

CARNARVON BASIN, NORTH-WEST AUSTRALIA

JULIMAR PHASE 2 DRILLING AND SUBSEA INSTALLATION

Key Information

- + Woodside is proposing to undertake drilling, construction and installation activities in Production Licence WA-49-L in Commonwealth waters approximately 185 km north west of Dampier, Western Australia.
- + Subject to a positive Final Investment Decision, activities are planned to commence in Q1 2020 and be completed in 2022.
- + The proposed activities will be undertaken following government acceptance of an Environment Plan in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (Cth)*.
- + Our intent is to minimise environmental and social impacts for the activities, and we are seeking any interest or comments you may have to inform our decision making for the proposed activities and preparation of the Environment Plan.

About the consultation

Activity Overview

Woodside is planning to undertake drilling, construction and installation activities in Production Licence WA-49-L in Commonwealth waters to support the proposed Julimar Project, commencing in Q1 2020 and ending in 2022.

Up to seven wells are proposed to be drilled and are located about 185 km north west of Dampier, Western Australia. Five wells will support future production, while an exploration well and potential appraisal well will help Woodside improve subsurface and chemistry understanding of the reservoirs. Woodside also plans to install a production manifold, a 22 km flowline, structures and a control umbilical as part of the production installation activities.

The Julimar Project is a subsea development that will supply raw gas and condensate from the fields to the offshore Chevron-operated Wheatstone platform and from there to the Wheatstone Project's onshore LNG trains and domestic gas plant at the Ashburton North Strategic Industrial Area.

Woodside is operator of the Julimar Project with a 65% interest, with KUFPEC Australia (Julimar) Pty Ltd holding a 35% interest.

Activity Location

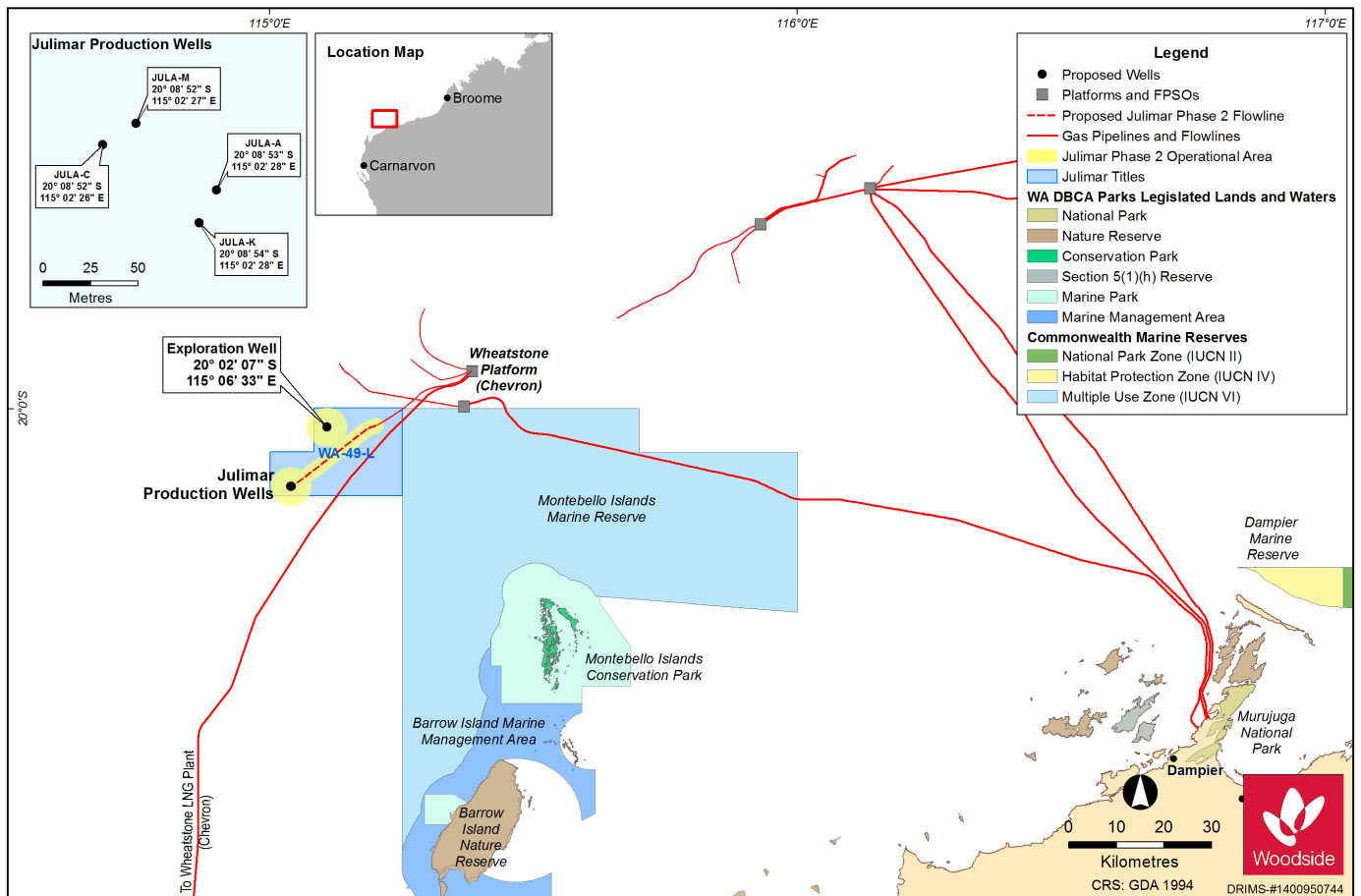
The proposed activities are located in Production Licence WA-49-L, with the closest landfall being the Montebello Islands, approximately 48 km to the south.

At the time of initial consultation, the location of the fifth production well and the potential appraisal well had not been confirmed. Relevant stakeholders will be advised of these locations once planning is finalised for all wells.

Approximate well locations for all other activities are in Table 1.

Table 1. Approximate well location details

Activity	Water Depth	Latitude	Longitude	Production Licence
JULA-A	174 m	20° 08' 52.996" S	115° 02' 28.377" E	WA-49-L
JULA-C	174 m	20° 08' 52.222" S	115° 02' 26.436" E	WA-49-L
JULA-K	174 m	20° 08' 53.554" S	115° 02' 28.078" E	WA-49-L
JULA-M	174 m	20° 08' 51.855" S	115° 02' 27.005" E	WA-49-L
Exploration well	201 m	20° 02' 6.754" S	115° 06' 32.749" E	WA-49-L



About the consultation

Activity Timing

The proposed activities are planned to commence in Q1 2020 and be completed in 2022, starting with either the drilling of the appraisal well or drilling and installation activities for the five production wells. The exploration well will be drilled at a later date.

Drilling of the five production wells is expected to take approximately 70 days per well to complete. Drilling of the appraisal well and the exploration well is expected to take approximately 40 days each.

The pipelay vessel will be in the field for a cumulative duration of approximately one month.

Activities will be 24 hours per day, seven days per week and timing and duration of these activities is subject to change due to project schedule requirements, drill rig and vessel availability, weather and unforeseen circumstances.

Environmental Context

Water depths at the activity locations ranges from 174 to 201 m. The benthic habitat is typical of the broader region and is characterised by soft unconsolidated sediment (fine to coarse sands), which supports diverse benthic infauna and sparse epifauna.

The Operational Areas for the proposed activities do not overlap any established or proposed marine protected areas. The activity location is approximately 40 km north west of the Montebello Islands Marine Park.

Social Context

Based on previous consultation for activities in the region, Woodside is not aware of any social activities in the vicinity of the proposed activity, such as recreational fishing.

The activity locations are outside of north-west coast shipping fairways and are at the outer boundary of a Defence practice area. WA-49-L is also adjacent to other petroleum permits that include pipeline and production infrastructure.

Woodside has reviewed Western Australian and Australian Government fisheries reports to understand commercial fishing effort in the region and has identified that Woodside's proposed activity may be relevant to some commercial fishers with licences in the following fisheries:

Table 2. Relevant State and Commonwealth fisheries

Commonwealth fishery	State fishery
North West Slope Trawl Fishery	Pilbara Fish Trawl
Western Deepwater Trawl Fishery	Pilbara Trap
Western Skipjack Fishery	Pilbara Line
Western Tuna and Billfish Fishery	Mackerel fishery
Southern Bluefin Tuna Fishery	Onslow Prawn
	Specimen Shell

Activity Details

Production Wells and Subsea Infrastructure

Woodside proposes to develop and produce hydrocarbons from the Julimar gas field by drilling up to five wells within the Julimar reservoir and undertake subsea installation and associated pre-commissioning activities.

The proposed infield architecture consists of up to five subsea trees connected to a manifold (JUL-A), tied-in to the existing Brunello Crossover Manifold via a 22 km, 18-inch flowline. Controls, chemical injection and nonethylene glycol (MEG) supply from the Brunello Crossover Manifold to JUL-A will be via a subsea umbilical.

Wells will be drilled using a moored semi-submersible mobile offshore drilling unit (MODU). Typically, two or three support vessels will be supporting the MODU during drilling activities, with at least one vessel in the vicinity to complete standby duties. Supply vessels from Dampier Port will visit the MODU at regular intervals.

Installation of the flowline will be undertaken by a pipelay vessel, which may also install the manifold. An installation vessel will install the umbilical/manifold/structures and provide support during commissioning and subsequent production start-up.

Appraisal Well and Exploration Well

The appraisal well may be drilled from the same anchor pattern as the development wells or from a nearby location, depending on final reservoir targets and mooring assessment.

Woodside will use reasonable endeavours to remove the wellheads following the completion of appraisal and exploration well activities. However, there is a possibility that these structures may not be retrievable, given technical or safety issues. Failure to remove wellheads from the seabed and leaving them in-situ will have minor impacts on other marine users given the small footprint of the structure and approximate 3 m height of the structures above seabed. The structures will be marked on nautical charts and long-term management of the wells will meet regulatory requirements.

Implications for Stakeholders

Woodside has undertaken an assessment to identify potential risks to the marine environment and relevant stakeholders, considering timing, duration, location and potential impacts arising from the drilling, construction and installation activities.

A number of mitigation and management measures will be implemented and are summarised in Table 3. Further details will be provided in the Environment Plan.

Environmental Management

Table 3. Summary of key risks and/or impacts and management measures.

Potential Risk and/or Impact	Mitigation and/or Management Measure
Planned	
Chemical use	+ Chemical use will be managed in accordance with the Contractors Chemical Selection and Approval Procedure.
Interests of relevant stakeholders with respect to: <ul style="list-style-type: none"> + Defence activities + Petroleum activities + Commercial fishing activities + Shipping activities 	+ Consultation with petroleum titleholders, commercial fishers and their representative organisations, and government departments and agencies to inform decision making for the proposed activity and development of the Environment Plan. + Advice to relevant stakeholders prior to the commencement of activities.
Marine fauna interactions	+ Measures will be taken to protect marine fauna and ecosystems from vessel activities and to prevent vessel collisions and groundings.
Marine discharges	+ All routine marine discharges will be managed according to legislative and regulatory requirements and Woodside's Environmental Performance Standards where applicable.
Seabed disturbance	+ Well location and site appraisal to identify and address well-specific hazards and drilling constraints. + MODU mooring analysis and anchor deployment in accordance with internal standards. + No anchoring of support and installation vessels during drilling, construction and installation activities, as well as logging/retrieval of wet-stored items.
Underwater noise	+ Vertical well profiling undertaken in accordance with internal procedure, including pre-start visual observations and shutdown for whales.
Vessel interaction	+ Woodside will notify relevant fishery stakeholders and Government maritime safety agencies of specific start and end dates, specific vessel-on-location dates and any exclusion zones prior to commencement of the activity. + A 500 m radius petroleum safety zone will be in place around the MODU and pipelay vessel for the duration of the drilling activities + Commercial fishers are permitted to use but should take care, when entering the Operational Area around the MODU (4 km radius) and pipelay vessel (1.5 km radius).
Waste generation	+ Waste generated on the vessels will be managed in accordance with legislative requirements and a Waste Management Plan. + Wastes will be managed and disposed of in a safe and environmentally responsible manner that prevents accidental loss to the environment. + Wastes transported onshore will be sent to appropriate recycling or disposal facilities by a licensed waste contractor.
Unplanned	
Hydrocarbon release	+ Appropriate spill response plans, equipment and materials will be in place and maintained. + Appropriate refuelling procedures and equipment will be used to prevent spills to the marine environment.
Introduction of invasive marine species	+ All vessels will be assessed and managed as appropriate to prevent the introduction of invasive marine species. + Compliance with Australian biosecurity requirements and guidance.

Providing Feedback

Our intent is to minimise environmental and social impacts associated with the proposed activities, and we are seeking any interest or comments you may have to inform our decision making.

An Environment Plan for the proposed activity 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).

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before Monday, 11 March 2019.

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Please note that stakeholder feedback will be communicated to NOPSEMA as required under legislation. Woodside will communicate any material changes to the proposed activity to affected stakeholders as they arise.