



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3893/4
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, Mineral Lease 248SA (AML70/248)
Local Government Area: Shire of Ashburton
Colloquial name: West Angelas Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
31		Mechanical Removal	Mineral Exploration and Hydrogeological Investigations

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 13 November 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 have been mapped within the application area (GIS Database):

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

The CPS 3893/2 permit area was surveyed by Rio Tinto staff on 18 to 20 May 2010 (Rio Tinto, 2010). The following vegetation types were identified within the application area:

Stony Slope Vegetation

SS1: *Eucalyptus gamophylla* low open forest over *Acacia bivenosa*, *Acacia pruinocarpa* open shrubland over *Eremophila forrestii*, *Keraudrenia velutina* low open shrubland over *Triodia pungens*, *Triodia basedowii* open hummock grassland;

SS2: *Eucalyptus gamophylla*, *Eucalyptus leucophloia*, *Acacia aneura* low open forest over *Acacia bivenosa* open shrubland over *Eremophila forrestii* low open shrubland over *Triodia basedowii*, *Triodia pungens* and *Triodia melvillei* hummock grassland over *Cymbopogon ambiguus* very open tussock grassland;

SS3: *Eucalyptus leucophloia*, *Corymbia hamersleyana* low open forest over *Acacia maitlandii* open shrubland over *Triodia* sp. Mt Ella, *Triodia wiseana* hummock grassland;

SS4: *Eucalyptus leucophloia*, *Eucalyptus gamophylla* low open woodland over *Acacia bivenosa* shrubland over *Acacia effusa*, *Acacia tenuissima* low open shrubland over *Triodia basedowii*, *Triodia wiseana* hummock grassland;

SS5: *Eucalyptus leucophloia* low open woodland over *Acacia bivenosa* open shrubland over *Ptilotus rotundifolius* low open shrubland over *Triodia pungens* hummock grassland;

SS6: *Eucalyptus gamophylla*, *Eucalyptus socialis*, *Acacia catenulata* low open forest over *Rulingia luteiflora* open shrubland over *Keraudrenia velutina*, *Sida cardiophylla*, *Sida arsinata* low shrubland over *Triodia pungens* open hummock grassland;

SS7: *Eucalyptus leucophloia*, *Corymbia hamersleyana* low open forest over *Acacia adoxa*, *Mirbelia viminalis* low open heath over *Triodia wiseana* hummock grassland;

SS8: *Eucalyptus leucophloia*, *Corymbia ferritcola*, *Hakea lorea* low open forest over *Acacia pyrifolia*, *Acacia bivenosa* open shrubland over *Triodia wiseana*, *Triodia* sp. Mt Ella hummock grassland;

SS9: *Acacia aneura*, *Acacia pruinocarpa*, *Acacia ayersiana*, *Rulingia luteiflora* open heath over *Acacia bivenosa*, *Senna luerssenii*, *Eremophila forrestii* low open shrubland over *Triodia basedowii* open hummock grassland over

Cymbopogon ambiguus very open tussock grassland;

Vegetation from Rocky Crests

RC1: *Eucalyptus leucophloia* low open forest over *Acacia monticola* open shrubland over *Triodia* sp. Mt Ella, *Triodia wiseana* hummock grassland over *Eriachne mucronata* very open tussock grassland;

RC2: *Eucalyptus leucophloia*, *Acacia aneura* low open forest over *Ptilotus rotundifolius* low open shrubland over *Triodia wiseana*, *Triodia* sp. Mt Ella hummock grassland over *Cymbopogon ambiguus* scattered tussock grass;

Flowline Vegetation

FL1: *Corymbia hamersleyana*, *Grevillea wickhamii*, *Eucalyptus xerothermica* low open forest over *Acacia pyrifolia*, *Gossypium robinsonii*, *Senna glutinosa* shrubland over *Tephrosia rosea* low shrubland over *Triodia pungens* very open hummock grassland over *Themeda triandra*, *Eriachne tenuiculmis*, *Cenchrus ciliaris* tussock grassland (Rio Tinto, 2010).

Based on vegetation mapping done by Ecologia (2013) the following vegetation units are located within the additional areas for CPS 3893/3:

Plain

AaSITp: *Acacia aptaneura* open woodland over *Solanum lasiophyllum* isolated shrubs over *Triodia pungens* open hummock grassland;

AbTp: *Acacia pruinocarpa* sparse woodland over *Triodia basedowii* and/or *T. pungens* open hummock grassland;

PsAjs: *Pterocaulon sphacelatum* sparse herbland and *Aristida jerichoensis* var. *subspinulifera* isolated tussock grasses;

Drainage

EgKvPm: *Eucalyptus gamophylla* sparse woodland over *Keraudrenia velutina* isolated shrubs over *Paraneurachne muelleri* isolated tussock grasses; and

ExPnnTp: *Eucalyptus xerothermica* sparse woodland over *Ptilotus nobilis* subsp. *Nobilis* sparse shrubland over *Themeda triandra* open tussock grassland.

A flora survey of the amendment area and surrounding area (amendment application CPS 3893/4) conducted by Rio Tinto (2014) identified 13 additional vegetation units:

Vegetation of rocky slopes

S1: Low open woodland of *Eucalyptus leucophloia* with scattered *Corymbia deserticola* subsp. *deserticola* and *Hakea chordophylla* over hummock grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) and *Triodia wiseana*;

S2: Low open woodland of *Eucalyptus leucophloia* over hummock grassland of *Triodia epactia*;

S3: Tall open (mallee) shrubland of *Eucalyptus gamophylla* over open hummock grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835);

S4: Tall open (mallee) shrubland of *Eucalyptus gamophylla* over open shrubland of *Acacia bivenosa*, *Acacia adsurgens*, *Acacia maitlandii* over open hummock grassland of *Triodia epactia*;

S5: Open hummock grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with scattered emergent *Hakea chordophylla* shrubs;

Vegetation of undulating slopes and low rises

U1: Scattered tall (mallee) shrubs of *Eucalyptus socialis* subsp. *eucentrica* and *Eucalyptus trivalva* over open hummock grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835);

U2: Tall open (mallee) shrubland of *Eucalyptus socialis* subsp. *eucentrica* over scattered low shrubs of *Ptilotus rotundifolius* over open hummock grassland of *Triodia epactia*;

Vegetation of plains

P1: Low woodland of *Acacia aptaneura*, *Acacia catenulata* subsp. *occidentalis*, *Acacia ayersiana* and *Acacia aneura* over low open shrubland of *Eremophila forrestii* subsp. *forrestii* over open hummock grassland of *Triodia epactia* over scattered tussock grasses of *Aristida contorta*;

P2: Scattered low trees of *Corymbia hamersleyana*, *Acacia pruinocarpa*, *Corymbia deserticola* subsp. *deserticola*, *Acacia aptaneura* and *Acacia catenulata* subsp. *occidentalis* over scattered tall (mallee) shrubs of *Eucalyptus gamophylla*, *Eucalyptus trivalva* and *Eucalyptus socialis* subsp. *eucentrica* over open hummock grassland of *Triodia epactia*;

Vegetation of gullies

G1: Low woodland of *Corymbia ferriticola*, *Eucalyptus leucophloia* and *Acacia catenulata* subsp. *occidentalis* over tall open shrubland of *Acacia monticola* over very open tussock grassland of *Themeda triandra* and *Cymbopogon ambiguus*;

Vegetation of drainage lines

D1: Low open woodland to scattered low trees of *Corymbia hamersleyana* over tall shrubland of *Acacia monticola*, *Petalostylis labicheoides*, *Gossypium robinsonii*, *Grevillea wickhamii* over open shrubland of *Androcalva luteiflora* and *Stylobasium spathulatum* over open hummock grassland of *Triodia epactia* over open tussock grassland to very open tussock grassland of *Themeda triandra*;

D2: Low open woodland of *Corymbia hamersleyana* over tall shrubland of *Acacia tumida* var. *pilbarensis* and *Acacia steedmanii* subsp. *borealis* over open tussock grassland of *Themeda triandra* and *Triodia epactia*;

D3: Low open woodland of *Corymbia hamersleyana* over tall shrubland to tall open shrubland of *Gossypium robinsonii*, *Acacia steedmanii* subsp. *borealis*, *Androcalva luteiflora*, *Acacia maitlandii* and *Acacia tumida* var. *pilbarensis* over open tussock grassland of *Themeda triandra* and *Triodia epactia*.

Other areas included:

Dist: Previously disturbed areas; and

CL: Cleared areas, such as track.

Clearing Description	West Angelas Project. Robe River Mining Co Pty Ltd proposes to clear up to 31 hectares of native vegetation within a boundary of 105 hectares for the purpose of mineral exploration and hydrogeological investigations. The project is located approximately 90 kilometres north-west of Newman.
Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994); To: Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).
Comment	Vegetation will be cleared using a raised blade technique where practicable or scrub rake in level terrain. Where previously cleared tracks require maintenance, the track may be graded using blade down technique (Robe, 2010). This permit has previously been amended to requested to increase the amount of clearing authorised (from 3.3 hectares to 5 hectares, then from 5 hectares to 7.5 hectares), and to increase the clearing permit boundary (from 14.8 hectares to 19.5 hectares). An application to amend CPS 3893/3 was received by the Department of Mines and Petroleum on 17 September 2014 for the purposes of increasing the area permitted to clear from 7.5 hectares to 31 hectares, and increase the permit boundary from 19.5 hectares to 105 hectares.

3. Assessment of application against clearing principles

Comments

Robe River Mining Co Pty Ltd has applied to increase the amount of clearing by 23.5 hectares and increase the permit boundary by 85.5 hectares.

A biological survey of the amendment area conducted by Rio Tinto (2014) identified an additional 13 vegetation types occurring within the extended permit boundary. None of these vegetation types are considered to be of higher diversity than those assessed within clearing permit decision report CPS 3893/3, and the vegetation types are not considered to be a remnant locally or regionally. Vegetation type G1, characterised by low woodland of *Corymbia ferritcola*, *Eucalyptus leucophloia* and *Acacia catenulata* subsp. *occidentalis* in rocky gullies may have elevated conservation significance as it has the potential to act as a refuge site for humidophiles and fire intolerant species (Rio Tinto, 2014). However, this vegetation unit is widespread throughout the Hamersley Ranges, and only 0.05 hectares of the vegetation type was mapped within the amendment area (Rio Tinto, 2014). No vegetation communities recorded are considered to be a Threatened or Priority Ecological Community (Rio Tinto, 2014; GIS Database). The vegetation condition within the amendment area ranges from 'degraded' to 'excellent' (Keighery, 1994). Some vehicle tracks were present within the amendment area and minimal cattle grazing was observed (Rio Tinto, 2014).

There have been no records of Threatened Flora species recorded within the amendment area (Rio Tinto, 2014; GIS Database). Three Priority Flora species were identified within the amendment area; *Indigofera* sp. Gilesii (Priority 3), *Rhagodia* sp. Hamersley (Priority 3) and *Acacia bromilowiana* (Priority 4). One individual *Indigofera* sp. Gilesii was recorded within the amendment area (Rio Tinto, 2014). This species has a range of 170 kilometres across the Hamersley Ranges, and is quite common in the local area (Rio Tinto, 2014). Approximately 28 individuals across 16 populations of *Rhagodia* sp. Hamersley were recorded within the amendment area. This species is common on plains within the Pilbara and is common in the local and regional area. Approximately 37 individuals across nine populations of *Acacia bromilowiana* were recorded within the amendment area. This species has a scattered distribution across a large range of the Pilbara, with larger populations found outside the amendment area (Rio Tinto, 2014). The proposed clearing of 31 hectares of native vegetation within a larger application area of 105 hectares is unlikely to impact the conservation of the Priority Flora species. Rio Tinto (2014) state that they will avoid all Priority Flora species where possible.

The amendment area contains one additional broad fauna habitat; gullies (Rio Tinto, 2014). This habitat is widespread in the local and regional area (Rio Tinto, 2014). Secondary evidence of the Western Pebble-mound Mouse (*Pseudomys chapmanii*) (Priority 4) was recorded within the amendment area (Biota, 2006). Two inactive mounds were recorded however, they were considered to be old and inactive and had lost their dome formation. These mounds are unlikely to have supported the Western Pebble-mound Mouse in recent years (Biota, 2006). There is the potential for several conservation significant fauna species to utilise the additional areas, however, the proposed clearing will not impact on any significant habitat for these species.

There are several minor drainage lines within the additional area, however, the proposed clearing is not likely to have a significant impact to surface water flow within the local area (GIS Database). The land systems within the additional area are generally not prone to erosion (Van Vreeswyk et al., 2004).

The amendment is not likely to have any significant environmental impacts and the assessment of the clearing principles is consistent with the assessment in clearing permit decision report CPS 3893/3.

Methodology Biota (2006)
Ecologia (2013)
Rio Tinto (2014)
Van Vreeswyk et al. (2004)
GIS Database:
- Hydrography, linear
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

There are two Native Title Claims (WC2010/011 and WC2005/003) over the area under application. These claims have 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 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 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 was advertised on 6 October 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 (2006) Fauna Habitats and Fauna Assemblage of Deposit E and F at West Angelas, Unpublished report prepared for Rio Tinto, 2006.
- Ecologia (2013) Greater West Angelas Vegetation and Flora Assessment. Unpublished report for Rio Tinto Iron Ore.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Rio Tinto (2010) Flora and Vegetation Survey for Proposed Exploration Drilling at West Angelas - Native Vegetation Clearing Permit Supporting Report. Unpublished Report dated July 2010. Rio Tinto, Western Australia.
- Rio Tinto (2014) Flora, Vegetation and Fauna Habitat Assessment at Deposit F, West Angelas - Native Vegetation Clearing Permit Supporting Report. Unpublished report dated June 2014.
- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A & Hennig, P. (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
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia

DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

- T Threatened species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened Fauna and Flora are further recognised by DPaW according to their level of threat using IUCN Red List criteria. For example Carnaby’s Cockatoo *Calyptorhynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.

Rankings:
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered - considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
- X Presumed Extinct species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
- IA Migratory birds protected under an international agreement:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
- S Other specially protected fauna:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P1 Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
- P2 Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
- P3 Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
- P4 Priority Four - Rare, Near Threatened and other species in need of monitoring:**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

- (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

P5

Priority Five - Conservation Dependent species:

Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Principles for clearing native vegetation:

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (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.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare 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.
- (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.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (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.
- (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.
- (j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.