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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5996/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Robe River Limited**

1.3. Property details

Property: *Iron Ore (Robe River) Agreement Act 1964*, Mineral Lease 248SA (AML 70/248)
Local Government Area: Shire of East Pilbara
Colloquial name: West Angelas Deposit C Drill Program

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 21 August 2014

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. The following Beard vegetation associations are located within the application area (GIS Database):

18: Low woodland; mulga (*Acacia aneura*); and
82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*.

Several flora and vegetation surveys have covered or intersected the application area. The most recent survey was conducted by Biota Environmental Sciences (Biota) between 7 and 8 September 2013 with the survey area covering 140 proposed drill holes and associated tracks for the West Angelas Deposit C Exploration Program (survey area of 131.9 hectares) (Biota, 2013). This survey area occurs within the larger application area (approximately 855 hectares) and included a description of vegetation types in the survey area, although a vegetation map was not included. Biota (2013) also reviewed previous surveys conducted over the area. Rio Tinto (2013) has sourced vegetation mapping for the application area from two previous flora and vegetation surveys that were conducted by Biota in August 2010 and Ecologia in July and August 2012 (Biota, 2010; Ecologia, 2013). According to Rio Tinto (2013), the following 12 vegetation associations occur within the application area:

Hilltops and Slopes
1. AiSggTw - *Acacia inaequilatera* isolated trees over *Senna glutinosa* subsp. *glutinosa* open shrubland over *Triodia wiseana* or *Triodia pungens* open hummock grassland.
2. AbPrIa - *Acacia bivenosa* isolated trees over *Ptilotus rotundifolius* isolated shrubs over *Ischaemum albovillosum* isolated tussock grasses.
3. AaSggEp - *Acacia aptaneura* open woodland over *Senna glutinosa* subsp. *glutinosa* isolated shrubs over *Enneapogon polyphyllus* isolated tussock grasses.

Plains
4. ApTb - *Acacia pruinocarpa* sparse woodland over *Triodia basedowii* and/or *T. pungens* open hummock grassland.
5. ApEcTp - *Acacia pruinocarpa* sparse woodland over *Eremophila caespitosa* sparse shrubland over *Triodia pungens* open hummock grassland.
6. AaEffTp - *Acacia aptaneura* open woodland over *Eremophila fraseri* subsp. *fraseri* sparse shrubland over *Triodia pungens* sparse hummock grassland.
7. PnnAp - *Ptilotus nobilis* subsp. *nobilis* isolated shrubs over *Astrebla pectinata* open tussock grassland.
8. SggGrTp - *Senna glutinosa* subsp. *glutinosa* sparse woodland over *Gossypium robinsonii* sparse shrubland over *Triodia pungens* hummock grassland.

Floodplains and Drainages
9. ExPnnTt - *Eucalyptus xerothermica* sparse woodland over *Ptilotus nobilis* subsp. *nobilis* sparse shrubland over *Themeda triandra* open tussock grassland.
10. AaPoEp - *Acacia aptaneura* open woodland over *Ptilotus obovatus* sparse shrubland over *Enneapogon polyphyllus* isolated tussock grasses.
11. AaAoAc - *Acacia aptaneura* sparse woodland over *Abutilon otocarpum* isolated shrubs over *Aristida contorta*

sparse tussock grassland.
12. AaSaoTp - *Acacia aptaneura* open woodland over *Senna artemisioides* subsp. *oligophylla* sparse shrubland over *Triodia pungens* open hummock grassland.

The following four broad vegetation types were described by Biota (2013) within the application area:

Vegetation of Plains
1. P1: AanTp/G - *Acacia aneur*a low open woodland over *Triodia pungens* very open hummock grassland over mixed open tussock grassland.

2. P2: G - Mixed open tussock grassland.

Vegetation of Hills and Slopes
3. H1: ElAprAbTpTsps - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia pruinocarpa* scattered tall shrubs over *Acacia bivenosa* scattered shrubs over *Triodia pungens*, *T.* sp. *Shovelanna* Hill (S. van Leeuwen 3835).

Vegetation of Drainage Lines
4. D1: EvAci/G - *Eucalyptus victrix*, *Acacia citrinoviridis* low open woodland over mixed open tussock grassland.

A flora survey of the amendment area (amendment application CPS 5996/2) conducted by Rio Tinto (2014) identified six additional vegetation units:

Vegetation of Hillslopes
H1 – Rolling Hills
Eucalyptus leucophloia, E. gamophylla low open forest over *Acacia bivenosa, A. maitlandii*, *Senna glutinosa* subsp. *pruinosa* open shrubland over *Triodia wiseana, T. epactia* hummock grassland.

H2 – Rocky Slope
Eucalyptus leucophloia low open forest over *Senna glutinosa* subsp. *pruinosa* scattered shrubs over *Triodia pungens, T. epactia* hummock grassland.

H4 – Lower slope
Eucalyptus trivalva low open woodland over *Acacia bivenosa* open shrubland over *Triodia longiceps, T. wiseana* hummock grassland.

H5 – Rocky slope
Eucalyptus leucophloia, Acacia catenulata, A. aptaneura low open forest over *Triodia wiseana* hummock grassland.

H7 – Lower slope
Eucalyptus leucophloia low open woodland over Acacia pruinocarpa high open shrubland over Acacia maitlandii, A. monticola open heath over Triodia basedowii, T. wiseana hummock grassland.

H8 – Rocky outcrop
Eucalyptus leucophloia, Acacia catenulata low open forest over *Senna glutinosa* subsp. *pruinosa* open shrubland over *Triodia pungens* hummock grassland.

Clearing Description

West Angelas Deposit C Drill Program.
Robe River Limited proposes to clear up to 75 hectares of native vegetation within a total boundary of approximately 1030.5 hectares, for the purpose of an exploration drilling program. The project is located approximately 95 kilometres east of Paraburdoo, in the Shire of East Pilbara.

Vegetation Condition

Pristine: No obvious signs of disturbance (Keighery, 1994);

To:

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

Comment

The condition of each vegetation unit by Biota (2013) was determined using a scale based on Trudgen (1988). These condition ratings have been converted to the Keighery (1994) scale.

According to Biota (2013), disturbance was limited to low cattle activity and some track clearing.

3. Assessment of application against clearing principles

Comments

Robe River Limited (Robe River) has applied to increase the area permitted to clear from 25 hectares to 75 hectares, and the permit boundary from 855 hectares to 1,030.5 hectares.

A flora survey of the amendment area conducted by Rio Tinto (2014) identified an additional six vegetation communities occurring within the extended permit boundary. None of these vegetation communities are considered to be of higher diversity than those assessed within clearing permit decision report CPS 5996/1, and the vegetation types are not considered to be a remnant locally or regionally. No vegetation communities recorded are considered to be Threatened or Priority Ecological Communities (GIS Database).

There were two records of Priority Flora species recorded within the amended permit boundary: three populations totalling 17 individuals of *Indigofera* sp. Gilesii (Priority 3) and nine populations totalling 79 individuals of *Sida* sp. Barlee Range (Rio Tinto, 2014). These two Priority Flora species are well represented in

the local and regional area (Western Australian Herbarium, 2014) with over 90 locations comprising over 590 individuals of *Indigofera* sp. Gilesii and over 800 locations of *Sida* sp. Barlee range identified in Rio Tinto surveys (Rio Tinto, 2014). The proposed clearing of the known populations of Priority Flora species within the amended permit boundary is unlikely to impact their conservation significance.

Therefore, the proposed clearing may be at variance to Principles (a), is not likely to be at variance to Principles (c) and (d), and is not at variance to Principle (e).

The faunal habitats present within the amended permit boundary are consistent with those assessed in clearing permit decision report CPS 5996/1. Opportunistic faunal sightings by Rio Tinto (2014) during the flora survey recorded three Western Pebble-mound Mouse (*Pseudomys chapmani*) (Priority 4) mounds within the amended permit boundary. This species is widespread within the ranges of the central and southern Pilbara (Van Dyck & Strahan, 2008). Therefore, the proposed clearing is not likely to be at variance to Principle (b).

Current environmental information has been reviewed and the assessment of clearing principles (f), (g), (h), (i) and (j) is consistent with the assessment in clearing permit decision report CPS 5996/1.

Methodology

Rio Tinto (2014)
Van Dyck & Strahan (2008)
Western Australian Herbarium (2014)
GIS Database:
- DEC Tenure
- Evaporation Isopleths
- Groundwater Salinity
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Public Drinking Water Source Areas
- Rangeland Land System Mapping
- Rainfall, Mean Annual
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

There is one Native Title claim over the area under application (GIS Database). The claim WC2010/011 has been registered with the National Native Title Tribunal on behalf of the claimant group. However, 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 is one registered Aboriginal Site of Significance within the application area (Site ID: 16648) (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 Regulation, Department of Parks and Wildlife 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 amendment application was advertised on 21 July 2014 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the application.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT

4. References

Biota (2013) West Angelas Deposit C (AR-13-11587) Rare Flora Report. Unpublished report prepared by Biota Environmental Sciences for Rio Tinto Pty Ltd. Dated November 2013.

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 Iron Ore (Rio Tinto) (2014) Resource Evaluation Drilling at Deposit H West Angelas - Rare Flora Survey Report. Internal Document, June 2014.

Van Dyck, S. and Strahan, R. (2008) The Mammals of Australia, Third Edition. Reed New Holland, Sydney.

Western Australian Herbarium (2014) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. Viewed 5 August 2014 <http://florabase.dpaw.wa.gov.au/>.

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.