



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3419/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Pty Ltd

1.3. Property details

Property: Iron Ore (Cleveland Cliffs) Agreement Act 1964; Mineral Lease 248SA (AML70/248)
Local Government Area: Shire of Ashburton and Shire of East Pilbara
Colloquial name: Angelo River Drilling Project

1.4. Application

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

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, 2007).

18: Low woodland; mulga (*Acacia aneura*).

The application area was surveyed by Rio Tinto staff on 1 and 2 April 2009 (Rio Tinto, 2009). The following vegetation type was identified within the application area:

Vegetation from the Valley Floor on a Slight Stony Slope

ErAbTpTb: *Eucalyptus repullulans*, *Eucalyptus pilbarensis* low open forest over *Acacia bivenosa* open shrubland over *Triodia pungens*, *Triodia basedowii* hummock grassland (Rio Tinto, 2009).

No weed species were recorded within the application area (Rio Tinto, 2009).

Clearing Description Robe River Pty Ltd is proposing to clear up to 0.16 hectares of native vegetation within an area of 1.8 hectares (Rio Tinto, 2009). The proposed program is to establish a track to gain access to a proposed exploration drilling program at Angelo River tenement E47/1050 (Rio Tinto, 2009). The proposed access track is 330 metres in length and 50 metres wide (Rio Tinto, 2009).

Vegetation Condition Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment The application area is located in the Pilbara region, approximately 107 kilometres east of Paraburdoo (GIS Database). The vegetation condition was derived from a vegetation survey conducted by Rio Tinto (2009).

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) subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils on the ranges (CALM, 2002).

A vegetation survey of the application area and surrounding vegetation identified 110 native flora species belonging to 61 genera from 61 families (Rio Tinto, 2009). This species richness is considered to be typical for the Pilbara area (Rio Tinto, 2009).

One habitat type was recorded over the survey area;

- Stony slopes of *Eucalyptus repullulans*, *Eucalyptus pilbarensis* low open forest over *Acacia bivenosa* open shrubland over *Triodia pungens*, *Triodia basedowii* hummock grassland (Rio Tinto, 2009).

This habitat type was observed to be both common and widespread in the Pilbara bioregion, and is unlikely to be of higher biodiversity than the surrounding areas. The proposed clearing is unlikely to have a significant impact on the biological diversity of the region, or comprise of a high level of biological diversity (Rio Tinto, 2009).

No weed species were recorded within the application area (Rio Tinto, 2009). 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. Should the permit be granted, it is recommended that appropriate conditions be imposed on the permit for the purpose of weed management.

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

Methodology CALM (2002)
Rio Tinto (2009)
GIS Database
- Interim Biogeographic Regionalisation of Australia

(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

One broad habitat type was recorded within the application area. This was comprised of stony slopes of *Eucalyptus repullulans*, *Eucalyptus pilbarensis* low open forest over *Acacia bivenosa* open shrubland over *Triodia pungens*, *Triodia basedowii* hummock grassland (Rio Tinto, 2009).

Four mounds of the Western Pebble-mound Mouse (*Pseudomys chapmanii*) were observed from within the application area (Rio Tinto, 2009). The Western Pebble-mound Mouse is recorded as being widespread and abundant within the Hamersely subregion, with the status of the species being secure (CALM, 2002).

The fauna habitat identified within the application area is not considered as necessary for the on-going maintenance of any significant fauna habitat. It is likely that equal or higher quality vegetation and fauna habitats would exist throughout the surrounding area, and Pilbara region.

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

Methodology CALM (2002)
Rio Tinto (2009)

(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) or Priority Flora within the application area (GIS Database). The nearest record of DRF is a population of *Lepidium catapycnon* (DRF) located approximately 19 kilometres north-east of the application area (GIS Database).

A flora survey was conducted over the application area by staff from Rio Tinto on 1 and 2 April 2009 (Rio Tinto, 2009). The application area was systematically traversed on foot using a grid search technique (Rio Tinto, 2009).

No DRF or Priority Flora species were recorded during the survey (Rio Tinto, 2009).

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

Methodology Rio Tinto (2009)
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

A search of available databases reveals that there are no Threatened or Priority Ecological Communities (TEC's

or PEC's) within the application area (GIS Database).

The nearest TEC is located approximately 120 kilometres north-west of the application area (Themeda Grasslands), whilst, the nearest PEC is located approximately 6 kilometres north of the application area (West Angelas Cracking Clays) (GIS Database). At this distance there is little likelihood of any impact to the TEC or PEC from 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 Communities

(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 IBRA bioregion (GIS Database). Shepherd (2007) reports that approximately 99.95% of the pre-European vegetation still exists in this bioregion.

The vegetation in the application area is recorded as Beard Vegetation Association:
18: Low woodland; mulga (*Acacia aneura*) (GIS Database; Shepherd, 2007).

According to Shepherd (2007) approximately 100% of this Beard Vegetation 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	17,804,187.89	17,794,646.75	~99.95%	Least Concern	~6.32%
IBRA Subregion - Hamersley	5,634,725.56	5,634,725.56	~100%	Least Concern	~12.88%
Beard vegetation associations - State					
18	19,892,305	19,890,195	~100%	Least Concern	~2.1%
Beard vegetation associations - Bioregion					
18	676,557	676,557	~100%	Least Concern	~16.8%

* Shepherd (2007)

** 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 (2007)
GIS Database
- Interim Biogeographic Regionalisation for Australia
- 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 at variance to this Principle

According to available GIS Databases, there are no permanent watercourses within the application area, however, there are two minor, non-perennial watercourses within the application area (GIS Database).

The vegetation association found within the application area is not associated with drainage areas (Rio Tinto, 2009). This vegetation community is not unique and is considered common and widespread in the Pilbara bioregion (Shepherd, 2007; GIS Database). The proposed clearing is unlikely to significantly impact on vegetation communities growing in association with drainage channels within the application area.

Based on the above, the proposed clearing is at variance to this Principle. However, the clearing of 0.16 hectares of vegetation is unlikely to have a significant impact on the extent of the vegetation community within the application area, or local area.

Methodology Rio Tinto (2009)

(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 has been surveyed by the Department of Agriculture and Food (Van Vreeswyk et al., 2004). The application area is composed of the following land system (GIS Database);

- Platform Land System

The Platform Land System is described as dissected slopes and raised plains supporting hard spinifex grasslands (Van Vreeswyk et al., 2004). This system is not susceptible to erosion or vegetation degradation (Van Vreeswyk et al., 2004). An analysis of aerial photography for the application area reveals the application area is most likely to fall within the 'Stony Slopes' land unit. The soils of this land unit (red shallow loams and stony soils) are not susceptible to erosion due to a surface mantle of very abundant pebbles and cobbles of ironstone and other rocks (Van Vreeswyk et al., 2004; Rio Tinto, 2009; GIS Database).

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

Methodology Rio Tinto (2009)
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 reserve is the Karijini National Park, located approximately 18 kilometres north-west (GIS Database; Rio Tinto, 2009).

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

Methodology Rio Tinto (2009)
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 groundwater salinity within the application area is approximately 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be potable water. Given the size of the area to be cleared (0.16 hectares) compared to the size of the Hamersley Groundwater Province (10,166,832 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

There are no known groundwater dependent ecosystems within the application area (GIS Database).

The minor non-perennial flowlines within the application area are only likely to flow during or after seasonal flood events or substantial localised falls (GIS Database). Given the small area to be cleared (0.16 hectares) it is unlikely that surface runoff will be significantly impacted or altered.

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
- Potential Groundwater Dependent Ecosystems
- Public Drinking Water Source Area

(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

The application area experiences a semi-desert tropical climate with an average annual rainfall of 283.8 millimetres recorded from the nearest weather station at Paraburdoo approximately 107 kilometres west of the application area (CALM, 2002; BoM, 2009).

Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events (Rio Tinto, 2009). The small size of the application area (0.16 hectares) is unlikely to significantly alter the intensity of flooding within the application area and surrounding areas.

The application area is located within the Ashburton River catchment area (GIS Database). However, the small area to be cleared (0.16 hectares) in relation to the size of the Ashburton River catchment area (7,877,743 hectares) (GIS Database) is not likely to increase the potential for flooding within the application area, local area or within the catchment (GIS Database).

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

Methodology BoM (2009)
CALM (2002)
GIS Database
- Hydrographic Catchments - Catchments

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

Comments

There is one Native Title Claim (WC97_043) over the area under application. This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the tenement 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 known Aboriginal sites of significance within close proximity of 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 DoW, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

One public submission was received stating no objection to the proposal.

Methodology GIS Database
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The proposal has been assessed against the Clearing Principles, and the proposal is at variance to Principle (f), is not likely to be at variance to Principles (a), (b), (c), (d), (g), (h), (i) and (j) and is not at variance to Principle (e).

It is recommended that should a permit be granted, conditions be imposed on the permit for the purpose of weed management, stockpiling all cleared topsoil and vegetation, record keeping and permit reporting.

5. References

- BoM (2009) Bureau of Meteorology Website - Climate Averages by Number, Averages for PARABURDOO.
http://www.bom.gov.au/climate/averages/tables/cw_001718.shtml (Accessed 20 November 2009)
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL3 - Hamersley subregion) Department of Conservation and Land management, Western Australia
- 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 (2009) Botanical Survey for a Track at Angelo River. Unpublished Report dated September 2009. Rio Tinto, Western Australia
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), 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, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
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	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

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 in 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.