Government of **Western Australia**
Department of **Mines and Petroleum**

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 4179/1
**Permit type:** Purpose Permit

### 1.2. Proponent details

**Proponent's name:** **Robe River Mining Co Pty Ltd**

### 1.3. Property details

**Property:** *Iron Ore (Cleveland Cliffs) Agreement Act 1964*, Mineral Lease 248SA (AML 70/248)
**Local Government Area:** Shire of Ashburton
**Colloquial name:** Mesa A Operations

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|---|---|---|---|
| 3.9 | | Mechanical Removal | Borrow pit construction |

### 1.5. Decision on application

**Decision on Permit Application:** Grant
**Decision Date:** 24 February

## 2. Site Information

### 2.1. Existing environment and information

*2.1.1. Description of the native vegetation under application*

**Vegetation Description**

Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database; Shepherd, 2009).

583: Hummock grasslands, sparse shrub steppe; kanji and *Acacia bivenosa* over hard spinifex *Triodia basedowii* and *Triodia wiseana* (GIS Database; Shepherd, 2009).

A botanical survey of the area immediately east of the application area was conducted by Biota Environmental Sciences (2010). The vegetation in the adjacent area was mapped as:

CODcAbAatTw: *Codonocarpus cotinifolius* scattered low trees over *Acacia atkinsiana, Acacia bivenosa* low open shrubs over *Triodia wiseana* very open hummock grassland (Biota Environmental Sciences, 2010).

Given similar land formations in the application area, it is likely that a similar vegetation community is present within the application area.

**Clearing Description**

Robe River Mining Co Pty Ltd are proposing to clear 3.9 hectares of native vegetation for the purpose of a Borrow Pit for haul road construction.

Vegetation will be cleared using a dozer with a lowered blade. Vegetation will be stockpiled separately for rehabilitation.

**Vegetation Condition**

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

**Comment**

The application area is located in the Pilbara region of Western Australia and is situated approximately 48 kilometres west of Pannawonica (GIS Database).

## 3. Assessment of application against clearing principles

### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

**Comments**

**Proposal is not likely to be at variance to this Principle**

The application area occurs within the Hamersley (PIL3) sub-region of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This sub-region is characterised by sedimentary ranges and plateaux, dissected by gorges (CALM, 2002). At a broad scale, vegetation can be described as Mulga low woodlands over bunch grasses on fine textured soils in valley floors and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

A flora and vegetation survey of the areas adjacent to the application area was conducted by staff from Biota Environmental Sciences (2010) in August 2009. This survey suggests that one vegetation type is likely to be present within the application area (Rio Tinto, 2010):

CODcAbAatTw: *Codonocarpus cotinifolius* scattered low trees over *Acacia atkinsiana, Acacia bivenosa* low open shrubs over *Triodia wiseana* very open hummock grassland.

The floristic composition and structure of this vegetation type is well represented in the Pilbara, and would not be considered to hold especially high conservation values (Rio Tinto, 2010).

One weed species, *Cenchrus ciliaris*, was recorded within the application area (Rio Tinto, 2010). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. This species is not listed as a 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

The application area intersects a 10 kilometre buffer zone around the Priority Ecological Community (PEC), 'subterranean invertebrate community of pisolitic mesas in the Pilbara' (DEC, 2010a; GIS Database). This PEC has been given a status of Priority 1, with threatening processes being listed as mining (DEC, 2010a; DEC, 2010b). As the proposed clearing will not impact on the hills or mesas within the Pilbara, it is not likely that there will be a significant impact on the PEC from the proposed clearing.

Rio Tinto (2010) identified one fauna habitat type present within the application area. This habitat is common throughout the Hamersley sub-region and is not considered to be particularly significant habitat for fauna (Rio Tinto, 2010).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

Biota Environmental Sciences (2010)
CALM (2002)
DEC (2010a)
DEC (2010b)
Rio Tinto (2010)
GIS Database:
- Declared Rare and Priority Flora List
- IBRA WA (regions – subregions)

### (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 indigenous to Western Australia.

**Comments**

**Proposal is not likely to be at variance to this Principle**

A fauna survey conducted by Biota Environmental Sciences (2006a) of the broader Warramboo and Mesa A areas recorded a total of 187 vertebrate fauna taxa comprised of three amphibians, 64 reptiles, 93 birds, seven fish and 20 mammals.

One fauna habitat type was recorded by Biota Environmental Sciences (2006a) within the application area:

CODcAbAatTw: *Codonocarpus cotinifolius* scattered low trees over *Acacia atkinsiana, Acacia bivenosa* low open shrubs over *Triodia wiseana* very open hummock grassland on stony plain (Biota Environmental Sciences, 2010).

This habitat is common throughout the Hamersley sub-region of the Pilbara bioregion. It is therefore considered unlikely that the proposed clearing will impact significant habitat for fauna indigenous to Western Australia.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

Biota Environmental Sciences (2006a)
Biota Environmnetal Sciences (2010)

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments**

**Proposal is not likely to be at variance to this Principle**

According to available GIS Databases there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database).

Flora and vegetation surveys were conducted over areas adjacent to the application area by staff from Biota Environmental Sciences (2006b; 2010). No DRF species listed under the *Environmental Protection and Biodiversity Conservation Act 1999* were recorded in the areas adjacent to the application area (Biota Environmental Sciences 2006b; Biota Environmental Sciences 2010). Given similar vegetation communities are located within the application area, it is considered unlikely that the application area contains DRF.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

Biota Environmental Sciences (2006b)
Biota Environmental Sciences (2010)
GIS Database:
- Declared Rare and Priority Flora List

**(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.**

**Comments**

**Proposal is not likely to be at variance to this Principle**

According to the available GIS Databases there are no known records of Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest known TEC is located approximately 151 kilometres south-east of the application area (GIS Database). At this distance, there is little likelihood of any impact to the TEC as a result of the proposed clearing.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

GIS Database:
- Threatened Ecological Sites Buffered

**(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.**

**Comments**

**Proposal is not at variance to this Principle**

The application area falls within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.89% of the pre-European vegetation remains in the bioregion.

The vegetation within the application area is recorded as Beard vegetation association:

583: Hummock grasslands, sparse shrub steppe; kanji and *Acacia bivenosa* over hard spinifex *Triodia basedowii* and *Triodia wiseana* (GIS Database; Shepherd, 2009).

According to Shepherd (2009) approximately 100% of this Beard association remains within the Pilbara bioregion (see table below).

| | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in IUCN Class I-IV Reserves |
|---|---|---|---|---|---|
| IBRA Bioregion - Pilbara | 17,804,193 | 17,785,001 | ~99.89 | Least Concern | ~6.32 |
| Beard vegetation associations - State | | | | | |
| 583 | 243,112 | 243,112 | ~100 | Least Concern | ~35.25 |
| Beard vegetation associations - Bioregion | | | | | |
| 583 | 243,112 | 243,112 | ~100 | Least Concern | ~35.25 |

* Shepherd (2009)
** Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- IBRA WA (regions – subregions)
- Pre-European Vegetation

### (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

**Comments** **Proposal is not at variance to this Principle**
According to available GIS Databases there are no wetlands or watercourses within the application area (GIS Database).

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** GIS Database:
- Hydrography, linear

### (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

**Comments** **Proposal is not likely to be at variance to this Principle**
According to available GIS Databases the application area lies within the Peedamulla land system (GIS Database).

The Peedamulla land system is described as gravelly plains supporting hard Spinifex grasslands and minor snakewood shrublands (Van Vreeswyk et al., 2004). This land system is not prone to erosion (Van Vreeswyk et al., 2004).

Based on the above, the proposed clearing is not likely to be at variance to this Principle. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

**Methodology** Van Vreeswyk et al. (2004)
GIS Database:
- Rangeland Land System Mapping

### (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.

**Comments** **Proposal is not likely to be at variance to this Principle**
The proposed clearing is not located within a conservation reserve (GIS Database). The nearest known conservation area is Cane River Conservation Park located approximately 34 kilometres south of the application area (GIS Database). At this distance the proposed clearing is not likely to impact on the environmental values of this conservation area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database:
- DEC Tenure

### (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.

**Comments** **Proposal is not likely to be at variance to this Principle**
According to available GIS Databases the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is Cane River Water reserve, located approximately 47 kilometres west of the application area.

According to available GIS Databases, there are no wetlands watercourses within the application area (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database:
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

### (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

**Comments**

**Proposal not likely to be at variance to this Principle**

The application area experiences a semi-desert, tropical climate with an average annual rainfall of 403 millimetres recorded from the nearest weather station at Pannawonica approximately 48 kilometres east of the application area (CALM, 2002; BoM, 2011).

Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events. Given the size and the nature of the proposed clearing, it is unlikely to significantly alter the intensity of flooding within the application area and surrounding areas.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** CALM (2002)
BoM (2011)

### Planning instrument, Native Title, Previous EPA decision or other matter.

**Comments**

There is one Native Title Claim (WC99/12) over the area under application (GID Database). This claim has been lodged with the National Native Title Tribunal on behalf of the claimant group. However, the tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the Department of Water, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 31 January 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

**Methodology** GIS Database:
- Aboriginal Sites of Significance
- Native Title NNTT

## 4. References


Biota Environmental Sciences (2006a) Fauna Habitats and Fauna Assemblage of the Mesa A Transport Corridor and Warramboo. Prepared for Rio Tinto Iron Ore. Prepared by Biota Environmental Sciences January 2006.

Biota Environmental Sciences (2006b) A Vegetation and Flora Survey of the Proposed Mesa A transport Corridor, Warramboo Deposit and Yarraloola Borefield. Prepared for Rio Tinto January 2006.

Biota Environmental Sciences (2010) A Vegetation and Flora Survey of Warramboo - Summary report. Prepared for Rio Tinto May 2010.

BoM (2011) BoM Website - Climate Averages by Number, Averages for PANNAWONICA. www.bom.gov.au/climate/averages/tables/cw_002038.shtml (Accessed 14 February 2011).

DEC (2010a) Priority Ecological Communities for Western Australia. Species and Communities Branch, Department of Environment and Conservation. www.dec.wa.gov.au.

DEC (2010b) Definitions, Categories and Criteria for Threatened and Priority Ecological Communities. www.dec.wa.gov.au.

Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Rio Tinto (2010) Statement Addressing the 10 Clearing Principle; Extension of the borrow pit for Warramboo - WAR Road. November 2010. Unpublished Report.

Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (2004) An inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

## 5. Glossary

### Acronyms:

| | |
|---|---|
| **BoM** | Bureau of Meteorology, Australian Government |
| **CALM** | Department of Conservation and Land Management (now DEC), Western Australia |
| **DAFWA** | Department of Agriculture and Food, Western Australia |
| **DEC** | Department of Environment and Conservation, Western Australia |
| **DEH** | Department of Environment and Heritage (federal based in Canberra) previously Environment Australia |
| **DEP** | Department of Environment Protection (now DEC), Western Australia |
| **DIA** | Department of Indigenous Affairs |
| **DLI** | Department of Land Information, Western Australia |
| **DMP** | Department of Mines and Petroleum, Western Australia |
| **DoE** | Department of Environment (now DEC), Western Australia |
| **DoIR** | Department of Industry and Resources (now DMP), Western Australia |
| **DOLA** | Department of Land Administration, Western Australia |
| **DoW** | Department of Water |
| **EP Act** | Environmental Protection Act 1986, Western Australia |
| **EPBC Act** | Environment Protection and Biodiversity Conservation Act 1999 (Federal Act) |
| **GIS** | Geographical Information System |
| **ha** | Hectare (10,000 square metres) |
| **IBRA** | Interim Biogeographic Regionalisation for Australia |
| **IUCN** | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| **RIWI Act** | Rights in Water and Irrigation Act 1914, Western Australia |
| **s.17** | Section 17 of the Environment Protection Act 1986, Western Australia |
| **TEC** | Threatened Ecological Community |

### Definitions:

**{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-**

**P1** **Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

**P2** **Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

**P3** **Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

**P4** **Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

**R** **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

**X** **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

**{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-**

**Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

**Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

**Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

**Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

**{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-**

**P1** **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

**P2** **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

**P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

**P4** **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

**P5** **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

**Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999)***

**EX** **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

**EX(W)** **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

**CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

**EN** **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

**VU** **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

**CD** **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.