Environment Plan:	Wheatstone Deep-1 Exploration Drilling Environment Plan	**Titleholder:**	Chevron Australia Pty Ltd
Document ID:	ABU220400628	**Date:**	30 May 2024

#	Comments received	Titleholder response
1a	*Matter:* Public comments were received citing concerns relating to ecosystems of conservation, recreation and tourism value. *Claims:* • *The activity may result in risk to 'environmentally sensitive areas' including the State Montebello Islands Marine Park, Commonwealth Montebello Australian Marine Park, Ningaloo Reef and Ningaloo Reef Marine Park and Barrow Island Marine Park.*	Chevron Australia acknowledges the public comments received relating to potential impacts and risks to environmentally sensitive areas. In developing the Wheatstone Deep-1 Exploration Drilling Environment Plan (EP), Chevron Australia has undertaken an environment impact and risk assessment and identified control measures to reduce impacts and risks associated with the activity to as low as reasonably practicable (ALARP) and acceptable levels, in accordance with the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023. As described in **Section 4.5.1** and **4.5.2** of the EP, there are no Australian Marine Parks nor State marine parks, or management areas within the Operational Area (OA) for the activity. Therefore, no impacts to the State Montebello Islands Marine Park, Commonwealth Montebello Australian Marine Park, Ningaloo Reef, Ningaloo Reef Marine Park or Barrow Island Marine Park are anticipated from planned activities. Chevron Australia has identified that an unplanned release of hydrocarbons due to vessel collision or loss of well control may result in potential impacts to the values and sensitivities of the above listed Marine Parks (as detailed in **Section 7.14.3 and 7.15.3** of the EP). Chevron Australia used oil spill modelling to inform its assessment of impacts and risks associated with an unplanned release of hydrocarbons due to vessel collision and loss of well control and in the development of control measures to manage the activity. To mitigate potential vessel collision risks, Chevron Australia will conduct the activity in accordance with Chevron's Marine Standard which outlines requirements relating to crew competency, navigation and radar requirements. Chevron Australia will also notify the relevant agencies of the activities so a Notice to Mariners can be issued. In the highly unlikely event of an

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		oil spill as a result of a vessel collision, the Shipboard Oil Pollution Emergency Plan and Chevron Australian Business Unit Consolidated Oil Pollution Emergency Plan would be implemented to reduce impacts and risks (refer to control measures in **Section 7.14.3** of the EP). To mitigate risks associated with loss of well control, an accepted Well Operations Management Plan (WOMP) will be in place before commencing the activity, a blowout preventor (BOP) will be installed and critical equipment will be maintained in accordance with manufacturers specifications. Chevron will also conduct the activity in accordance with its Wellsafe Standard Operational Procedure which provides assurance that well control can be maintained at all times. In the highly unlikely event of an oil spill from a loss of well control, the Chevron Australian Business Unit Consolidated Oil Pollution Emergency Plan and Source Control Emergency Response Plan would be implemented to reduce impacts and risks (refer to control measures in **Section 7.15.3** of the EP). Chevron Australia considers that the EP addresses the public comments provided relating to the management of environmental impacts and risks to environmentally sensitive areas and no amendments to the EP have been made.
1b	*Matter:* Public comments were received citing concerns of the potential adverse impacts from the Proposal to Matters of National Environmental Significance and protected species (including Pygmy Blue Whales, Flatback Turtles, Southern Bluefin Tuna, Whale Sharks and Wedge-tailed Shearwaters). *Claims:* • *Concerns that the activity may result in adverse impacts to Matters of National Environmental Significance during sensitive periods.*	Chevron Australia has assessed impacts and risks to Matters of National Environmental Significance (MNES) and protected species throughout **Section 7** of the EP, including impacts and risks to Pygmy Blue Whales, Flatback Turtles, Whale Sharks and Wedge-tailed Shearwaters. Impacts and risks to commercial fisheries have also been assessed in the EP. Exploration drilling is expected to be completed within ~50 days and may be undertaken at any time of year. The EP has therefore been developed to assess potential impacts and risks to MNES and protected species, at all times of year. To mitigate impacts and risks to protected species during key periods of biological significance, Chevron Australia propose to implement control measures to reduce impacts and risks to ALARP and acceptable levels. This includes controls to manage underwater sound (**Section 7.6.3**), unplanned interactions with marine fauna (**Section 7.2**), lighting (**Section 7.5**) and planned discharges (**Sections 7.9 – 7.11**). Further details on the control measures relevant to these aspects are provided in the relevant responses to public comments below. In addition, specific control measures have been developed to manage potential impacts and risks to Pygmy Blue Whales and Whale Sharks during peak periods in which these species may be present in the OA.

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		Chevron Australia considers that the EP adequately addresses potential impacts to MNES and no amendments have been made.
1c	*Matter:* Public comments were received citing concerns relating to impacts and risks associated with underwater sound emissions from the exploration drilling activity. *Claims:* • *Concerns that underwater sound associated with the activity may result in impacts to marine fauna*	Chevron Australia has identified that underwater sound emissions associated with the activity may result in a localised and short-term change in ambient underwater sound. Without control measures in place, changes in ambient underwater sound may result in behavioural disturbance or injury to marine fauna and changes to other values and sensitivities within the marine environment (refer to **Section 7.6.3** of the EP). Chevron Australia used acoustic modelling to inform its assessment of the impacts and risks associated with underwater sound and in the development of control measures to manage the activity. For further details on the acoustic modelling undertaken refer to **Section 7.6.1** and **7.6.2** of the EP. To reduce potential impacts and risks to marine fauna, Chevron Australia commits to: • the implementation of EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans • increased caution zones and/or separation distances during predicted peak periods for presence of Pygmy Blue Whales and Whale Sharks • adaptative measures before mobile offshore drilling unit (MODU) anchor installation/removal or resupply activities commence. In addition, Chevron Australia will ensure the activity is conducted in a manner that is not inconsistent with management action A.2.3 of the Blue Whale Conservation Management Plan: "anthropogenic noise in biologically important areas will be managed such that any blue whale continues to utilise the area without injury and is not displaced from a foraging area" (refer to Determination of acceptability in **Section 7.6.3** of the EP). **Section 7.6.3** of the EP provides further details on the Chevron Australia's environmental impact and risk assessment and the control measures to be implemented to reduce impacts and risks to marine fauna and other values and sensitivities. Chevron Australia considers that the EP addresses the public comments and no amendments have been made.
1d	*Matter:* Public comments were received citing concerns relating to impacts and risks associated with light emissions from the exploration drilling activity.	Chevron Australia has identified that light emissions associated with the activity may result in a localised and temporary change in ambient light. Without control measures in place, changes in ambient light may result in change in fauna behaviour for light-sensitive species and changes to other values and sensitivities within the marine environment (refer to **Section 7.5** of the EP).

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	Claims: • *Concerns that the activity may result in risks to threatened species that are light sensitive.*	The exploration drilling activity is short term (~50 days) and will be undertaken in an offshore environment away from land (>60 km to the nearest land). Potential impacts from light emissions are expected in close proximity to the OA (~1.4 km from the vessels and MODU) as such, light emissions during the exploration drilling activity will result in localised short-term behavioural impacts to transient individuals (refer to **Section 7.5** of the EP for further details). Chevron Australia will conduct the activity in accordance with Chevron's Marine Standard, ensuring that lighting requirements are sufficient for navigation, safety, and emergency purposes. Chevron Australia will also implement management measures to reduce external lighting to the minimum required for safe operations, consistent with the National Light Pollution Guidelines for Wildlife (refer to control measures in **Section 7.5** of the EP). Chevron Australia considers that the EP addresses the public comments and no amendments have been made.
1e	*Matter:* Public comments were received citing concerns relating to impacts and risks associated with unplanned interactions with marine fauna from the exploration drilling activity. *Claims:* • *Concerns that the activity introduces an increased risk of vessel collisions with marine fauna, including protected species.*	Unplanned interactions with marine fauna have been assessed in **Section 7.2** of the EP. To reduce potential impacts and risks to marine fauna, Chevron Australia commits to: • the implementation of EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans • the implementation of separation distances and vessel speed limits applicable to Whale Sharks (refer to control measures in **Section 7.2** of the EP). In addition, Chevron Australia will ensure the activity is conducted in a manner that is not inconsistent with: • the Blue Whale Conservation Management Plan • the Sei Whale Conservation Advice • the Fin Whale Conservation Advice • the Whale Shark Conservation Advice **Section 7.2** of the EP provides further details on the Chevron Australia's environmental impact and risk assessment and the control measures to be implemented to reduce impacts and risks to marine fauna and other values and sensitivities. Chevron Australia considers that the EP addresses the public comments and no amendments have been made.
1f	*Matter:* Public comments were received citing concerns relating to impacts and risks associated with	Planned discharges from the activity include drilling fluids and cuttings, spacer fluids, wellbore clean-up fluids, and unused bulk product. These discharges may result in a localised reduction in water quality and alteration/smothering of benthic habitat. Without control measures in place,

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	planned discharges from the exploration drilling activity and chemical toxicity. *Claims:* *Concerns that:* • *the activity may increase the risk to environmentally sensitive areas from planned drilling discharges* • *drilling discharges may contain heavy metals and can travel up to 2 km from the source* • *drilling discharges have not been tested for safety compliance* • *elevated levels of contaminants may be present in sediments and these will be disturbed as a result of the activity.*	changes in water quality from drilling discharges may result in indirect impacts to fauna arising from chemical toxicity and changes to other values and sensitivities within the marine environment (refer to **Section 7.9 and 7.10** of the EP). The exploration drilling activity is short term (~50 days), the OA is in relatively deep waters (~230 m) in an offshore environment >60 km from the nearest land. The habitat type within the OA comprises soft sediment, typically unvegetated, and with low benthic invertebrate habitation and is widely represented throughout the region. As outlined in response 1a above, no impacts from planned activities, including planned discharges, are expected within the State Montebello Islands Marine Park, Commonwealth Montebello Australian Marine Park, Ningaloo Reef, Ningaloo Reef Marine Park or Barrow Island Marine Park. **Section 7.9** of the EP includes a comprehensive assessment of the potential chemical toxicity of drilling discharges and the distances at which these may travel from the source. Stock barite used will comply with the requirements of the Environmental, Health, and Safety Guidelines Offshore Oil and Gas Development to limit heavy metal concentrations. Volumes of drill fluids discharged will be minimised through the use of solids control equipment and the cuttings discharge outlet will be set below the water line to reduce the dispersal distance of cuttings and drilling fluids. With respect to the safety compliance of drilling discharges, as part of the hazardous materials selection process, hazardous materials that will be discharged to the environment will undergo a detailed environmental assessment, as per Chevron Australia's Hazardous Materials Management Procedure. In addition, discharges will be managed as per Chevron Australia's Wells Fluid Field Guidelines Offshore 2020. Further details on these controls are included in **Section 7.9** of the EP. A public comment was received indicating there may be elevated levels of contaminants in the OA that could be disturbed by the proposed activity. This appears to be a misinterpretation of information in the EP relating to the sediment quality of the broader northwest marine region. Marine sediment quality within the OA is expected to be representative of high-sediment quality typically found in offshore waters. Chevron Australia considers the EP addresses the public comments and no amendments have been made.

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1g	*Matter:* Public comments were received citing concerns relating to cumulative impacts *Claims:* • *Concerns that there is no evidence of any cumulative or holistic assessment of the Proposal.*	The scope of the activity included in the EP is the drilling of one exploration well. The EP does not provide for a multi-well drilling campaign nor development of a resource should the drilling program result in a discovery. Any future developments will be subject to a separate approvals process and will consider cumulative impacts as required. As noted in item 1c, Chevron Australia used acoustic modelling to inform its assessment of impacts and risks associated with underwater sound and the acoustic modelling considered the presence of multiple vessels. Consequently, cumulative impacts for the aspect underwater sound have been considered in the EP (refer to **Section 7.6.3** for further details). Chevron Australia considers that no amendments to the EP are required.
2	*Matter:* Public comments were received citing concerns relating to greenhouse gas emissions associated with oil and gas developments. *Claims:* • *concerns that the activity may increase the risk to Matters of National Environmental Significance from climate impacts* • *concerns that Scope 3 emissions in the environmental assessment was not included* • *concerns that renewable energy as an alternative energy source for their MODU and other vessels was not included.*	Air emissions from this activity may result in localised and temporary reduction in air quality and contribution to the reduction of the global atmospheric carbon budget. The exploration drilling activity is short term (~50 days) and will be undertaken in an offshore environment away from land (>60 km to the nearest land). Air quality impacts are expected to be limited and the direct greenhouse gas emissions associated with the activity are representative of a *de minimis* decrease in global carbon budget. Further details are presented in **Section 7.5** of the EP. As identified in **Section 3.1.1** of the EP, there is no recovery of hydrocarbons associated with the exploration drilling activities, and as such no gas processing, transport, or third party end-use of hydrocarbons will occur under the EP. Scope 3 emissions are therefore considered not applicable. Should future development be undertaken, Scope 3 emissions will be assessed as required and subject to further approvals. Chevron Australia has updated **Section 7.4** of the EP to consider the use of non-hydrocarbon powered vessels / MODU, however this control has not been adopted noting the use of renewable energy as an alternative energy source for the MODU and other vessels is not feasible or commercially viable.
3	*Matter: Emergency management.* *Claims:* • *Chevron Australia should consider the use of a pyrotechnic subsea isolation device in emergency management.*	Chevron Australia received a comment suggesting the use of a pyrotechnic subsea isolation device, as an alternative to a traditional hydraulic-mechanical BOP. Chevron Australia has considered the information provided and has updated **Section 7.15.3** of the EP to consider the use of the device, however the control has not been adopted based on the following:

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	• *The service provider of the pyrotechnic subsea isolation device is a relevant person that should be consulted*	• Pyrotechnic shearing and isolation devices have not been deployed in Australia and have only been deployed a limited number of times internationally for subsea applications. To date, the device has never been activated to control a subsea loss of containment and its effectiveness is based on testing, modelling, and simulation under controlled conditions. In addition to the above: • The subsea applications of a pyrotechnic subsea isolation device that Chevron Australia are aware of to date have not been in a configuration compatible with the MODU direct hydraulic BOP control system and subsea wellhead planned for use in the exploration drilling program. • Interface with and control of such a device would require additional engineering and likely modifications to the existing BOP system which has been validated and accepted by NOPSEMA as part of the MODU Safety Case to meet ALARP for Formation Hydrocarbons entering the well. • Adding this device between the wellhead and MODU BOP would result in extending the length and weight of equipment attached to the wellhead. Wellhead stability and fatigue life would need to be studied and potentially mitigated which adds complexity and cost. • The system cannot be function tested (it is a one-shot activation), and assessment of readiness state or general functionality at any point in time is a challenge. • Chevron Australia do not plan to use many of the unshearable tubulars that the subsea isolation device is intended for. For example, the well will not run any slip-proof sections on landing strings, limited heavy and unshearable casing strings, and no subsea test trees. • The MODU BOP will contain a Blind Shear Ram (BSR) and Casing Shear Ram (CSR) and the Wellsafe assurance process will validate that casing tubulars and drill pipe planned to be run have available or calculated shear test data to verify effectiveness of these BOP rams. In response to the claim that the service provider of the device is a relevant person that should be consulted, Chevron Australia does not consider the service provider to hold functions, interests or activities that may be affected by the activity proposed in the EP.