VERMILION ENERGY

INFORMATION SHEET

Wandoo Field

Geotechnical and Geophysical Environment Plan

December 2024

About Vermilion Energy

Vermilion Energy is an international energy producer with a 30-year track record. It has operations in North America, Europe and Australia.

Vermilion Oil and Gas Australia (Vermilion) is a subsidiary of Vermilion Energy and has operated in Australia for over 20 years. Our Australian operations focus on exploring for and developing oil at the Wandoo Field off the shore of Western Australia.

About Wandoo Field

The Wandoo Field was discovered in 1991 and the extraction of oil started in 1993. Vermilion has been the operator of Wandoo since November 2005 and the sole titleholder since 2007.

The Wandoo Field is located in Commonwealth waters within the Carnarvon Basin, approximately 80km northwest of the port of Dampier and 110km northeast of Barrow Island. It operates at a water depth in the range from 50m–60m (**Figure 1**).

The Wandoo Facility operates under existing accepted Environmental Plans in place for production and well construction.

Operational Areas

Operational Areas have been defined as a subset of WA-14-L to encompass potential exploration prospects. Geographical co-ordinates of the exploration prospects are listed in **Table 1**, with geotechnical and geophysical survey areas being within a 4x4km square centred on these geographical co-ordinates (see **Figure 2**).

Activity overview

Vermilion currently operates the Wandoo Facility within production licence area WA-14-L. Vermilion is preparing for near field exploration drilling, to identify and confirm viable hydrocarbons to support further development of the Wandoo Field. A geotechnical and geophysical survey is required to evaluate the environment at the proposed drilling locations and confirm suitability for a Mobile Offshore Drilling Unit (MODU).

The duration of the geotechnical and geophysical survey is approximately 15 days. Activities will be undertaken on a continual 24 hour basis. Survey activities are scheduled to commence in the second half of 2025, subject to vessel availability and regulatory approval. The start dates for other potential surveys in the Wandoo Field Geotechnical and Geophysical Environment Plan (EP) are yet to be determined.

Exploration drilling activities are described in the Wandoo Field Exploration Drilling EP.

Communications with mariners

Commercial fishers and other marine users are permitted to use the Operational Areas but should take care around operations by adhering to standard navigation rules and remain clear of the survey vessel.

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

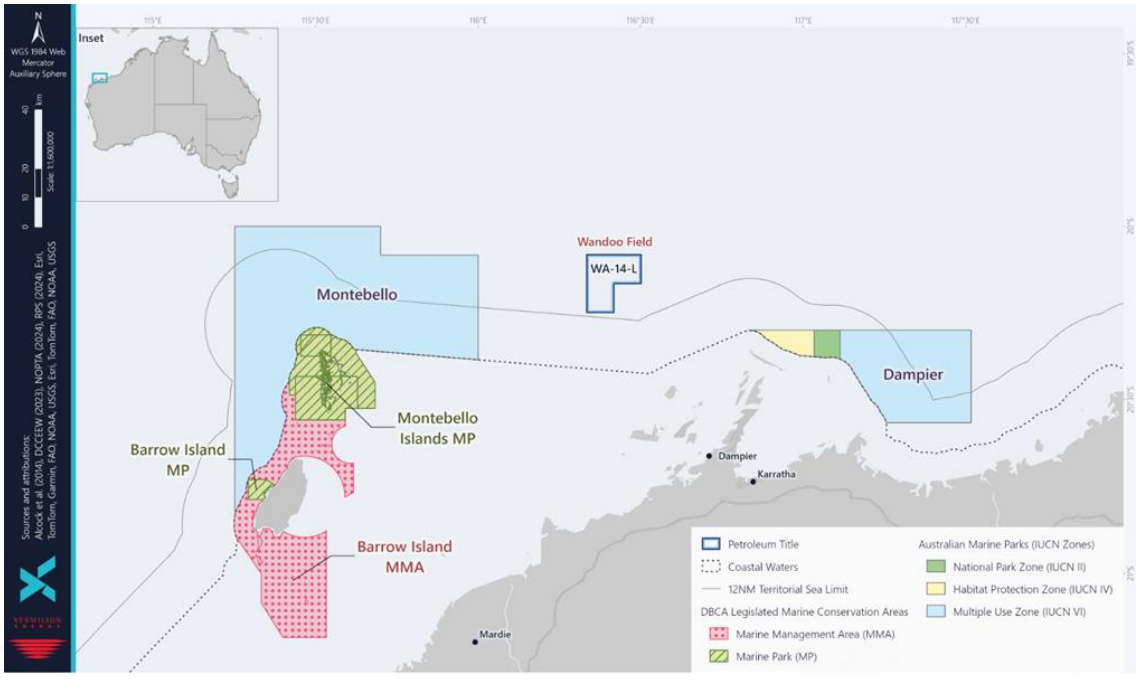

Figure 1. Location of the Wandoo Field

Activity summary

Table 1. Activity summary

Production licence area	WA-14-L
Approximate duration and timing of activities	• 15 days (per survey/campaign). • The first survey is proposed for Q4 2025, pending vessel availability and regulatory approval. • The timing of potential subsequent geotechnical and geophysical surveys has not been finalised. The Wandoo Field Geotechnical and Geophysical EP assumes the activities may be undertaken at any time of year over the five-year period following acceptance of the EP.
Approximate water depth	50–60m
Key activities	Geotechnical survey: • box cores/grab samplers • piston/gravity cores and vibrocores • drilling core holes, and/or • piezocone penetrometer tests. Geophysical survey: • multibeam echo sounders, single beam echo sounders • side scan sonar • magnetometers, and/or • sub-bottom profilers. Other survey techniques: • water samplers • sound velocity sensors and multi-parameter conductivity-temperature-depth profilers • ultra-short baseline positioning system • doppler velocity log and inertial navigation systems • underwater cameras, and/or • underwater laser scanners, and Remotely Operated Vehicles (ROV), autonomous underwater vehicles.
Vessel	Multi-purpose survey vessels
Description of the environment	The Operational Area is located within Northwest Shelf provincial bioregion (based on the Integrated Marine and Coastal Regionalisation). Proximity to key features include: *Aboriginal cultural heritage* • There are no registered Aboriginal cultural heritage sites within the Operational Area. *Biologically important areas (BIAs)* The following BIAs intersect the Operational Area: • Wedge-tailed shearwater – Reproduction • Humpback whale – Migration • Flatback turtle – Reproduction • Whale shark – Foraging *Heritage* There are no World Heritage or National Heritage Properties within the Operational Area. The nearest heritage properties are: • Ningaloo Coast (World Heritage) ~250km from the Operational Area. • Dampier Archipelago (National Heritage) ~35km from the Operational Area. *Commercial fishing* The following Commonwealth managed fisheries have a defined management area that overlaps the Operational Area: • Southern Bluefin Tuna Fishery • Western Skipjack Tuna Fishery • Western Tuna and Billfish Fishery The following State-managed fisheries have a defined management area that overlaps the Operational Area: • Abalone Managed Fishery • Hermit Crab Fishery

	• Mackerel Managed Fishery • Marine Aquarium Managed Fishery • Nickol Bay Prawn Fishery • Onslow Prawn Limited Entry Fishery • Pilbara Crab Managed Fishery • Pilbara Line Fishery • Pilbara Fish Trawl Interim Managed Fishery • Pilbara Trap Managed Fishery • South-west Coast Salmon Fishery • Specimen Shell Managed Fishery • West Coast Deep Sea Crustacean Managed Fishery • Western Australian Sea Cucumber Fishery *Key ecological features (KEFs)* There are no KEFs within the Operational Area. The nearest KEFs are: • Glomar Shoals ~40km to the north-north-east of the Operational Area. • Ancient coastline at 125m depth contour ~56km to the north of the Operational Area. • Continental Slope Demersal Fish Communities ~118km north-west of the Operational Area. *Oil and gas operations* Petroleum activities within the vicinity of the Operational Area: • Reindeer platform ~14km from the Operational Area • Stag platform ~13km from the Operational Area • Scarborough export pipeline ~3km from the Operational Area • TL1 and TL2 export pipelines ~500m and ~18km from the Operational Area *Shipping* • The Operational Area is approximately 31km from the northbound shipping fairway from Dampier. *Protected areas* No Australian Marine Parks (AMPs) are within the Operational Area. The nearest AMPs are: • Montebello AMP ~37km to the west of the Operational Area • Dampier AMP ~47km to the south-east of the Operational Area • Montebello Islands Marine Part (State) ~75km to the west-south-west of the Operational Area • Barrow Island Marine Management Area (State) ~89km to the west-south-west of the Operational Area *Tourism, towns and communities* The town of Dampier is located 80km south-south-east of the Operational Area.

Prospect names	**Latitude**	**Longitude**
Mottlecah	20° 8' 32.7" S	116° 23' 7.4" E
Jinjulu	20° 10' 44.6" S	116° 21' 21.4" E
Kullingal	20° 10' 16.2" S	116° 23' 3.2" E
North of Wandoo 1	20° 6' 5.2" S	116° 25' 0.6" E
North of Wandoo 2	20° 5" 16.2" S	116° 25' 46.6" E
North Jurassic	20° 5' 57.5" S	116° 23' 53.2" E
North West Jurassic	20° 5' 57.9" S	116° 21' 26.5" E

Environment that may be affected

The environment that may be affected (EMBA) is a mathematically modelled area of the largest possible spatial extent where the activities could potentially have an environmental consequence. The broadest extent of the model takes into consideration planned and unplanned activities.

For the Wandoo Field Geotechnical and Geophysical EP, the EMBA has been developed using modelling outputs based on scenarios involving a release of hydrocarbons to the environment. These scenarios are extremely unlikely to occur. The most credible modelling scenario that informed the EMBA is based on a hydrocarbon release as a result of a survey vessel collision. The EMBA is shown in **Figure 2.**

The EMBA does not represent the extent of the predicted impact of a release of hydrocarbons. Rather, the EMBA represents the merged area of many possible paths that a hydrocarbon release could travel, depending on factors including the weather and ocean conditions at the time of the release.

This means that in the unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. Only a minimal, specific part of the EMBA will be affected and that portion would only be known at the time of the release.

Assessment

Vermilion has undertaken an assessment of the potential impacts and risks to the environment as well as potential risks to relevant persons arising from the planned activities and unplanned events. This assessment considers the timing, duration and location of the activities. A number of mitigation and management measures will be implemented and are summarised for the planned and unplanned activities in **Table 2**. Further details will be provided in the Wandoo Field Geotechnical and Geophysical EP.

In preparing the EP, Vermilion's intent is to minimise environmental, social and cultural risks and impacts associated with the proposed activities. Vermilion seeks your feedback to inform our decision making.

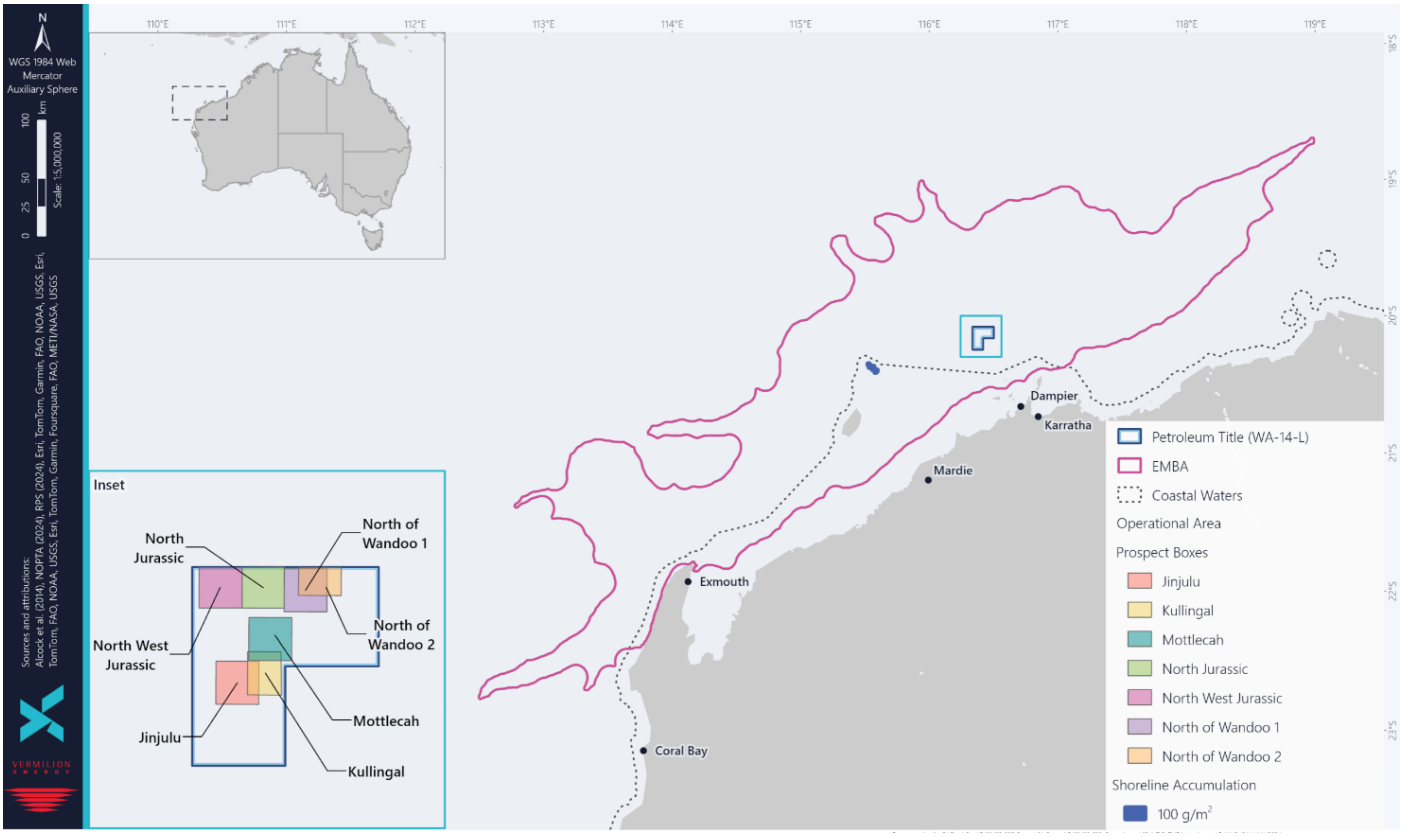

Figure 2. Environment that may be affected

Mitigation and management measures

Vermilion has undertaken an assessment to identify potential impacts and risks to the environment arising from the activity. A number of mitigation and management measures for the proposed activity are outlined in **Table 2.** Further details will be provided in the Wandoo Field Geotechnical and Geophysical EP.

Table 2. Summary of key risks and/or impacts and preliminary management measures for the activity

Potential impact/risk	Source of potential impact/risk	Description of potential impact/risk	Preliminary draft mitigation and/or management measure
Planned activities (routine and non-routine)			
Physical presence: interaction with other marine users	Vessels	Potential displacement of other vessels such as commercial fishing vessels and commercial shipping vessels.	All survey vessels will be equipped with functional communication equipment to communicate with other vessels. The Australian Hydrographic Office (AHO) and Australian Maritime Safety Authority (AMSA) will be notified prior to activities so appropriate marine notices can be issued.
Physical presence: disturbance to seabed	Geotechnical survey	Localised increase in turbidity. Potential impact to benthic habitat and communities.	The benthic habitat within the Operational Areas are flat and featureless, therefore no controls have been identified.
Routine acoustic emissions: generation of noise	Vessels Geotechnical and geophysical survey	Potential temporary or permanent injury or behavioural change in marine fauna.	Vessel engines and power equipment will be maintained to optimise smooth running. Vessels operating in the Operational Areas must adhere to Part 8 of Environment Protection and Biodiversity Conservation (EPBC) Regulation 2000 to minimise exposure of marine fauna to noise impacts.
Routine and non-routine discharges	Vessels	Potential localised eutrophication of the water column and localised adverse effect to marine species.	Discharges such as deck drainage, bilge, garbage, food waste and sewage will be treated in accordance with: • MARPOL 73/78 Annex I and AMSA Marine Order 91. • MARPOL 73/78 Annex V. • MARPOL 73/78 Annex IV and AMSA Marine Order 96. • AMSA Marine Order 95.
Routine light emissions	Vessels	Potential interference with or disturbance of marine fauna.	No controls identified as vessel lighting is specified for safe working practices.
Routine and non-routine atmospheric and greenhouse gas emissions	Vessels	Potential temporary decrease in local air quality.	Vessels and fuels used will comply with Regulation 14 of MARPOL 73/78 Annex IV and AMSA Marine Order 97. Power generation systems, ancillary diesel engines and refrigeration systems will be maintained via preventative maintenance systems.

Unplanned events (accidents/incidents)			
Introduction and establishment of invasive marine species	Vessels	Potential reduction in native species abundance due to competition or predation.	Vessels will comply with: • Australian Ballast Water Management Requirements consistent with the International Convention for the Control and Management of Ships' Ballast Water and Sediments (Ballast Water Management Convention). • Annex 1 of the International Convention on the Control of Harmful Anti-Fouling Systems on Ships. • National Biofouling Guidelines for the Petroleum Production and Exploration Industry and IMO Guidelines for the control and management of a ships' biofouling to minimise the transfer of invasive aquatic species.
Vessel collision or disturbance of fauna	Vessels	Potential injury of marine fauna.	Vessels contracted by Vermilion operating in the Operational Areas must have procedures that adhere to Part 8 of EPBC Regulation 2000 to minimise exposure of marine fauna.
Accidental discharge materials and waste	Vessels	Potential pollution and contamination of the marine environment. Decrease in water quality Injury of marine fauna.	Vessels procedures are compliant with MARPOL Convention Annex V and Marine Order 95. Non-hazardous and hazardous wastes are managed in accordance with contractor's Waste Management Plan.
Loss of containment – marine diesel oil (MDO)	Vessels and ROV	Decrease in water quality. Potential oiling of marine fauna and toxic effects to marine species.	AHO and AMSA will be notified in advance of vessel activities. Vessels will have navigational lights. Vessels will have dynamic positioning capability.
Hydrocarbon spill response activities	Spill response	Potential toxic effects to marine fauna from dispersants, disturbance to benthic habitat, scouring of sediments, and decrease in water quality.	Vermilion maintains contracts with oil spill response organisations, operational and scientific monitoring providers, and logistics operators for support in the event of a hydrocarbon spill. Vermilion also tests response arrangements annually to ensure preparedness for unplanned hydrocarbon spills. Vessels will implement a Shipboard Oil Pollution Emergency Plan (SOPEP) in the event of a spill. Implementation of response strategies will be undertaken as per the NOPSEMA-accepted Oil Pollution Emergency Plan (OPEP) and in consultation with or under direction of the Commonwealth or State Control Agency.

Consultation

Consultation provides Vermilion with an opportunity to receive feedback from authorities, persons and organisations whose functions, interests or activities may be affected by proposed petroleum activities. This feedback helps us to refine or change the management measures we are planning to address potential activity impacts and risks. Vermilions' objective for the proposed activities is to ensure the activity is carried out in a manner that is consistent with the principles of Ecologically Sustainable Development (ESD) and reduce environmental impacts and risks to a level that is As Low As Reasonably Practicable (ALARP) and acceptable over the life of the activity.

Consultation also helps us to identify values and sensitivities where information is not publicly available, such as spiritual and cultural connection to land and sea country, as well as first-hand feedback on commercial and recreational fishing, tourism and local community activities and interests.

Feedback

If you consider you may be a relevant person, please contact us as soon as possible if you require any further information or if you think you are not on our consultation list.

We are asking for relevant persons to provide feedback by **17 January 2025.**

Feedback provided by relevant persons will be considered in an addendum to the Wandoo Field Geotechnical and Geophysical EP and through the life of the activity. Feedback from relevant persons will be included in the EP submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for assessment.

Please let us know if you would like your personal/organisational details or any part of your feedback to remain private and we will ensure this remains confidential to NOPSEMA.

Contact us

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