

Invitation for Feedback: Stakeholder Information Fact Sheet



Minerva Plug & Abandonment and Field Maintenance Environment Plan

Otway Basin, South East Australia

BHP Billiton Petroleum (Victoria) Pty Ltd (BHP) is planning to undertake subsea decommissioning activities at end of field life for the offshore Minerva gas field located in Production Licence (VIC/L22), and the Minerva subsea pipeline which runs from the Minerva wells to the boundary of the Victorian State Waters within Production licence VIC/PL33. The Minerva Petroleum Safety Zone (PSZ) (within VIC/L22) is located approximately 9 km south, south-west (SSW) of the township of Port Campbell, within water depths of approximately 60m.

Production of the Minerva field ceased in September 2019 and the producing wells (Minerva-3 and Minerva-4) were suspended. Additionally, the production pipeline was depressurised, and cleaned of hydrocarbons. A vessel-based campaign was conducted in Q1 2021 to disconnect flowlines from wells and install additional barrier plugs.

For this activity, BHP proposes to permanently plug and abandon (P&A) four wells using a moored semi-submersible mobile offshore drilling unit (MODU). These wells comprise two suspended gas production wells (Minerva-3 and Minerva-4) and two suspended exploration wells (Minerva-1 and Minerva-2A). Once permanently plugged, wellheads will be cut below the seafloor and removed. Minerva 2 well has already been permanently plugged and abandoned.

All subsea infrastructure not removed during the P&A activity, including the suspended production pipeline, shall be suitably maintained to the satisfaction of the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) to ensure removal of the property is not precluded through to planned final decommissioning in 2025.

P&A activities are required to be completed no later than 30 June 2025.

BHP is preparing an Environment Plan (EP) for this activity for submission to NOPSEMA under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. Given detailed project scheduling and MODU contracting is yet to be finalised, this EP will provide for the P&A scope to be undertaken from Q3 2023 to end June 2025. The EP will also cover maintenance activities from the date accepted by NOPSEMA until end June 2025, or until all decommissioning activities have been completed.

Whilst this EP will provide for the P&A activity to be undertaken within a 2-year window of opportunity, the anticipated duration of MODU-based infield operations is less than 2 months. Preparatory operations including pre-lay moorings, cleaning of wellheads and status check of valves are anticipated to be undertaken via an offshore support vessel approximately one month prior to the commencement of MODU-based activities. Preparatory operations are anticipated to take less than a week to complete.

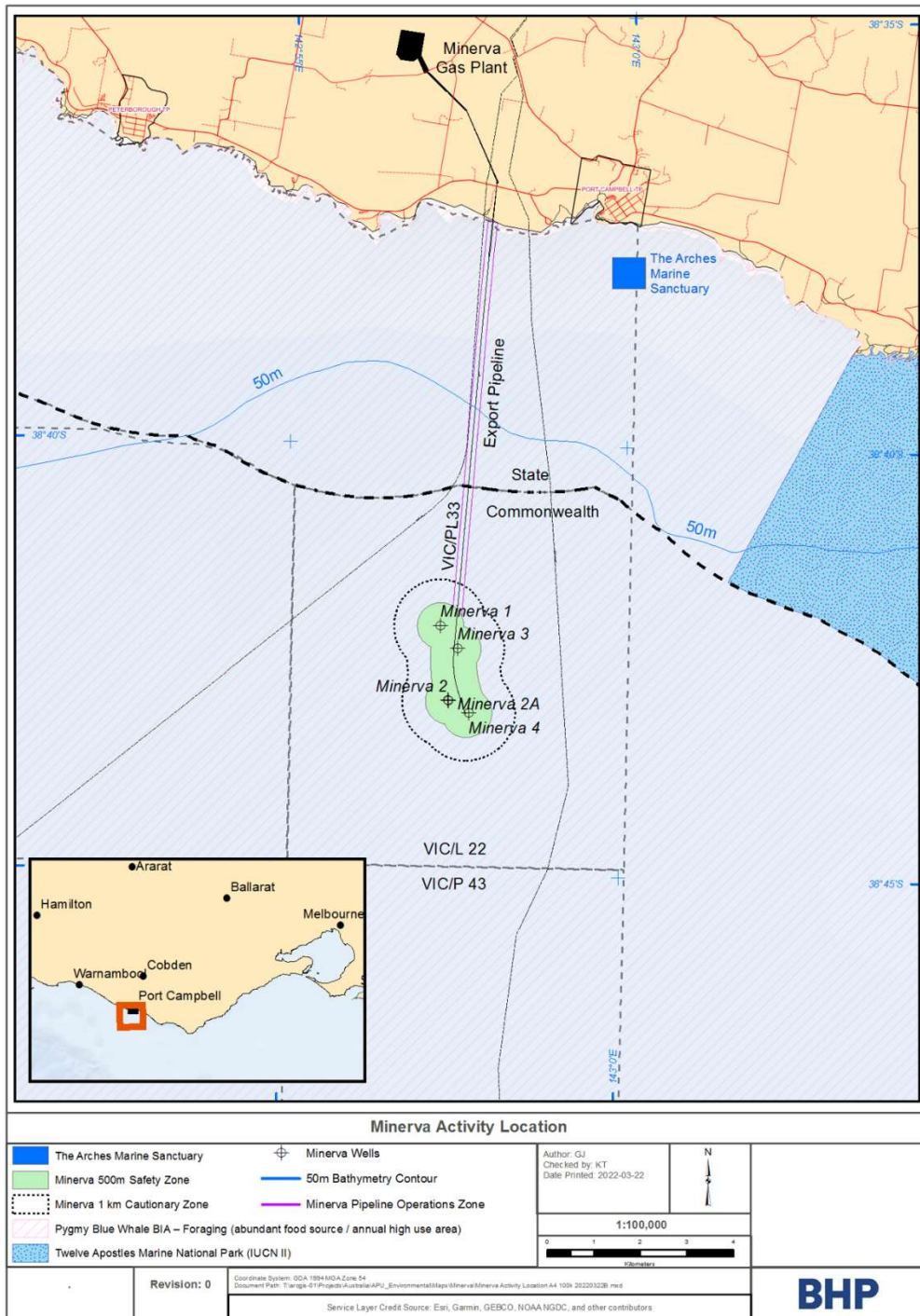
BHP is the designated operator on behalf of the VIC/L22 and VIC/PL33 titleholders, BHP and Cooper Energy (MF) Pty. Ltd. This Stakeholder Fact Sheet relates to the submission of a new Environment Plan for the proposed petroleum activities in VIC/L22 and VIC/PL33, supporting the decommissioning and maintenance of subsea infrastructure in the Minerva Field.

Future decommissioning activities will be covered under separate environmental approvals and relevant stakeholders will continue to be engaged as part of these work scopes.

Location of Operational Area

The Operational Area defines the spatial boundary within which the proposed activities will take place. The Operational Area is temporary for the duration of activities and will comprise a 1 km radius 'Cautionary Zone' around each of the wells to account for the anchor spread from the MODU. The approximate distance from the Minerva-1 well (closest to land) the Minerva-4 well (farthest from land) to particular environmental values and sensitivities is presented in the following table.

Value / Sensitivity	Approx. Distance from well centres (km)	
	Minerva-1 well	Minerva-4 well
Port Campbell	9.5	11.0
Peterborough	14.1	15.9
The Arches Marine Sanctuary	8.5	10.0
Twelve Apostles Marine National Park	6.2	6.2



Description of activity

Description		
Earliest expected commencement date and completion date	Earliest P&A start is Q3 2023 calendar year, subject to approvals, MODU and vessel availability, and weather constraints. Pre-lay of mooring equipment may commence prior to MODU mobilisation. P&A complete no later than 30 June 2025. Subsea equipment suitably maintained until final decommissioning in 2025.	
	Coordinates (GDA94)	
Well locations	Latitude (South)	Longitude (East)
Minerva-1	-38° 42' 06.885"	142° 57' 17.278"
Minerva-2A	-38° 42' 59.190"	142° 57' 25.742"
Minerva-3	-38° 42' 22.718"	142° 57' 32.997"
Minerva-4	-38° 43' 07.368"	142° 57' 44.023"
Petroleum licences	VIC/L22 and VIC/PL33	
Activity duration (approx.)	P&A activity 60 days depending on weather conditions	
Water depth (approx.)	50-60 m	
Vessels	<ul style="list-style-type: none"> Semi-submersible mobile offshore drilling unit (MODU) (moored). Anchor handling vessels and offshore support vessels. 	
Operational area	<ul style="list-style-type: none"> A temporary 1 km radius 'Cautionary Zone' around each well – P&A only (VIC/L22). The existing permanent 500 m radius Petroleum Safety Zone (PSZ) around each well (VIC/L22). The Minerva Pipeline Operations Zone (VIC/PL33). 	

Summary of potential environmental impacts and risks and mitigation measures

Potential Impacts / Risks	Management and / or Mitigations Measures
Planned Activities	
Emissions: Light	<ul style="list-style-type: none"> Lighting is minimised to that required for safety and navigational purposes.
Emissions: Underwater noise	<ul style="list-style-type: none"> Measures will be in place for interacting with protected marine fauna as per the EPBC Regulations (Part 8) and consistent with relevant Conservation Management Plans.
Physical presence: Interactions with other marine users	<ul style="list-style-type: none"> BHP's existing infrastructure is marked on nautical charts. Establishment of a 500-m safety exclusion zone around the MODU for the duration of the P&A activity. Consultation with relevant stakeholders (e.g. adjacent petroleum titleholders, commercial fishers and their representative organisations, and government departments and agencies) to inform decision making for the proposed activity and the development of the Environment Plan. BHP will notify relevant fishing industry representative organisations/associations and Government maritime safety agencies of the start and end dates for the activity, and MODU location details and exclusion / cautionary zones prior to commencement of the P&A activity.
Planned discharges to the marine environment	<ul style="list-style-type: none"> Chemical use will be managed in accordance with BHP and contractor chemical selection and approval procedures. All routine marine discharges will be managed according to legislative and regulatory requirements and BHP's Environment Performance Standards where applicable.
Waste generation	<ul style="list-style-type: none"> Waste generated aboard the MODU and support 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 environmental responsible manner that prevents accidental loss to the marine environment.

Potential Impacts / Risks	Management and / or Mitigations Measures
	<ul style="list-style-type: none"> Wastes transported onshore will be sent to appropriate recycling or disposal facilities by a licenced waste contractor.
Unplanned Risks	
Invasive marine species	<ul style="list-style-type: none"> BHP contracted vessels comply with Australian biosecurity requirements and guidance, and Australian ballast water requirements. Vessels will be assessed and managed in line with BHP procedures to prevent the introduction of invasive marine species.
Marine fauna interaction	<ul style="list-style-type: none"> Measures will be in place for interacting with protected marine fauna as per the EPBC Regulations (Part 8) and consistent with relevant Conservation Management Plans.
Vessel collision	<ul style="list-style-type: none"> Marine notifications will be made to relevant stakeholders, describing the location of the activity and exclusion / cautionary zones to prevent the risk of vessel collisions.
Unplanned releases including hydrocarbons	<ul style="list-style-type: none"> All personnel undertaking activities will undergo relevant inductions and training. Procedures for lifts, equipment maintenance, inspections and bunding. All offshore activities will be managed in accordance with lifting and transfer procedures. Well barrier management shall be implemented, tested and monitored. Recovery of solid wastes lost overboard where safe and practicable to do so. Oil Pollution Emergency Plan (OPEP) and Operational and Scientific Monitoring Plan (OSMP) in place and tested. Appropriate vessel spill response plans, equipment and materials will be in place and maintained.

Protecting our people and the environment

Safety of our people and the communities in which we operate always comes first. Identifying, controlling and mitigating safety risks is managed through an overarching, consistent approach guided by BHP's Risk Management governance framework, with supporting processes and performance standards. All activities (routine and non-routine) will be performed in accordance with the industry leading standards established in BHP's Charter, HSEC Framework and Controls, BHP's Wells and Seismic Delivery Management System, Engineering Standards and Procedures, the Environment Plan, the NOPSEMA-accepted Well Operations Management Plan (WOMP) and NOPSEMA-accepted Vessel Safety Case.

Offshore petroleum activities are regulated through a robust and comprehensive environmental protection regime administered by NOPSEMA under the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006*. BHP undertakes risk assessments for all environmental aspects of a petroleum activity and stringently adheres to the regulatory regime.

The objective of the Environment Plan is to ensure that potential adverse impacts and risks to the environment associated with activities, during both routine and non-routine activities, are identified, and will be continuously reduced to as low as reasonably practicable (ALARP) and an acceptable level. BHP is committed to understanding the impacts of our activities on stakeholders with an interest in the Minerva field and seeks feedback as part of the development of the EP.

Responding to emergencies

BHP's incident response plans are accepted by the regulator NOPSEMA. The Commonwealth Oil Pollution Emergency Plan (OPEP) is required by law under the Environmental Regulations and forms an appendix to the full EP. The OPEP outline responsibilities, specific procedures and identify resources available in the unlikely event of an oil pollution incident. BHP maintains a constant vigilance and readiness to prevent and/or respond to hydrocarbon loss of containment incidents. The readiness and competency of BHP to respond to incidents is maintained and tested by conducting activity-specific emergency response exercises.

Should you have any questions, concerns or grievances regarding these activities or any other BHP Petroleum activities, please call BHP WA Community Hotline on **1800 421 077** or send an email to bhppetexternalaffairs@bhp.com

BHP believes in putting health and safety first, being environmentally responsible and supporting our communities.