



1. Application details

1.1. Permit application details

Permit application No.: 4690/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: Iron Ore (Hamersley Range) Agreement Act 1963, Mineral Lease 4SA (AML 70/4)
Local Government Area: Shire of Ashburton
Colloquial name: Metawandy Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
34		Mechanical Removal	Mineral exploration, geotechnical investigations and access tracks

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 31 July 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. One Beard vegetation association has been mapped within the application area (GIS Database):

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*.

Five vegetation units were recorded within the application area for CPS 4690/1 during surveys conducted by Rio Tinto (2011):

Hill Slope Vegetation

HS4: *Acacia aneura*, *Acacia pruinocarpa* high open shrubland over *Triodia wiseana* hummock grassland.

Drainage Line Vegetation

D3: *Acacia citrinoviridis*, *Acacia aneura*, *Santalum lanceolatum* low open forest over *Senna oligophylla*, *Eremophila forrestii*, *Acacia pyrifolia* shrubland over *Triodia wiseana* open hummock over *Cymbopogon ambiguus* very open tussock grassland.

Hill Top and Breakaway Vegetation

HTB3: *Grevillea berryana*, *Acacia citrinoviridis*, *Acacia rhodophloia* low woodland over *Eremophila latrobei* open shrubland *Triodia wiseana* hummock grassland.

HTB4: *Eucalyptus leucophloia* low woodland over *Acacia pruinocarpa* high open shrubland over *Dodonaea pachyacra*, *Eremophila tietkensis*, *Scaevola spinescens* shrubland over *Triodia wiseana*, *Triodia melvillei* hummock grassland.

Plains Vegetation

F3: *Acacia xiphophylla* open scrub over *Acacia synchronica*, *Rhagodia eremaea* open shrubland over *Triodia longiceps*, *Triodia wiseana* open hummock grassland.

An additional survey conducted by Rio Tinto (2014) over the additional application area for CPS 4690/2 identified fifteen vegetation units across six major landforms:

Vegetation of rocky areas

R1 Scattered low trees of *Eucalyptus leucophloia* over tall open shrubland of *Acacia hamersleyensis* with scattered *Acacia pruinocarpa*, *Acacia incurvaneura* and *Astrotricha hamptonii* over open hummock grassland of *Triodia wiseana* and *Triodia sp. Robe River (M.E. Trudgen et al. MET 12367)* over scattered tussock grasses of *Eriachne mucronata*.

Vegetation of rocky slopes

S2 Scattered low trees of *Eucalyptus leucophloia* over low open shrubland of *Acacia arida* over open hummock grassland of *Triodia wiseana*.

S3 Low open woodland to scattered trees of *Eucalyptus leucophloia* over scattered tall shrubs of *Acacia pruinocarpa* over open shrubland of *Acacia bivenosa* over open hummock grassland of *Triodia wiseana* and *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367).

S4 Low open woodland to scattered low trees of *Eucalyptus leucophloia* over scattered tall shrubs of *Acacia pruinocarpa* over open shrubland of *Acacia arida* with scattered *Senna glutinosa* subsp. *glutinosa* over open hummock grassland of *Triodia wiseana* and *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367).

S5 Low open woodland to tall open shrubland of *Acacia aptaneura* with scattered *Acacia pruinocarpa* over mixed scattered shrubs over very open hummock grassland of *Triodia wiseana*.

S7 Scattered low trees of *Eucalyptus leucophloia* over tall open shrubland of *Acacia hamersleyensis* and *Acacia pruinocarpa* over scattered shrubs of *Eremophila latrobei* subsp. *glabra* over open hummock grassland of *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367) and *Triodia wiseana*.

Vegetation of undulating slopes and low rises

U1 Open shrubland of *Acacia arida* over open hummock grassland of *Triodia wiseana*.

U2 Open shrubland of *Acacia bivenosa* and *Acacia atkinsiana* over open hummock grassland of *Triodia wiseana*.

Vegetation of plains

P1 Tall shrubland to tall open shrubland of *Acacia atkinsiana* and *Acacia bivenosa* with scattered *Acacia pruinocarpa* over open hummock grassland of *Triodia wiseana*.

P2 Low woodland to low open woodland of *Acacia aptaneura* with scattered *Acacia pruinocarpa* over tall open shrubland of *Acacia atkinsiana* over low open shrubland of *Eremophila phyllopoda* subsp. *obliqua* and *Eremophila forrestii* subsp. *forrestii* over open hummock grassland of *Triodia wiseana*.

Vegetation of gullies

G1 Low open woodland of *Corymbia ferritcola* with scattered *Eucalyptus leucophloia* over tall open shrubland of *Acacia hamersleyensis* over open shrubland of *Dodonaea viscosa* subsp. *spatulata*, *Prostanthera albiflora*, *Senna glutinosa* subsp. *glutinosa* and *Santalum lanceolatum* over open hummock grassland of *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367) and *Triodia wiseana* over scattered tussock grasses of *Eriachne mucronata* and *Cymbopogon ambiguus*.

Vegetation of drainage lines

D1 Low open forest to low woodland of *Acacia citrinoviridis* over mixed shrubland over open hummock grassland of *Triodia wiseana* and *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367).

D3 Scattered low trees of *Eucalyptus leucophloia* over tall open scrub to tall open shrubland of *Acacia monticola*, *Acacia maitlandii*, *Petalostylis labicheoides*, *Acacia atkinsiana* and *Acacia bivenosa* over open hummock grassland of *Triodia wiseana* and *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367).

D4 Tall open scrub to tall shrubland of *Acacia atkinsiana* and *Acacia pruinocarpa* over open hummock grassland of *Triodia wiseana*.

Other Mapped Units

CL Cleared areas, such as track

Clearing Description

Metawandy Project.

Hamersley Iron Pty Ltd proposes to clear up to 34 hectares of native vegetation within a total boundary of approximately 296 hectares for the purpose of mineral exploration, geotechnical investigations and access tracks. The project is located approximately 120 kilometres north-west of Paraburdoo in the Shire of Ashburton.

Vegetation Condition

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

To:

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

Comment

The vegetation condition is derived from vegetation and flora surveys undertaken by Rio Tinto (2011) and Rio Tinto (2014).

Clearing Permit CPS 4690/1 was granted by the Department of Mines and Petroleum (DMP) on 8 December 2011 and authorised the clearing of up to 4 hectares of native vegetation within a total boundary of 50.5 hectares. On 10 April 2014 Hamersley Iron Pty Ltd applied to change the clearing permit boundary and increase the area of approved clearing.

2 Assessment of application against Clearing Principles

Comments

This amendment is required to change the permit boundary from 50.5 hectares to 296 hectares and increase the area approved for clearing from 4 hectares to 34 hectares.

The amended application area occurs within the Hamersley (PIL3) subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils on the ranges (CALM, 2002).

The proposed amended application area intersects Beard vegetation association 82, which is well represented in the state and bioregion retaining almost 100% of its pre-European extent (Government of WA, 2013). Several additional landform types will be impacted by the amended proposal including an additional 15 vegetation units, none of which have been identified as Threatened or Priority ecological communities (Rio Tinto, 2014).

A survey conducted by Rio Tinto (2014) identified a total of 180 taxa from 85 genera representing 37 families in the additional application area. The survey recorded six Priority Flora taxa within the additional application area: *Sida sp. Hamersley Range* (K. Newbey 10692) (Priority 1), *Indigofera sp. Bungaroo Creek* (S. van Leeuwen 4301) (Priority 3), *Nicotiana umbratica* (Priority 3), *Triodia sp. Robe River* (M.E. Trudgen et al. MET 12367) (Priority 3), *Eremophila magnifica subsp. magnifica* (Priority 4) and *Ptilotus mollis* (Priority 4) (Rio Tinto, 2014). Internal Rio Tinto restriction zones will be placed around all locations except for the recorded locations of *Triodia sp. Robe River* (M.E. Trudgen et al. MET 12367), which due to being widespread within the study area as a dominant layer, is not considered to be of elevated conservation significance at a local or regional level (Rio Tinto, 2014). In addition Rio Tinto significant areas have been established which incorporate 47 of the 50 recorded *Sida sp. Hamersley Range* (K. Newbey 10692) (Priority 1) locations, 27 of the 45 locations of *Indigofera sp. Bungaroo Creek* (S. van Leeuwen 4301), the one location (one plant) of *Nicotiana umbratica* and all 57 locations (453 plants) of *Ptilotus mollis*. A condition which restricts clearing to access tracks only in the significant areas, and a condition which limits clearing within 10 metres of *Sida sp. Hamersley Range* (K. Newbey 10692) (Priority 1) will minimise impacts to Priority Flora.

Nine fauna habitat types were recorded within the amended application area all of which are considered to be well represented regionally and locally. Five caves were recorded within the rocky breakaways and cliffs habitat from the southern end of the study area (Rio Tinto, 2014). Internal Rio Tinto restriction zones will be placed around these caves, however, although these areas may potentially support species of conservation significance, they are not considered to be critical habitat, and the habitats recorded are widely represented outside of the study area (Rio Tinto, 2014). The rocky breakaways and cliffs habitat type is included in Rio Tinto's mapped significant areas and a condition which restricts clearing to access tracks only in these areas will minimise impacts to significant fauna habitat.

Rio Tinto (2014) identified secondary evidence of one fauna species of conservation significance, the Western Pebble-mound Mouse (*Pseudomys chapmanii*). Six Western Pebble-mound Mouse mounds were recorded within the study area however all six mounds were considered to be old and inactive (Rio Tinto, 2014).

The proposed amendment is required for mineral exploration, geotechnical investigations and access tracks and will require the additional clearing of 30 hectares. The amended application area includes Rocky breakaways and cliffs habitat, which includes caves and also contains significant habitat for a number of Priority Flora species. Conditions which restrict clearing within significant areas to access tracks only and limits clearing within 10 metres of *Sida sp. Hamersley Range* (K. Newbey 10692) (Priority 1) will minimise the impact of the proposal upon significant flora and fauna habitat.

The current environmental information has been reviewed and the assessment of the clearing principles is consistent with the assessment in clearing permit decision report CPS 4690/1 (GIS Database).

Methodology CALM (2002)
Rio Tinto (2014)
Government of WA (2013)
GIS Database:
- DEC Tenure
- Evaporation Isopleths
- Groundwater Salinity, Statewide
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- Mean Average Rainfall
- Pre-European Vegetation
- Public Drinking Water Source Areas (PDWSAs)
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered
- Rangeland Land System Mapping

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There are no Native Title Claims over the area under application (GIS Database). 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 Environmental 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 clearing permit application was advertised on 26 May 2014 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology

- GIS Database:
- Aboriginal Sites of Significance
 - Native Title Claims – Registered with the NNTT
 - Native Title Claims – Filed at the federal Court

3 References

- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.
- Government of Western Australia (2013) 2013 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 (2011) Flora and Vegetation Survey for Proposed Evaluation Drilling at Metawandy, Native Vegetation Clearing Permit Supporting Report. Report by Rio Tinto, September 2011.
- Rio Tinto (2014) Flora and Vegetation Survey at Metawandy and Duck Creek. Native Vegetation Clearing Permit Supporting Report, April 2014.

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 the Department 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.