

Snarf-1 Exploration Well Drilling Environmental Plan Summary

This summary of the Snarf-1 Exploration Well Environment Plan has been submitted to comply with Regulation 11(7)(8) of the *Petroleum (Submerged Lands) (Management of Environment) Regulations 1999*. It may not be used for any other purpose without Woodside's prior approval.

1. Project Description

Woodside Energy Ltd (Woodside) proposes to re-enter the Snarf-1 exploration well and drill the bottom hole sections using the semi-submersible rig, the Jack Bates operated by Transocean. Spudding of this well occurred in May 2007, using the Chikyu drill ship. Due to issues with the Chikyu's drilling equipment, the bottom hole section of the well was not drilled in this first stage. Drilling of the bottom hole section using the Jack Bates is planned for December 2007. The Snarf-1 well is located in Permit Area WA-275-P in approximately 1,433 m water, 276 km north-west of the Western Australian coastline, and 30 km south-west of Scott Reef.

The well will be drilled using water based muds and will be profiled using vertical seismic profiling. No well testing activities will be undertaken.

2. Coordinates of Activity

Well	GDA 1994 MGA Zone 51	
	Easting E	Northing N
Snarf-1	337 645 mE	8 414 806 mN

3. Description of the Receiving Environment

The most sensitive environment in the area is Scott Reef. Scott Reef is not a World Heritage Property, Marine Park or listed as a Ramsar Wetland. The reef flat of South Scott Reef is managed by the Western Australian Department of Environment. Scott Reef is listed on the Australian Heritage Register.

The diversity of habitats within the Scott Reef complex, together with its size and location in a coral rich province, is reflected in the diversity of corals reported from the area. A total of 258 species of scleractinian corals have been identified, which is similar to that reported for Ashmore Reef (255 species). Benthic habitats at Scott Reef were extensively mapped and described in 2006 by the Australian institute of Marine Science. Ten distinct benthic habitats were described from the lagoon at South Scott Reef and eight from north Scott Reef.

The following species, which may occur at the Snarf-1 well location and within surrounding waters, are considered to be rare, vulnerable or in need of special protection, and have been listed as being in need of protection under State and/or Commonwealth legislation:

- *Megaptera novaeangliae* (Humpback Whale)
- *Sula dactylatra bedouti* (Masked Booby - eastern Indian Ocean)
- *Chelonia mydas* (Green Turtle)
- *Caretta caretta* (Loggerhead Turtle)

Socio-economic Environment

Commercial fisheries currently operating in the offshore waters of the Browse Basin where the Snarf-1 well is located are:

- Northern Demersal Scalefish Fishery;
- North West Slope Trawl Fishery;

- North Coast Shark Fishery; and
- Western Tuna and Billfish Fishery.

Traditional Indonesian fishing activities are permitted within an area covered by a Memorandum of Understanding (MOU) between the Government of Australia and the Government of Indonesia. The MOU area includes Scott Reef.

Scott Reef may receive occasional visits from vessels, but little tourism or recreational activities are expected to occur in the vicinity of the offshore survey locations.

There are no known Australian indigenous sites at Scott Reef. The Yarra, a 482 tonne iron barque lost at Scott Reef in 1884, is listed on the DEW historical shipwreck database.

The Snarf-1 well location is in one of the most remote areas of Australia and is far from the main commercial shipping routes off the Australian coastline. The nearest shipping lane is the Port Hedland to Kupang/Banda shipping lane 45 km to the west.

4. Major Environmental Hazards

An environmental risk assessment undertaken identified environmental risks and potential environmental effects of drilling activities associated with rig deployment, well drilling and operation of standby vessels.

The main environmental aspects of the above activities are:

- Physical disturbance associated with anchoring, rig movements and rig operations;
- Sound impacts when undertaking vertical seismic profiling;
- Discharge of drilling fluid, drill cuttings and cementing fluids;
- Discharge of deck drainage;
- Discharge of sewage and putrescible domestic wastes;
- Emissions to atmosphere from operating equipment;
- Accidental hydrocarbon and/or hazardous material spills during routine drilling activities;
- Accidental hydrocarbon spills from failure of mechanical/physical barriers eg blowout preventer or casing strings; and
- Accidental hydrocarbon and/or hazardous material spills during transfer from standby vessels.

5. Summary of Management Approach

The following table identifies the key management objectives, standard and criteria to achieve these objectives.

Objectives	Standards	Criteria
No significant disturbance to seabed and benthic habitats	<ul style="list-style-type: none"> • Woodside Environmental Standards and Aspirations 	<ul style="list-style-type: none"> • Anchoring/deployment and retrieval is done according to procedures to minimise anchor damage and chain drag (semi-submersible only).
No introduction of exotic marine species	<ul style="list-style-type: none"> • AQIS Australian Ballast Water Management Requirements • <i>Quarantine Act 1980</i> 	<ul style="list-style-type: none"> • Rig and support vessels adhere to Australian Quarantine and Inspection Service (AQIS) Australian Ballast Water Management Requirements and quarantine requirements.

Objectives	Standards	Criteria
No significant impact to marine fauna	<ul style="list-style-type: none"> • Woodside Environmental Standards and Aspirations • EPBC Amendment Regulations 2006 • DEH Guidelines for Minimising Disturbances to Whales 	<ul style="list-style-type: none"> • Guidelines to minimise whale disturbance followed. • Required safe distance of 300 m from cetaceans maintained by standby vessels. • Vertical Seismic Profiling Survey Procedures followed.
No significant impact on marine environment from drilling fluids and cuttings	<ul style="list-style-type: none"> • Woodside Environmental Standards and Aspirations • Woodside's Well Engineering Drilling Fluid Selection Procedure (TP03) 	<ul style="list-style-type: none"> • Use of approved, low toxicity Water Based Mud. • Fluid and cuttings control equipment inspected and operating correctly prior to commencement of operations.
No significant impact on marine environment routine discharges.	<ul style="list-style-type: none"> • Woodside Environmental Standards and Aspirations • MARPOL 73/78 Annex IV 	<ul style="list-style-type: none"> • Sewage and putrescible waste systems are fully operational prior to commencement of drilling operations and includes maceration to less than 25 mm diameter. • Deck drainage contaminated by hydrocarbons or chemicals contained and disposed onshore unless it is monitored and oil in water content is below 15 mg/L.
No significant environmental impact from solid and hazardous wastes	<ul style="list-style-type: none"> • Woodside Environmental Standards and Aspirations • Waste Management Plan - Broome • MARPOL 73/78 Annex IV 	<ul style="list-style-type: none"> • Waste Management Plan is in place and adhered to. • Material Safety Data Sheets readily available. • Waste log maintained and quantities of wastes transported ashore recorded.
No hydrocarbon or chemical spills to the marine environment.	<ul style="list-style-type: none"> • Woodside Environmental Standards and Aspirations • Jack Bates SOPEP • Jack Bates Emergency Response Plan • Western Australia and Dampier Sub-Basin Oil Spill Contingency Plan (ERP-3210) 	<ul style="list-style-type: none"> • Blow-Out Preventer in place. • Approved Oil Spill Contingency Plan in place. • Jack Bates crew induction covers spill response procedures and spill response exercise conducted. • Re-fuelling procedures are in place and followed for Jack Bates and standby vessels. • Job Hazard Analysis for bulk transfer of diesel reviewed before each transfer. • Dry break couplings used on transfer hoses. • At sea refuelling supervised by Vessel Master or nominated Officer. • Records kept of inspections and preventative maintenance. • All valves, couplings and the transfer hose checked for integrity prior to use. • Approval is sought and provided prior to all dispersant applications.

Objectives	Standards	Criteria
Minimise interference with recreational vessels, commercial fishing, and shipping.	<ul style="list-style-type: none"> • Woodside Environmental Standards and Aspirations • Jack Bates Emergency Response Plan • AMSA requirements. 	<ul style="list-style-type: none"> • Functional navigational lighting in place and in use. • Consultation with local fishermen, fishing industry groups and management agencies as needed. Operations carried out in a manner that does not interfere with navigation and fishing to a greater extent than is necessary. • Marine notices broadcast according to Standard Maritime Safety Procedures (AMSA), via the Rescue Co-ordination Centre (RCC).

6. Consultation

As part of general stakeholder engagement for the Browse Project, a Stakeholder Engagement Plan has been developed and consultation will be ongoing with government, NGOs and community members. Prior to the commencement of drilling the Snarf-1 well, a fact sheet will be distributed to the following stakeholder groups:

- Western Australian Fisheries Industry Council (WAFIC)
- Australian Fisheries Management Authority (AFMA)
- Office of Development Approvals Coordination
- Fisheries WA
- Shire of Broome
- Port of Broome
- Australian Customs Service
- Kimberley development Commission
- Department of Environment and Conservation
- Department of Industry, Tourism and Resources
- Department of the Environment and Water
- Department of Planning and Infrastructure
- Australian Maritime Safety Authority
- Australian Customs Service
- Australian Institute of Marine Science
- WA Museum
- Commonwealth Scientific and Industrial Research Organisation
- Kimberley Development Commission
- Conservation Council
- World Wildlife Fund
- Environs Kimberley
- Wilderness Society
- Australian Conservation Foundation
- Marine Coastal Community Network
- Charter Fishing
- Commercial Fishing Organisations
- Community Reference Group

The fact sheet will detail information about the Jack Bates drill rig, support vessels to be used, well location and duration of drilling. Further information will be made available upon request.

7. Contact Details

For further information about the project, please contact:

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