



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4394/2
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 D Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
280		Mechanical Removal	Mineral exploration, access tracks and hydrological work

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 23 October 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. Two Beard vegetation associations have been mapped within the application area:

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

A Rio Tinto botanist conducted a flora and vegetation survey over the application area in September 2010 (Rio Tinto, 2011). Twenty-seven intact vegetation types were recorded within the application area (Rio Tinto, 2011):

Vegetation of Plains

- P1: *Acacia aneura*, *Corymbia deserticola* low open forest over *Acacia marramamba*, *Rhagodia eremaea*, *Rhagodia* sp. Hamersley (M. Trudgen 17794) open shrubland over *Triodia pungens* hummock grassland;
- P2: *Acacia aneura*, *Acacia pruinocarpa* open scrub over *Triodia pungens* very open hummock grassland over *Chrysopogon fallax* scattered tussock grass;
- P3: *Acacia aneura*, *Eucalyptus gamophylla*, *Grevillea berryana* low open forest over *Acacia marramamba*, *Acacia pruinocarpa* high open shrubland over *Acacia bivenosa* open shrubland over *Maireana villosa* low open shrubland over *Triodia pungens* hummock grassland;
- P4: *Acacia aneura*, *Grevillea berryana* low open forest over *Triodia pungens* very open hummock grassland;
- P5: *Acacia aneura*, *Acacia ayersiana* low open forest over *Maireana villosa* low open shrubland over *Chrysopogon fallax* very open tussock grassland;
- P6: *Acacia catenulata*, *Acacia aneura*, *Acacia pruinocarpa* low woodland over *Exocarpos sparteus*, *Eremophila fraseri* open shrubland over *Triodia pungens* very open hummock grassland;
- P7: *Acacia aneura*, *Acacia pruinocarpa* low open forest over *Eremophila fraseri* open shrubland over *Eremophila caespitosa* low open shrubland over *Triodia pungens*, *Triodia melvillei* hummock grassland;
- P8: *Acacia aneura* low woodland over *Triodia pungens* scattered hummock grassland over *Themeda triandra*, *Chrysopogon fallax*, *Eriachne benthamii* tussock grassland;
- P9: *Acacia aneura* low closed woodland over *Triodia pungens* very open hummock grassland over *Chrysopogon fallax* very open tussock grassland;
- P10: *Acacia aneura* low open forest over *Senna artemisioides* shrubland over *Eremophila caespitosa* low open shrubland over *Triodia pungens* very open hummock grassland;
- P11: *Senna hamersleyensis* low open shrubland over *Eriachne benthamii*, *Aristida latifolia*, *Astrebla ?pectinata*

tussock grassland;

P12: *Acacia ayersiana*, *Acacia aneura* open scrub over *Acacia bivenosa* open shrubland over *Triodia pungens* very open hummock grassland; and

P13: *Acacia aneura*, *Acacia pruinocarpa* open scrub over *Eremophila fraseri* open shrubland over *Triodia pungens* hummock grassland.

Vegetation of Foothills, Rocky Hill Slopes and Crests

H1: *Acacia aneura*, *Acacia ayersiana*, *Corymbia hamersleyana*, *Grevillea berryana* low open forest over *Eremophila fraseri* shrubland over *Triodia pungens* hummock grassland over *Amphipogon caricinus* very open tussock grassland;

H2: *Eucalyptus leucophloia* low woodland over *Acacia bivenosa*, *Acacia marramamba* shrubland over *Eremophila jucunda* low open shrubland over *Triodia pungens* hummock grassland;

H3: *Eucalyptus leucophloia*, *Eucalyptus gamophylla* low woodland over *Acacia inaequilatera*, *Acacia pruinocarpa* high open shrubland over *Acacia bivenosa* open shrubland over *Triodia pungens*, *Triodia basedowii* hummock grassland;

H4: *Acacia aneura*, *Corymbia ferritcola* low woodland over *Eremophila tietkensis*, *Eremophila latrobei*, *Senna glutinosa* shrubland over *Triodia pungens* very open hummock grassland;

H5: *Grevillea berryana* low open woodland over *Acacia marramamba* open shrubland over *Ptilotus rotundifolius* low open shrubland over *Triodia pungens* hummock grassland;

H6: *Eucalyptus leucophloia* low open woodland over *Acacia pruinocarpa* high shrubland over *Acacia bivenosa* open shrubland over *Triodia pungens* hummock grassland;

H7: *Acacia aneura* low woodland over *Acacia marramamba*, *Acacia bivenosa*, *Eremophila fraseri* open shrubland over *Ptilotus rotundifolius*, *Eremophila phyllopoda* low open shrubland over *Triodia pungens* hummock grassland;

H8: *Eucalyptus leucophloia* scattered low trees over *Acacia pruinocarpa* high open shrubland over *Acacia bivenosa* shrubland over *Triodia basedowii*, *Triodia pungens* hummock grassland;

H9: *Eucalyptus leucophloia* low open woodland over *Acacia marramamba*, *Acacia tenuissima* open shrubland over *Ptilotus rotundifolius* low open shrubland over *Triodia basedowii*, *Triodia wiseana*, *Triodia pungens* hummock grassland; and

H10: *Corymbia ferritcola*, *Acacia aneura* low open forest over *Psydrax latifolia*, *Astrotricha hamptonii*, *Acacia marramamba* high open shrubland over *Eremophila tietkensis*, *Hibiscus haynaldii* open shrubland over *Ptilotus obovatus* low open shrubland over *Triodia pungens* very open hummock grassland over *Aristida inaequiglumis*, *Cymbopogon ambiguus*, *Eriachne mucronata* open tussock grassland.

Vegetation of Creeklines

C1: *Eucalyptus xerothermica* low woodland over *Acacia bivenosa*, *Acacia pruinocarpa* open scrub over *Rhagodia eremaea*, *Senna artemisioides*, *Senna oligophylla* shrubland over *Ptilotus obovatus* low open shrubland over *Triodia pungens* very open hummock grassland over *Eulalia aurea*, *Chrysopogon fallax* very open tussock grassland;

C2: *Eucalyptus camaldulensis*, *Eucalyptus victrix* low woodland over *Acacia citrinoviridis* high open shrubland over *Acacia pyrifolia* shrubland over *Tephrosia rosea*, *Corchorus crozophorifolius* low open shrubland over *Triodia pungens* very open hummock grassland over *Eriachne tenuiculmis*, *Cymbopogon ambiguus* open tussock grassland;

C3: *Corymbia hamersleyana* low woodland over *Acacia pyrifolia*, *Acacia bivenosa* shrubland over *Ptilotus rotundifolius* low open shrubland over *Triodia pungens*, *Triodia basedowii* open hummock grassland over *Themeda triandra* very open tussock grassland; and

C4: *Corymbia hamersleyana*, *Grevillea wickhamii* low woodland over *Rulingia luteiflora*, *Acacia citrinoviridis*, *Acacia pyrifolia* open scrub over *Corchorus lasiocarpus*, *Tephrosia rosea* low open shrubland over *Triodia pungens* very open hummock grassland over *Cymbopogon ambiguus*, *Themeda triandra*, *Eriachne tenuiculmis* open tussock grassland over *Enneapogon lindleyanus* very open bunch grass.

Degraded Vegetation

D1: *Acacia pruinocarpa* scattered shrubs over *Triodia pungens* scattered hummock grass.

A biological survey of the amendment area (amendment application CPS 4394/2) conducted by Biota (2014) during May 2014 identified one additional vegetation unit:

Vegetation of Stony Hillslopes and Foothills

G1 - *Corymbia hamersleyana* scattered low trees over *Acacia monticola*, *Gossypium robinsonii*, *Petalostylis labicheoides* tall open scrub over *Themeda triandra* very open tussock grassland and *Triodia pungens* scattered hummock grasses;

and six existing vegetation units;

C1 - *Acacia aptaneura* low open woodland over *A. citrinoviridis* tall open shrubland over *Themeda triandra* tussock grassland and *Triodia pungens* open hummock grassland;

H1 - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia maitlandii* scattered tall shrubs

over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *T. pungens* open hummock grassland;

P1 - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *E. gamophylla* scattered low mallees over *Acacia* spp. scattered tall shrubs over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), (*T. pungens*) open hummock grassland;

P2 - *Acacia aptaneura*, (*A. ayersiana*) low open woodland over *Eremophila forrestii* subsp. *forrestii* scattered shrubs over *Triodia pungens* very open hummock grassland;

P3 - *Acacia aptaneura* low open woodland over *Astrelba* spp., *Aristida* spp. open tussock grassland; and

P4 - *Acacia pruinocarpa*, (*A. rhodophloia*) scattered tall shrubs over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) open hummock grassland.

Clearing Description

West Angelas Deposit D Project.

Robe River Limited proposes to clear up to 280 hectares of native vegetation within a total boundary of approximately 1,643 hectares, for the purpose of mineral exploration, access tracks and hydrological work. The project is located approximately 95 kilometres east of Paraburdoo, in the Shire of East Pilbara.

Vegetation Condition

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994);

To:

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

Comment

Clearing will be undertaken with a dozer using a raised blade clearing technique where possible. Blade down clearing may be required in areas of steep or rough terrain in order to provide a safe working environment.

An application to amend CPS 4394/1 was received by the Department of Mines and Petroleum on 20 August 2014 for the purposes of increasing the area authorised to clear from 196 hectares to 280 hectares, increasing the clearing permit boundary from 1,347 hectares to 1,643 hectares and to amend the purpose of the clearing permit to include hydrological work.

3. Assessment of application against clearing principles

Comments

Robe River Limited has applied to increase the area permitted to clear from 196 hectares to 280 hectares, and the permit boundary from 1,347 hectares to 1,643 hectares and to amend the purpose of the clearing permit to include hydrological work.

A flora survey of the amendment area conducted by Biota (2014) identified an additional vegetation type and six existing 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 4394/1, and the vegetation types are not considered to be a remnant locally or regionally. No vegetation communities recorded are considered to be a Threatened Ecological Community (GIS Database).

The western part of the application area occurs within the buffer area for the Priority 1 'West Angelas Cracking-Clays' Priority Ecological Community (PEC). The north-eastern section of the P3 vegetation type occurred on a cracking-clay plain and comprised of denser tussock grassland with fewer Mulga shrubs, while the remainder of the P3 vegetation type occurred on more stony and less clayey substrate and supported denser Mulga and more open grassland (Biota, 2014). The latter areas would not correspond to the 'West Angelas Cracking-Clays' PEC as currently described by DPaW (2014), however the north-eastern section appears consistent with the PEC. Vegetation unit P3 should therefore be considered to include areas of the 'West Angelas Cracking-Clays' PEC, specifically in the north-eastern section of this unit (Biota, 2014). Approximately 11.6 hectares of the application area has been mapped as the vegetation type P3, however only 1.33 hectares of the mapped community have similarities to that of the PEC (Rio Tinto, 2014). The proposed clearing is unlikely to impact the conservation significance of the mapped PEC.

There were four records of Priority Flora species recorded within the amended permit boundary: one individual of *Brunonia* sp. Long hairs (Priority 1), one individual of *Rhagodia* sp. Hamersley (Priority 3), one population with unknown amount of individuals of *Themeda* sp. Hamersley Station (Priority 3), and five populations totalling 24 individuals of *Indigofera* sp. Gilesii (Priority 3), (Biota, 2014; Ecologia, 2013). The individual of *Brunonia* sp. Long hairs that was recorded by Ecologia (2013) has since been cleared for a borrow pit (Biota, 2014). The Western Australian Herbarium (2014) indicates that favourable habitat for *Brunonia* sp. Long hairs is along creeklines. Given that the amended area does not contain this habitat type, it is unlikely that the proposed clearing will impact the conservation significance of this species. The Priority 3 Flora species are well represented in the local and regional area (Biota, 2014; Western Australian Herbarium, 2014). The proposed clearing of the known populations of Priority 3 Flora species within the amended permit boundary is unlikely to impact their conservation significance.

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

Biota (2014) mapped an additional fauna habitat type identified as 'rocky gullies' within the amended permit

boundary. This fauna habitat type includes vegetation type G1 that may also be of somewhat elevated conservation significance, as gully habitats form refugia for fire sensitive species in the Pilbara (Biota, 2014). Impacts to conservation significant fauna may be minimised by the implementation of a condition that restricts clearing within rocky gully habitat to clearing for the purpose of access tracks only. Other fauna habitats present within the amended permit boundary are consistent with those assessed in clearing permit decision report CPS 4394/1 and are well represented both locally and regionally throughout the Pilbara.

Biota (2014) recorded 10 Western Pebble-mound Mouse (*Pseudomys chapmani*) (Priority 4) mounds within the amended permit boundary, six of which are active (Biota, 2014). Rio Tinto (2014) will avoid the mounds where practicable. 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 4394/1.

Methodology Biota (2014)
DPaW (2014)
Ecologica (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 are several 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 application was advertised on 1 September 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
- Native Title Claims - Filed at the Federal Court
- Native Title Claims - Determined by the Federal Court

4. References

- Biota Environmental Sciences (Biota) (2014) West Angelas Deposit G Native Vegetation Clearing Permit Report. Prepared for Rio Tinto Pty Ltd, August 2014.
- DPaW (2014) Priority Ecological Communities for Western Australia, Version 21. Species and Communities Branch, Department of Parks and Wildlife, 4 May 2014.
- Ecologia (2013) Rio Tinto Greater West Angelas Vegetation and Flora Assessment. Unpublished Report Prepared for Rio Tinto, Ecologia Environment, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Rio Tinto (2014) Further Information regarding CPS 4394/2. Internal email, October 2014.
- Van Dyck, S. and Strahan, R. (2008) The Mammals of Australia, Third Edition. Reed New Holland, Sydney.

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 <i>Wildlife Conservation Act 1950</i> , 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 <i>Calyptorhynchus latirostris</i> is specially protected under the <i>Wildlife Conservation Act 1950</i> as a threatened species with a ranking of Endangered. <u>Rankings:</u> 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 <i>Wildlife Conservation Act 1950</i> , 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 <i>Wildlife Conservation Act 1950</i> , 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 <i>Wildlife Conservation Act 1950</i> , 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.