands, Western Australia. The contract is for an initial period of three years, with options to extend for a further two years.

### Services provided include:

- Project management
- Detail engineering
- Construction and Fabrication management
- Maintenance support
- Feasibility studies and concept development
- Procurement and supply chain integration

### Facilities:

The Company operates oil production facilities at Barrow Island (BWI) situated 96 kilometres north of Onslow and Thevenard Island (TVI) 22 kilometres north west of Onslow.

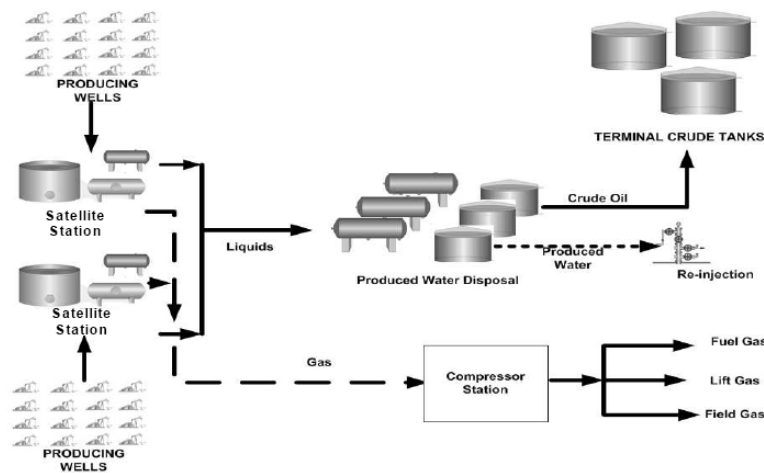
### BARROW ISLAND

The Barrow Island oilfield produces oil from multiple reservoirs, ranging from 350 to 2050 metres below sea level, with the main producing formation, the Windalia, providing 95 percent of the total Barrow Island oil production. The reservoirs are drained by some 467 producing wells, which produce oil, water and natural gas. Production is brought to the surface using a variety of different techniques, including sucker rod pumping, gas lift, progressive cavity displacement pumps and natural flow.

Production from each well is piped to one of nine Separator Stations and one additional manifold station. The production flow is routed via a production manifold and header to degasser vessels, where gas is separated from the production stream liquids.

Produced oil and water is pumped from each Separator Station via a series of above-ground pipelines to the Central Processing Facilities (CPF). From there it is further separated with oil being transferred to the Terminal Tank Farm then approximately once per month via a submarine loading line and offshore loading buoy to tankers for shipment. Produced water from the CPF is transferred to storage tanks then onto the produced water disposal facilities. Residual gas separated at the CPF is sent to the CPF Flare pit.

Produced gas from the degasser vessels is collected in a low pressure gas gathering system supplying the Compressor Station, as well as supplying fuel gas to other users. Excess gas is flared at the J Station flare pit. High pressure gas from the Compressor Station is sent to the high pressure gas distribution system, which supplies gas lifted production wells, as well as high pressure fuel gas for the Central power Station and other users.



## THEVENARD ISLAND

Situated 83 kilometres south west of Barrow Island and 25 kilometres from the mainland, Thevenard Island provides an island base for the processing and storage of hydrocarbons from the Saladin, Roller, Skate, Yammaderry, Cowle and Crest fields.

Production from the offshore wells is gathered at monopods and platforms and then sent to Thevenard Island (TVI) for processing.

Eleven production wells have also been drilled on the island itself, some of which has since been converted to gas injection wells.

Produced fluids from Roller and Skate are received in a slug catcher vessel which converts the variable flow of liquids and gas into a stable flow and provides preliminary separation, whilst well fluids and gas from the remaining wells are fed directly into the plant bulk separators.

Output from the plant bulk separators is segregated as follows:

- Crude oil is fed directly to a storage, off-take and loading facility
- Gas is fed to the Roller system for compression and export to the Roller and Skate monopods
- Gas is fed to the Saladin system for compression and export to the Onshore wells, Saladin platforms, Yammaderry and Cowle monopods
- Produced water is injected into three water disposal wells on the Crest Leave on TVI
- Produced water is filtered via the TVI Waterflood Facility and injected in Saladin 11.