Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5147/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Ltd

1.3. Property details

Property: *Iron Ore (Robe River) Agreement Act 1964*, Mineral Lease 248SA (AML 70/248)
Local Government Area: Shire of Ashburton
Colloquial name: Robe Valley Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application:
Decision Date:

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 and are useful to look at vegetation in a regional context. One Beard vegetation association has been mapped within the application area:

Beard vegetation association 583: Hummock grasslands, sparse shrub steppe; kanji & *Acacia bivenosa* over hard spinifex *Triodia basedowii* & *T. wiseana* (Government of Western Australia, 2011; GIS Database).

Rio Tinto (2012) conducted flora and vegetation survey of the application area. The vegetation survey identified and mapped one vegetation type within the application area:

F3 - *Acacia inaequilatera* (regrowth) scattered shrubs over Acacia notabilis, *Corchorus sidoides* low open heath over *Triodia pungens*, *T. wiseana* very open hummock grassland (Rio Tinto, 2012).

Clearing Description

Hamersley Iron Pty Ltd is proposing to clear up to one hectare of native vegetation within a larger application area of seven hectares for the Robe Valley Project. The clearing of vegetation is required for evaluation and exploration activities (troglofauna sampling programme).

The vegetation will be cleared using a dozer, using raised blade clearing techniques where possible. Blade down clearing may be required in areas of steep or rough terrain. The vegetation and topsoil will be stockpiled separately for use in rehabilitation.

Vegetation Condition

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

Comment

The application area is located in the Hamersley subregion of Western Australia and is situated approximately 86 kilometres east of the Onslow town site (GIS Database).

The vegetation condition was derived from a vegetation survey conducted by Rio Tinto (2012).

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 subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by mountainous area of Proterozoic sedimentary ranges and plateaux, dissected by gorges. Mulga low woodland 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 application area was undertaken by Rio Tinto (2012) from 14 to 16 November 2011. The vegetation type within the application area was not considered to be of high conservation significance and is considered to be well represented within the Hamersley subregion (Rio Tinto, 2012). No Threatened Flora, Priority Flora, Threatened Ecological Communities or Priority Ecological Communities were

recorded during the botanical survey or have previously been recorded within the application area (Rio Tinto, 2012; GIS Database).

Five introduced flora species were recorded within the application area and the surrounding region (Rio Tinto, 2012). Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

One fauna habitat type was identified within the application area and is considered to be of low ecological significance (Rio Tinto, 2012). The good condition of the vegetation, close proximity to active mining and lack of vegetative cover and landforms makes the area unsuitable for any foraging or nesting habitat for potential fauna (Keighery, 1994; Rio Tinto Iron Ore, 2012; GIS Database). The clearing of one hectare of native vegetation within a seven hectare application area is unlikely to have a significant impact in a regional and local context.

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

Methodology
CALM (2002)
Keighery (1994)
Rio Tinto (2012)
GIS Database:
- Yarraloola 1.4m Orthomosaic - Landgate 2001
- IBRA WA (Regions - Subregions)
- Pre-European vegetation
- 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 is not likely to be at variance to this Principle
No targeted fauna surveys have been conducted over the application area. A flora survey conducted by Rio Tinto (2012) identified no potentially significant faunal habitats within the application area, and aerial imagery (GIS Database) suggests that the habitat present within the application area appears to be abundant within the local area (GIS Database). Fauna habitats within the application area are limited due to the lack of vegetative cover and landforms, and the existing level of disturbance. While highly mobile species may temporarily utilise the survey area, the degraded condition of the native vegetation, and proximity to active mining would most likely cause the application area to be avoided by most fauna. The ecological values of the potential fauna habitats are therefore considered to be low (Rio Tinto, 2012). The proposed clearing of one hectare of native vegetation is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species as the application area does not contain significant faunal habitats.

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

Methodology
Rio Tinto (2012)
GIS Database:
- Yarraloola 1.4m Orthomosaic - Landgate 2001

(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 databases, there are no records of Threatened Flora species within the application area (GIS Database). A search of the Department of Environment and Conservation's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a ten kilometre radius of the application area (DEC, 2012).

Rio Tinto (2012) conducted a vegetation and flora survey of the application area between 14 and 16 November 2011, during which no Threatened Flora species were recorded within the survey area.

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

Methodology
DEC (2012)
Rio Tinto (2012)
GIS Database:
- Threatened 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
A search of the available databases shows that there are no Threatened Ecological Communities situated

within 50 kilometres of 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
- 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 IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

Beard vegetation association 583: Hummock grasslands, sparse shrub steppe; kanji & *Acacia bivenosa* over hard spinifex *Triodia basedowii* & *T. wiseana* (Government of Western Australia, 2011; GIS Database).

According to the Government of Western Australia (2011), Beard vegetation association 583 retains approximately 100% of its pre-European extent. The local area has been extensively cleared, however the area proposed to be cleared is not a significant remnant of native vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,427	17,729,352	~99.58	Least Concern	6.32
Beard vegetation associations - State					
583	243,112	243,112	~100.00	Least Concern	35.25
Beard vegetation associations - Bioregion					
583	243,112	243,112	~100.00	Least Concern	35.25

* Government of Western Australia (2011)
** 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)
Government of Western Australia (2011)
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 watercourses or wetlands within the application area (GIS Database). The vegetation within the application area is not considered to be growing in association with any watercourse or wetland.

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

Methodology GIS Database:
- Geodata, Lakes
- 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 is within the Stuart land system (GIS Database).

The Stuart land system is described as gently undulating stony plains supporting hard and soft spinifex grasslands and snakewood shrublands. The system is generally resistant to erosion except for some lower

plains and drainage tracts which are slightly to moderately susceptible (Van Vreeswyk et al., 2004).

The removal of one hectare of native vegetation within a seven hectare application area is unlikely to result in water-logging, acidification, salinisation or deep subsoil compaction, and significant erosion was not observed within the application area despite localised clearing.

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

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 application area is not located within any conservation area (GIS Database). The nearest conservation area is the Cane River Conservation Park, located approximately 28 kilometres south-west of the application area (GIS Database).

Given the distance of the application area from the Cane River Conservation Park, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the 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**
The application area is not located within a Public Drinking Water Source Area (GIS Database). The application area is located within the proclaimed Pilbara groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

There are no permanent watercourses or water bodies within the application area (GIS Database). Any surface water within the application area is likely to only remain for short periods following significant rainfall events. The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application area.

Given the low impact nature of the proposed clearing activities, the proposed clearing is not likely to cause deterioration in the quality of any underground water.

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
- RIWI Act, Groundwater Areas

(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 annual average rainfall of approximately 406.3 millimetres per year (CALM, 2002; BoM, 2012). Based on an average annual evaporation rate of 3,200 - 3,600 millimetres (BoM, 2012), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (one hectare) compared to the size of the Robe River catchment area (757,138 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

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

Methodology BoM (2012)
CALM (2002)

GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There is one Native Title claim over the area under application (WC99/12). This claim was registered with the National Native Title Tribunal on 24 June 1999. The mining 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 30 July 2012 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received in relation to this application regarding an extension of the comment period. A written response was provided on the matters raised.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court
- Native Title Claims - Registered with the NNTT

4. References

BoM (2012) Climate Statistics for Australian Locations. A Search for Climate Statistics for Wittenoom, Australian Government Bureau of Meteorology, viewed 17 August 2012, <http://reg.bom.gov.au/climate/averages/tables/cw_005026.shtml>.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL4 - Hamersley subregion) Department of Conservation and Land Management, Western Australia

DEC (2012) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 28 August 2012, <http://naturemap.dec.wa.gov.au>.

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.

Government of Western Australia (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.

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 (2012) Flora and Vegetation Survey for Proposed Robe Valley Regional Troglofauna Sampling ? Native Vegetation Clearing Permit Supporting Report, February 2012.

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.