Offshore Dredge Spoil Disposal - Mardie Project

Application Number: 02690

Commencement Date: 15/11/2024

Status: Locked

1. About the project

1.1 Project details

1.1.1 Project title *

Offshore Dredge Spoil Disposal - Mardie Project

1.1.2 Project industry type *

Mining

1.1.3 Project industry sub-type

Other

1.1.4 Estimated start date *

01/04/2026

1.1.4 Estimated end date *

30/09/2027

1.2 Proposed Action details

1.2.1 Provide an overview of the proposed action, including all proposed activities. *

Mardie Minerals Pty Ltd (Mardie Minerals; a wholly owned subsidiary of BCI Minerals Limited) is seeking to transport and dispose of dredge spoil from capital and maintenance dredging activities for the Mardie Project (EPBC 2018/8236 and EPBC 2022/9169) within a defined offshore spoil ground 'DMPA4' (Proposed

Action). Mardie Minerals has approval under Condition 36(c) of EPBC 2018/8236 and EPBC 2022/9169 to dredge up to 800,000 cubic metres (m3) within the Mardie Project dredge channel. The current volume proposed to be dredged and disposed is estimated to be up to 355,000 m3 (including 10% over dredge).

The Proposed Action is located in WA State marine waters. DMPA4 is approximately 25 kilometres (km) (13.5 Nautical Miles (NM)) offshore from the Mardie Project, 10.5 km (5.7 NM) northwest of Sholl Island and 116 km (63 NM) northeast of Onslow, Western Australia (WA) (Att1_Figures_1_250124, Figure 1, Page 1).

The Project Area, including DMPA4 and the zones of impact, comprises an area of 1,105 ha. DMPA4 comprises an area of 30.3 ha (Disturbance Footprint - Direct). The Disturbance Footprint – Indirect is defined as the outer boundary of the Zone of Moderate Impact (ZoMI), and includes the 355 ha portion of the Zone of High Impact (ZoHI) that lies outside DMPA4. The combined ZoHI and ZoMI (without DMPA4) cover an area of 1,075 ha (Disturbance Footprint – Indirect). The Project Area and Disturbance Footprints are shown in Figure 2 of Attachment 1 (Att1_Figures_1_250124, Figure 2, Page 2).

In January 2022, Mardie Minerals was granted approval for the Mardie Project via EPBC 2018/8236 under the *Environment Protection and Biodiversity Conservation Act 1986* (Cth; EPBC Act). The Mardie Project is a greenfields high quality salt and sulphate of potash (SoP) project and associated export facility at Mardie, approximately 80 km southwest of Karratha, in the Pilbara region of WA. Mardie Minerals subsequently referred the Optimised Mardie Project to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) as a significant amendment to the Mardie Project, with the purpose of accommodating increased salt and SoP production, facilitated by additional *Mining Act 1978* (WA) tenure secured by Mardie Minerals. In September 2024, the Optimised Mardie Project was granted approval via EPBC 2022/9169.

In order to construct the export facility approved for the Mardie Project, dredging is required to develop a transhipment berth pocket and approximately 4.9 km channel. The disposal method approved under Condition 36(g) of EPBC 2018/8236 and EPBC 2022/9169 is onshore disposal. However, following engagement with dredging contractors, it was found that onshore disposal would be technically challenging, due to the shallow water depths inshore and the associated long slurry pumping distance. None of the dredging contractors approached to tender for the dredging works were supportive of the proposed onshore disposal approach. Additional to the technical concerns, were the likely impacts to *Minuria tridens* (Vulnerable) that occupy portions of the land-based dredge disposal area. No impacts to *Minuria tridens* are permitted under Condition 10 of EPBC 2018/8236 and EPBC 2022/9169.

As a result, several offshore disposal sites were considered, and DMPA4 was chosen as the preferred disposal location as it is close to the Mardie Project, and it was considered unlikely that the benthic communities and habitats (BCH) within the Disturbance Footprint (direct and indirect) represent particular regional or conservation significance compared to other areas within the Mardie and Pilbara region, where higher covers and diversities are observed (Att2_BCH Survey Report DMPA4 2024, Section 6, Page 26).

This Proposed Action is therefore to dispose of the dredge spoil produced from the Mardie Project within DMPA4, including the transport of dredge material via split hull hopper barges from the Mardie Project dredge areas to DMPA4.

The modelled scenario assumes that dredge spoil would be disposed at DMPA4 by split hull hopper barges across three hopper loads per day of approximately 1,200 m3 (on average), for a total of approximately 3,600 m3 being disposed per day (Att3_DMPA4 Dredge Plume Modelling 2024, Page 5). The modelled schedule has been broken into four separate sequences that in total, cover a duration of 98 days (Att3_DMPA4 Dredge Plume Modelling 2024, Table 3, Page 4). It should be noted that the maximum (of three) runs may not be possible on some days, and/or the dredging activities may take more or less than 98 days to get the expected 355,000 m3 design dredge volume to be disposed of at DMPA4. Details of the monitoring programs at DMPA4 are within the Dredge and Spoil Disposal Management Plan (DSDMP), which include:

- Marine Water Quality Monitoring Program (Att4_DSDMP 2024, Section 7.1, Pages 55-65);
- Benthic Habitat Monitoring Program (Att4_DSDMP 2024, Section 7.2, Pages 65-75); and

• Marine Fauna Monitoring (Att4_DSDMP 2024, Section 7.3, Pages 75-84).

The start date of the Proposed Action is expected to take place from 1 April 2026 to 30 September 2027. No dredging will occur during the 1 October to 31 March environmental blackout period.

The proposed vessel route from the dredging area to DMPA4 is shown in Figure 3 of Attachment 1 (Att1_Figures_1_250124, Figure 3, Page 3). From the dredging area, the vessels will initially move north along the transhipment vessel route for the Mardie Project. The route diverts in a northwestern direction between Sholl Island and Stewart Island to reach the spoil ground. The total length of the route is approximately 14.85 NM. The proposed vessel route may change based on prevailing weather, currents and tide conditions during the transport of dredged material to DMPA4 to ensure safe passage. The transport of dredged material via marine barges are regulated under the *Navigation Act 2012*, the *Shipping Act 1981*, and the International Maritime Organization (IMO) regulations.

1.2.2 Is the project action part of a staged development or related to other actions or proposals in the region?

Yes

1.2.3 Is the proposed action the first stage of a staged development (or a larger project)?

No

1.2.4 Related referral(s)

EPBC Number	Project Title	
2018/8236	Mardie Project, 80 km south west of Karratha, WA	
2022/9169	Optimised Mardie Solar Salt Project	

1.2.5 Provide information about the staged development (or relevant larger project).

In January 2022, Mardie Minerals was granted approval for the Mardie Project via EPBC 2018/8236 under the EPBC Act. The Mardie Project is a greenfields high quality salt and SoP project and associated export facility at Mardie, approximately 80 km southwest of Karratha, in the Pilbara region of WA. Mardie Minerals subsequently referred the Optimised Mardie Project to DCCEEW as a significant amendment to the Mardie Project, with the purpose of accommodating increased salt and SoP production, facilitated by additional *Mining Act 1978* (WA) tenure secured by Mardie Minerals. In September 2024, the Optimised Mardie Project was granted approval via EPBC 2022/9169.

This Proposed Action is to revise the dredge material disposal method approved under EPBC 2018/8236 and EPBC 2022/9169 to include offshore disposal.

1.2.6 What Commonwealth or state legislation, planning frameworks or policy documents are relevant to the proposed action, and how are they relevant? *

Environment Protection Act 1986 (WA)

The key piece of legislation for a project with the potential to impact the environment in WA is the State's *Environmental Protection Act 1986* (EP Act). This is supported by the *Environmental Impact Assessment* (*Part IV Divisions 1 and 2*) *Procedures Manual* (EPA, 2021a). The EP Act specifies the objectives and requisite procedures of environmental impact assessment (EIA) that proponents and stakeholders must comply with. Further guidance documents are provided by the WA Environmental Protection Authority (EPA) to define the environmental considerations expected as part of a project's EIA and environmental management. The *Statement of environmental principals, factors, objectives and aims of EIA* (EPA, 2021b) overarches the EIA environmental considerations, outlining the guiding principles and defining the specific factors to be considered and their objectives. Of particular relevance for dredging and disposal are those under the 'Sea' theme. This Proposed Action is to be referred to the WA EPA under the EP Act as a significant change to the Mardie Project.

Environment Protection and Biodiversity Conservation Act 1999 (Cth)

The Mardie Project has been referred in two stages; the Original Mardie Project and the Optimised Mardie Project. The Original Mardie Project was assessed by DCCEEW and approved in January 2022 (EPBC 2018/8236). The Optimised Mardie Project was referred to DCCEEW in April 2022 and approved in September 2024 (EPBC 2022/9169). In October 2024, DCCEEW authorised the decision to amend the original EPBC 2018/8236 conditions to mirror the conditions of EPBC 2022/9169.

According to the Significant Impact Guidelines 1.1 (DotE, 2013), this Proposed Action has the potential to impact listed threatened species and listed migratory species and therefore requires referral under the EPBC Act.

Environment Protection (Sea Dumping) Act 1981 (Cth)

The Proposed Action is set to take place in WA State coastal waters. A permit under the *Environment Protection (Sea Dumping) Act 1981* (Sea Dumping Act) is required to undertake sea dumping activities in the marine environment. Mardie Minerals is currently finalising an application for a permit under the Sea Dumping Act to use DMPA4 as a Spoil Disposal area. This application will be assessed in parallel with this Proposed Action.

1.2.7 Describe any public consultation that has been, is being or will be undertaken regarding the project area, including with Indigenous stakeholders. Attach any completed consultation documentations, if relevant. *

The following stakeholders have been consulted to date or will be consulted with regarding the Proposed Action:

Commonwealth Government

• DCCEEW (EPBC Assessments and Sea Dumping Branch).

State Government

- EPA.
- Department of Water and Environmental Regulation (DWER).
- Department of Jobs, Tourism, Science and Innovation (DJTSI).
- Department of Planning, Lands and Heritage (DPLH).
- Department of Primary Industries and Regional Development (DPIRD).

<u>Other</u>

- Pilbara Ports Authority (PPA).
- Mineral Resources Limited.
- Western Australian Fishing Industry Council (WAFIC).
- Recfishwest.
- Port of Ashburton Technical Advisory and Consultative Committee (TACC).

Issues raised and outcomes of consultation that has taken place to date related to offshore spoil disposal are outlined in the attached Stakeholder Consultation Register (Att5_Stakeholder Consultation Register_1_250124).

Consultation will be ongoing with most of the stakeholders identified throughout the phases of the Proposed Action.

1.3.1 Identity: Referring party

Privacy Notice:

Personal information means information or an opinion about an identified individual, or an individual who is reasonably identifiable.

By completing and submitting this form, you consent to the collection of all personal information contained in this form. If you are providing the personal information of other individuals in this form, please ensure you have their consent before doing so.

The Department of Climate Change, Energy, the Environment and Water (the department) collects your personal information (as defined by the Privacy Act 1988) through this platform for the purposes of enabling the department to consider your submission and contact you in relation to your submission. If you fail to provide some or all of the personal information requested on this platform (name and email address), the department will be unable to contact you to seek further information (if required) and subsequently may impact the consideration given to your submission.

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See our Privacy Policy to learn more about accessing or correcting personal information or making a complaint. Alternatively, email us at privacy@awe.gov.au.

Confirm that you have read and understand this Privacy Notice *

1.3.1.1 Is Referring party an organisation or business? *

Yes

Referring party organisation details			
ABN/ACN	137515078		
Organisation name	Preston Consulting Pty Ltd		
Organisation address	6000 WA		
Referring party details			
Name	Annaliese Eastough		
Job title	Environmental Consultant		
Phone	0488737273		
Email	aeastough@prestonconsulting.com.au		
Address	Level 1/226 Adelaide Terrace, Perth WA 6000		

1.3.2 Identity: Person proposing to take the action

1.3.2.1 Are the Person proposing to take the action details the same as the Referring party details? *

No

1.3.2.2 Is Person proposing to take the action an organisation or business? *

Yes

Person proposing to take the action organisation details		
ABN/ACN	50152574457	
Organisation name	MARDIE MINERALS PTY LTD	
Organisation address	6005 WA	

Person proposing to take the action details		
Name	Snyman Van Straaten	
Job title	Manager of Environmental Approvals and Compliance	
Phone	0400616790	
Email	snyman.vanstraaten@bciminerals.com.au	
Address	Level 1, 1 Altona Street, West Perth WA 6005	

1.3.2.14 Are you proposing the action as part of a Joint Venture? *

No

1.3.2.15 Are you proposing the action as part of a Trust? *

No

1.3.2.17 Describe the Person proposing the action's history of responsible environmental management including details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against the Person proposing to take the action. *

Mardie Minerals' active projects include the Mardie Project (EPBC 2018/8236) and the Optimised Mardie Project (EPBC 2022/9169). To-date, Mardie Minerals' environmental management record has been satisfactory. All exploration activities have been conducted in accordance with relevant legislation. Two infringement notices were issued to Mardie Minerals in 2024, discussed below.

Infringement notice CEB24/116 issued to Mardie Minerals on 6 June 2024. The notice relates to condition 4 of EPBC 2018/8236 (prior to variation):

4. The approval holder must submit a Groundwater Monitoring and Management Plan (GMMP) to the Minister for approval. The approval holder must not commence operations until the GMMP has been approved by the Minister in writing. The approval holder must implement the approved GMMP...

Commencement of operations is defined within EPBC 2018/8236 (prior to variation) as 'the first instance of transferring seawater into any evaporation pond as part of the action'. Pond 0 is considered an evaporation pond. It is part of Pond 1 according to all referral and approval documentation. The first instance of transferring seawater into any evaporation pond as part of the action (rather than commissioning of the pumps) was on 28 December 2023. However, the GMMP was not submitted and approved prior to 28 December 2023, resulting in a non-compliance against this condition. The GMMP (Revision M; 31 August 2024) was approved for implementation to facilitate progressive filling of Ponds 1, 2 and 3 with seawater on 9 September 2024.

Infringement notice CEB24/118 issued to Mardie Minerals on 6 June 2024. This notice relates to condition 24(b) of EPBC 2018/8236 (prior to variation), which refers to the Illumination Plan:

24(b) The plan must be submitted and approved by the Minister prior to the commencement of the operation. The Illumination Plan must be implemented once the Illumination Plan is approved.

Commencement of operations is defined within EPBC 2018/8236 (prior to variation) as 'the first instance of transferring seawater into any evaporation pond as part of the action'. Pond 0 is considered an evaporation pond. It is part of Pond 1 according to all referral and approval documentation. The first instance of transferring seawater into any evaporation pond as part of the action (rather than as part of commissioning of the pumps) was on 28 December 2023. The Illumination Plan was not submitted and approved prior to 28 December 2023, resulting in a non-compliance against this condition. The Illumination Plan (Revision 5; BCI-ENV-PLN-001) was approved on 31 January 2024.

Mardie Minerals paid the amounts of the infringement notices by 20 September 2024.

1.3.2.18 If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

Mardie Minerals has an Environmental Policy (Att6_BCI Environmental Policy 2022) and an Environmental and Social Management Plan (ESMP) (Att7_Mardie Project ESMP). The ESMP has been developed to identify the environmental and social management framework for the development and operation of the Mardie Project.

1.3.3 Identity: Proposed designated proponent

1.3.3.1 Are the Proposed designated proponent details the same as the Person proposing to take the action? *

Yes

Proposed designated proponent organisation details

ABN/ACN 50152574457

Organisation name MARDIE MINERALS PTY LTD

Organisation address 6005 WA

Proposed designated proponent details		
Name	Snyman Van Straaten	
Job title	Manager of Environmental Approvals and Compliance	
Phone	0400616790	
Email	snyman.vanstraaten@bciminerals.com.au	
Address	Level 1, 1 Altona Street, West Perth WA 6005	

1.3.4 Identity: Summary of allocation

Confirmed Referring party's identity

The Referring party is the person preparing the information in this referral.

ABN/ACN	137515078
Organisation name	Preston Consulting Pty Ltd
Organisation address	6000 WA
Representative's name	Annaliese Eastough
Representative's job title	Environmental Consultant
Phone	0488737273
Email	aeastough@prestonconsulting.com.au
Address	Level 1/226 Adelaide Terrace, Perth WA 6000

Confirmed Person proposing to take the action's identity

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN

50152574457

Organisation name

MARDIE MINERALS PTY LTD

Organisation address	6005 WA
Representative's name	Snyman Van Straaten
Representative's job title	Manager of Environmental Approvals and Compliance
Phone	0400616790
Email	snyman.vanstraaten@bciminerals.com.au
Address	Level 1, 1 Altona Street, West Perth WA 6005

Confirmed Proposed designated proponent's identity

The Person proposing to take the action is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this project is a controlled action.

Same as Person proposing to take the action information.

1.4 Payment details: Payment exemption and fee waiver

1.4.1 Do you qualify for an exemption from fees under EPBC Regulation 5.23 (1) (a)? *

No

1.4.3 Have you applied for or been granted a waiver for full or partial fees under Regulation 5.21A? *

No

1.4.5 Are you going to apply for a waiver of full or partial fees under EPBC Regulation 5.21A?

No

1.4.7 Has the department issued you with a credit note? *

No

1.4.9 Would you like to add a purchase order number to your invoice? *

1.4 Payment details: Payment allocation

1.4.11 Who would you like to allocate as the entity responsible for payment? *

Proposed designated proponent

2. Location

2.1 Project footprint





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2.2 Footprint details

2.2.1 What is the address of the proposed action? *

There is no address for the Proposed Action, as it is located in WA State marine waters, approxi

2.2.2 Where is the primary jurisdiction of the proposed action? *

Western Australia

2.2.3 Is there a secondary jurisdiction for this proposed action? *

No

2.2.5 What is the tenure of the action area relevant to the project area? *

The Proposed Action is within WA State marine waters, 13.5 NM north west offshore within the 3M Limit: Coastal Waters.

3. Existing environment

3.1 Physical description

3.1.1 Describe the current condition of the project area's environment.

O2 Marine was engaged to undertake a bathymetric survey, a BCH investigation, and sediment sampling of DMPA4. The purpose of this investigation was to determine the suitability of DMPA4 as a disposal site and to inform this Referral and related documents/approvals.

The key objectives of the DMPA4 investigation were to:

- 1. Undertake a Multibeam Eco Sounder (MBES) survey to provide bathymetric and backscatter data;
- 2. Undertake a Side Scan Sonar (SSS) survey within DMPA4 to provide backscatter data to help inform BCH classification;
- 3. Undertake ground-truthing (via towed video transects) to identify key BCH and validate SSS and backscatter data ;
- 4. Undertake sediment sampling within DMPA4 (Att2_BCH Survey Report DMPA4 2024, Appendix A, Page 31); and
- 5. Report on bathymetric and BCH results (Att2_BCH Survey Report DMPA4 2024).

Further detail about the survey effort and methods are provided in the BCH Survey Report (Att2_BCH Survey Report DMPA4 2024, Section 3, Pages 6-14).

The findings of this investigation are detailed in the results and discussion sections of the BCH Survey Report (Att2_BCH Survey Report DMPA4 2024, Section 4, Pages 15-31) summarised in the sections below.

SSS data indicates that DMPA4 contains a largely featureless seafloor comprised of unconsolidated sediments with no visual evidence of hard substrate, suggesting an absence of any exposed reef systems in the survey area. Water depths at DMPA4 are around 20 m, with multibeam data revealing a depth range of less than 2 m across the survey area. Subtle ridge features (<40 cm elevation) can be observed at several locations across the area. While the hydrographic data only provided limited evidence, it is probable that much area is underlain by pavement reef that is covered by a thin veneer of unconsolidated sediments (Att2_BCH Survey Report DMPA4 2024, Section 4.1, Pages 15-18).

3.1.2 Describe any existing or proposed uses for the project area.

There are no current or existing uses of the Project Area other than occasional boating and commercial and recreational fishing.

3.1.3 Describe any outstanding natural features and/or any other important or unique values that applies to the project area.

DMPA4 is located in WA State marine waters. The closest Marine Protected Area is the Great Sandy Island Nature Reserve (Sholl Island), approximately 5.7 NM southeast of DMPA4. A search of the Protected Matters Search Tool (PMST) found no identified key ecological features within a 5.3 NM (10 km) buffer of DMPA4 (Att8_PMST Report DMPA4_241022, Page 2).

The DMPA4 was mapped for BCH distribution and cover, and two BCH categories were reported. BCH types were not distributed consistently throughout the area, however observed variations were mainly subtle changes in level of cover. DMPA4 can be broadly characterised as a filter feeder dominated habitat with a predominantly sparse to moderate level of cover. It is unlikely that the habitats at this site represent particular regional or conservation significance compared to other areas within Mardie and the Pilbara region, where higher covers and diversities are observed (Att2_BCH Survey Report DMPA4 2024, Section 6, Page 31).

Further details of BCH categories are provided in the BCH report (Att2_BCH Survey Report DMPA4 2024, Section 4.3, Pages 28-30).

3.1.4 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The seafloor in the nearshore coastal zone (i.e. shoreward of DMPA4) is predominantly flat with the exception of numerous small islands, which form a semi-enclosed barrier. This coastal platform slopes mildly seaward with turbid waters (particularly to 10 m and deeper in the north) and increasing tidal influence from south to north. Outside of the island chain, the bathymetry deepens and waters are much less influenced by turbidity (Att2_BCH Survey Report DMPA4 2024, Section 2, Page 5).

Water depths at DMPA4 are around 20 m, with multibeam data revealing a depth range of less than 2 m across the survey area. (Att2_BCH Survey Report DMPA4 2024, Section 4.1, Pages 15-18). Water depths at surveyed sites ranged between 18-21 m (Att2_BCH Survey Report DMPA4 2024, Section 3.2.3, Pages 9-10).

3.2 Flora and fauna

3.2.1 Describe the flora and fauna within the affected area and attach any investigations of surveys if applicable.

<u>Flora</u>

The Proposed Action is set to take place in WA State marine waters, therefore flora assessments are not applicable.

<u>Fauna</u>

The following information has been summarised from the DSDMP (Att4_DSDMP 2024, Section 2.6, Pages 22-29).

O2 Marine (Att9_Marine Fauna Review 2020, Section 3.2, Page 26) undertook an assessment of the likelihood of occurrence of conservation significant marine fauna species, based on the list of species provided in the Environmental Scoping Document (ESD) for the Mardie Project (Preston Consulting, 2018). Pendoley Environmental Pty Ltd (Pendoley) have conducted marine turtle monitoring for the Mardie Project (Att10_Marine Turtle Monitoring Program 2023). The following key marine fauna species were identified which are either known to occur or have a high likelihood of occurring in the vicinity of the Proposed Action:

- Marine mammals:
 - Humpback whale (Megaptera novaeangliae).
 - Dugong (Dugong dugong).
 - Australian humpback dolphin (Sousa sahulensis).
- Marine reptiles:
 - Loggerhead turtle (Caretta caretta).
 - Green turtle (Chelonia mydas).
 - Flatback turtle (*Eretmochelys imbricate*).
- Short-nosed sea snake (Aipysurus apraefrontalis).
 - Elasmobranchs
 - Green sawfish (Pristis zijsron).
 - Reef manta ray (Mobula alfredi).

In addition to these, further key marine fauna have been identified for DMPA4 based on a new search of the PMST and literature review detailed within the DSDMP (Att4_DSDMP 2024, Section 2.6, Page 22). These additional key marine fauna are:

- Marine mammals:
 - Indo-pacific/spotted bottlenose dolphin (Tursiops aduncus).
- Marine reptiles:
 - Leaf-scaled sea snake (Aipysurus foliosquama).
- Elasmobranchs:
 - Narrow sawfish (Anoxypristis cuspidate).
 - Dwarf sawfish (Pristis clavata).

Commercial fisheries species that occur within the region include:

- Bluespotted emperor (Lethrinus punctulatus);
- Western king prawns; and
- Brown tiger prawns.

Many of the species listed above are discussed in detail within the DSDMP (Att4_DSDMP 2024, Section 2.6, Pages 22-29). Information from the DSDMP specific to key species interactions with DMPA4 is outlined below.

Humpback Whales

DMPA4 is located approximately 41 km to the east of Barrow Island, 37 km west of Cape Preston and overlaps the humpback whale migration pathway. Jenner and Jenner (2010) completed aerial surveys offshore of Onslow for the Wheatstone Project. These surveys found that humpback whales were present in this area from mid-June through to mid-December (only 1 pod sighted in December surveys), with peak sightings from mid-June to late August. The surveys identified a relatively high proportion of humpback whales milling/resting, with an increasing number resting or milling during the southern migration. During the northern migration whales were predominantly found 50 km offshore and 35 km offshore during the southern migration. Humpback whale mother-calf pairs are the most vulnerable group, and they are known to rest offshore of Onslow, with the highest number of resting pairs observed within the 50 m depth contour (within 35 km of the coast). A precautionary approach will be implemented for offshore disposal during humpback whale migration (Att4_DSDMP 2024, Section 2.6.1, Page 23).

Dugong

No dugong were observed in the waters around Mardie during over 700 hours of vessel-based observations. O2 Marine concluded that this was most likely due to the lower value of the subtidal BCH in the area as suitable feeding or foraging habitat for dugong. However, surveys for seagrass (and dugong) were not undertaken during peak seagrass season (October-December). Nevertheless, dugong may be present in the Project Area and management measures have taken the precautionary approach that consider impacts to this species.

Seagrass was also not found to present within the spoil ground DMPA4, and therefore it would not represent preferred habitat, indicating that dugong would likely not reside in the area (though they may travel through) (Att4_DSDMP 2024, Section 2.6.1, Page 24).

Australian Humpback Dolphin

Aerial surveys completed around Spoil Ground E for the Wheatstone Project (offshore of Onslow, east of DMPA4) found that larger dolphin pods (>100 individuals) can be sighted offshore though the majority of dolphin sightings were recorded in water depths less than 50 m (Jenner and Jenner, 2010). Within shallower waters, smaller groups were more common. They are also more likely to be found in relatively shallow and protected coastal habitats such as inlets, estuaries, major tidal rivers, shallow bays, inshore reefs and coastal archipelagos, rather than in open stretches of coastline. Therefore the Australian humpback dolphins are likely to be present within the vicinity of the dredging footprint and the DMPA4 location, but it does not represent important habitat for the species, being more likely to be present closer to protected waters (Att4_DSDMP 2024, Section 2.6.1, Page 24).

Indo-pacific bottlenose dolphin

The indo-pacific bottlenose dolphin has been recorded throughout the year within the region and share similar behavioural activities with the Australian humpback dolphin, with some degree of spatial overlap. At a regional scale, there may be some partitioning between the species with bottlenose dolphins preferring deeper waters close to sloping bathymetry (Hanf et al., 2022). Finer scale studies support this, with significant differences in habitat use and fine-scale habitat selection (e.g. Hunt et al., 2017). This species may be present within the vicinity of the DMPA4 location from time to time but does not represent important habitat for the species (Att4_DSDMP 2024, Section 2.6.1, Page 24).

Turtles

The marine turtle monitoring program completed for the Mardie Project found that the marine turtle nesting activity was greatest on Sholl and Long Islands. With the exception of the single Hawksbill nest recorded on the mainland in December during the 2018/19 survey (albeit past the peak of the Hawksbill nesting season), turtles nested most successfully on the offshore islands during all surveys.

The main species recorded on the offshore islands was Flatbacks, with relatively less nesting effort seen for Hawksbill and Green turtles at the same locations. The snapshot monitoring data from Round, Middle, and Angle Islands confirmed similar species composition and abundance at these sites. These results are

consistent with turtle activity throughout the Pilbara, where Flatback and Hawksbill nesting is dominant on nearshore island habitat, and Flatback Turtles are the most common mainland nesting species.

DMPA4 does not represent preferred foraging habitat for turtles, as it is dominated by bare sand and filter feeders, and turtle foraging studies completed in the region finding higher densities of foraging turtles over reef habitats. The nesting islands such as Sholl Island will be near the indicative vessel route to DMPA4, however, this will occur outside of turtle nesting and hatching seasons to prevent impacts to these activities (Att4_DSDMP 2024, Section 2.6.2, Page 25).

Sea snakes

DMPA4 is within the distribution range of the short-nosed sea snake, with a new species distribution extending from Exmouth Gulf and around the Muiron Island to the Montebello Islands Marine Park (Udyawer et al., 2020). Although the spoil ground location represents suitable habitat, no sea snakes have been identified at the location and BCH within the spoil ground does not represent preferred reef habitat. Other species of sea snake such as the leaf-scaled sea snake also do not have preferred habitat within DMPA4 (Udyawer et al., 2020)(Att4_DSDMP 2024, Section 2.6.2, Page 25).

Narrow Sawfish

Narrow sawfish are found from Onslow up to the Northern Kimberley. They are commonly found offshore in deeper waters and are more likely to be recorded within the offshore spoil ground area than the dredging area, based on recent sawfish capture records from the Pilbara Trawl Fishery (Harry et al., 2024). Therefore, a precautionary approach will be applied for this species (Att4_DSDMP 2024, Section 2.6.3, Page 26).

Reef Manta Ray

Giant manta rays were identified offshore of Onslow during aerial surveys for the Wheatstone Project and were predominantly in water depths ranging from 50 - 150 m, they were broadly and sparsely distributed (Jenner and Jenner, 2010). Giant manta rays may be present within the vicinity of the spoil ground from time to time though it is unlikely as the spoil ground is only within ~20 m depth (Att4_DSDMP 2024, Section 2.6.3, Page 27).

3.2.2 Describe the vegetation (including the status of native vegetation and soil) within the project area.

Sediments

DMPA4

Sediment sampling was undertaken by O2 Marine as part of a broader investigation into the bathymetry, BCH and sediment at DMPA4 (Att2_BCH Survey Report DMPA4 2024, Section 1.2.1, Page 3). The field survey for this investigation was conducted over a period of seven days from 20 September – 26 September 2024. The results of the sediment assessment of DMPA4 is included as Appendix A of the BCH Report, and is summarised below (Att2_BCH Survey Report DMPA4 2024, Appendix A, Page 31).

Sediments within DMPA4 were sampled in 2024 at four random locations and analysed for various analytes to characterise the sediments within the area. Results generally reflect sediment characteristics expected from an offshore greenfield site in the Pilbara. The majority of the contaminants (metals, hydrocarbons, TBT and BTEXN) were either below the laboratory LoRs, below the NAGD (2009) ISQG-low screening levels, or comparable to concentrations along the Pilbara coast as documented in DEC (2006).

PSD results indicate that all four sites within DMPA4 are largely comprised of coarse sand (approximately 55% of each sample), with smaller proportions of fine sand and gravel. These results are comparable to five northern most sediment samples (SS1, SS2, SS3, SS4, and SS5) collected within the dredge channel in 2022.

Dredging footprint and surrounding sediments

A baseline sediment assessment of the Mardie Project dredging footprint and surrounding sediments (Att1_Baseline Marine Sediment Assessment 2019, Section 6.2, Page 55) identified that of the Contaminants of Potential Concern (CoPC) analysed, only arsenic and nickel (95% UCL of mean) concentrations exceeded the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZG, 2018) and NAGD screening levels (ISQG-Low) (NAGD, 2009). In comparison to other marine sediment programs in similar areas of the Pilbara (DEC, 2006), some concentrations of metals and nutrients were naturally higher than previously recorded (Att11_Baseline Marine Sediment Assessment 2019, Section 6.2, Page 55). However, sediment is still deemed suitable for offshore disposal (Att4_DSDMP 2024, Section 2.4.1, Page 21).

As per the recommendations of O2 Marine, revised site-specific environmental quality criteria (EQC) were developed for the Mardie Project (refer Table 18 of Attachment 11 (Att11_Baseline Marine Sediment Assessment 2019, Section 6.7, Page 58)).

Further sediment sampling within the revised dredge footprint was undertaken in 2023 (Att12_Marine Sediment Quality Assessment 2023). All contaminants analysed during this sampling campaign were below the NAGD screening levels (ISQG-Low). In comparison to the site-specific EQC developed, sediments were also below these EQC values (Att12_Marine Sediment Quality Assessment 2023, Section 5, Page 20).

<u>BCH</u>

BCH mapping was undertaken by O2 Marine as part of a broader investigation into the bathymetry, BCH and sediment at DMPA4 (Att2_BCH Survey Report DMPA4 2024, Section 1.2.1, Page 3). The field survey for this investigation was conducted over a period of seven days from 20 – 26 September 2024 within the DMPA4 Detailed Study Area and the ZoHI/ZoMI (refer to Figure 2 and Figure 12 of Attachment 2 (Att2_BCH Survey Report DMPA4 2024, Sections 2.1 and 4.2, Pages 3 and 24)). The results of the BCH assessment of DMPA4 and the ZoHI/ZoMI is detailed below.

Assemblage

Ground truthing revealed a diversity of benthic assemblage types inhabiting sandy sediments across the proposed spoil ground DMPA4, and predicted zones of impact. The dominant classes of BCH observed in underwater video were Sparse to Low Cover Mixed Assemblage (~49%) and Moderate Cover Mixed Assemblage (~23%). Mixed Assemblage classes were filter feeder dominant, comprising of ascidians (*Polycarpa sp., Pyura sp*), sponges (species unidentified), soft (*Alcyonacea, Sinularia sp*) and hard corals, gorgonians (*Juncella fragilis*) and several unidentified species of macroalgae.

Other assemblages of BCH that were observed less frequently included High Cover Mixed Assemblage (~8.8%), Bare Sediment (~8.4%), Sparse to Low Cover Macroalgae (~7.7%). The remaining classes collectively comprised less than 5% of observations, including Sparse to Low Cover Filter Feeders (~2.3%), Moderate Cover Filter Feeders (~0.2%) and Moderate and Sparse to Low Cover Seagrass (~0.3%, <0.1%). Seagrasses were small ephemerals (*Halopola ovalis*) with low to moderate cover, as were macroalgae (e.g. *Padina*).

While BCH classes appeared clustered in areas, there were no obvious patterns in the distribution of any particular assemblage type in towed video data. The lack of clear patterns in BCH distribution reflects a similar lack of apparent feature in the sidescan or backscatter data, suggesting the seafloor is comprised of a homogenous substrate. (Att2_BCH Survey Report DMPA4 2024, Section 4.2, Pages 19-27).

Distribution

Two mapping classifications were assigned to DMPA4. Overall, the towed video transects indicated a heterogenous pattern of BCH types and cover, not revealing any clear correlation with observable changes in bathymetry or substrate type. BCH types and levels of cover are likely to be more closely associated with minor differences in substrate form and the depth of unconsolidated sediments. Despite the observed

heterogeneity of BCH types and cover across the area, filter feeders were largely dominant throughout. As such, DMPA4 can be characterized by a sparse to moderate cover mixed assemblage predominantly comprised of sessile filter feeders (including soft corals, gorgonians, sponges, hydroids, and ascidians), alongside varying covers of subdominant species such as macroalgae, hard corals, and ephemeral seagrass. While other classes and densities of BCH were noted within the survey area, it was not feasible to further refine the classification or accurately represent the level of heterogeneity. Analysis of elevation and terrain in the MBES data allows delineation of areas unconsolidated sediments (~15.2%) from areas of low-profile reef covered by a sediment veneer (~84.8%) (Att2_BCH Survey Report DMPA4 2024, Section 4.3.1, Pages 28-30).

Towed video transects from across the predicted zones of impact reveal a continuation of the filter feederdominant habitat observed within DMPA4 and the Detailed Study Area. The spatial distribution of low-profile reef features could not be mapped with the same level of confidence as in the Detailed Study Area, however observations of similar biota and levels of cover infer a similar mix of substrate types, including unconsolidated sediment, and sand-veneered low-profile reef. As such, 'Sparse to Moderate Filter Feeders' was assigned as the classification for the zones of impact (Att2_BCH Survey Report DMPA4 2024, Section 4.3.2, Pages 28-30).

Discussion

Bathymetric data indicates minimal depth variation of less than 2 m (ranging from -20.2 m to -21.6 m) across the Detailed Study Area. Several small ridges, with approximately 0.3 m elevation changes, suggest the potential existence of low-profile reefs (limestone pavement) beneath the sandy substrate. This possibility is further supported by the presence of certain organisms which typically require hard substrates, such as hard corals and macroalgae (Att2_BCH Survey Report DMPA4 2024, Section 5, Page 31). Low-profile reefs are recognized as significant features that support various marine organisms by providing hard substrates for filter feeders like sponges and soft corals. Surveys conducted by UWA (2009) found that sand-inundated reefs generally supported less dense sponge assemblages, aligning with the dominant observation of sparse to low cover assemblages throughout DMPA4. Since only sand was observed in the towed video transects, the presence of low-profile reefs can only be inferred. However, based on the observed terrain and existing knowledge the prevalence of this type of morphology in this region (Scott et al., 2006; UWA, 2009), this is likely accurate (Att2_BCH Survey Report DMPA4 2024, Section 5, Page 31).

At a fine scale (meters), the BCH types and densities across towed video transects displayed a reasonably heterogenous pattern not showing any clear correlation with detectable changes in bathymetry or boundaries in assemblage extent, therefore BCH types and densities may be more closely associated with minor differences in substrate form and the depth of unconsolidated sediments. Overall, however, DMPA4 can be characterised as a relatively homogenous habitat, supporting a sparse to moderate cover mixed assemblage predominantly comprised of sessile filter feeders (including soft corals, gorgonians, sponges, hydroids, and ascidians), alongside varying cover of subdominant species such as macroalgae, hard corals, and ephemeral seagrass. Such sessile filter feeder assemblages are typical of sand-veneered and exposed pavements, which are prevalent on the inner North West Shelf and represent one of the most widespread BCH types in the Pilbara region (Chevron, 2014). Whilst the spatial distribution of unconsolidated sediment and sand-veneered low-profile reef could not be mapped within the zones of impact, towed video collected across these areas reveals the continued presence of filter-feeder dominant assemblages with predominantly sparse to moderate levels of cover (Att2_BCH Survey Report DMPA4 2024, Section 5, Page 31).

3.3 Heritage

3.3.1 Describe any Commonwealth heritage places overseas or other places recognised as having heritage values that apply to the project area.

There are no Commonwealth Heritage places or other places recognised as having heritage values relevant to the Proposed Action (Att8_PMST Report DMPA4_241022, Page 2).

3.3.2 Describe any Indigenous heritage values that apply to the project area.

The Project Area is situated in WA State marine waters, approximately 13.5 NM from the mainland. Review of the Aboriginal Cultural Heritage Inquiry System indicates there are no registered or other Aboriginal Cultural Heritage sites in the vicinity of the DMPA4, including the vessel route (DPLH, 2024).

3.4 Hydrology

3.4.1 Describe the hydrology characteristics that apply to the project area and attach any hydrological investigations or surveys if applicable. *

Water Quality

The following information has been obtained from the DSDMP (Att4_DSDMP 2024, Section 2.5, Pages 21-22).

Nearshore waters typical of this region are characterised by variable turbidity and high sedimentation rates, with associated highly variable light regimes and seawater temperatures. Offshore waters exhibit fewer extremes in the water quality, but still display occasional high levels of sedimentation and turbidity, low light

and variable seawater temperatures (Pearce et al, 2003).

Light, turbidity, seawater temperature and sedimentation rates are typically weather dependent and show a strong seasonal transition from the dry to the wet seasons. Large daily tidal ranges (>5 m), strong winds (gusts >50 km/h) and increased wave activity (such as associated with cyclonic activity) can impact background conditions resulting in increased turbidity (in the form of increase suspended sediment concentration (SSC)) due to coastal runoff and wind/wave driven sediment resuspension. In summary, waters in the vicinity of the Project Area are subject to naturally elevated levels of turbidity and a reduced light climate heavily influenced by discrete weather events (Pearce *et al*, 2003).

O2 Marine (2020) identified the following from marine water quality baseline studies conducted at the Mardie Project study area:

- Salinity levels recorded a median value of 37.5 ppt, and appeared to be indicative of a sheltered bay, which was thought to be due to the influence of the Passage Islands which act as a natural barrier and appear to restrict mixing with lower salinity oceanic waters.
- Turbidity and SSC were found to be higher at the inshore monitoring location than at the offshore location, which is consistent with other Pilbara water quality investigations (Jones *et al.*, 2019; MScience, 2009; Pearce et al., 2003).
- Derived Daily light Integral (DLI) around the coastal islands was highest during wet season and lowest during the dry season and correlated with seasonal change in solar elevation angle, which is a primary factor influencing the amount of available benthic light in these areas. Conversely, DLI was low year-round at the inshore location (i.e., dredging area). Factors influencing benthic light levels are different between the islands and dredging area. However, the lowest light levels in both areas corresponded closely with high SSC and turbidity levels, associated with the passing of several Tropical Cyclones and low-pressure systems over the sampling period.
- Importantly, the EPA (2021c) SSC and DLI thresholds for *possible* and *probable* effects on coral were found to be poorly suited as criteria for monitoring dredging effects in the Mardie Project area. Frequent natural exceedances of SSC and DLI thresholds indicates that these thresholds are unsuitable for use as water quality and dredge activity monitoring criteria in the Mardie Project area. It is noted that EPA (2021c) recognises these potential limitations of the thresholds and advises that WAMSI is in the process of developing thresholds for turbid water coral communities. Once these new turbid water thresholds are available, they should be evaluated against the baseline data collected in this program and as part of the pre-dredging baseline to determine suitability for use in dredge monitoring.
- Laboratory analysis of marine water samples showed no evidence of contamination and the current allocation of maximum and high levels of ecological protection are appropriate for the marine waters of the Mardie Project area.

<u>Waves</u>

The following information has been obtained from the DSDMP (Att4_DSDMP 2024, Section 2.2.3, Page 12).

The northwest shelf of WA experiences waves generated from three primary sources: Indian Ocean swell, locally generated wind-waves and tropical cyclone waves. Along the shoreline the ambient (non-cyclonic) wave climate is generally mild. In dry season months low amplitude swell originating in the Indian Ocean propagates to the site and occurs in conjunction with locally generated sea waves of short period (<5s). In the wet season the wave climate is locally generated sea waves from the south to southwest. In general, the significant wave height is dominated by locally generated sea conditions within the range of 0.5m to 1m at short wave periods (Tp< 5 s). Measured data from an ADCP instrument deployed approximately 15 km offshore for the Mardie Project has been analysed to characterise the wave conditions in the wet and dry seasons.

Whilst the non-cyclonic ambient wave conditions are generally mild, in contrast the strong winds in a tropical cyclone can generate extreme wave conditions. It is noted that the offshore island features would provide some natural protection form extreme wave conditions depending on the direction of propagation. Extreme cyclonic waves contribute to the total water level through wave run-up which is the maximum vertical extent of wave uprush on a beach and is comprised both wave set-up and swash. The impact of cyclonic waves on the study site is dependent on the prevailing water level conditions and direction of cyclone approach.

4. Impacts and mitigation

4.1 Impact details

Potential Matters of National Environmental Significance (MNES) relevant to your proposed action area.

EPBC Act section	Controlling provision	Impacted	Reviewed
S12	World Heritage	No	Yes
S15B	National Heritage	No	Yes
S16	Ramsar Wetland	No	Yes
S18	Threatened Species and Ecological Communities	Yes	Yes
S20	Migratory Species	Yes	Yes
S21	Nuclear	No	Yes
S23	Commonwealth Marine Area	No	Yes
S24B	Great Barrier Reef	No	Yes
S24D	Water resource in relation to large coal mining development or coal seam gas	No	Yes
S26	Commonwealth Land	No	Yes
S27B	Commonwealth Heritage Places Overseas	No	Yes
S28	Commonwealth or Commonwealth Agency	No	Yes

4.1.1 World Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.1.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

*

4.1.1.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

No World Heritage sites occur within or in proximity to the Proposed Action.

4.1.2 National Heritage

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.2.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.2.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

No National Heritage sites occur within or in proximity to the Proposed Action.

4.1.3 Ramsar Wetland

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.3.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.3.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

No Ramsar Wetlands occur within or in proximity to the Proposed Action.

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Threatened species

Direct impact	Indirect impact	Species	Common name
No	No	Aipysurus apraefrontalis	Short-nosed Sea Snake, Short-nosed Seasnake
No	No	Aipysurus foliosquama	Leaf-scaled Sea Snake, Leaf-scaled Seasnake
No	Yes	Balaenoptera musculus	Blue Whale
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper
No	Yes	Carcharias taurus (west coast population)	Grey Nurse Shark (west coast population)
No	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
Yes	Yes	Chelonia mydas	Green Turtle
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
Yes	Yes	Eretmochelys imbricata	Hawksbill Turtle
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
Yes	Yes	Natator depressus	Flatback Turtle
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
No	No	Phaethon lepturus fulvus	Christmas Island White-tailed Tropicbird, Golden Bosunbird
No	No	Phaethon rubricauda westralis	Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird
No	Yes	Pristis clavata	Dwarf Sawfish, Queensland Sawfish
No	No	Pristis pristis	Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish

Direct impact	Indirect impact	Species	Common name
No	Yes	Pristis zijsron	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	Yes	Rhincodon typus	Whale Shark
No	Yes	Sphyrna lewini	Scalloped Hammerhead
No	No	Sternula nereis nereis	Australian Fairy Tern

Ecological communities

4.1.4.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.4.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Proposed Action is to dispose of up to 355,000 m3 (including 10% over dredge) of dredge material into DMPA4. The disposal will result in the direct loss of BCH where the material is dumped, as well as the loss or temporary impact of BCH within areas affected by sedimentation in the water column.

Modelling results show that the plume generated by disposal of sediments at the DMPA4 site result in both the ZoMI and ZoHI plumes being confined to deep waters (>16m). It can be noted the plumes extend from the DMPA4 in a general northeast-southwest direction, which mimics the movement of the tidal flow, averaging a 1-1.5 knot velocity, in this area. The plumes do not pass through any of the sensitive marine areas shown in the AHO chart (Att3_DMPA4 Dredge Plume Modelling 2024, Page 10).

The overall map of the dredge spoil plume impact area that exceeds the WAMSI thresholds was determined using 80th percentile (P80) background suspended sediment concentration (SSC) for the DMPA4 location is shown in Figure 7 of the Dredge plume model report (Att3_DMPA4 Dredge Plume Modelling 2024, Figure 7, Page 10). This presents the ZoMI and ZoHI for the representative model run period based on the release of dredge spoil from a 1,200 m3 capacity split hull hopper barge. DMPA4 has an area of 30.3 ha, and the dumping will result in a maximum ZoHI (P80) of 385 ha (incorporating DMPA4) and ZoMI (P80) of 720 ha. It is noted that the ZoHI/ZoMI area differs slightly from the Baird report, due to Baird's use of an older coordinate reference system for calculating areas.

Potential direct and indirect impacts to environmental values (including threatened species) as a result of the transporting and disposal of dredge material in DMPA4 are summarised below.

Direct Impacts:

- BCH: Direct permanent loss of 4.61 ha sparse to moderate filter feeders on unconsolidated sediment and 25.65 ha of sparse to moderate filter feeder on low profile reed with sand veneer within DMPA4;
- Disturbance, injury or death of marine fauna as a result of disposal operations;
- Injury or death of marine fauna due to vessel movement (strike);
- Injury or alteration of behaviour from underwater noise from dredging operations; and
- Alteration of behaviour from artificial light from vessels during dredging and disposal.

Indirect Impacts:

- BCH: Indirect permanent loss of 355 ha of sparse to moderate filter feeders within the ZoHI, and indirect recoverable impact of 720 ha of sparse to moderate filter feeders within the ZoMI;
- Indirect impacts on marine fauna habitat through decreased water quality; and
- Introduced Marine Pests (IMP) translocation from construction or operational vessels.

DMPA4 is situated offshore, and 23 listed threatened species were identified in the PMST Report as potentially occurring within DMPA4 and the surrounding 10 km (Att8_PMST Report DMPA4_241022, Pages 3-5). No threatened ecological communities occur within or in proximity to the Proposed Action, and as such are not discussed further in this referral.

Key threatened species identified in the PMST Report (Att8_PMST Report DMPA4_241022, Pages 3-5) that may be directly and/or indirectly impacted by the Proposed Action are listed below. Species that are predominantly associated with coastal areas (such as shorebirds) and coral (seasnakes) have not been included due to the lack of impacts in those areas.

- Blue Whale (Balaenoptera musculus; Endangered);
- Loggerhead Turtle (Caretta caretta; Endangered);
- Green Turtle (Chelonia mydas; Vulnerable);
- Leatherback Turtle (Dermochelys coriacea; Endangered);
- Hawksbill Turtle (Eretmochelys imbricata; Vulnerable);
- Flatback Turtle (Natator depressus; Vulnerable);
- Green Sawfish (Pristis zijsron; Vulnerable);
- Dwarf sawfish (*Pristis clavate*; Vulnerable);
- Grey Nurse Shark (West Coast population) (Carcharias taurus; Vulnerable);
- Great White Shark (Carcharodon carcharias; Vulnerable);
- Whale Shark (*Rhincodon typus*; Vulnerable); and
- Scalloped Hammerhead (Sphyrna lewini; Conservation Dependent).

Biologically Important Areas (BIAs) for Turtles were identified within the DMPA4 area and the surrounding 10 km. This included Green Turtle, Hawksbill Turtle and Flatback Turtle foraging habitat, and Hawksbill Turtle inter-nesting (buffer) (Att8_PMST Report DMPA4_241022, Page 17).

4.1.4.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact?

No

4.1.4.6 Describe why you do not consider this to be a Significant Impact. *

There are limited BCH values within DMPA4 and the ZoMI/ZoHI, and as such it is unlikely that these areas provide important habitat for the threatened species identified. There are also industry best-practice mitigation measures proposed to address the direct and indirect impacts, particularly for vessel movement between the loading facilities and DMPA4, and dumping within DMPA4 (discussed in Section 4.1.4.10). These monitoring and management measures will minimise the likelihood of impacts such that they are no longer considered significant.

The mitigation actions required to protect environmental values, including marine fauna, from dredge material disposal activities are detailed within the DSDMP (Att4_DSDMP 2024, Section 6, Pages 41-54). This plan takes a precautionary approach and includes the measures summarised in Section 4.1.4.10.

An assessment was made against the Significant Impact Guidelines 1.1 (DotE, 2013) to determine whether the impacts identified can be considered as significant, which is discussed below in the sections below. The criteria for Vulnerable species often use the term 'important population', whereas Endangered/ Critically Endangered species use 'population'.

Lead to a long-term decrease in the size of a population/important population of a species

The Proposed Action is a short-term activity (several months) that has specifically been located in an area with BCH that is not unique or important to any MNES species. MNES species are therefore likely to be traversing the site rather than residing within it. Strict management measures are proposed to ensure that any impacts to MNES that may be present are minimised. These measures are predicted to result in no long-term decreases in the size of a MNES population.

Reduce the area of occupancy of the species/important population

The Proposed Action will impact an area that will remain within the area of occupancy at the completion of the action, it will not result in any long-term reductions for any MNES populations.

Fragment an existing population/important population into two or more populations

The Proposed Action will not result in any fragmentation of habitat as MNES species will be able to freely pass through the area.

Adversely affect habitat critical to the survival of a species

No habitat critical to the survival of any MNES species is present at the Proposal Action.

Disrupt the breeding cycle of a population/important population

Specific mitigation measures are proposed to prevent any disruptions to the breeding cycle of MNES species. Refer to Section 4.1.4.10.

Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline

The Proposed Action will result in temporary and permanent impacts to BCH within the ZoMI and ZoHI respectively. These impacts are however within an area that is only traversed by MNES species, with no likely residents. As such the Proposed Action is unlikely to result in impacts that would cause any MNES species to decline.

Result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species habitat (or vulnerable species in vulnerable species habitat)

The Proposed Action has the potential to result in IMPs being established, however the implementation of controls (refer to Section 4.1.4.10) is predicted to minimise the risks such that this outcome would be extremely unlikely.

Introduce disease that may cause the species to decline

The Proposed Action is not predicted to provide any vectors for disease.

Interfere (substantially) with the recovery of the species

As discussed above, the Proposed Action is considered unlikely to interfere with the recovery of any MNES species.

4.1.4.7 Do you think your proposed action is a controlled action? *

4.1.4.9 Please elaborate why you do not think your proposed action is a controlled action.

The Proposed Action has a limited number of potential impact pathways, all of which can be appropriately managed by Sea Dumping Permit conditions and through the implementation of the DSDMP. It is predicted that a decision of 'not a controlled action – particular manner' would be appropriate in this case, with a condition requiring the implementation of the DSDMP and other vessel strike prevention measures (described in Section 4.1.4.10).

4.1.4.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Avoidance and mitigation measures are detailed within the DSDMP (Att4_DSDMP 2024, Section 6, Pages 41-54). The DSDMP will be implemented to ensure residual impacts to threatened species potentially occurring within the Project Area are not significant. Some of the avoidance and mitigation measures included within the DSDMP are summarised below:

- Pre- and post-dredge bathymetric surveys;
- Scheduling to avoid key ecological windows (1 October 31 March);
- Marine water quality monitoring;
- BCH monitoring;
- Monitoring and management zones;
- Noise management protocols and procedures:
 - When in transit, all Project vessels will be operated in accordance with EPBC Regulations 2000- Part 8 Division 8.1;
 - Minimise the duration of run-time for vessel engines, thrusters and dredging plant by avoiding stand-by or running mode to the degree practical and consistent with safe operations;
- Dredge spoil or vessel strike avoidance strategies:
 - Dedicated Marine Fauna Observers (MFOs) on all dredges/barges during humpback whale season (June to November) including transit to Spoil Ground DMPA4;
 - Report any injured or deceased marine fauna (whale, dugong, turtle, manta ray or dolphin, fish) or indications of coral mass spawning on the Project Area;
 - Vessels to operate at a safe speed to avoid interaction with marine fauna at all times within Project boundaries. Vessels of at least 20 m in length will not exceed the maximum speed of 8 knots within port operational waters and 12 knots outside port operational waters. All vessels operated for the Project will not exceed 8 knots within 500 m of any identified cetacean, dugong, or marine turtle;
- Chemical / oil spill controls:
 - All vessel equipment to be designed and operated to prevent spills and leaks through the provision of in-built safeguards such as, but not limited to, relief valves, overflow protection, and automatic and manual shut-down systems;
- Recording and reporting requirements;

- IMP control measures:
 - All relevant vessels should comply with Commonwealth Department of Agriculture and Water Resources – Australian Ballast Water Management Requirements, the National Biofouling Management Guidelines for commercial vessels; and
 - All vessels that mobilise to the Project Area are required to complete the WA DPIRD's 'Vessel Check' risk assessment (https://vesselcheck.fish.wa.gov.au).

4.1.4.11 Please describe any proposed offsets and attach any supporting documentation

relevant to these measures. *

No offsets are proposed, as the impacts from the Proposed Action will not be significant following avoidance and mitigation measures.

4.1.5 Migratory Species

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

Direct impact	Indirect impact	Species	Common name
No	No	Actitis hypoleucos	Common Sandpiper
No	No	Anous stolidus	Common Noddy
No	Yes	Anoxypristis cuspidata	Narrow Sawfish, Knifetooth Sawfish
No	Yes	Balaenoptera edeni	Bryde's Whale
No	Yes	Balaenoptera musculus	Blue Whale
No	No	Calidris acuminata	Sharp-tailed Sandpiper
No	No	Calidris canutus	Red Knot, Knot
No	No	Calidris ferruginea	Curlew Sandpiper

Direct impact	Indirect impact	Species	Common name
No	No	Calidris melanotos	Pectoral Sandpiper
No	No	Calonectris leucomelas	Streaked Shearwater
No	Yes	Carcharhinus longimanus	Oceanic Whitetip Shark
No	Yes	Carcharias taurus	Grey Nurse Shark
No	Yes	Carcharodon carcharias	White Shark, Great White Shark
Yes	Yes	Caretta caretta	Loggerhead Turtle
Yes	Yes	Chelonia mydas	Green Turtle
Yes	Yes	Crocodylus porosus	Salt-water Crocodile, Estuarine Crocodile
Yes	Yes	Dermochelys coriacea	Leatherback Turtle, Leathery Turtle, Luth
Yes	Yes	Dugong dugon	Dugong
Yes	Yes	Eretmochelys imbricata	Hawksbill Turtle
No	No	Fregata ariel	Lesser Frigatebird, Least Frigatebird
No	No	Macronectes giganteus	Southern Giant-Petrel, Southern Giant Petrel
Yes	Yes	Megaptera novaeangliae	Humpback Whale
Yes	Yes	Mobula alfredi	Reef Manta Ray, Coastal Manta Ray
Yes	Yes	Mobula birostris	Giant Manta Ray
Yes	Yes	Natator depressus	Flatback Turtle
No	No	Numenius madagascariensis	Eastern Curlew, Far Eastern Curlew
Yes	Yes	Orcaella heinsohni	Australian Snubfin Dolphin
No	Yes	Orcinus orca	Killer Whale, Orca
No	No	Phaethon lepturus	White-tailed Tropicbird
No	Yes	Pristis clavata	Dwarf Sawfish, Queensland Sawfish
No	No	Pristis pristis	Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish
No	Yes	Pristis zijsron	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	Yes	Rhincodon typus	Whale Shark

Direct impact	Indirect impact	Species	Common name
Yes	Yes	Sousa sahulensis	Australian Humpback Dolphin
No	No	Sterna dougallii	Roseate Tern
Yes	Yes	Tursiops aduncus (Arafura/Timor Sea populations)	Spotted Bottlenose Dolphin (Arafura/Timor Sea populations)

4.1.5.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

Yes

4.1.5.2 Briefly describe why your action has a direct and/or indirect impact on these protected matters. *

The Proposed Action is to dispose of up to 355,000 m3 (including 10% over dredge) of dredge material into DMPA4. The disposal will result in the direct loss of BCH where the material is dumped, as well as the loss or temporary impact of BCH within areas affected by sedimentation in the water column.

Modelling results show that the plume generated by disposal of sediments at the DMPA4 site result in both the ZoMI and ZoHI plumes being confined to deep waters (>16m). It can be noted the plumes extend from the DMPA4 in a general northeast-southwest direction, which mimics the movement of the tidal flow, averaging a 1-1.5 knot velocity, in this area. The plumes do not pass through any of the sensitive marine areas shown in the AHO chart (Att3_DMPA4 Dredge Plume Modelling 2024, Page 10).

The overall map of the dredge spoil plume impact area that exceeds the WAMSI thresholds was determined using 80th percentile (P80) background suspended sediment concentration (SSC) for the DMPA4 location is shown in Figure 7 of the dredge plume model report (Att3_DMPA4 Dredge Plume Modelling 2024, Figure 7, Page 10). This presents the ZoHI and ZoMI for the representative model run period based on the release of dredge spoil from a 1,200 m3 capacity split hull hopper barge. DMPA4 has an area of 30.3 ha, and the dumping will result in a maximum ZoHI (P80) of 385 ha (incorporating DMPA4) and ZoMI (P80) of 720 ha. It is noted that the ZoHI/ZoMI area differs slightly from the Baird report, due to Baird's use of an older coordinate reference system for calculating areas.

Potential direct and indirect impacts to environmental values (including migratory species) as a result of the transporting and disposal of dredge material in DMPA4 are summarised below.

Direct Impacts:

- BCH: Direct permanent loss of 4.61 ha sparse to moderate filter feeders on unconsolidated sediment and 25.65 ha of sparse to moderate filter feeder on low profile reed with sand veneer within DMPA4;
- Disturbance, injury or death of marine fauna as a result of disposal operations;
- Injury or death of marine fauna due to vessel movement (strike);
- Injury or alteration of behaviour from underwater noise from dredging operations; and
- Alteration of behaviour from artificial light from vessels during dredging and disposal.

Indirect Impacts:

• BCH: Indirect permanent loss of 355 ha of sparse to moderate filter feeders within the ZoHI, and indirect recoverable impact of 720 ha of sparse to moderate filter feeders within the ZoMI;

- Indirect impacts on marine fauna habitat through decreased water quality; and
- IMP translocation from construction or operational vessels.

Within DMPA4, 36 listed migratory species were identified in the PMST Report (Att8_PMST Report DMPA4_241022, Pages 5-8). Key migratory species identified in the PMST Report (Att8_PMST Report DMPA4_241022, Pages 5-8) that may be directly and indirectly impacted by the Proposed Action are listed below. Migratory species that are also listed as threatened species have not been included in this section, as they have already been discussed under 'Threatened Species and Ecological Communities'. Species that are predominantly associated with coastal areas (such as shorebirds) have not been included due to the lack of impacts in those areas.

- Dugong (Dugong dugon);
- Humpback Whale (Megaptera novaeangilae);
- Salt-water Crocodile (Crocodylus porosus);
- Reef Manta Ray (Mobula alfredi as Manta alfredi);
- Giant Manta Ray (Mobula birostris as Manta birostris);
- Australian Snubfin Dolphin (Orcaella heinsohni);
- Australian Humpback Dolphin (Sousa sahulensis as Sousa chinensis); and
- Indo-Pacific Bottlenose Dolphin (Tursiops aduncus (Arafura/Timor Sea populations)).

A BIA for Humpback Whale migration (north and south) was identified within the DMPA4 area and the surrounding 10 km (Att8_PMST Report DMPA4_241022, Page 18). During northern and southern migration humpback whales likely to be present within the vicinity of DMPA4. During the southern migration, humpback whale mother-calf pairs are most likely to utilise inshore waters thus representing the most sensitive time where they could be impacted by dredging activities. Dredge material disposal will avoid these ecological windows.

4.1.5.4 Do you consider this likely direct and/or indirect impact to be a Significant Impact?

*

No

4.1.5.6 Describe why you do not consider this to be a Significant Impact. *

There are limited BCH values within DMPA4 and the ZoMI/ZoHI, and as such it is unlikely that these areas provide important habitat for the migratory species identified. There are also industry best-practice mitigation measures proposed to address the direct and indirect impacts, particularly for vessel movement between the loading facilities and DMPA4, and dumping within DMPA4 (discussed in Section 4.1.5.10). These monitoring and management measures will minimise the likelihood of impacts such that they are no longer considered significant.

The mitigation actions required to protect environmental values, including marine fauna, from dredge material disposal activities are detailed within the DSDMP (Att4_DSDMP 2024, Section 6, Pages 41-54). This plan takes a precautionary approach and includes the measures summarised in Section 4.1.5.10.

An assessment was made against the Significant Impact Guidelines 1.1 (DotE, 2013) to determine whether the impacts identified can be considered as significant, which is discussed in the sections below.

Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species

No important habitat for any MNES species is present at the Proposal Action.

Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species

The Proposed Action has the potential to result in IMPs being established, however the implementation of controls (refer to Section 4.1.5.10) is predicted to minimise the risks such that this outcome would be extremely unlikely.

Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species

Specific mitigation measures are proposed to prevent any disruptions to the breeding cycle of MNES species. Refer to Section 4.1.5.10. With the implementation of these controls it is considered unlikely that the Proposed Action would disrupt the lifecycle of any migratory species.

4.1.5.7 Do you think your proposed action is a controlled action? *

No

4.1.5.9 Please elaborate why you do not think your proposed action is a controlled action.

*

The Proposed Action has a limited number of potential impact pathways, all of which can be appropriately managed. The Proposed Action will not be a controlled action as it will be subject to Sea Dumping Permit conditions and through the implementation of the DSDMP. It is predicted that a decision of 'not a controlled action – particular manner' would be appropriate in this case, with a condition requiring the implementation of the DSDMP and other vessel strike prevention measures (described in Section 4.1.5.10).

Modelling results show that the plume generated by disposal of sediments at the DMPA4 site result in both the ZoMI and ZoHI plumes being confined to deep waters (>16m). It can be noted the plumes extend from the DMPA4 in a general northeast-southwest direction, which mimics the movement of the tidal flow, averaging a 1-1.5 knot velocity, in this area. The plumes do not pass through any of the sensitive marine areas shown in the AHO chart (Att3_DMPA4 Dredge Plume Modelling 2024, Page 10).

Given the information above, impacts to EPBC-listed fauna habitat are minor in the context of the wider Pilbara region, and indirect impacts will be minimised through design elements, adherence to Sea Dumping Permit conditions and the development and implementation of a DSDMP.

4.1.5.10 Please describe any avoidance or mitigation measures proposed for this action and attach any supporting documentation for these avoidance and mitigation measures. *

Avoidance and mitigation measures are detailed within the DSDMP (Att4_DSDMP 2024, Section 6, Pages 41-54). The DSDMP will be implemented to ensure residual impacts to migratory species potentially occurring within the Project Area are not significant. Some of the avoidance and mitigation measures included within the DSDMP are summarised below:

- Pre- and post-dredge bathymetric surveys;
- Scheduling to avoid key ecological windows (1 October 31 March);
- Marine water quality monitoring;
- BCH monitoring;
- Monitoring and management zones;
- Noise management protocols and procedures:
 - When in transit, all Project vessels will be operated in accordance with EPBC Regulations 2000- Part 8 Division 8.1;
 - Minimise the duration of run-time for vessel engines, thrusters and dredging plant by avoiding stand-by or running mode to the degree practical and consistent with safe operations;

- Dredge spoil or vessel strike avoidance strategies:
 - Dedicated MFOs on all dredges/barges during humpback whale season (June to November) including transit to Spoil Ground DMPA4;
 - Report any injured or deceased marine fauna (whale, dugong, turtle, manta ray or dolphin, fish) or indications of coral mass spawning on the Project Area;
 - Vessels to operate at a safe speed to avoid interaction with marine fauna at all times within Project boundaries. Vessels of at least 20 m in length will not exceed the maximum speed of 8 knots within port operational waters and 12 knots outside port operational waters. All vessels operated for the Project will not exceed 8 knots within 500 m of any identified cetacean, dugong, or marine turtle;
- Chemical / oil spill controls:
 - All vessel equipment to be designed and operated to prevent spills and leaks through the provision of in-built safeguards such as, but not limited to, relief valves, overflow protection, and automatic and manual shut-down systems;
- Recording and reporting requirements;
- IMP control measures:
 - All relevant vessels should comply with Commonwealth Department of Agriculture and Water Resources – Australian Ballast Water Management Requirements, the National Biofouling Management Guidelines for commercial vessels; and
 - All vessels that mobilise to the Project Area are required to complete the WA DPIRD's 'Vessel Check' risk assessment (https://vesselcheck.fish.wa.gov.au).

4.1.5.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. *

No offsets are proposed, as the impacts from the Proposed Action will not be significant following avoidance and mitigation measures.

4.1.6 Nuclear

4.1.6.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.6.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

The Proposed Action does not include any actions that would involve nuclear impacts.

4.1.7 Commonwealth Marine Area

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.7.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.7.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Proposed Action is located entirely within WA State Marine Waters and is not within any Commonwealth Marine Areas.

4.1.8.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.8.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

The Proposed Action is in WA.

4.1.9 Water resource in relation to large coal mining development or coal seam gas

4.1.9.1 Is the proposed action likely to have any direct and/or indirect impact on this protected matter? *

No

4.1.9.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Proposed Action is not a coal mining or coal seam gas development.

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.10.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

*

4.1.10.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

The Proposed Action will not occur within Commonwealth Land. The Proposed Action is entirely within WA State marine waters.

4.1.11 Commonwealth Heritage Places Overseas

You have identified your proposed action will likely directly and/or indirectly impact the following protected matters.

A direct impact is a direct consequence of an action taken – for example, clearing of habitat for a threatened species or permanent shading on an ecological community as the result of installing solar panels.

An indirect impact is an 'indirect consequence' such as a downstream impact or a facilitated third-party action.

4.1.11.1 Is the proposed action likely to have any direct and/or indirect impact on any of these protected matters? *

No

4.1.11.3 Briefly describe why your action is unlikely to have a direct and/or indirect impact.

*

The Proposed Action is located in WA. No activity is being proposed in any places overseas.

4.1.12 Commonwealth or Commonwealth Agency

4.1.12.1 Is the proposed action to be taken by the Commonwealth or a Commonwealth Agency? *

No

4.2 Impact summary

Conclusion on the likelihood of significant impacts

You have indicated that the proposed action will likely have a significant impact on the following Matters of National Environmental Significance:

None

Conclusion on the likelihood of unlikely significant impacts

You have indicated that the proposed action will unlikely have a significant impact on the following Matters of National Environmental Significance:

- World Heritage (S12)
- National Heritage (S15B)
- Ramsar Wetland (S16)
- Threatened Species and Ecological Communities (S18)
- Migratory Species (S20)
- Nuclear (S21)
- Commonwealth Marine Area (S23)
- Great Barrier Reef (S24B)
- Water resource in relation to large coal mining development or coal seam gas (S24D)
- Commonwealth Land (S26)

- Commonwealth Heritage Places Overseas (S27B)
- Commonwealth or Commonwealth Agency (S28)

4.3 Alternatives

4.3.1 Do you have any possible alternatives for your proposed action to be considered as part of your referral? *

No

4.3.8 Describe why alternatives for your proposed action were not possible. *

The approved disposal method under Condition 36(g) of (EPBC 2018/8236 and EPBC 2022/9169) is onshore disposal. However, following engagement with the market following the EPBC referral it was found that onshore disposal would be technically challenging, due to the shallow water depths inshore and associated long slurry pumping distance.

Of most concern was the likely impacts to *Minuria tridens* (Vulnerable) that occupy portions of the landbased dredge disposal areas.

Condition 10 of EPBC 2018/8236 states:

• "The approval holder must not harm any *Minuria tridens* within the development envelope from the 23 June 2023 until the completion of the Action."

Condition 10 of EPBC 2022/9169 states:

• "The approval holder must not harm any *Minuria tridens* within the development envelope from the date of this approval and until the completion of the Action".

Mardie Minerals evaluated several design options and contracting strategies to address challenges associated with onshore disposal. However, the challenges identified above remained. None of the dredging contractors approached to tender for the dredging works were supportive of the proposed onshore disposal approach.

As a result of the above considerations, offshore disposal was considered the preferred disposal method.

Several offshore disposal sites have been identified and investigated for this Proposed Action, including:

- Spoil Ground E;
- DMPA1;
- DMPA2; and
- DMPA3.

Spoil Ground E was identified as a potential spoil disposal area, which was previously used for the Chevron Wheatstone Project as a spoil disposal site (Chevron, 2016). Spoil Ground E is situated in Commonwealth Marine Waters, approximately 120 km (65 NM) southwest of the Mardie Project. Due to the extensive travel distance between the dredging location and Spoil Ground E (over 80 NM), it was not considered to be a viable option.

Several offshore disposal sites closer to the Mardie Project (within approximately 14.5 NM) were investigated by Baird (Att3_DMPA4 Dredge Plume Modelling 2024, Figure 1, Page 1). DMPA4 was identified during a 2022 reconnaissance survey as a possible spoil disposal area. Compared to other investigated disposal sites, DMPA4 is positioned further away from Sholl Island and other reef systems containing key BCH receptors, therefore offering a lower risk proposition from potential effects on BCH associated with dredge spoil disposal (Att2_BCH Survey Report DMPA4 2024, Section 1.2.1, Page 1).

In order to determine the most suitable disposal location, Baird was engaged to undertake spoil ground disposal plume modelling for two sites; DMPA1 (Att13_DMPA1 Dredge Plume Modelling 2024) and DMPA4 (Att3_DMPA4 Dredge Plume Modelling 2024, Page 10). A comparison of the extent of the sediment plumes resulting from Baird's offshore disposal modelling at DMPA1 (first pass and second pass) and DMPA4 was undertaken. Analysis using GIS was performed and the differences in area measurements presented. In summary, the extent of the sediment plumes resulting from offshore disposal at DMPA4 were at least 53% lower when compared with the plumes at the two DMPA1 option sites (Att3_DMPA4 Dredge Plume Modelling 2024, Page 10).

DMPA4 was chosen as the preferred disposal location as it is close to the Mardie Project, it is located further from Sholl Island and sensitive areas than other sites, and it was considered unlikely that the BCH within the Disturbance Footprint (direct and indirect) would have particular regional or conservation significance compared to other areas within the Mardie and Pilbara region, where higher BCH cover and diversities are observed (Att2_BCH Survey Report DMPA4 2024, Section 6, Page 26).

5. Lodgement

5.1 Attachments

	Type Name	Date Sensi	tivi G onfidenc
#1.	Documen&tt1_Figures_1_250124.pdf Figures	24/01/20 2\5 0	High
#2.	Documen&tt1_Figures_1_250124.pdf Figures	23/01/20 2\5 0	High
#3.	DocumenAtt1_Figures_1_250124.pdf Figures	23/01/20 2\5 0	High
#4.	DocumenAtt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	13/11/20 24 0	High
# 5.	DocumenAtt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	20/09/20 2N o	High
#6.	DocumenAtt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 2N o	High
#7.	Documen&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	09/12/20 2\{	High

1.2.1 Overview of the proposed action

#8.	DocumenAtt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 24 0	High
# 9.	Documer A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 2¥ b	High

1.2.6 Commonwealth or state legislation, planning frameworks or policy documents that are relevant to the proposed action

	Туре	Name	Date	Sensitivi G onfidence
#1.	Link	Environmental Impact Assessment (Part IV		High
		Divisions 1 & 2) Procedures Manual Requirements		
		https://www.epa.wa.gov.au/sites/default/files/Po		
#2.	Link	Matters of National Environmental Significance –		High
		Significant impact guidelines 1.1		
		https://www.dcceew.gov.au/environment/epbc/publi		
#3.	Link	Statement of environmental principles, factors,		High
		objectives and aims of EIA		
		https://www.epa.wa.gov.au/sites/default/files/Po		

1.2.7 Public consultation regarding the project area

	Type Name	Date	Sensiti	vi G onfidenc
#1.	DocumerAtt5_Stakeholder Consultation Register_1_250124.pdf Stakeholder Consultation Register	24/01/20	2450	High

1.3.2.18 (Person proposing to take the action) If the person proposing to take the action is a corporation, provide details of the corporation's environmental policy and planning framework

	Туре	Name	Date	Sensiti	vi G onfidence
#1.	Docum	er A tt6_BCI Environmental Policy 2022.pdf Environment Policy	22/01/20) 24 20	High
#2.	Docum	erAtt7_Mardie Project ESMP.pdf Environmental and Social Management Plan	24/02/20) 242 0	High

3.1.1 Current condition of the project area's environment

	Type Name	Date	Sens	itivi G onfidenc
#1.	DocumenAtt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/2	02140	High
#2.	DocumenAtt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/2	02140	High
#3.	Document			

Att2_BCH Survey Report DMPA4 2 BCH Survey Report	024.pdf	12/11/2024	High	
#4. Documen A tt2_BCH Survey R BCH Survey Report	eport DMPA4 2024.pdf		12/11/20 2\4 o	High
#5. Documen A tt2_BCH Survey R BCH Survey Report	eport DMPA4 2024.pdf		12/11/20 2\4 o	High

3.1.3 Natural features, important or unique values that applies to the project area

	Type Name	Date Sensit	tivi G onfidence
#1.	Documer A tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 24 0	High
#2.	DocumenAtt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 2N o	High
#3.	DocumerAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	22/10/20 24 6	High

3.1.4 Gradient relevant to the project area

L

	Type Name		Date Sen	sitivi G onfidenc
#1.	Documen&tt2_BCH Surve BCH Survey Re	ey Report DMPA4 2024.pdf port	12/11/20 24 0	High
#2.	Documen&tt2_BCH Surve BCH Survey Re	ey Report DMPA4 2024.pdf port	12/11/20 24 0	High
#3.	Documen&tt2_BCH Surve BCH Survey Re	ey Report DMPA4 2024.pdf port	12/11/20 2\4 o	High

3.2.1 Flora and fauna within the affected area

	Туре	Name	Date	Sensi	itivi G onfidence
#1.	Docum	en&tt10_Marine Turtle Monitoring Program 2023.pdf Marine Turtle Monitoring Program	06/07/2	024360	High
#2.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	0 2Nf o	High
#3.	Docum	en A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	0 2Nf o	High
#4.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	0 2\4 5	High
#5.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	0 2N 45	High

#6.	Docum	en A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 24 6	High
#7.	Docum	en A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 24 6	High
#8.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 2\\ b	High
# 9.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 2\\ b	High
#10.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 2\% o	High
#11.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 2\% o	High
#12.	Docum	en&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 2\% o	High
#13.	Docum	en A tt9_Marine Fauna Review 2020.pdf Marine Fauna Report	23/04/20 20 0	High
#14.	Link	A Description of Mega Fauna Distribution and Abundance in the SW Pilbara Using Aerial and Acoustic https://www.epa.wa.gov.au/sites/default/files/Pr	31/05/2010	High
#15.	Link	A Description of Mega Fauna Distribution and Abundance in the SW Pilbara Using Aerial and Acoustic https://www.epa.wa.gov.au/sites/default/files/Pr	31/05/2010	High
#16.	Link	A Description of Mega Fauna Distribution and Abundance in the SW Pilbara Using Aerial and Acoustic https://www.epa.wa.gov.au/sites/default/files/Pr	31/05/2010	High
#17.	Link	Demographic characteristics of Australian humpback dolphins reveal important habitat toward the https://www.researchgate.net/publication/3097550	01/02/2017	High

#18. Lin	k Dolphin Distribution and Habitat Suitability in North Western Australia: Applications and https://www.frontiersin.org/journals/marine-scie	14/02/2022	High
#19. Lin	k Mardie Project Environmental Scoping Document https://www.epa.wa.gov.au/sites/default/files/En	28/11/2018	High
#20. Lin	 Prioritising search effort to locate previously unknown populations of endangered marine reptiles https://www.sciencedirect.com/science/article/pi 	01/06/2020	High
#21. Lin	 Prioritising search effort to locate previously unknown populations of endangered marine reptiles. https://www.sciencedirect.com/science/article/pi 	01/06/2020	High
#22. Lin	k Trends in catch rates of sawfish on the Australian North West Shelf. Endangered Species Research https://www.int-res.com/articles/esr2024/53/n053	01/02/2024	High

3.2.2 Vegetation within the project area

		name	Date	Sens	itivi 6 jonfidend
#1.	Documen	Att11_Baseline Marine Sediment Assessment 2019.pdf Sediment Quality Assessment	13/06/2	20 1\9 0	High
#2.	Documen	Att11_Baseline Marine Sediment Assessment 2019.pdf Sediment Quality Assessment	12/06/2	20 1\9 0	High
#3.	Documen	Att11_Baseline Marine Sediment Assessment 2019.pdf Sediment Quality Assessment	12/06/2	20 1\9 0	High
#4.	Documen	Att12_Marine Sediment Quality Assessment 2023.pdf Sediment Quality Assessment	20/09/2	202860	High
<i>#</i> 5.	Documen	Att12_Marine Sediment Quality Assessment 2023.pdf Sediment Quality Assessment	19/09/2	202860	High
#6.	Documen	Att2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/2	02140	High
<i>#</i> 7.	Documen	Att2_BCH Survey Report DMPA4 2024.pdf 3CH Survey Report	12/11/2	02140	High
#8.	Documen	4tt2_BCH Survey Report DMPA4 2024.pdf 3CH Survey Report	12/11/2	02140	High
# 9.	Documen	Att2_BCH Survey Report DMPA4 2024.pdf 3CH Survey Report	12/11/2	02140	High

#10.	Docume	en 4 tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 24 0	High
#11.	Docume	en 4 tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 2N o	High
#12.	Docume	en&tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 2N o	High
#13.	Docume	en 4 tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 2N o	High
#14.	Docume	en 4 tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 2N o	High
#15.	Docume	en&tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 2N o	High
#16.	Docume	en a tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20 24 6	High
#17.	Link	Ecosystem characterisation of Australia's North West Shelf https://library.dbca.wa.gov.au/FullTextFiles/064	01/06/2006	High
#18.	Link	Guidelines for Fresh and Marine Water Quality https://www.ienvi.com.au/revision-to-the-austral		High
#19.	Link	Matters of National Environmental Significance – Significant impact guidelines 1.1 https://www.dcceew.gov.au/sites/default/files/do		High
#20.	Link	Matters of National Environmental Significance – Significant impact guidelines 1.1 https://www.dcceew.gov.au/sites/default/files/do		High
#21.	Link	National Assessment Guideline for Dredging https://www.dcceew.gov.au/sites/default/files/do		High
#22.	Link	National Assessment Guideline for Dredging https://www.dcceew.gov.au/sites/default/files/do		High
#23.	Link	Wheatstone – Survey of Benthic Habitats near Onslow, Western Australia (15-70 Metres) https://australia.chevron.com/-/media/australia/	01/11/2009	High
#24.	Link	Wheatstone – Survey of Benthic Habitats near Onslow, Western Australia (15-70 Metres) https://australia.chevron.com/-/media/australia/	01/11/2009	High

#25. Link	Wheatstone Project – Trunkline Installation	30/10/2014	High
	Environmental Monitoring and Management Plan		
	https://australia.chevron.com/-/media/australia/		

3.3.1 Commonwealth heritage places overseas or other places that apply to the project area

	Type Name	Date Se	ensitivi G onfidence
#1.	DocumenAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	21/10/20 24	o High

3.3.2 Indigenous heritage values that apply to the project area

	Туре	Name	Date	Sensitivi G onfidenc
#1.	Link	Aboriginal Cultural Heritage Inquiry System		High
		https://espatial.dplh.wa.gov.au/ACHIS/index.html		

3.4.1 Hydrology characteristics that apply to the project area

	Туре	Name	Date	Sens	sitivi G onfidenc
#1.	Docum	ner A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	20 2\4 0	High
#2.	Docum	ner A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	20 2\4 0	High
#3.	Link	A review of the oceanography of the Dampier Archipelago, Western Australia https://www.researchgate.net/publication/2543397	01/01/2	2003	High
#4.	Link	A review of the oceanography of the Dampier Archipelago, Western Australia https://www.researchgate.net/publication/2543397	01/01/2	2003	High
#5.	Link	A review of the oceanography of the Dampier Archipelago, Western Australia https://www.researchgate.net/publication/2543397	01/01/2	2003	High
#6.	Link	Defining thresholds and indicators of coral response to dredging-related pressures. https://wamsi.org.au/wp-content/uploads/bsk-pdf	01/03/2	2019	High
#7.	Link	Mardie Project Marine Water Quality Baseline https://www.epa.wa.gov.au/sites/default/files/PE	24/03/2	2020	High

#8.	Link	Technical Guidance – Environmental impact assessment of marine dredging proposals https://www.epa.wa.gov.au/sites/default/files/Po	01/09/2021	High
# 9.	Link	Technical Guidance – Environmental impact assessment of marine dredging proposals https://www.epa.wa.gov.au/sites/default/files/Po	01/09/2021	High
#10.	Link	Wheatstone LNG Development: Baseline Water Quality Assessment Report https://australia.chevron.com/-/media/australia/	01/11/2009	High

4.1.4.2 (Threatened Species and Ecological Communities) Why your action has a direct and/or indirect impact on the identified protected matters

	Type Name	Date Sens	itivi G onfidence
#1.	DocumenAtt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 2¥b	High
#2.	DocumenAtt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 2¥b	High
#3.	DocumerAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	21/10/20 2¥b	High
#4.	DocumerAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	21/10/20 2¥b	High
#5.	DocumerAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	21/10/20 2¥b	High

4.1.4.6 (Threatened Species and Ecological Communities) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Туре	Name	Date	Sensi	tivi G onfidenc
#1.	Docum	er A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	202040	High
#2.	Link	Matters of National Environmental Significance – Significant impact guidelines 1.1 https://www.dcceew.gov.au/sites/default/files/do	01/01/2	2013	High

4.1.4.10 (Threatened Species and Ecological Communities) Avoidance or mitigation measures proposed for this action

	Type Name	Date	Sensi	itivi G onfidence
#1.	DocumerAtt4_DSDMP 2024.pdf	08/12/2	021410	High
	Mardie Project Dredge and Spoil Disposal (DMPA4)			
	Management Plan			

4.1.5.2 (Migratory Species) Why your action has a direct and/or indirect impact on the identified protected matters

	Type Name	Date Sensi	tivi G onfidence
#1.	Documer A tt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 24 6	High
#2.	Documer A tt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 24 6	High
#3.	DocumerAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	21/10/20 2\{ b	High
#4.	DocumerAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	21/10/20 2¥ o	High
#5.	DocumerAtt8_PMST Report DMPA4_241022.pdf Protected Matters Report	21/10/20 2\% o	High

4.1.5.6 (Migratory Species) Why you do not consider the direct and/or indirect impact to be a Significant Impact

	Туре	Name	Date	Sens	itivi G onfidenc
#1.	Docum	er A tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/2	0 24 6	High
#2.	Link	Matters of National Environmental Significance – Significant impact guidelines 1.1 https://www.dcceew.gov.au/sites/default/files/do	01/01/2	013	High

4.1.5.9 (Migratory Species) Why you do not think your proposed action is a controlled action

	Type Name	Date	Sensiti	ivi G onfidence
#1.	DocumenAtt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/2	0 2\{ D	High

4.1.5.10 (Migratory Species) Avoidance or mitigation measures proposed for this action

Т	Гуре	Name	Date	Sensitiv	vi G onfidence
#1. D	Docume	n&tt4_DSDMP 2024.pdf Mardie Project Dredge and Spoil Disposal (DMPA4) Management Plan	08/12/20) 2\4 0	High

4.3.8 Why alternatives for your proposed action were not possible

	Туре	Name	Date	Sensiti	vi G onfidenc
#1.	Docum	en&tt13_DMPA1 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA1	05/08/20) 2N 40	High
#2.	Docum	en&tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20) 2NI O	High

#3.	Docum	er A tt2_BCH Survey Report DMPA4 2024.pdf BCH Survey Report	12/11/20 2\% o	High
#4.	Docum	er A tt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 2\{ b	High
#5.	Docum	er A tt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 2\{ b	High
#6.	Docum	enAtt3_DMPA4 Dredge Plume Modelling 2024.pdf Dredge Plume Modelling DMPA4	19/09/20 2\{ b	High
#7.	Link	Wheatstone Project: Dredging and Dredge Spoil Placement Environmental Monitoring and Management Plan https://australia.chevron.com/-/media/australia/	11/01/2016	High

5.2 Declarations

Completed Referring party's declaration

The Referring party is the person preparing the information in this referral.

ABN/ACN	137515078
Organisation name	Preston Consulting Pty Ltd
Organisation address	6000 WA
Representative's name	Annaliese Eastough
Representative's job title	Environmental Consultant
Phone	0488737273
Email	aeastough@prestonconsulting.com.au
Address	Level 1/226 Adelaide Terrace, Perth WA 6000

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

By checking this box, I, **Annaliese Eastough of Preston Consulting Pty Ltd**, declare that to the best of my knowledge the information I have given on, or attached to this EPBC

Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Person proposing to take the action's declaration

The Person proposing to take the action is the individual, business, government agency or trustee that will be responsible for the proposed action.

ABN/ACN	50152574457
Organisation name	MARDIE MINERALS PTY LTD
Organisation address	6005 WA
Representative's name	Snyman Van Straaten
Representative's job title	Manager of Environmental Approvals and Compliance
Phone	0400616790
Email	snyman.vanstraaten@bciminerals.com.au
Address	Level 1, 1 Altona Street, West Perth WA 6005

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

I, Snyman Van Straaten of MARDIE MINERALS PTY LTD, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf or for the benefit of any other person or entity. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

Completed Proposed designated proponent's declaration

The Proposed designated proponent is the individual or organisation proposed to be responsible for meeting the requirements of the EPBC Act during the assessment process, if the Minister decides that this

Same as Person proposing to take the action information.

Check this box to indicate you have read the referral form. *

I would like to receive notifications and track the referral progress through the EPBC portal. *

■ I, **Snyman Van Straaten of MARDIE MINERALS PTY LTD**, the Proposed designated proponent, consent to the designation of myself as the Proposed designated proponent for the purposes of the action described in this EPBC Act Referral. *

I would like to receive notifications and track the referral progress through the EPBC portal. *