

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number: CPS 5272/4

Permit Holder: Robe River Mining Co Pty Ltd

Duration of Permit: 16 November 2013 to 16 November 2033

The Permit Holder is authorised to clear *native vegetation* subject to the following conditions of this Permit.

PART I - CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of construction and installation of utilities, mine and port support infrastructure and associated works.

2. Area of Clearing

The Permit Holder must not clear more than 100 hectares of *native vegetation* within the *specified* area hatched yellow on attached Plan 5272/4.

3. Period in which clearing is authorised

The Permit Holder shall not clear any native vegetation after 16 November 2028.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear *native vegetation* for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

PART II - MANAGEMENT CONDITIONS

5. Avoid, minimise and reduce the impacts and extent of clearing

In determining the amount of *native vegetation* to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of *native vegetation*;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

6. Weed control

When undertaking any clearing or other activity pursuant to this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:

- (a) Clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) Ensure that no known *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) Restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

7. Flora management

Prior to undertaking any clearing authorised under this Permit:

- (a) Where the report entitled 'Flora and Vegetation Assessment of the Cape Lambert Area, 2012', dated November 2012, identified potential habitat for *priority flora* within the *specified area*, the Permit Holder shall engage a *botanist* to inspect that area for the presence of *priority flora*.
- (b) Where *priority flora* are identified in relation to condition 7(a) of this Permit, the Permit Holder shall ensure that:
 - (i) no clearing of identified *priority flora* occurs, unless first approved by the CEO; and
 - (ii) no clearing occurs within 10 metres of identified *priority flora*, unless first approved by the CEO.

8. Fauna management – Lerista nevinae

Where the report entitled 'Cape Lambert Terrestrial Fauna Assessment and Targeted Fauna Survey', dated November 2012, identified *Lerista nevinae habitat* within the *specified area*, the Permit Holder shall ensure that no clearing occurs within the identified *Lerista nevinae habitat*, unless first approved by the *CEO*.

9. Management plan – Marine Turtles

- (a) The Permit Holder must implement and adhere to the Management Plan entitled 'Cape Lambert Port B Development Marine Turtle Management Plan, April 2013 V2-5'.
- (b) If it is necessary to modify the Management Plan entitled 'Cape Lambert Port B Development Marine Turtle Management Plan, April 2013 V2-5', then the Permit Holder must provide that modified Management Plan to the *CEO* for the *CEO*'s approval.
- (c) The modified Management Plan must not be implemented until approved by the CEO.
- (d) An approved modified Management Plan supersedes any previous Management Plan.

10. Fauna management - Dasyurus hallucatus

Prior to undertaking any clearing authorised under this Permit:

- (a) Where the report entitled 'Cape Lambert Terrestrial Fauna Assessment and Targeted Fauna Survey', dated November 2012, has identified potential habitat for northern quoll (*Dasyurus hallucatus*) within the *specified area*, the Permit Holder shall engage a *fauna specialist* to inspect that area for the presence of habitat on which it has a specific dependence.
- (b) Any habitat areas on which northern quoll (*Dasyurus hallucatus*) has a specific dependence, identified in accordance with condition 10(a), shall be inspected by a *fauna specialist* for the presence of northern quoll (*Dasyurus hallucatus*).
- (c) Where habitat areas on which northern quoll (*Dasyurus hallucatus*) has a specific dependence are identified in accordance with condition 10(a), the Permit Holder must:
 - (i) Avoid areas identified in accordance with condition 10(a); or
 - (ii) Where the areas identified in accordance with condition 10(a) cannot be avoided, the Permit Holder shall prepare, implement and adhere to a *Fauna Management Plan*, designed by a *fauna specialist*.
- (d) Where northern quoll (*Dasyurus hallucatus*) is identified in accordance with condition 10(b), the Permit Holder must prepare, implement and adhere to a *Fauna Management Plan*, designed by a *fauna specialist*.
- (e) The Fauna Management Plan required in accordance with conditions 10(c) and 10(d), must include the following:
 - (i) a plan for managing the *impacts*;
 - (ii) a plan for managing any fauna identified in accordance with condition 10(b);
 - (iii) a table setting out the Permit Holder's commitments to the Fauna Management Plan requirements; and

- (iv) a program for monitoring compliance with the Permit Holder's commitments.
- (f) Once the Permit Holder has developed a *Fauna Management Plan*, the Permit Holder must provide that *Fauna Management Plan* to the *CEO* for the *CEO*'s approval. The clearing to which the *Fauna Management Plan* relates and the implementation of the *Fauna Management Plan* shall not take place until the Permit Holder receives approval from the *CEO*.
- (g) If it is necessary to modify the Fauna Management Plan approved by the CEO, then the Permit Holder must provide that modified Fauna Management Plan to the CEO for the CEO's approval.
- (h) The modified Fauna Management Plan must not be implemented until approved by the CEO.
- (i) An approved modified Fauna Management Plan supersedes any previous Fauna Management Plan.

11. Directional clearing

The Permit Holder must:

- (a) conduct clearing activities in a slow, progressive manner towards adjacent *native vegetation*;
- (b) allow reasonable time for fauna present within the area being cleared to move into adjacent *native vegetation* ahead of the *clearing* activity.

12. Revegetation and rehabilitation

The Permit Holder shall:

- (a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.
- (b) At an optimal time within 12 months following the completion of works authorised under this Permit, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:
 - (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
 - (ii) ripping the ground on the contour to remove soil compaction; and
 - (iii) laying the vegetative material and topsoil retained under condition 12(a) on the cleared area(s).
- (c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 12(b) of this Permit:
 - (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 12(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding native vegetation* that will result in a similar species composition, structure and density of *native vegetation* to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional planting or direct seeding of native vegetation is undertaken in accordance with condition 12(c)(ii) of this permit, the Permit Holder shall repeat condition 12(c)(i) and 12(c)(ii) within 24 months of undertaking the additional planting or direct seeding of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 12(c)(i) and (ii) of this permit, that determination shall be submitted for the *CEO*'s consideration. If the *CEO* does not agree with the determination made under condition

12(c)(ii), the *CEO* may require the Permit Holder to undertake additional *planting* and *direct* seeding in accordance with the requirements under condition 12(c)(ii).

PART III - MONITORING, RECORD KEEPING AND REPORTING

13. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) The species composition, structure and density of the cleared area;
 - (ii) The location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iii) The dates on which clearing was done; and
 - (iv) The size of the area cleared (in hectares).
- (b) In relation to flora management pursuant to condition 7 of this Permit:
 - (i) A copy of the *botanist's* flora survey report.
 - (ii) The location of each *priority flora* species cleared recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (iii) The species name of each *priority flora* cleared;
 - (iv) The date(s) that *priority flora* was cleared; and
 - (v) The estimated number *priority flora* plants that were cleared at each location.
- (c) In relation to fauna management pursuant to condition 10 of this Permit:
 - (a) A description and results of the fauna management activities undertaken in accordance with the *Fauna Management Plan* approved by the *CEO*; and
 - (i) A copy of the fauna specialist's survey report.
- (d) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 12 of this Permit:
 - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 2020 (GDA2020), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area revegetated and rehabilitated (in hectares);
 - (iv) the species composition, structure and density of revegetation and rehabilitation, and
 - (v) a copy of the *environmental specialist*'s report.

14. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
 - (i) of records required under condition 13 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January to 31 December of the preceding calendar year.
- (b) If no clearing authorised under this Permit was undertaken between 1 January to 31 December of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.
- (c) Prior to 16 August 2033, the Permit Holder must provide to the *CEO* a written report of records required under condition 13 of this Permit where these records have not already been provided under condition 14(a) of this Permit.

15. Interpretation

The following rules of interpretation apply to this Permit:

(a) A reference to any written law includes a reference to that written law as amended, repealed or replaced from time to time; and

(b) If a word or phrase is defined, other parts of speech and grammatical forms of that word or phrase have corresponding meanings.

16. Severance

It is the intent of these conditions that they shall operate so that, if a condition or part of a condition is beyond the *CEO*'s power to impose, or is otherwise ultra vires or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the *CEO*'s power to impose and are not otherwise ultra vires or invalid.

17. Inconsistency

- (a) The *Environmental Protection Act 1986* prevails to the extent of any inconsistency between its provisions and the conditions of this Permit.
- (b) Subject to condition 17(a), this Permit prevails to the extent of any inconsistency between its conditions, and the provisions of any other document referred to in this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

botanist: means a person who holds a tertiary qualification in environmental science or equivalent, and has a minimum of 2 years work experience in identification and surveys of flora native to the bioregion being inspected or surveyed, or who is approved by the *CEO* as a suitable botanist for the bioregion;

CEO means the Chief Executive Officer of the Department responsible for the administration of the clearing provisions under the *Environmental Protection Act 1986*

clearing has the meaning given under section 3(1) of the EP Act;

coordinate means a Map Grid of Australia (Geocentric Datum of Australia 2020) coordinate for zone 50:

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmentally sensitive area means an area that is the subject of a declaration that is in force under section 51B of the EP Act;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

EP Act means the Environmental Protection Act 1986;

Fauna Management Plan means a plan developed by the Permit Holder for the management of fauna at the site in accordance with condition 10 of this Permit;

fauna specialist: means a person who holds a tertiary qualification specializing in environmental science or equivalent, and has a minimum of 2 years work experience in fauna identification and surveys of fauna native to the region being inspected or surveyed, or who is approved by the CEO as a suitable fauna specialist for the bioregion, and who holds a valid fauna licence issued under the Biodiversity and Conservation Act 2016;

fill means material used to increase the ground level, or fill a hollow;

impacts means any impact of clearing on environmental values;

Lerista nevinae habitat means coastal dune habitat with pale sands vegetated with open hummock grasslands, with acacia species;

local provenance means native vegetation seeds and propagating material from natural sources within 200 kilometres and the same Interim Biogeographic Regionalisation for Australia (IBRA) subregion of the area cleared:

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

native vegetation has the meaning given under section 3(1) and section 51(A) of the EP Act;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

priority flora means those plant taxa described as priority flora classes 1, 2, 3, 4 in the *Department of Biodiversity, Conservation and Attractions Threatened and Priority Flora List for Western Australia* (as amended);

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing *mulch*;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

site preparation means management of existing site topsoil and preparation of the finished soil surface, for example by ripping or tilling the soil surface and respreading site topsoil and chipped native vegetation;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act* 2007; or
- (b) published in a Department of Biodiversity, Conservation and Attractions Regional Weed Rankings Summary, regardless of ranking; or
- (c) not indigenous to the area concerned.

written law has the same meaning as it is given in section 5 of the Interpretation Act 1984.

END OF CONDITIONS

Mathew Gannaway

MANAGER

NATIVE VEGETATION REGULATION

Officer delegated under Section 20 of the Environmental Protection Act 1986

8 January 2024

SCHEDULE 1

CPS 5272/4

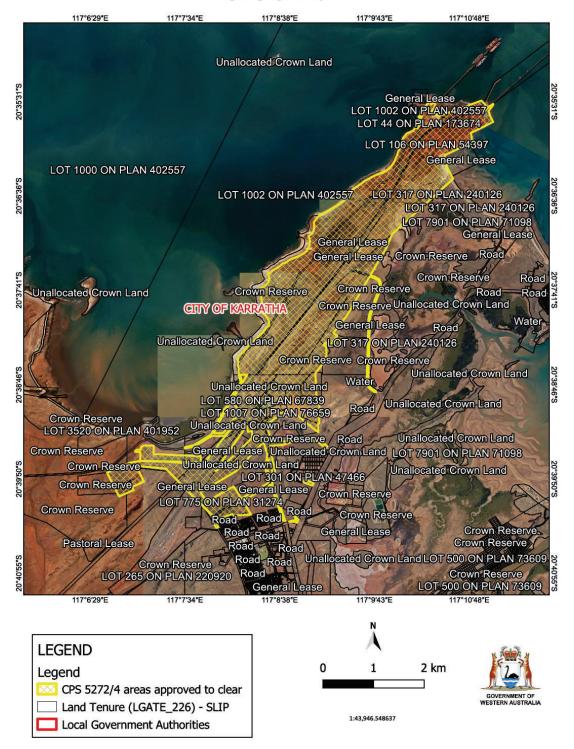


Figure 1: Map of the boundary of the area within which clearing may occur.

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Clearing Permit Decision Report

1 Application details and outcome

1.1. Permit application details

Permit number: CPS 5272/4

Permit type: Purpose permit

Applicant name: Robe River Mining Co Pty Ltd

Application received: 20 July 2023

Application area: 100 hectares of native vegetation

Purpose of clearing: Construction and installation of utilities, mine and port support infrastructure and

associated works.

Method of clearing: Mechanical

Property: Lot 72 on Deposited Plan 217843

Lot 755 on Deposited Plan 76659 Lot 106 on Deposited Plan 54397 Lot 317 on Deposited Plan 240126

Lot 404 on Deposited Plan 194355

Lot 405 on Deposited Plan 194355 Lot 500 on Deposited Plan 53285

Lot 63 on Deposited Plan 54397

Lot 65 on Deposited Pan 241547

Lot 1002 on Deposited Pan 76659 Lot 1003 on Deposited Pan 76659

Lot 1004 on Deposited Pan 76659

Lot 1005 on Deposited Pan 76659

Lot 1006 on Deposited Pan 76659

Lot 1007 on Deposited Pan 76659 Lot 1009 on Deposited Pan 76659

Lot 1010 on Deposited Pan 76659

Lot 124 on Deposited Plan 183607

Lot 167 on Deposited Plan 185321

Lot 168 on Deposited Plan 185392

Lot 265 on Deposited Plan 220920

Lot 300 on Deposited Plan 216420 Lot 301 on Deposited Plan 216421

Lot 301 on Deposited Figure 210421

Lot 307 on Deposited Plan 218388

Lot 392 on Deposited Plan 217328

Lot 502 on Deposited Plan 411135

Lot 503 on Deposited Plan 411135

Lot 580 on Deposited Plan 67839

Lot 591 on Deposited Plan 76669

Lot 706 on Deposited Plan 31274

Lot 771 on Deposited Plan 35754

Lot 772 on Deposited Plan 35754

Lot 775 on Deposited Plan 31274

Lot 776 on Deposited Plan 31274

Lot 791 on Deposited Plan 31274

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Lot 797 on Deposited Plan 31274

Lot 798 on Deposited Plan 31274

Lot 799 on Deposited Plan 31274

Unallocated Crown Land (PIN 12102588)

Location (LGA area/s): City of Karratha

Localities (suburb/s): Antonymre

Point Sampson

Wickham

1.2. Description of clearing activities

The proposed amendment to CPS 5272/3 is to modify permit condition 3 to extend the duration in which clearing is authorised to 16 November 2033 and to reduce the size of the authorised clearing area and footprint to reflect current land tenure access (see Figure 1, Section 1.5).

CPS 5272/1 allowed for Robe River Mining Co Pty Ltd (RRMC) to clear 150 hectares within a 2022-hectare footprint. The entire clearing permit sought under CPS 5272/4 is 100 hectares within a 1312.89-hectare footprint.

The applicant advised that 2.25 hectares of clearing has been undertaken and 1.11 hectares of rehabilitation has also been completed since the commencement of CPS 5272/1 (Rio Tinto, 2023).

1.3. Decision on application

Decision: Granted

Decision date: 8 January 2024

Decision area: 100 hectares of native vegetation, as depicted in Section 1.5, below.

1.4. Reasons for decision

This clearing permit amendment application was submitted, accepted, assessed and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Water and Environmental Regulation (DWER) advertised the application for 21 days and no submissions were received.

In making this decision, the Delegated Officer had regard for the assessment undertaken for CPS 5272/1, the site characteristics (see 0A), relevant datasets (see Appendix D.1), the findings of flora, vegetation and fauna surveys, the clearing principles set out in Schedule 5 of the EP Act (see Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (see Section 3).

During the review of available information and previous assessment, the Delegated Officer revised the assessment for Clearing Principle (a) and Clearing Principle (b), which are now considered to be 'at variance'. This is due to confirmed suitable habitat for conservation significant flora and fauna occurring within the application area. Whilst suitable habitat is present, the permit contains management conditions, including pre-clearance surveys, to ensure that impacts to conservation significant flora and fauna are minimal. To further minimise impacts to the above environmental values, the Delegated Officer added additional conditions to the clearing permit requiring:

- avoid, minimise to reduce the impacts and extent of clearing, and
- undertake slow, progressive one directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity.

The remaining assessment against the clearing principles and conditions already imposed on the clearing permit remain unchanged. The Delegated Officer determined that the proposed extension of the duration of the permit and reduction in the size of the clearing is not likely to lead to an unacceptable risk to environmental values.

1.5. Site map

CPS 5272/4

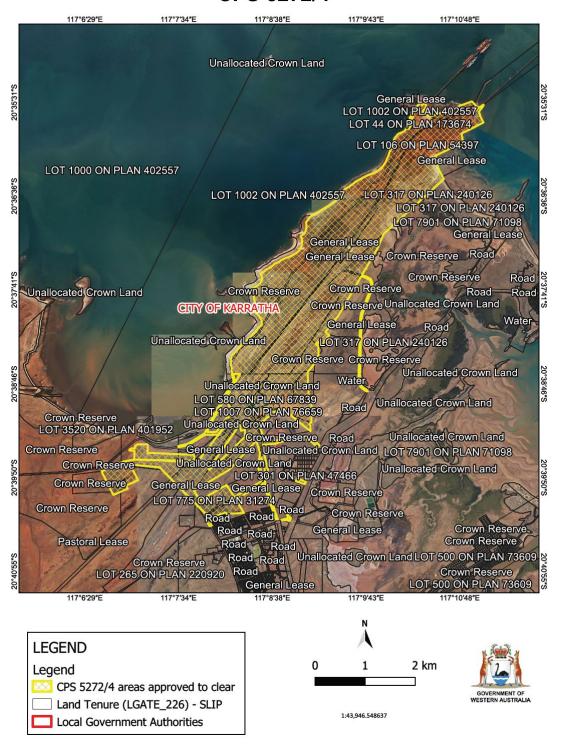


Figure 1 Map of the application area

The area crosshatched yellow indicates the area authorised to be cleared under the granted clearing permit.

2 Detailed assessment of application

2.1. Avoidance and mitigation measures

As this amendment is to reduce the clearing area and extend the duration of the permit, the avoidance and mitigation measures implemented by the Permit Holder are unchanged and can be found in the Decision Reports prepared for Clearing Permits CPS 5272/1, CPS 5272/2, and CPS 5272/3.

2.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix A) identified a change in impacts to Priority flora since the previous assessments (see Section 2.2.1).

The Department has reviewed current data sources whilst undertaking a revised desktop assessment and determined that Clearing Principles (a) and (b) are 'at variance', as there are potential impacts to biodiversity, fauna and Priority flora within the application area. However, given the reduced clearing area, environmental management plans in place and avoid and mitigation measures proposed and conditioned on the permit, the clearing is not considered to result in significant impacts to these environmental values.

2.2.1. Biological values (biodiversity and fauna) - Clearing Principles (a) and (b)

Assessment

The application area is located within the Pilbara bioregion. According to available databases, a total of 18 conservation significant flora species and 68 conservation significant fauna species have been recorded within the local area (50 kilometres radius of the application area).

In line with contemporary practice, it has been determined that Clearing Principles (a) and (b) have changed from 'may be at variance' to 'at variance'. This is due to confirmed suitable habitat for conservation significant flora and fauna within the application area.

As per the previous assessments, Priority flora species *Tephrosia rosea* var. Port Hedland (A.S. George 1114) and *Eragrostis lanicaulis* were found to be present within the clearing area (Rio Tinto, 2012b). Upon reassessment for CPS 5272/4, it is likely that *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095) may be present as one record has been located within 150 metres of the application area and within the same soil type. This is the only record of *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095) within the local area. The closest population of the species is located approximately 140 kilometres east of the application area where there are 37 records documented (Western Australian Herbarium, 1998-). Due to the sporadic nature of the Priority flora record, a pre clearance Priority flora survey condition will be retained on the permit to retain the record and ensure no significant impact remains to other Priority flora species in the local area.

Dasyurus hallucatus (northern quoll) and Lerista nevinae (Nevin's slider) have been recorded utilising permanent habitat within the application area. Migratory birds and turtles have also been recorded as transiting through the area (Biota, 2012). Impacts to conservation significant fauna will be minimised with current fauna management plans and slow directional clearing as conditioned on the permit.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on conservation significant fauna and flora can be managed by pre clearing surveys as already conditioned on the permit, with the inclusion of slow directional clearing to allow fauna that are present during clearing activities to move into adjacent vegetation to reduce any significant residual impacts to individuals.

Conditions

To address the above impacts, in addition to current permit conditions, the following management measure will be required as conditioned on the clearing permit:

directional clearing, which requires, slow progressive, one directional clearing into adjacent native vegetation
to allow terrestrial fauna to disperse ahead of the clearing activity should they occur on site at the time of
clearing which will minimise impacts to individuals.

2.3. Relevant planning instruments and other matters

Given the nature of the amendment, the assessment against planning instruments and other matters is unchanged and can be found in the Decision Reports prepared for Clearing Permits CPS 5272/1, CPS 5272/2, and CPS 5272/3.

The City of Karratha (the City) has advised DWER that the proposed clearing is consistent with the City's Local Planning Scheme No. 8 and did not have any objections to the proposed clearing (City of Karratha, 2023).

The application falls within the Pilbara Groundwater and Surface water areas as proclaimed under the *Rights in Water and Irrigation Act 1914*. Noting the level of disturbance and development in the local area, it is unlikely to significantly impact on water resources (DWER, 2023).

Several Aboriginal sites of significance have been mapped within the application area. It is the permit holder's responsibility to comply with the *Aboriginal Heritage Act 1972* (WA) and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

End

Appendix A. Site characteristics

A.1 Site characteristics

The information provided below describes the key characteristics of the area proposed to be cleared and is based on the best information available to the department at the time of this assessment. This information was used to inform the assessment of the clearing against the Clearing Principles, contained in Appendix B.

Characteristic	Details
Local context	The area proposed to be cleared is a 100-hectare patch of native vegetation in the extensive land use zone of Western Australia. It is adjacent to coast line and Cape Lambert mining operations.
	Spatial data indicates the local area (50-kilometre radius from the centre of the area proposed to be cleared) retains approximately 96.12 per cent of the original native vegetation cover.
	Clearing Permit 5272/1 indicated that the local area was calculated using a 20-kilometre radius. Whilst undertaking the assessment for Clearing Permit 5272/4, a 50-kilometre radius was applied, following current guidelines.
Flora	The desktop assessment identified that a total of 18 Priority flora species have been recorded within the local area (Western Australian Herbarium, 1998-). Four of these existing records are located within five kilometres of the application area, two flora records are located within the application area and 12 flora records are found on the same soil types and vegetation types as the application area.
	With consideration for the site characteristics set out above, relevant datasets (see Appendix D) and the habitat preferences of the aforementioned species, and biological survey information (Rio Tinto, 2012b), the application area is likely to provide suitable habitat for Priority flora species, and these species have been recorded during previous surveys (Rio Tinto, 2012b).

A.2. Vegetation extent

	Pre- European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre- European extent in all DBCA managed land
IBRA bioregion*					
Pilbara	17808657.04	17731764.88	99.57	1801714.98	10.12
Vegetation complex					

	Pre- European extent (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre- European extent in all DBCA managed land
Beard vegetation association 157**	199885.49	198409.23	99.29	11584.76	5.8
Beard vegetation association 43**	17053.31	14708.68	86.25	2.53	0.01
Local area					
50km radius	411438.24	395472.27	96.12	-	-

^{**}Government of Western Australia (2019)

A.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix D.1) and impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	known records	Are surveys adequate to identify? [Y, N, N/A]
Abutilon sp. Pritzelianum (S. van Leeuwen 5095)	P3	Y	Y	Y	0.152	1	Y
Eragrostis lanicaulis	P3	Υ	Y	Υ	2.75	2	Y
Tephrosia rosea var. Port Hedland (A.S. George 1114)	P1	Y	Y	Y	0	11	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."	At variance	Yes
Assessment: The area proposed to be cleared contains significant priority flora and fauna habitats. Conservation significant flora and fauna were recorded during the Flora and Vegetation survey (Rio Tinto, 2012b).	changed from CPS 5272/1	Refer to Section 3.2.1, above.
Principle (b): "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."	At variance changed	Yes Refer to Section 3.2.1, above.
Assessment: The area proposed to be cleared contains significant habitat for conservation significant fauna (Biota, 2012).	from CPS 5272/1	3.2.1, above.
Principle (c): "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."	Not likely to be at	No
<u>Assessment:</u> The area proposed to be cleared is unlikely to contain habitat for threatened flora species. No Threatened flora species were recorded during the Flora and Vegetation survey (Rio Tinto, 2012b).	variance As per CPS 5272/1	
Principle (d): "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community."	Not likely to be at variance	No
Assessment: The area proposed to be cleared is unlikely to be representative of any Threatened Ecological Community (TEC). No TEC's were recorded during the Flora and Vegetation survey (Rio Tinto, 2012b).	As per CPS 5272/1	
Environmental value: significant remnant vegetation and conservation are	eas	
Principle (e): "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."	Not at variance	No
Assessment: The mapped vegetation type and vegetation extent in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	As per CPS 5272/1	
Principle (h): "Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."	Not likely to be at variance	No
<u>Assessment:</u> Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas.	As per CPS 5272/1	
Environmental value: land and water resources		
Principle (f): "Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."	May be at variance	No
Assessment: Given multiple water courses are recorded within the application area, the proposed clearing may impact on- or off-site hydrology and water quality. However, any potential impacts can be managed through the applicant's ISO 14001 certified environmental management system plan (Rio Tinto, 2011).	As per CPS 5272/1	

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (g): "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."	May be at variance	No
Assessment: The mapped soils are moderately susceptible to wind erosion. Any potential impacts can be managed by the applicants ISO 14001 certified environmental management system plan; therefore, the proposed clearing is not likely to have an appreciable impact on land degradation (Rio Tinto, 2011).	As per CPS 5272/1	
Principle (i): "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."	Not likely to be at variance	No
Assessment: Numerous minor nonperennial watercourses are mapped within the clearing footprint area including areas that are seasonally inundated during the wet season. The potential impacts to surface of groundwater resources can be managed through the applicant's ISO 14001 certified environmental management system plan (Rio Tinto, 2011).	As per CPS 5272/1	
Principle (j): "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."	Not at variance	No
Assessment: The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.	As per CPS 5272/1	

Appendix C. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from

Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.

Condition	Description
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Sources of information

D.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- DBCA Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrography Inland Waters Waterlines
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Imagery
- Local Planning Scheme Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality Flood Risk (DPIRD-007)
- Soil Landscape Land Quality Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping Best Available
- Soil Landscape Mapping Systems

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

D.2. References

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