



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4617/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: *Iron Ore (Robe River) Agreement Act 1964*, Special Lease for Mining Operations 3116/4629 (Document I 195322 L), Lots 775, 776 on Deposited Plan 31274, Lot 392 on Deposited Plan 217328; Section 91 of the Land Administration Act 1997, Licence Number Lic 00424-2010_2_285

Local Government Area: Shire of Roebourne
Colloquial name: Wickham Townsite Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3		Mechanical Removal	Mineral Production

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 10 November 2011

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 for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database; Shepherd, 2009):

157: Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana*.

A flora and vegetation survey of the application area was conducted by Astron Environmental Services Pty Ltd (Astron) (2011) in May 2011. This survey identified five vegetation types within the application area (Astron, 2011):

CL-01a: *Acacia pyrifolia*, *Acacia bivenosa* and *Grevillea wickhamii* subsp. *hispidula* shrubland to tall shrubland over *Acacia stellaticeps* shrubland over *Triodia epactia* hummock grassland and *Cenchrus ciliaris* open tussock grassland;

CL-01b: *Dolichandrone heterophylla*, *Acacia sabulosa* and *Acacia coriacea* subsp. *coriacea* tall shrubland over *Acacia stellaticeps* shrubland over *Triodia epactia* and *Triodia schinzii* hummock grassland and *Cenchrus ciliaris* open tussock grassland;

CL-01d: *Corymbia hamersleyana* scattered low trees over *Acacia sabulosa* tall shrubland over *Acacia stellaticeps* and *Bonamia rosea* low open shrubland over *Triodia epactia* and *Triodia schinzii* hummock grassland and *Eriachne obtusa*, *Eragrostis eriopoda* and *Cenchrus ciliaris* open tussock grassland;

CL-02d: *Acacia ampliceps* tall shrubland to tall open scrub over *Acacia stellaticeps* and *Pluchea ferdinandi-muelleri* scattered low shrubs over *Triodia epactia* hummock grassland and *Cenchrus ciliaris* open tussock grassland; and

CL-02f: *Acacia stellaticeps* and *Pluchea ferdinandi-muelleri* over *Triodia epactia* hummock grassland and *Eriachne obtusa* and *Cenchrus ciliaris* tussock grassland.

Clearing Description Robe River Mining Co Pty Ltd is proposing to clear up to 3 hectares of native vegetation within a broader boundary of approximately 5.7 hectares for the purpose of constructing a pipeline and associated activities.

Clearing will be conducted using a dozer with blade down techniques. Vegetation will be stockpiled and used in rehabilitation.

Vegetation Condition Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994);

To

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

Comment The application area is located within the Pilbara region of Western Australia and is situated within the Wickham town site.

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 Chichester (PIL1) sub-region of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). This sub-region is characterised by undulating Archaean granite and basalt plains include significant areas of basaltic ranges (CALM, 2002). Broadly, the plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* (formerly *Triodia pungens*) hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on ranges (CALM, 2002).

A flora and vegetation survey of the application area was conducted by Astron (2011) in May 2011. A total of 107 flora taxa from 68 genera and 27 families were recorded within the application area (Astron, 2011). While 107 species within a 5.61 hectare survey area is considered to be relatively high for the Pilbara, all species recorded are considered to be common within the Pilbara bioregion (Astron, 2011). Additionally, it is considered unlikely that the small scale of the clearing (3 hectares within a 5.7 hectare boundary) will impact on biodiversity levels locally or regionally.

Eight introduced taxa, *Aerva javanica*, *Cenchrus ciliaris*, *Cenchrus setiger*, *Lantana camara*, *Macroptilium atropurpureum*, *Merremia dissecta*, *Portulacca oleracea* and *Stylosanthes hamata*, were recorded in the application area during the flora and vegetation survey conducted by Astron (2011). 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 can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. One of these species, *Lantana camara*, is 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.

There are no Priority Ecological Communities (PEC's) within the application area (GIS Database). The nearest known PEC is located approximately 2 kilometres south of the application area (GIS Database). At this distance, there is little likelihood of any impact to the PEC as a result of the proposed clearing.

During a fauna survey of the application area conducted by Astron (2011), one main fauna habitat type was found within the application area. This habitat is considered to be relatively disturbed and widespread in the surrounding areas (Astron, 2011). A number of conservation significant bird species were assessed as being highly likely to be present within the application area (Astron, 2011). Given the common nature of the habitat within the application area, the high mobility of bird species and the small size of the proposed clearing, it is considered unlikely that this proposal will impact on conservation of these species, or the faunal diversity of this area.

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

Methodology Astron (2011)
CALM (2002)
GIS Database:
- IBRA WA (regions – subregions)
- Threatened Ecological Sites Buffered

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

A fauna survey of the application area was conducted by Astron (2011) in May 2011. This survey identified one fauna habitat within the application area (Astron, 2011):

- Coastal plain with low mixed *Acacia* shrubland and *Triodia* hummock grassland.

A desktop and reconnaissance survey conducted by Astron (2011) identified the potential for seven

conservation significant fauna species to occur within the application area:

- Rainbow Bee-eater, *Merops ornatus* (Migratory): breeding visitor to Western Australia with a broad range (Johnstone, 1998);
- White-bellied Sea-eagle, *Haliaeetus leucogaster* (Migratory): broad range along rivers and coastline with almost all breeding occurring on islands (Johnstone, 1998);
- Peregrine Falcon, *Falco peregrines* (Schedule 4): widespread distribution mainly occurring around cliffs along coasts, rivers and ranges, and around wooded watercourses and lakes (Johnstone, 1998);
- Australian Hobby, *Falco longipennis* (Schedule 4): broad distribution preferring lightly wooded country, including open mallee *Eucalyptus youngiana* and marble gum *Eucalyptus gongylocarpa* woodland of the Great Victorian Desert, but preferring the vicinity of water (Johnstone, 1998);
- Australian Bustard, *Ardeotis australis* (Priority 4): widespread distribution occurring in open or lightly wooded grassland (Johnstone, 1998);
- Barn Swallow, *Hirundo rustica* (Migratory): the preferred habitat for this species consists mainly of towns and wetlands (sewage and saltworks ponds, river pools, swamps, tidal creeks and reservoirs) (Johnstone, 2004); and
- Short-tailed Mouse, *Leggadina lakedownensis* (Priority 4): occupies a diverse range of environments from the monsoon tropical coast to semiarid climates (Van Dyck, 2008).

Given that all species are known from wide distributions and the bird species are very mobile, it is considered unlikely that the proposed clearing of 3 hectares of native vegetation will impact on any habitat significant for these species.

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

Methodology Astron (2011)
Johnstone (1998)
Johnstone (2004)
Van Dyck (2008)

(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

There are no known records of Declared Rare Flora (DRF) within the application area (GIS Database). A flora and vegetation survey was conducted over the application area by Astron (2011) in May 2011. No DRF species were recorded during this survey (Astron, 2011).

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

Methodology Astron (2011)
GIS Database:
- Threatend and Priority Flora

(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

There are no known records of Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest known TEC is approximately 161 kilometres south 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 is located within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.89% of the pre-European vegetation remains in the Pilbara bioregion.

The vegetation in the application area has been broadly mapped as Beard vegetation association:

157: Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana*.

According to Shepherd (2009) approximately 99.94% of Beard vegetation association 157 remains within the Pilbara bioregion (see table on next page).

	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					
157	502,729	501,514	~99.76	Least Concern	~17.95
Beard vegetation associations - Bioregion					
157	198,634	198,519	~99.94	Least Concern	~5.69

* Shepherd (2009)

** Department of Natural Resources and Environment (2002)

The vegetation within the application area is not considered to be a remnant of native vegetation in an area that has been extensively cleared.

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 databases there are no known watercourses within the application area (GIS Database). A flora and vegetation survey conducted by Astron (2011) did not identify any vegetation growing in association with watercourses within the application area.

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

Methodology Astron Environmental Services (2011)
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

The application area lies within the Uaroo land system (GIS Database). This land system is characterised by broad sandy surfaced plains with hard and soft Spinifex and is generally not susceptible to erosion (Payne, 1992).

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

Methodology Payne (1992)
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 onshore conservation reserve is the Millstream Chichester National Park, located approximately 54 kilometres south of the application area (GIS Database). At this distance it is unlikely that the proposed clearing will impact on the environmental values of any conservation areas (GIS Database).

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 Databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is the Roebourne Water Reserve, located approximately 11.5 kilometres south of the application area (GIS Database). At this distance it is unlikely that the proposed clearing will impact on the quality of the Roebourne Water Reserve.

The groundwater salinity within the application area is approximately 1,000 – 3,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). Given the small amount of clearing proposed (3 hectares) within the Pilbara Water Reserve (55,576,651 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

According to available databases, there are no permanent wetlands or watercourses within the application area (GIS Database). It is therefore considered unlikely that the proposed clearing will impact on the quality of any surface water.

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

Methodology GIS Database:
- Groundwater Provinces
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Area (PDWSA)

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

Local flooding occurs seasonally in the Pilbara region as a result of cyclonic activity and sporadic thunderstorm activity. The soils within the application area have been defined as freely-draining sands or sandy loam (Astron, 2011). Additionally, given the small size of the application area (3 hectares), it is considered unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding within the application area.

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

Methodology Astron (2011)

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

Comments

There is one Native Title Claim (WC99/14) over the area under application (GIS Database). This claim has been registered with the 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 17 October 2011 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received regarding potential dust issues that may result from the proposed clearing within close proximity to a residential area. Potential dust issues resulting from the proposed clearing may be minimised by the implementation of a staged clearing condition and a rehabilitation condition.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Determined by the Federal Court

4. References

- Astron Environmental Services (2011) Cape Lambert Sewer Connection Vegetation, Flora and Fauna Survey. Unpublished Report prepared for Rio Tinto Iron Ore Dated May 2011.
- 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.
- Johnstone R.E. and Storr G.M. (1998) Handbook of Western Australian Birds Volume I - Non-Passerines (Emu to Dollarbird). Western Australian Museum, Perth, Western Australia.
- Johnstone R.E. and Storr G.M. (2004) Handbook of Western Australian Birds Volume II - Passerines (Blue-Winged Pitta to Goldfinch). Western Australian Museum, Perth, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Payne A.L. and Tille P.J. (1992) Technical Bulletin No. 83: An inventory and condition survey of the Roebourne Plains and surrounds, Western Australia. Department of Agriculture, Western Australia.
- 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 Dyck S. and Strahan R. (2008) The Mammals of Australia Third Edition. The Australian Museum Trust/Queensland Museum.

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.