WESTERN GAS

WA-518-P AND WA-519-P EXPLORATION WELLS

DECEMBER 2019

Western Gas is planning to drill up to four exploration wells in Exploration Permits WA-518-P and WA-519-P, located in Commonwealth Waters in the Carnarvon Basin offshore Western Australia.

Drilling activities are planned to start at the earliest in Q4 2020 subject to approvals, vessel availability and weather constraints. Western Gas will advise relevant stakeholders once well locations and timing have been finalised.

An Environment Plan for the proposed activities will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) and will be made available for public comment following a completeness check by NOPSEMA. NOPSEMA acceptance of this plan is required before any petroleum activity can commence.

The Environment Plan will cover well design and drilling operations, installation and testing of well safety equipment, well evaluation and plugging activities prior to abandonment of the wells.

Western Gas is Operator and 100% owner of WA-518-P and WA-519-P and the adjacent Equus Gas Project, which is currently in planning phase with first gas planned for 2024.



ACTIVITY OVERVIEW

Earliest start date: Q4 2020

Location:

- WA-518-P 240 km north west of Onslow
- WA-519-P 205 km north west of Onslow

Approximate estimated duration:

 Approximately 20-30 days per well, excluding weather and operational delays

Water depth (permit):

- WA-518-P 925-1055 m
- WA-519-P 950-1100 m

Project vessels:

- Semi-submersible mobile offshore drilling unit (MODU)
- Activity support vessels, including general supply/support vessels and anchor handling vessel(s)

Distance to nearest marine park:

- WA-518-P 68 km north of the Gascoyne Marine Park (Multiple Use Zone)
- WA-519-P 22 km north of the Gascoyne Marine Park (Multiple Use Zone)

Exclusion zones:

- A temporary Petroleum Safety Zone with a radius of 500 m around the MODU during the activity. Unauthorised vessels are not permitted to enter this zone.
- A temporary Cautionary Area with a radius of up to 4 km around the MODU during the activity. Marine users will be permitted to enter this area but should take care for safety reasons.

Figure 1: WA-518-P and WA-519-P location

WESTERN GAS



Figure 2: WA-518-P and WA-519-P location

PROPOSED ACTIVITY

Western Gas is planning to drill up to four exploration wells in a single campaign in WA-518-P and WA-519-P. Results from drilling activities will be used to confirm the presence of undiscovered oil and gas reservoirs, as well as to help inform Western Gas' understanding of its known discoveries in the area.

The Environment Plan for WA-518-P and WA-519-P will cover well design and drilling operations, installation and testing of well safety equipment, and well evaluation activities.

Best endeavours will be made to remove the wellheads. If the structures can not be retrieved they will be left in situ and well locations will be marked on nautical charts. Drilling and support activities will typically be conducted on a 24-hour basis. The duration of these activities is subject to change due to project schedule requirements, drill rig and vessel availability, weather and unforeseen circumstances.

PROJECT VESSELS

Western Gas is currently considering vessel options, including a moored or dynamically semi-submersible mobile offshore drilling unit (MODU). Dynamic positioning is a computer-controlled system to automatically maintain a vessel or rig's position and heading by using its own propellers and thrusters.

Typically, two or three vessels will support drilling activities, with at least one vessel in the vicinity to complete standby duties, if required. Supply vessels from either Onslow or Danpier will visit the selected MODU at regular intervals.

MARINE NOTICES

Marine notices will be issued prior to the start of the activity to alert vessels which may be operating in nearby waters.

Temporary Petroleum Safety Zones and Cautionary Areas will be in place during the drilling of each well. Drilling activities for each well will be deemed complete following the MODU moving off station.

DRILLING ACTIVITIES

The table below provides a summary of key activities for the drilling of each of the wells.

ACTIVITIES

- Pre-drilling survey
- MODU positioning and anchoring
- Installation and testing of the blow out preventers
- Drilling of the wells
- Cementing of the well

- Well evaluation
- Well plugging and abandonment
- Post-drilling survey
- Support operations, including vessel and helicopter movements

ASSESSMENT OF IMPACTS AND RISKS

Western Gas has assessed potential impacts and risks to the marine environment and relevant stakeholders, considering the timing, duration, location and the nature and scale of the proposed activity. The table below summarises key potential impacts resulting from planned and unplanned activities. Western Gas is consulting relevant stakeholders to help inform its management of these impacts and risks, and planning for the Environment Plan.

POTENTIAL IMPACTS FROM PLANNED ACTIVITIES	POTENTIAL IMPACTS FROM UNPLANNED ACTIVITIES
 Displacement of other marine users due to the physical presence of the MODU and support vessels Seabed disturbance from the positioning and anchoring 	 Risk of fishing equipment damage from the physical presence of the wellhead if the wellhead cannot be retrieved following drilling
 of the MODU and drilling the well Attraction of transient marine fauna to light emissions 	 Risk of interaction with marine fauna from vessel and MODU operations
from the MODU and vessel operations Evasion of transient marine fauna due to underwater	 Risk of change in the ecosystem dynamics from introduction of invasive marine species
 sound emissions Potential effects to sensitive receptors from atmospheric emissions from the MODU and vessel operations 	Risk of injury to marine fauna from accidental releases from a riser disconnection or failure of drilling equipment, or release of diesel in the event of a vessel collision
Potential effects to sensitive receptors from planned discharges from the MODU and vessel operations	Risk of effects to the marine environment from accidental release of hydrocarbons in the event of a loss of well control

PROVIDING FEEDBACK

Please contact Western Gas before **Monday, 20 January 2020** if you would like to comment on the proposed activities outlined in this information sheet, or would like additional information.

Your feedback will be included in the Environment Plan for the proposed activity, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth).

Please let us know if wish your personal/organisation details or any part of your feedback to remain confidential as a summary of your feedback and our response in the Environment Plan for this activity will be published on NOPSEMA's web site.

This Environment Plan for this activity will also be open to public review and comment and will be published **here** following submission by Western Gas and a completeness check by NOPSEMA.

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