

# Optimised Mardie Project – Additional *Triodia* Grassland Habitat Clearing

Application Number: **02732**

Commencement Date:  
**20/12/2024**

Status: **Locked**

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## 1. About the project

### 1.1 Project details

#### 1.1.1 Project title \*

Optimised Mardie Project – Additional *Triodia* Grassland Habitat Clearing

#### 1.1.2 Project industry type \*

Mining

#### 1.1.3 Project industry sub-type

Other

#### 1.1.4 Estimated start date \*

05/03/2025

#### 1.1.4 Estimated end date \*

24/11/2084

### 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 increase the clearing limit for *Triodia* grassland habitat within the Optimised Mardie Project (OMP) development envelope approved under EPBC 2022/9169 (Proposed Action). The Proposed Action is shown in Figure 1 of Att1\_Figures.

The Mardie Project (approved under EPBC 2018/8236 and EPBC 2022/9169) is a high-quality salt, sulphate of potash, and other sea water derived products project and associated export facility in Mardie, approximately 80 kilometres (km) southwest of Karratha, in the Pilbara region of Western Australia. The Mardie Project was referred to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act; Cth) and to the Environmental Protection Authority (EPA) under the *Environmental Protection Act 1986* (WA; EP Act) in two stages: the Original Mardie Project (DFS) and the OMP.

The DFS was referred in 2018 and was granted approval under the EPBC Act via EPBC 2018/8236 in January 2022. Condition 1(a) of EPBC 2018/8236 stated:

1. To minimise impacts to protected matters, the approval holder must not clear or impact within the development envelope more than:

a. 2,562 hectares of *Triodia* grassland habitat.

The OMP was referred in 2022 as a significant amendment to the DFS, due to the inclusion of a higher production rate, additional concentrator and crystalliser pond areas, secondary seawater intake, quarry, and port laydown area, facilitated by additional *Mining Act 1978* (Mining Act; WA) tenure secured by Mardie Minerals. The OMP featured a redesign of the disturbance footprint, resulting in a reduction of impacts to *Triodia* grassland habitat within the DFS development envelope. The OMP was referred to the EPA and DCCEEW as an amendment to the DFS. The EPA assessed the OMP as an amendment that replaced the DFS and was approved through Ministerial Statement (MS) 1211, superseding MS1175 which was issued for the DFS. MS1211 therefore encapsulates the entirety of the Mardie Project (including OMP and DFS), using a consolidated development envelope.

DCCEEW, however, took a different approach, assessing the OMP as a separate 'add-on' to the DFS, with a separate distinct development envelope.

The OMP EPBC referral outlined that the OMP design would impact an additional 342 ha of 'good' to 'excellent' condition *Triodia* grassland habitat across the new broader development envelope. This clearing estimate included a decreased impact within the original DFS development envelope through refinement of the project design (Refer to Figure 4 of the OMP Response to Submissions (Preston Consulting, 2023), which has been included as Figure 2 of Att1\_Figures). This reduction in clearing counterbalanced a large proportion of the 'good' to 'excellent' condition *Triodia* grassland habitat clearing that was required to be cleared within the OMP development envelope.

The OMP was granted approval under the EPBC Act via EPBC 2022/9169 in September 2024. Condition 2(a) states:

2. *Within the Optimised Mardie development envelope, the approval holder must not clear more than:*

(a) *342 hectares (ha) of Triodia grassland habitat (inclusive of no more than 98 AcajTe habitat)*

*Triodia* grassland habitat is defined within the OMP development envelope as encapsulating the areas mapped in Attachments 2a and 2b of EPBC 2022/9169. Attachment 2a shows the OMP development envelope, and has been included as Figure 3 of Att1\_Figures.

Condition 2(a) of EPBC 2022/9169 therefore does not take into account that there was additional *Triodia* grassland habitat clearing within the OMP development envelope that was counterbalanced by reductions in the DFS development envelope. As the OMP referral was assessed by DCCEEW as a stand-alone referral, then the full extent of 'good' to 'excellent' condition *Triodia* grassland habitat clearing within the OMP development envelope (758 ha) should have been included in the condition.

This is evident when reviewing the extent of impacts to *Triodia* grassland habitat within EPBC 2022/9169 (refer to Attachments 2a and 2b), which show the disturbance footprint impacting a larger area of *Triodia* grassland habitat than what is permitted by Condition 2(a).

This Proposed Action is to ensure that the 'good' to 'excellent' condition *Triodia* grassland habitat clearing limit allows the current OMP indicative design approved under EPBC 2022/9169 to be implemented as shown in Attachments 2a and 2b of EPBC 2022/9169 (Refer to Figure 3 of Att1\_Figures). The Proposed Action is therefore to increase 'good' to 'excellent' condition *Triodia* grassland habitat clearing within the OMP development envelope by 476 ha, inclusive of a 9% contingency to allow for potential future changes in the OMP indicative design footprint.

This referral does not require any other changes to the OMP. The OMP indicative design and all other clearing limits do not require amendment.

### 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).

The Mardie Project has been referred in multiple stages, which include the DFS (EPBC 2018/8236), OMP (EPBC 2022/9169) and Offshore Dredge Spoil Disposal (EPBC 2024/10054).

The DFS was referred as a high-quality salt, sulphate of potash, and other sea water derived products project and associated export facility in Mardie, approximately 80 km southwest of Karratha, in the Pilbara region of WA. The DFS was granted approval via EPBC 2018/8236 in January 2022. The DFS Approved Action was:

*'To construct and operate the Mardie salt and sulphate of potash project, 80 km south west of Karratha, Pilbara region, Western Australia [See EPBC Act referral 2018/8236 and variation request dated 24 January 2020].'*

The OMP was referred in 2022 as a significant amendment to the DFS, due to the inclusion of a higher production rate, additional concentrator and crystalliser pond areas, secondary seawater intake, quarry, and port laydown area. The OMP was granted approval via EPBC 2022/9169 on 10 September 2024. The OMP Approved Action was:

*'To construct and operate the Optimised Mardie Solar Salt including seawater intake, brine discharge, dredging, clearing and flooding of vegetation and mudflats, a purpose-built quarry and associated activities located in the Pilbara region of Western Australia (WA), approximately 80 kilometres (km) southwest of Karratha [See EPBC Act referral 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. This amendment included a reduction in the clearing limit for *Triodia* grassland habitat from 2,562 ha in the Original EPBC 2018/8236 condition 1(a) to 2,040 ha in the Amended EPBC 2018/8236 condition 2(1).

An EPBC Referral was submitted to DCCEEW on 15 November 2024 to allow for Offshore Dredge Spoil Disposal for Mardie Project dredging activities (EPBC 2024/10054). The activities proposed in EPBC 2024/10054 are not directly related to the Proposed Action as they occur solely in the Marine Environment. EPBC 2024/10054 has not been validated by DCCEEW as at 31 January 2025.

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

#### **Environmental 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 EP Act. This is supported by the *Environmental Impact Assessment (Part IV Divisions 1 and 2) Procedures Manual* (EPA, 2021). 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 EPA to define the environmental considerations expected as part of a project's EIA and environmental management. The Statement of environmental principles, factors, objectives and aims of EIA (EPA, 2023) overarches the EIA environmental considerations, outlining the guiding principles and defining the specific factors to be considered and their objectives. Of particular relevance for clearing are those under the 'Land' theme.

This Proposed Action will not be submitted to the EPA under the EP Act, as the clearing specified has already been assessed by the EPA and approved by the WA Minister for the Environment under MS1211.

#### **Environment Protection and Biodiversity Conservation Act 1999 (Cth)**

The Mardie Project has been referred in multiple stages, which include the DFS (EPBC 2018/8236), OMP (EPBC 2022/9169) and Offshore Dredge Spoil Disposal (EPBC 2024/10054).

The DFS was referred in July 2018 and was granted approval via EPBC 2018/8236 in January 2022. The OMP was referred in March 2022 as a significant amendment to the DFS and was granted approval via EPBC 2022/9169 on 10 September 2024. In October 2024, DCCEEW authorised the decision to amend the Original EPBC 2018/8236 conditions to mirror the conditions of EPBC 2022/9169, which was reissued as Amended EPBC 2018/8236. Offshore Dredge Spoil Disposal was referred to DCCEEW on 15 November 2024 via EPBC 2024/10054. The activities proposed in EPBC 2024/10054 are not related to the Proposed Action as they occur solely in the Marine Environment.

According to the Significant Impact Guidelines 1.1 (DotE, 2013), the Proposed Action has the potential to result in residual impacts to listed threatened species and therefore requires referral under the EPBC Act.

### **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

As discussed above, the activities within this Proposed Action have already been approved under WA legislation, therefore consultation with WA decision-making authorities is not required.

DCCEEW consultation completed to-date is summarised below. Consultation will be ongoing with DCCEEW throughout the assessment of the Proposed Action.

Meeting with DCCEEW (16 October 2024)

Mardie Minerals advised DCCEEW of the intention to submit applications to the DCCEEW Post Assessment Section for the variation of conditions for EPBC 2018/8236 and EPBC 2022/9169. It was noted that the condition amendments for both approvals require review and assessment in tandem to consider the changes cumulatively for the Mardie Project. The initial advice from DCCEEW was to consider presenting the Proposed Action as EPBC referrals.

Meeting with DCCEEW (7 November 2024)

Pre-referral meeting for the *Triodia* grassland habitat clearing amendment applications conducted with DCCEEW Post Assessment Section, and DCCEEW Assessments Section. The possible pathways were discussed, including to submit a new referral for assessment under the EPBC Act. The discussion included advice from DCCEEW that the proposed additional clearing of *Triodia* grassland habitat, although located within the boundaries of the Development Envelope for the OMP, has not been assessed *per se* by DCCEEW when the OMP (EPBC 2022/9169) was assessed.

## 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.

Personal information may be disclosed to other Australian government agencies, persons or organisations where necessary for the above purposes, provided the disclosure is consistent with relevant laws, in particular the Privacy Act 1988 (Privacy Act). Your personal information will be used and stored in accordance with the Australian Privacy Principles.

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](mailto: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	
<b>ABN/ACN</b>	50152574457
<b>Organisation name</b>	MARDIE MINERALS PTY LTD
<b>Organisation address</b>	6005 WA
Referring party details	
<b>Name</b>	Snyman Van Straaten
<b>Job title</b>	Manager of Environmental Approvals and Compliance
<b>Phone</b>	0400616790
<b>Email</b>	snyman.vanstraaten@bciminerals.com.au
<b>Address</b>	Level 1, 1 Altona Street, West Perth WA 6005

### 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? \*

Yes

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

<b>Name</b>	Snyman Van Straaten
<b>Job title</b>	Manager of Environmental Approvals and Compliance
<b>Phone</b>	0400616790
<b>Email</b>	snyman.vanstraaten@bciminerals.com.au
<b>Address</b>	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 DFS (EPBC 2018/8236), the OMP (EPBC 2022/9169), and the Offshore Dredge Spoil Disposal (EPBC 2024/10054 – under assessment). 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 (Att2\_BCI Environmental Policy 2022) and an Environmental and Social Management Plan (ESMP) (Att3\_Mardie Project ESMP 2022). 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

<b>ABN/ACN</b>	50152574457
<b>Organisation name</b>	MARDIE MINERALS PTY LTD
<b>Organisation address</b>	6005 WA

Proposed designated proponent details

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

### 1.3.4 Identity: Summary of allocation

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#### ✔ **Confirmed Referring party's identity**

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

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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

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#### ✔ **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.

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Same as Referring party information.

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#### ✔ **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.

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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? \***

No

## 1.4 Payment details: Payment allocation

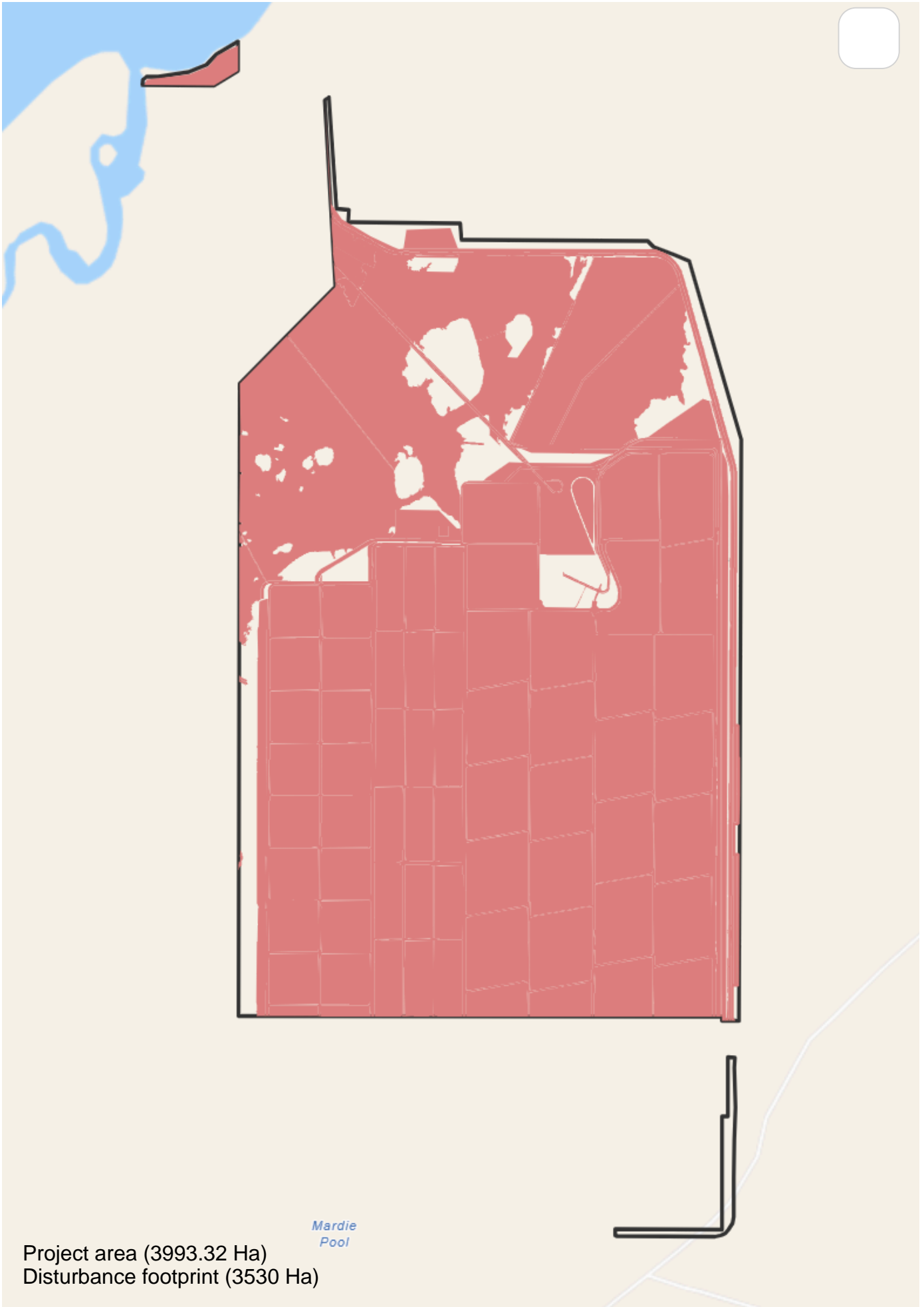
**1.4.11 Who would you like to allocate as the entity responsible for payment? \***

Proposed designated proponent

# 2. Location

## 2.1 Project footprint

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Project area (3993.32 Ha)  
Disturbance footprint (3530 Ha)

Mardie  
Pool

## 2.2 Footprint details

### 2.2.1 What is the address of the proposed action? \*

Located 80 km southwest of Karratha in Western Australia, accessed from North-West Coastal Hig

### 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 will occur within Mining Leases M 08/538 and M 08/539 and General Purpose Leases G 08/93 and G 08/101.

## 3. Existing environment

### 3.1 Physical description

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

Phoenix conducted a detailed flora and vegetation survey for the OMP, which included the OMP Study Area (OA) and the Quarry Study Area (QA). This survey remains relevant to the Proposed Action and has been provided as Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a).

Remnant vegetation in the study areas was recorded to be in 'Excellent' to 'Degraded' condition with the majority (62.55%) in poor to degraded condition (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 5.2.1.6, pages 49-50). The areas recorded to be 'poor' to 'degraded' condition typically had high

infestation of the declared pest *Prosopis glandulosa x velutina* (Mesquite) frequently with other weeds including *Cenchrus* spp., vehicle tracks and evidence of grazing from cattle. Lower levels of weed infestation occurred in areas recorded as 'good' to 'very good' condition.

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

The Proposed Action lies within the Pilbara bioregion and entirely within the Roebourne (PIL4) Interim Biogeographic Regionalisation for Australia (IBRA) subregion. This subregion is described as coastal and subcoastal plains with a grass savannah and undulating granite and basal plains (Kendrick & Stanley, 2001).

The Proposed Action lies on Mardie Station, which is primarily used for cattle. The closest recognised recreational area is located at the mouth of the Fortescue River, 19 km to the northeast.

#### Traditional Uses

Traditional uses were assessed during the assessment of the OMP, however, they have historically been focussed on the coastal areas with relatively low levels of usage within the *Triodia* grassland habitat areas.

Horizon Heritage Management was engaged by the Wirrawandi Aboriginal Corporation (Prescribed Body Corporate of the Yaburara and Mardudhunera People (YM People)) to undertake the *Work Program Clearance for the Yaburara & Marthudunera People and BCI Minerals Limited for the proposed Mardie Salt Project, south of Cape Preston* (Horizon Heritage, 2019; referenced in Preston Consulting (2022)).

Feedback was sought from Horizon Heritage Management in relation to traditional uses of the land for bush tucker or medicine within or adjacent to the OMP development envelope during assessment of the OMP (referenced in section 9.3.4 (page 247) of Preston Consulting (2022)). Horizon Heritage noted that the following land and features that should be considered in the assessment of traditional uses of the land. These have been considered for the Proposed Action where relevant, noting that they remain consistent with what was assessed and approved for the OMP.

Aboriginal traditional owners would likely have found fruits or berries (bush tomato), edible roots and leaves, spinifex (resin or wax), flower nectar (Hakea varieties), seeds and gum (Acacia varieties) and native honey (Eucalyptus trees like Snappy Gum and Bloodwood trees), many having ethnobotanical and cultural significance to Aboriginal traditional owners, within spinifex grassland, shrubland and woodland areas. The wood from mulga trees, snakewood and Acacia was used to make spears, boomerangs, fighting sticks and digging tools, while the seeds of various trees and plants were harvested for flour to use in dampers. Sweet gum was collected from the cracks in the branches and trunks of Acacia for eating or to use as medicine for skin ailments and burns. These areas will be overlapped to a very minor extent by the development envelopes and are abundant in adjacent areas.

#### European Heritage and Cultural Values

A search of the WA database inHerit identified one European Heritage site in proximity to the Proposed Action; Mardie Station (place number 08674). The database specifically describes the Mardie Station homestead and woolshed complex as the listed European Heritage site. The following description is taken from the State Heritage Council website (Government of Western Australia, 2024 (accessed in December 2024)):

*"Mardie Station homestead and woolshed are of historical significance as one of the early sheep stations in the region. Mardie homestead and cookhouse are aesthetically impressive buildings set within a lawned garden with established Eucalypt trees providing shade and contrasting from the harsh station environment. The homestead complex has considerable interpretive potential with the capacity to demonstrate the story of station life, connected to networks of transport (stock route, road and maritime), and communications (telegraph and post). The remaining in-situ Aboriginal hut, set well outside of the homestead complex, shows the division*

*within the station workforce, the lowly status and poor conditions provided for Aboriginal workers and their families in stark contrast to the station owners and managers. This aspect of station life is rarely represented so well in the region.*

*The historical precinct of the separate woolshed is well preserved, with evidence from the earliest stages of its use (with the stone structures) and the intact yards, sheds, and associated structures for workers.”.*

None of the features of the Mardie Station European Heritage site will be disturbed with the homestead and woolshed complex located outside of the OMP development envelope.

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

The Proposed Action includes only one terrestrial habitat, which is not particularly unique, being well represented within the Pilbara region.

A large proportion of the OMP development envelope is infested with the declared pest *Prosopis glandulosa x velutina* and other invasive weeds resulting in the majority of vegetation being assigned a condition value of poor to degraded.

### **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 Project Area is terrestrial and is relatively flat with elevation variations generally limited to several metres.

## **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.

#### **Flora**

The Proposed Action is specifically limited to *Triodia* grassland habitat only, information relevant to this habitat is provided below.

The following information has been summarised from Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Att5\_DFS Flora and Vegetation Report (Phoenix, 2020a) and Att6\_Targeted Survey *M. tridens* Report (Phoenix, 2021). Refer to these Attachments for more information.

#### **Assemblage**

Phoenix was commissioned to conduct a detailed flora and vegetation survey for the OMP, which includes the Proposed Action. Extensive reconnaissance and detailed field surveys were conducted to verify and build on desktop reviews compiled using existing information of the DFS and its surroundings. The review identified records of 248 flora taxa within the desktop search extent (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 5.1.1.1, page 25). Previous field surveys undertaken by Phoenix (Att5\_DFS Flora and Vegetation Report (Phoenix, 2020a), Section 5.2, page 38) adjacent to the study areas recorded 253 flora taxa representing 44 families and 112 genera identified to species levels.

The field surveys undertaken for the OMP, and covering the Proposed Action area (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 5.2.1.1, page 32), recorded a total of 224 flora taxa within the study areas, representing 41 families and 120 genera identified to species level. The assemblage included 217 native species and seven introduced species, including 142 perennial species and 82 annual or short-lived species. Species richness ranged from 16 to 49 species between quadrats.

A high proportion of species collected in the current survey were annuals or short-lived species (82 spp., 36.7%) reflecting the good seasonal conditions (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 6.1, page 54).

#### **Threatened flora species**

No desktop records of significant flora occurred in the OMP study areas (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 5.1.1.2, page 25), however, *Minuria tridens* (Vulnerable) was identified as being likely to occur within the Proposed Action area during a recent search of the Protected Matters Search Tool (PMST) (accessed December 2024; Att7\_PMST Report (241218)). No Threatened flora were recorded during the field surveys undertaken by Phoenix (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 5.2.1.2, page 32).

No records of *Minuria tridens* were found within the OMP development envelope (Att6\_Targeted Survey *M. tridens* Report (Phoenix, 2021), Figure 4, page 6) during targeted pre-clearance surveys.

This Proposed Action does not include a request to increase impacts to AcAjTe vegetation, which is considered habitat for *Minuria tridens*.

#### **Fauna**

The Proposed Action is specifically limited to *Triodia* grassland habitat only, information relevant to this habitat is provided below.

The following information has been summarised from Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), refer to this Attachment for more information.

#### **Assemblage**

The desktop review identified records of 306 vertebrate taxa within the desktop search extent. The list comprised four frogs, 70 reptiles (including one naturalised species), 190 birds (including one naturalised species) and 42 mammals (including nine introduced) (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 5.1.1, page 32). Previous surveys by Phoenix have recorded species within the OMP study areas,

comprising a total of 47 species (19 in the QA and 28 in the OA). Three naturalised species were recorded, two of which were in the QA. Within the OA, a total of 34 bird species and one mammal have previously been recorded. The survey in the QA recorded seven bird species, seven mammal species and five reptile species (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 5.1.1, page 32).

A total of 101 terrestrial vertebrate species representing 46 families and 82 genera were recorded in the OMP study areas during the field surveys. The assemblage included 97 native species and four introduced species. The recorded assemblage represents 33% of the species identified in the desktop review. Forty species were recorded in the OA and 35 were found in the QA (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 5.2.1.2, page 56).

### Fauna Habitat

Eleven broad fauna habitat types were identified in the OMP study areas. Dominant habitats were shrubland over tussock grassland, and shrubland over spinifex grasslands (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 5.2.1.1, page 47). *Triodia* grassland habitat includes both 'spinifex grassland' and 'shrubland over spinifex grassland' habitat, which cover an extent of 773.28 ha and 342.89 ha within the OMP study areas respectively (described in Section 8.3.2 (Table 34) in the OMP Supplementary Report (Preston Consulting, 2022)). 'Spinifex grassland' principally occurs on the upland areas along the eastern side of the intertidal zone, as well as on islands within the mudflats / saltflats and near the coast. Patches of spinifex grassland occurred throughout the OA, with most sites recording low-mid-stage spinifex over sandy and pebbly clay and a large amount of the habitat being in the south-west corner of the OA and some patches occurring on islands inside the mudflats. Livestock and weeds heavily affected these areas. A total of 51 species were recorded including 15 reptile species which is the highest number of reptiles out of all the habitats (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 5.2.1.1, page 52). 'Shrubland over spinifex grassland' was a very common habitat in both the QA and OA, consisting largely of scattered clumps of shrubs within the broader spinifex grassland habitat. Mesquite and Buffel grass were common throughout (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 5.2.1.1, page 50).

### Significant species

DCCEEW's assessment of the OMP identified that two Matters of National Significance (MNES) species had the potential to utilise *Triodia* grassland habitat for foraging (supporting) habitat:

- Pilbara Leaf-nosed Bat (*Rhinonictis aurantia* (Pilbara form)) (Vulnerable) – likely to occur; and
- Grey Falcon (*Falco hypoleucos*) (Vulnerable) – recorded within the OA.

Information specific to these species is outlined below.

#### *Pilbara Leaf-nosed Bat*

Pilbara Leaf-nosed Bat roosting habitat was not recorded within the OMP study areas, however, the species has previously been recorded during surveys of the DFS at two riparian open woodland habitats and a flowing creek due to recent rainfall (Att9\_DFS Terrestrial Fauna Report (Phoenix, 2020b), Section 5.2.2, page 53). The 'Spinifex grassland' and 'Shrubland over spinifex grassland' fauna habitats are considered foraging habitat for this species, which collectively are considered *Triodia* grassland habitat.

Pilbara Leaf-nosed Bats roost in warm and humid caves. At night, individuals disperse outside of their caves to forage in the open, often over open water. In the Pilbara, this habitat is almost exclusively present in large creek beds and gorges. Pilbara Leaf-nosed Bats also forage over *Triodia* grasslands, usually flying close to the ground up to 3 m high. Mardie Pool (outside of the Proposed Action) is likely to be regularly used for foraging by this species (Att9\_DFS Terrestrial Fauna Report (Phoenix, 2020b), Section 6.2.3, pages 96-97).

#### *Grey Falcon*

Grey Falcon was recorded once within the desktop review and twice during the OA field survey (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 6.2.2, page 79). This species is of high significance given that there are so few records of the species in the area. The Grey Falcon was recorded once over the cleared land and woodland over shrubland habitat, and another time over the tussock grassland habitat within the OA. It has not previously been recorded over the *Triodia* grassland habitat.

The Grey Falcon is only restricted by habitat in relation to roosting sites (inland drainage lines, grasslands sparse wooded lowlands, often using old nests and communication towers etc.) and its foraging range is widespread due to its prey mainly being other birds. The tussock grassland habitat is used widely for hunting by the Grey Falcon (Garnett & Crowley, 2000) and the *Triodia* grassland habitat may also be used for hunting. Tussock and *Triodia* grassland habitat occurs extensively immediately outside the OMP study areas (Att9\_DFS Terrestrial Fauna Report (Phoenix, 2020b)).

There appears to be no natural nesting sites for the Grey Falcon within the OA and is likely nesting within a communications tower close to Mardie Homestead. Extensive foraging habitat occurs within and immediately beyond the OA (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 6.2.2, page 79).

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

#### **Soil**

According to the *Surface Geology of Australia 1:1,000,000 scale, Western Australia database* (Stewart et al., 2008), the OA intersects three geological formations, and the QA intersects two geological formations (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 3.2, pages 8-12).

In 2017, Stantec undertook a preliminary site inspection that involved logging, sampling and analysis (field pH (pHF) and field pH peroxide (pHFOX)) of 18 'near surface' soil profiles within potential disturbance areas associated with a previous layout (Stantec, 2017). The profiles were sampled to a maximum depth of 1 m below ground level (mbgl). The targeted soil sampling locations were derived from previous geotechnical sampling points located within the development envelopes.

The soils sampled were generally found to be red-brown silty sands to silty clays with no visible signs of mottling. The pHF of all samples analysed ranged from circum-neutral to strongly alkaline (pH 6.96 - 9.8). As soil depth increased, pHF was generally found to either increase slightly or remain unchanged. Only one site reported a decline in pHF with depth, declining from pH 9.8 at 0.5 mbgl to pH 8.5 at 0.75 mbgl then increasing back to pH 9.5 at 1.0 mbgl.

Of the 18 soil profiles assessed, 11 profiles reported a pHFOX that was substantially higher than pHF at all depths. The remaining seven profiles reported a pHFOX higher than pHF near the surface of the profile, and a lower pHFOX relative to pHF as depth increased. The differences between pHFOX and pHF ranged between a negative pH unit change of -0.2 to -1.8. However, all pHFOX results for these samples remained above pH 6. Consequently, Stantec's assessment of the soils tested was that the soils were unlikely to be Acid Sulphate Soils (ASS), and that laboratory analysis was not required.

Soilwater Group (2019) reviewed 19 samples collected and analysed during a more intensive geotechnical soil survey. The review determined that all samples were moderately alkaline owing to the widespread presence of gypsum ( $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ ), which also resulted in elevated inorganic sulphur being reported. The nature of the site, with its constant rewetting with tidal seawater, makes it a very low risk for ASS.

Additionally, Soilwater Group (2020) reviewed 55 samples taken at nine locations along the proposed causeway and floodway alignment (SWG01 – SWG09). The review determined that both in-situ pH and the pH following forced oxidation of all samples collected remained above pH 7, indicating the presence of sulphides or ASS within soils along the causeway and floodway alignment is unlikely.

#### **Vegetation**

##### Land Systems and Surface Geology

The Department of Primary Industries and Regional Development (DPIRD) undertakes land system mapping for WA using a nesting soil-landscape mapping hierarchy (Schoknecht & Payne, 2011). While the primary purpose of the mapping is to inform pastoral and agricultural land capability, it is also useful for informing

biological assessments. Under this hierarchy, land systems are defined as areas with recurring patterns of landforms, soils, vegetation and drainage (Payne & Leighton, 2004). The OMP intersects three land systems (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 3.2, pages 8-12), described below:

- Yamerina system (3,344.6 ha - 75.7% of the OA) - Flood plains and deltaic deposits supporting tussock grasslands, woodlands with buffel grass and minor halophytic low shrublands;
- Littoral system (1,048.1 ha – 23.7% of the OA) – Bare coastal mudflats (unvegetated), samphire flats, sandy islands, coastal dunes and beaches, supporting samphire low shrublands, sparse acacia shrublands and mangrove forests;
- Horseflat system (28.1 ha – 0.6% of the OA) - Gilgaied clay plains supporting Roebourne Plains grass grassland sand minor grassy snakewood shrublands; and
- Rocklea system (15.22 ha – 100% of the QA) - Basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex and occasionally soft spinifex grasslands with scattered shrubs.

*Triodia* grassland vegetation in the study areas was recorded to be in 'Excellent' to 'Degraded' condition with a large proportion in poor to degraded condition (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 5.2.1.6, pages 49-50). The areas recorded to be 'poor' to 'degraded' condition typically had high infestation of the declared pest *Prosopis glandulosa x velutina* (Mesquite) frequently with other weeds including *Cenchrus* spp., vehicle tracks and evidence of grazing from cattle. Lower levels of weed infestation occurred in areas recorded as 'good' to 'very good' condition. A large proportion of the OA is infested with the declared pest *Prosopis glandulosa x velutina* and other invasive weeds, resulting in the majority of vegetation being assigned a condition value of poor to degraded.

The desktop review and field survey (Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a), Section 6.2, page 58) identified no Threatened Ecological Communities (TECs). Additional information can be found within Att4\_OMP Flora and Vegetation Report (Phoenix, 2022a).

## 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 (Att7\_PMST Report (241218)).

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

Horizon Heritage Management completed a desktop assessment of Aboriginal heritage values and traditional uses in 2019 (referenced in section 9.3.1 (pages 240-241), section 9.3.3 (pages 242-246), and section 9.3.4 (page 247) of Preston Consulting (2022)). The following information has been sourced from this report:

- No evidence of frequent or even occasional public access, camping or fishing was identified within the development envelopes, or along the adjacent coastline;
- The YM People hold the native title rights and traditional owner interests associated with the land;
- Mardie Homestead is located approximately 1 km from the nearest disturbance area;
- Two Department of Planning, Lands and Heritage (DPLH) historic Other heritage places exist within the OMP development envelope (Number 38637, 'Mardie Salt 02' and Number 38638, 'Mardie Salt 01') fauna resources that would be used by the YM people as traditional bush tucker and medicine; and
- Mardie Pool (excluded from the development envelope) is a lodged DPLH Other Heritage Place and has historically been used by Aboriginal people as a water and food resource; with more recent uses encompassing recreation activities such as swimming for Aboriginal station workers.

Other heritage places no. 38638, 'Mardie Salt 01' and no. 38637, 'Mardie Salt 02' are both directly disturbed by the OMP/ Salvage activities and relocation of salvage material at these sites were completed during 2024 by Horizon Heritage Management, in agreement with the Wirrawandi Aboriginal Corporation.

Additional information on Indigenous Heritage values associated with the Proposed Action can be found in Section 9.3 (pages 240-249) of the OMP Supplementary Report (Preston Consulting, 2022).

## 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. \*

The Proposed Action is within *Triodia* grassland habitat, which has minimal hydrological features.

## 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	No	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.

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**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.

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##### **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.

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**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.

**4.1.4 Threatened Species and Ecological Communities**

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**

<b>Direct impact</b>	<b>Indirect impact</b>	<b>Species</b>	<b>Common name</b>
No	No	<i>Aipysurus apraefrontalis</i>	Short-nosed Sea Snake, Short-nosed Seasnake
No	No	<i>Aipysurus foliosquama</i>	Leaf-scaled Sea Snake, Leaf-scaled Seasnake
No	No	<i>Balaenoptera musculus</i>	Blue Whale
No	No	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
No	No	<i>Calidris canutus</i>	Red Knot, Knot
No	No	<i>Calidris ferruginea</i>	Curlew Sandpiper
No	No	<i>Carcharias taurus</i> (west coast population)	Grey Nurse Shark (west coast population)
No	No	<i>Carcharodon carcharias</i>	White Shark, Great White Shark

<b>Direct impact</b>	<b>Indirect impact</b>	<b>Species</b>	<b>Common name</b>
No	No	<i>Caretta caretta</i>	Loggerhead Turtle
No	No	<i>Charadrius leschenaultii</i>	Greater Sand Plover, Large Sand Plover
No	No	<i>Chelonia mydas</i>	Green Turtle
No	No	<i>Dasyurus hallucatus</i>	Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu]
No	No	<i>Dermochelys coriacea</i>	Leatherback Turtle, Leathery Turtle, Luth
No	No	<i>Eretmochelys imbricata</i>	Hawksbill Turtle
No	No	<i>Erythrotriorchis radiatus</i>	Red Goshawk
No	No	<i>Eubalaena australis</i>	Southern Right Whale
Yes	Yes	<i>Falco hypoleucos</i>	Grey Falcon
No	No	<i>Liasis olivaceus barroni</i>	Pilbara Olive Python
No	No	<i>Limnodromus semipalmatus</i>	Asian Dowitcher
No	No	<i>Limosa lapponica menzbieri</i>	Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit
No	No	<i>Macroderma gigas</i>	Ghost Bat
No	No	<i>Macronectes giganteus</i>	Southern Giant-Petrel, Southern Giant Petrel
No	No	<i>Minuria tridens</i>	Minnie Daisy
No	No	<i>Natator depressus</i>	Flatback Turtle
No	No	<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew
No	No	<i>Pezoporus occidentalis</i>	Night Parrot
No	No	<i>Phaethon lepturus fulvus</i>	Christmas Island White-tailed Tropicbird, Golden Bosunbird
No	No	<i>Pristis clavata</i>	Dwarf Sawfish, Queensland Sawfish
No	No	<i>Pristis pristis</i>	Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish
No	No	<i>Pristis zijsron</i>	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	No	<i>Rhincodon typus</i>	Whale Shark
Yes	Yes	<i>Rhinonicteris aurantia</i> (Pilbara form)	Pilbara Leaf-nosed Bat

Direct impact	Indirect impact	Species	Common name
No	No	<i>Rostratula australis</i>	Australian Painted Snipe
No	No	<i>Sphyrna lewini</i>	Scalloped Hammerhead
No	No	<i>Sternula nereis nereis</i>	Australian Fairy Tern
No	No	<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross

## Ecological communities

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### 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 limited to clearing activities within 'good' to 'excellent' condition *Triodia* grassland habitat and does not include any construction or operational activities associated with the OMP (all previously approved under EPBC 2022/9169). The Proposed Action will result in an additional 476 ha of clearing to 'good' to 'excellent' condition *Triodia* grassland habitat within the OMP development envelope, which will allow the current OMP indicative design approved under EPBC 2022/9169 to be implemented as shown in Attachments 2a and 2b of EPBC 2022/9169 (Refer to Figure 3 of Att1\_Figures). This 476 ha includes a 9% contingency, to allow for potential future changes in the OMP indicative design footprint. 'Good' to 'excellent' condition *Triodia* grassland habitat is considered supporting (foraging) habitat for Pilbara Leaf-nosed Bat and Grey Falcon.

Given the limited scope of the Proposed Action, all MNES fauna species that do not utilise *Triodia* grassland habitat (i.e., all species other than Pilbara Leaf-nosed Bat and Grey Falcon) will not be directly or indirectly impacted.

Impacts on *Minuria tridens* within the OMP were assessed and approved under EPBC 2022/9169, and no clearing of *Minuria tridens* is proposed as part of this Proposed Action. All records of *Minuria tridens* are outside of the OMP development envelope. There are no expected impacts to *Minuria tridens* from this Proposed Action.

Potential direct and indirect impacts to Pilbara Leaf-nosed Bat and Grey Falcon as a result of the Proposed Action are summarised below:

Direct impacts:

- Clearing of up to 476 ha of 'good' to 'excellent' condition *Triodia* grassland habitat;
- Disturbance, injury or death of fauna as a result of Proposed Action clearing activities; and
- Injury or death of fauna as a result of vehicle strike (vehicles associated with clearing only).

Indirect impacts:

- Potential indirect impacts to habitat health; and
- Injury or alteration of fauna behaviour from noise and light emissions from the Proposed Action.

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

Yes

#### 4.1.4.5 Describe why you consider this to be a Significant Impact. \*

The Proposed Action will result in an impact to threatened species, due to the clearing of Pilbara Leaf-nosed Bat and Grey Falcon supporting habitat.

The Proposed Action will occur within the OMP development envelope, which is referred to in EPBC 2022/9169. The Proposed Action does not propose any changes to the OMP development envelope and will allow the current OMP indicative design approved under EPBC 2022/9169 to be implemented as shown in Attachments 2a and 2b of EPBC 2022/9169 (Refer to Figure 3 of Att1\_Figures).

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.

##### **Lead to a long-term decrease in the size of an important population of a species**

It is unlikely that the Proposed Action will lead to a long-term decrease in the size of the Pilbara Leaf-nosed Bat and Grey Falcon populations. There are no Pilbara Leaf-nosed Bat caves in the OMP development envelope and therefore roost sites are unlikely to be present. No natural nesting sites for Grey Falcon were identified within the OMP development envelope.

Pilbara Leaf-nosed Bat was not identified within the OMP development envelope but was recorded during DFS surveys at Mardie Pool and at a flowing creekline approximately 10 km south of Mardie Pool (Att9\_DFS Terrestrial Fauna Report (Phoenix, 2020b), Section 5.2.2, page 53). Grey Falcon was recorded twice within the OMP development envelope, and a potential Grey Falcon roosting location (communications tower) was identified approximately 3 km from Mardie Pool (Att8\_OMP Terrestrial Fauna Report (Phoenix, 2022b), Section 6.2.2, page 79). Mardie Pool is likely to be regularly used for foraging by Pilbara Leaf-nosed Bat. and may be frequented by Grey Falcon (Att9\_DFS Terrestrial Fauna Report (Phoenix, 2020b), Section 6.2.3, page 97).

Habitat of value to these species relevant to this Proposed Action is therefore limited to foraging habitat (*Triodia* grassland habitat).

A direct disturbance of an additional 476 ha of 'good' to 'excellent' condition *Triodia* grassland foraging habitat may be considered significant in a local context. Given that the extent of *Triodia* grassland habitat clearing removed from the DFS development envelope at the time of the OMP referral was not considered upon approval of EPBC 2022/9169, the additional 476 ha is to allow the current OMP indicative design approved under EPBC 2022/9169 to be implemented as shown in Attachments 2a and 2b of EPBC 2022/9169 (Refer to Figure 3 of Att1\_Figures).

Clearing for the Proposed Action will produce only low noise and light emissions. Pilbara Leaf-nosed Bats are known to be attracted to light and fly low, resulting in the potential for vehicle collisions. However, the Proposed Action will have a relatively small workforce with minimal requirements for night work (when Pilbara Leaf-nosed Bats are most active foraging). Additionally, vehicle movements will be minimal and short-term.

##### **Reduce the area of occupancy of the important population**

The area of occupancy of the Pilbara Leaf-nosed Bat is limited by the availability of suitable diurnal roosts (TSSC, 2016). No diurnal roosts have been recorded at the Proposed Action, and individuals recorded are considered likely to originate from a roost remote from the development envelopes.

The area of occupancy of the Grey Falcon is across arid and semi-arid Australia, including the Murray-Darling Basin, Eyre Basin, central Australia and WA (Marchant and Higgins, 1993, referenced in TSSC, 2020). In WA, the species is mainly found north of latitude 26°S where annual rainfall is less than 500 mm, except when wet years are followed by drought, when the species might become marginally more widespread, although it is essentially confined to the arid and semi-arid zones at all times (Schoenjahn, 2018).

An additional direct disturbance of 476 ha of 'good' to 'excellent' condition *Triodia* grassland foraging habitat will reduce the area of occupancy of these species and could be considered significant in a local context.

Offsets are proposed to counterbalance this residual impact (refer to Section 4.1.4.11).

### **Fragment an existing important population into two or more populations**

The Proposed Action is unlikely to fragment Pilbara Leaf-nosed Bat populations, as no roosts have been recorded and due to the wide-ranging nature of this species. Similarly, Grey Falcon populations are unlikely to fragment due to the wide-ranging nature of this species.

### **Adversely affect habitat critical to the survival of a species**

No diurnal roosts have been identified within the Proposed Action and foraging habitat is not typically considered 'critical habitat' for Pilbara Leaf-nosed Bat. No 'critical habitat' for Grey Falcon has been identified in TSSC (2020).

### **Disrupt the breeding cycle of an important population**

No caves or roosting habitat for Pilbara Leaf-nosed Bat or natural nesting sites for Grey Falcon were identified within the OMP development envelope. Additionally, none are expected close enough to the Proposed Action such that noise or light could influence the breeding cycle of these species.

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

A direct disturbance of an additional 476 ha of 'good' to 'excellent' condition *Triodia* grassland foraging habitat may be considered significant in a local context. However, it is unlikely that the Proposed Action will lead to a long-term decrease in the size of the Pilbara Leaf-nosed Bat and Grey Falcon populations.

Only a small percentage of the broader foraging habitat for the Grey Falcon and Pilbara Leaf-nosed Bat is expected to be disturbed. No impact to freshwater pools is proposed. The disturbance of a small proportion of the foraging habitat with the Proposed Action (which is smaller than the foraging range of these species) is unlikely to decrease the availability or quality of habitat to the extent that these species are likely to decline.

### **Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species habitat**

The TSSC (2016) notes that the Pilbara Leaf-nosed Bat has been exposed to the degradation and modification of natural habitats caused by introduced species such as invasive weeds, domestic herbivores, and other larger feral ungulates since the arrival of Europeans, however these invasive species are unlikely to have a significant effect overall. Nevertheless, the Proposed Action will include strict control measures to prevent the spread of Mesquite, which will in turn minimise the likelihood of other invasive species becoming established.

TSSC (2020) notes that a key threat to the Grey Falcon is predation by cats. The Proposed Action will include strict control measures for feral animals to minimise their introduction or spread.

### **Introduce disease that may cause the species to decline**

There are no known diseases threatening the Pilbara Leaf-nosed Bat (TSSC, 2016) or Grey Falcon (TSSC, 2020). The Proposed Action is not predicted to provide any vectors for disease.

### **Interfere substantially with the recovery of the species**

The primary objective for preventing the decline of the Pilbara Leaf-nosed Bat is to protect known and suspected diurnal roost sites and to avoid activities within close proximity to these roosts that could cause roost abandonment and fatalities of individuals (TSSC, 2016).

There is no recovery plan for Grey Falcon, however the primary conservation actions listed in TSSC (2020) are to improve habitat management, cat and camel control in arid and semi-arid Australia.

Given that the Proposed Action will not impact any known or suspected Pilbara Leaf-nosed Bat roosts or known Grey Falcon nesting sites, and that proposed disturbance will impact only a small proportion of available foraging habitat, the Proposed Action is unlikely to interfere with the recovery of the Pilbara Leaf-nosed Bat and Grey Falcon.

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

Yes

**4.1.4.8 Please elaborate why you think your proposed action is a controlled action. \***

The Proposed Action includes potential residual impacts to threatened species, which require offsets and management conditions.

**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 will be implemented in accordance with those assessed and approved under EPBC 2022/9169, to ensure residual impacts to threatened species habitat within the Project Area are minimised. Avoidance and mitigation measures are summarised below:

- No clearing associated with the Proposed Action will occur outside of the 'good' to 'excellent' condition *Triodia* grassland habitat within the OMP development envelope;
- No more than 479 ha of *Triodia* grassland habitat will be cleared for the Proposed Action;
- A 1-km buffer will be placed around Mardie Pool, where no clearing will occur;
- Clearing will be undertaken in a manner that it progresses gradually in a direction that enables any fauna to safely leave the vicinity of clearing and disperse into surrounding habitat;
- On every day of the Proposed Action that clearing activities are to be undertaken, that within two hours of sunrise and prior to the clearing commencing, a fauna spotter catcher will check all open trenches to detect, safely remove and relocate any trapped terrestrial fauna to suitable habitat where clearing will not occur that day;
- A fauna spotter catcher will be present during all clearing, and given authority to supervise, halt and order the manner in which any clearing is undertaken;
- If any terrestrial fauna individual is detected as present within an area undergoing clearing, the fauna spotter catcher will immediately halt the clearing until the fauna spotter catcher has confirmed the terrestrial fauna individual is no longer present within the area of clearing;
- Accurate records of fauna sightings and resulting management action will be maintained;
- Regular weed management measures will be undertaken for the Proposed Action, including:
  - Road vehicle wash down prior to entering the OMP development envelope;

- Cleaning soil and organic matter from any road vehicle that is moving from an area of weed infestation to an area free of weed infestation; and
- Ensuring no soil is moved from an area of weed infestation to any area free of weed infestation;
- Reporting will be undertaken to establish the baseline number of feral animals within the OMP development envelope, which will be monitored annually thereafter to ensure the baseline number does not increase as a result of the Proposed Action;
- No domestic animals will be brought into the OMP development envelope;
- Staff and contractors will be appropriately trained / inducted;
- No unmanned project aircraft will fly above Grey Falcon supporting habitat unless prior approval is received in writing by the Commonwealth Minister (administering the EPBC Act) or the Department of Water and Environmental Regulation (DWER), for the purposes of scientific survey or study;
- Waste management measures will be implemented;
- To avoid road strike to threatened fauna as a result of the Proposed Action, speed limits will be implemented across the OMP development envelope, with appropriate signage installed;
- Implementation of the Construction Environmental Management Plan (CEMP) (Att10\_CEMP);
- Implementation of the Illumination Plan (Mardie Minerals, 2024); and
- Implementation of the Mesquite Management Plan (Mardie Minerals, 2023).

If after the application of the above avoidance and mitigation measures, significant residual impacts were predicted to remain (associated with the unavoidable clearing of habitat), offset will be provided (refer to Section 4.1.4.11).

#### Construction Environmental Management Plan

All clearing is subject to the CEMP, provided as Att10\_CEMP. The CEMP includes a range of measures to protect various environmental values during clearing and construction activities, and takes into consideration flora and vegetation, fauna, surface water, groundwater, Heritage, erosion and sediment control, ASS, waste, hydrocarbons and chemicals, weeds and greenhouse gas emissions.

Mardie Minerals currently implements Revision 2c of the CEMP (June 2024) as approved under EPBC 2018/8236 and EPBC 2022/9169. In October 2024, Revision 3 of the CEMP (11 October 2024) was submitted to DCCEEW in accordance with Condition 50 of EPBC 2018/8236 and EPBC 2022/9169 and will be implemented upon approval from DCCEEW. Revision 4 of the CEMP (Att10\_CEMP) has been updated to include the Proposed Action.

#### **4.1.4.11 Please describe any proposed offsets and attach any supporting documentation relevant to these measures. \***

Offsets have been conditioned for residual significant impacts to MNES from the DFS and OMP. This requires Mardie Minerals to make financial contributions to the Pilbara Environmental Offsets Fund (PEOF). As part of this requirement, Mardie Minerals is required to prepare and submit an Impact Reconciliation Procedure (IRP) for assessment by State and Commonwealth, outlining how residual significant impacts from the DFS and OMP are being offset through the PEOF.

For this Proposed Action, additional offsets are proposed to counterbalance the potential significant residual impacts to Pilbara Leaf-nosed Bat and Grey Falcon supporting habitat. These additional offsets have been discussed within an IRP (Version 03, Revision A) for the Proposed Action, which has been attached as Att11\_IRP 03. This IRP is currently a draft and will be finalised once DCCEEW has assessed the Proposed Action, and approval conditions are issued.

#### **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.

<b>Direct impact</b>	<b>Indirect impact</b>	<b>Species</b>	<b>Common name</b>
No	No	<i>Actitis hypoleucos</i>	Common Sandpiper
No	No	<i>Anous stolidus</i>	Common Noddy
No	No	<i>Anoxypristis cuspidata</i>	Narrow Sawfish, Knifetooth Sawfish
No	No	<i>Apus pacificus</i>	Fork-tailed Swift
No	No	<i>Balaena glacialis australis</i>	Southern Right Whale
No	No	<i>Balaenoptera edeni</i>	Bryde's Whale
No	No	<i>Balaenoptera musculus</i>	Blue Whale
No	No	<i>Calidris acuminata</i>	Sharp-tailed Sandpiper
No	No	<i>Calidris canutus</i>	Red Knot, Knot
No	No	<i>Calidris ferruginea</i>	Curlew Sandpiper
No	No	<i>Calidris melanotos</i>	Pectoral Sandpiper
No	No	<i>Calonectris leucomelas</i>	Streaked Shearwater
No	No	<i>Carcharhinus longimanus</i>	Oceanic Whitetip Shark
No	No	<i>Carcharodon carcharias</i>	White Shark, Great White Shark
No	No	<i>Caretta caretta</i>	Loggerhead Turtle
No	No	<i>Charadrius leschenaultii</i>	Greater Sand Plover, Large Sand Plover
No	No	<i>Charadrius veredus</i>	Oriental Plover, Oriental Dotterel
No	No	<i>Chelonia mydas</i>	Green Turtle
No	No	<i>Crocodylus porosus</i>	Salt-water Crocodile, Estuarine Crocodile
No	No	<i>Dermochelys coriacea</i>	Leatherback Turtle, Leathery Turtle, Luth
No	No	<i>Dugong dugon</i>	Dugong
No	No	<i>Eretmochelys imbricata</i>	Hawksbill Turtle
No	No	<i>Fregata ariel</i>	Lesser Frigatebird, Least Frigatebird
No	No	<i>Glareola maldivarum</i>	Oriental Pratincole
No	No	<i>Hirundo rustica</i>	Barn Swallow

<b>Direct impact</b>	<b>Indirect impact</b>	<b>Species</b>	<b>Common name</b>
No	No	<i>Limnodromus semipalmatus</i>	Asian Dowitcher
No	No	<i>Limosa lapponica</i>	Bar-tailed Godwit
No	No	<i>Macronectes giganteus</i>	Southern Giant-Petrel, Southern Giant Petrel
No	No	<i>Manta alfredi</i>	Reef Manta Ray, Coastal Manta Ray, Inshore Manta Ray, Prince Alfred's Ray, Resident Manta Ray
No	No	<i>Manta birostris</i>	Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray
No	No	<i>Megaptera novaeangliae</i>	Humpback Whale
No	No	<i>Motacilla cinerea</i>	Grey Wagtail
No	No	<i>Motacilla flava</i>	Yellow Wagtail
No	No	<i>Natator depressus</i>	Flatback Turtle
No	No	<i>Numenius madagascariensis</i>	Eastern Curlew, Far Eastern Curlew
No	No	<i>Orcaella heinsohni</i>	Australian Snubfin Dolphin
No	No	<i>Orcinus orca</i>	Killer Whale, Orca
No	No	<i>Pandion haliaetus</i>	Osprey
No	No	<i>Phaethon lepturus</i>	White-tailed Tropicbird
No	No	<i>Pristis clavata</i>	Dwarf Sawfish, Queensland Sawfish
No	No	<i>Pristis pristis</i>	Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish
No	No	<i>Pristis zijsron</i>	Green Sawfish, Dindagubba, Narrowsnout Sawfish
No	No	<i>Rhincodon typus</i>	Whale Shark
No	No	<i>Sousa chinensis</i>	Indo-Pacific Humpback Dolphin
No	No	<i>Sternula albifrons</i>	Little Tern
No	No	<i>Thalassarche carteri</i>	Indian Yellow-nosed Albatross
No	No	<i>Tursiops aduncus</i> (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? \***

No

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

Impacts to migratory species as a result of the OMP have already been assessed and approved under EPBC 2022/9169. The Proposed Action is situated entirely within the OMP, and the only changes as part of the Proposed Action are related to *Triodia* grassland habitat, which is not considered important habitat for any migratory species.

**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.

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**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 will not occur within any Commonwealth marine area. The Proposed Action is situated on-land within WA.

#### **4.1.8 Great Barrier Reef**

**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.

**4.1.10 Commonwealth Land**

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.

**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.

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**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:

- Threatened Species and Ecological Communities (S18)

## 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)
- 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. \*

There are no alternatives, as the Proposed Action is to ensure that the 'good' to 'excellent' condition *Triodia* grassland habitat clearing limit allows the current OMP indicative design approved under EPBC 2022/9169 to be implemented as shown in Attachments 2a and 2b of EPBC 2022/9169 (Refer to Figure 3 of Att1\_Figures).

## 5. Lodgement

## 5.1 Attachments

### 1.2.1 Overview of the proposed action

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_Figures.pdf Figures depicting development envelope and disturbance footprint of Proposed Action	20/12/2021	No	High
#2.	Document	Att2_BCI Environmental Policy 2022.pdf Environment Policy of the Mardie Minerals Pty Ltd	22/01/2022	No	High
#3.	Document	Att3_Mardie Project ESMP 2022.pdf Environmental and Social Management Plan for the Mardie Project	24/02/2022	No	High
#4.	Link	<a href="https://www.epa.wa.gov.au/sites/default/files/Po..">Environmental Impact Assessment (Part IV Divisions1 &amp; 2) Procedures Manual Requirements under the En</a> <a href="https://www.epa.wa.gov.au/sites/default/files/Po..">https://www.epa.wa.gov.au/sites/default/files/Po..</a>			High
#5.	Link	<a href="https://www.epa.wa.gov.au/sites/default/files/Pr..">Optimised Mardie Project Response to Submissions</a> <a href="https://www.epa.wa.gov.au/sites/default/files/Pr..">https://www.epa.wa.gov.au/sites/default/files/Pr..</a>			High
#6.	Link	<a href="https://www.dcceew.gov.au/environment/epbc/publi..">Significant Impact Guidelines 1.1 - Matters of National Environmental Significance</a> <a href="https://www.dcceew.gov.au/environment/epbc/publi..">https://www.dcceew.gov.au/environment/epbc/publi..</a>			High
#7.	Link	<a href="https://www.epa.wa.gov.au/sites/default/files/Po..">Statement of environmental principles, factors, objectives and aims of EIA</a> <a href="https://www.epa.wa.gov.au/sites/default/files/Po..">https://www.epa.wa.gov.au/sites/default/files/Po..</a>			High

### 3.1.1 Current condition of the project area's environment

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att4_OMP Flora and Vegetation Report (Phoenix, 2022a).pdf Detailed flora and vegetation survey for the Mardie Salt Project Optimisation and Quarry Area Project prepared for BCI Minerals Ltd	12/11/2021	No	High

### 3.1.2 Existing or proposed uses for the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	<a href="https://inherit.dplh.wa.gov.au/Public/">InHerit. Heritage Council WA</a> <a href="https://inherit.dplh.wa.gov.au/Public/">https://inherit.dplh.wa.gov.au/Public/</a>			High
#2.	Link				

Optimised Mardie Project Supplementary Report <a href="https://www.epa.wa.gov.au/sites/default/files/PE..">https://www.epa.wa.gov.au/sites/default/files/PE..</a>	High
#3. Link Pilbara 4 (PIL4 Roebourne synopsis). <a href="https://library.dbca.wa.gov.au/FullTextFiles/021..">https://library.dbca.wa.gov.au/FullTextFiles/021..</a>	High

### 3.2.1 Flora and fauna within the affected area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att4_OMP Flora and Vegetation Report (Phoenix, 2022a).pdf Detailed flora and vegetation survey for the Mardie Salt Project Optimisation and Quarry Area Project prepared for BCI Minerals Ltd	11/11/2021	No	High
#2.	Document	Att5_DFS Flora and Vegetation Report (Phoenix, 2020a).pdf Detailed flora and vegetation survey for the Mardie Project	23/06/2020	No	High
#3.	Document	Att6_Targeted Survey M.tridens Report (Phoenix, 2021).pdf Memo report of targeted searches at Mardie Salt Project for Minuria tridens	09/12/2021	No	High
#4.	Document	Att7_PMST Report (241218).pdf EPBC Act Protected Matters Report	18/12/2021	No	High
#5.	Document	Att8_OMP Terrestrial Fauna Report (Phoenix, 2022b).pdf Basic (Level 1) terrestrial fauna survey for the Mardie Salt Project Optimisation and Quarry Areas	30/11/2021	No	High
#6.	Document	Att9_DFS Terrestrial Fauna Report (Phoenix, 2020b).pdf Level 2 targeted terrestrial fauna survey assessment for the Mardie Project	12/02/2020	No	High
#7.	Link	Optimised Mardie Project Supplementary Report <a href="https://www.epa.wa.gov.au/sites/default/files/PE..">https://www.epa.wa.gov.au/sites/default/files/PE..</a>			High
#8.	Link	The action plan for Australian birds 2000. List of extinct, threatened and near threatened Australia <a href="https://catalogue.nla.gov.au/catalog/1773782">https://catalogue.nla.gov.au/catalog/1773782</a>			High

### 3.2.2 Vegetation within the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Link	An inventory and condition survey of the Pilbara region, Western Australia <a href="https://library.dpird.wa.gov.au/tech_bull/7/">https://library.dpird.wa.gov.au/tech_bull/7/</a>			High
#2.	Link	Land systems of the Kimberley region, Western Australia <a href="https://library.dpird.wa.gov.au/tech_bull/11/">https://library.dpird.wa.gov.au/tech_bull/11/</a>			High
#3.	Link				

		Mardie Project Seepage Model Results and Potential Environmental Impacts. <a href="https://www.epa.wa.gov.au/sites/default/files/PE..">https://www.epa.wa.gov.au/sites/default/files/PE..</a>	High
#4.	Link	Results of ASS screen testing carried out on floodway samples <a href="https://www.epa.wa.gov.au/sites/default/files/PE..">https://www.epa.wa.gov.au/sites/default/files/PE..</a>	High
#5.	Link	Stage A: Acid Sulfate Soils Investigation Mardie Salt Project <a href="https://www.epa.wa.gov.au/sites/default/files/PE..">https://www.epa.wa.gov.au/sites/default/files/PE..</a>	High
#6.	Link	Surface Geology of Australia 1:1,000,000 scale, Western Australia database <a href="https://ecat.ga.gov.au/geonetwork/srv/api/record..">https://ecat.ga.gov.au/geonetwork/srv/api/record..</a>	High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att7_PMST Report (241218).pdf EPBC Act Protected Matters Report	17/12/2024	No	High

### 3.3.2 Indigenous heritage values that apply to the project area

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att7_PMST Report (241218).pdf EPBC Act Protected Matters Report	17/12/2024	No	High
#2.	Link	Optimised Mardie Project Supplementary Report <a href="https://www.epa.wa.gov.au/sites/default/files/PE..">https://www.epa.wa.gov.au/sites/default/files/PE..</a>			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	Sensitivity	Confidence
#1.	Document	Att1_Figures.pdf Figures depicting development envelope and disturbance footprint of Proposed Action	19/12/2024	No	High

### 4.1.4.5 (Threatened Species and Ecological Communities) Why you consider the direct and/or indirect impact to be a Significant Impact

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_Figures.pdf Figures depicting development envelope and disturbance footprint of Proposed Action	19/12/2024	No	High
#2.	Document				

		Att8_OMP Terrestrial Fauna Report (Phoenix, 2022b).pdf Basic (Level 1) terrestrial fauna survey for the Mardie Salt Project Optimisation and Quarry Areas	29/11/2022	No	High
#3.	Document	Att9_DFS Terrestrial Fauna Report (Phoenix, 2020b).pdf Level 2 targeted terrestrial fauna survey assessment for the Mardie Project	11/02/2020	No	High
#4.	Link	Conservation Advice – Falco hypoleucos – Grey Falcon <a href="https://www.environment.gov.au/biodiversity/thre..">https://www.environment.gov.au/biodiversity/thre..</a>			High
#5.	Link	Conservation Advice - Rhinonicteris aurantia (Pilbara form) - Pilbara Leaf-nosed Bat <a href="https://www.environment.gov.au/biodiversity/thre..">https://www.environment.gov.au/biodiversity/thre..</a>			High
#6.	Link	Matters of National Environmental Significance – Significant impact guidelines 1.1 <a href="https://www.dcceew.gov.au/environment/epbc/publi..">https://www.dcceew.gov.au/environment/epbc/publi..</a>			High

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

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att10_CEMP.pdf Mardie Salt and Potash Project Construction Environmental Management Plan	20/12/2024	No	High
#2.	Link	Mardie Project Mesquite Management Plan. Revision 4A <a href="https://www.bciminerals.com.au/images/files/0000..">https://www.bciminerals.com.au/images/files/0000..</a>			High
#3.	Link	Mardie Salt and Potash Project Illumination Plan. Revision 7 <a href="https://www.bciminerals.com.au/images/files/Mard..">https://www.bciminerals.com.au/images/files/Mard..</a>			High

#### 4.1.4.11 (Threatened Species and Ecological Communities) Proposed offsets relevant to avoidance or mitigation measures

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att11_IRP 03.pdf Optimised Mardie Project Impact Reconciliation Procedure	19/12/2024	No	High

#### 4.3.8 Why alternatives for your proposed action were not possible

	Type	Name	Date	Sensitivity	Confidence
#1.	Document	Att1_Figures.pdf Figures depicting development envelope and disturbance footprint of Proposed Action	19/12/2024	No	High

## 5.2 Declarations

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### Completed Referring party's declaration

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

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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. \*
- By checking this box, 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 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. \*

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### 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.

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Same as Referring party 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**, 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, **Snyman Van Straaten of MARDIE MINERALS PTY LTD**, the Person proposing the action, consent to the designation of **Snyman Van Straaten of MARDIE MINERALS PTY LTD** 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. \*

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### **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 project is a controlled action.

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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. \*