



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4712/2
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 Authority: Shire of Ashburton
Colloquial name: Brockman 2

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 31 July 2014

2. Background

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 (GIS Database):

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

175: Short bunch grassland – savanna/grass plain (Pilbara).

Six vegetation units were recorded within the application area for CPS 4712/1 during surveys conducted by Biota (2010a) and HGM (1999) (Rio Tinto, 2011).

Stony Plains and Foothills

EIAbTeTw – *Eucalyptus leucophloia* subsp. *leucophloia* scattered trees over *Acacia bivenosa* scattered shrubs over *Triodia epactia*, *T. wiseana* hummock grassland.

EITeTw – *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to open woodland over *Triodia epactia*, *T. wiseana* hummock grassland.

Hill/Stony Plain

A2 – *Eucalyptus leucophloia* over *Triodia wiseana*.

A3 – *Eucalyptus leucophloia* and mixed shrubs over *Triodia wiseana* / *T. pungens*.

A5 – Open tall shrubs dominated by *Acacia exilis* over *Triodia wiseana*.

Drainage

B8 – Dense *Acacia ancistrocarpa* / *A. atkinsiana* / *A. exilis* tall shrubland.

An additional survey conducted by Rio Tinto (2014) over the additional application area for CPS 4712/2 identified sixteen vegetation units across four major landforms:

Rocky Breakaways and Gorges

GO-RHB - *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia ferriticola* scattered to low open woodland, over *Acacia pruinocarpa*, *Acacia monticola*, *Grevillea berryana*, and *Gossypium robinsonii* scattered to scrubs (to tall open shrubland in places), over *Acacia pruinocarpa* (typically dominant), *Dodonaea pachyneura*, *Acacia marramamba*, *Eremophila tietkensis*, *Acacia bivenosa* and *Senna glutinosa* subsp. *glutinosa* scattered to open shrubland, over *Sida* sp. Barlee Range (S. van Leeuwen 1642), *Dodonaea pachyneura*, *Triumfetta macnochieana* scattered to low open shrubland, over *Eriachne mucronata*, *Cymbopogon ambiguus* scattered to very open tussock grassland, over *Triodia epactia* and *Triodia brizoides* hummock grassland.

Drainage Gullies

GU-DG1-EI - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to low open woodland, over *Acacia monticola* and *Gossypium robinsonii* tall open shrubland (to tall shrubland in places), over *Acacia monticola*, *Acacia pruinocarpa*, *Acacia bivenosa* and *Gossypium robinsonii* scattered shrubs (to open shrubland in places), over *Dodonaea pachyneura*, *Eremophila latrobei* subsp. *glabra* and *Acacia marramamba* scattered low shrubs, over *Cymbopogon ambiguus* and *Themeda triandra* scattered tussock grasses, over *Triodia epactia* open hummock grassland.

GU-DG1b-EIS - *Eucalyptus leucophloia* subsp. *leucophloia* scattered trees to low open woodland, over *Acacia monticola*, *Gossypium robinsonii* scattered shrubs, over *Acacia monticola*, *Acacia pruinocarpa*, *Acacia bivenosa* scattered shrubs to open shrubland, over *Cymbopogon ambiguus*, *Themeda triandra* scattered tussock grasses, over *Triodia epactia* Hummock grassland (to open hummock grassland).

GU-DG2-EICh - *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* scattered low trees to low open woodland, over *Acacia monticola* and *Gossypium robinsonii* tall open shrubland (to tall shrubland in places), over *Acacia monticola*, *Acacia pyrifolia* open shrubland, over *Cymbopogon ambiguus* and *Eriachne mucronata* scattered to very open tussock grassland, over *Triodia epactia* open hummock grassland.

GU-DG3-Ef - *Corymbia ferritcola* low open woodland to scattered low trees, over *Acacia monticola*, *Gossypium robinsonii* tall open shrubland (to tall shrubland), over *Acacia monticola*, *Acacia pruinocarpa*, *Acacia marramamba* and *Dodonaea pachyneura* scattered to open shrubland, over *Cymbopogon ambiguus*, *Aristida burbidgeae* and *Eriachne mucronata* scattered to very open tussock grassland, over *Triodia epactia* scattered to very open hummock grassland.

GU-DG4-EICf - *Eucalyptus leucophloia* subsp. *leucophloia*, and *Corymbia ferritcola* scattered low trees, over *Acacia monticola*, and *Gossypium robinsonii* tall shrubland to tall open shrubland, over *Acacia monticola*, *Acacia pruinocarpa* scattered shrubs to open shrubland, over *Acacia monticola*, *Abutilon* sp. *Dioicum* (A.A. Mitchell PRP 1618), scattered low shrubs, over *Themeda triandra* and *Cymbopogon ambiguus* very open tussock grassland, over *Triodia epactia* open to very open hummock grassland.

GU-DF-EICh - *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* scattered low trees, over *Acacia monticola*, *Gossypium robinsonii*, *Acacia pyrifolia* and *Acacia bivenosa* tall open shrubland, over *Acacia monticola*, *Acacia bivenosa*, and *Acacia atkinsiana* open shrubland (to shrubland in places), over *Abutilon* sp. *Dioicum* (A.A. Mitchell PRP 1618), *Corchorus crozophoriifolius*, *Gossypium australe*, and *Ptilotus obovatus* low open shrubland, over *Themeda triandra*, *Cymbopogon ambiguus*, *Eriachne mucronata* scattered to very open tussock grassland, over *Triodia epactia* very open hummock grassland.

Hill Slopes

HS-DT1 - *Eucalyptus leucophloia* subsp. *leucophloia* and *Hakea chordophylla* scattered to low open woodland, over *Eucalyptus gamophylla* scattered mallee shrubs, over *Acacia pruinocarpa* and *Acacia bivenosa* tall open shrubland, over *Senna glutinosa* subsp. *glutinosa*, *Acacia maitlandii* and *Acacia dictyophleba* open shrubland (to shrubland in places), over *Ptilotus obovatus*, *Trichodesma zeylanicum* and *Cleome viscosa* scattered to low open shrubland, over *Themeda triandra* and *Cymbopogon ambiguus* very open tussock grassland, over *Triodia epactia* hummock grassland (to open hummock grassland).

HS-US1-EITw - *Eucalyptus leucophloia* subsp. *leucophloia*, (plus consistently scattered to isolated *Corymbia hamersleyana*) scattered low trees, over *Hakea chordophylla*, *Acacia pruinocarpa* scattered to tall open shrubland, over *Senna glutinosa* subsp. *glutinosa* and *Acacia bivenosa* open shrubland, over *Eriachne mucronata* scattered tussock grasses, over *Triodia wiseana* hummock grassland.

HS-US2-TwTb - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to low open woodland, over *Hakea chordophylla* and *Acacia pruinocarpa* scattered to tall open shrubland, over *Senna glutinosa* subsp. *glutinosa*, *Acacia maitlandii* and *Senna glutinosa* subsp. *pruinosa* scattered to open shrubland, over *Eriachne mucronata* and *Cymbopogon ambiguus* scattered (to isolated) tussock grasses, over *Triodia wiseana* and *Triodia brizoides* hummock grassland.

HS-US3-Eg - Scattered *Eucalyptus leucophloia* subsp. *leucophloia* and *Hakea chordophylla* low trees, over *Eucalyptus gamophylla* low open mallee to low mallee (2-10% to 10-30%), over *Senna glutinosa* subsp. *glutinosa* open shrubland, over *Triodia brizoides* and *Triodia wiseana*.

HS-MS1-TeTb - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to low open woodland, over isolated *Eucalyptus gamophylla* low mallee, over *Acacia pruinocarpa* and *Acacia bivenosa* scattered tall shrubs, over *Senna glutinosa* subsp. *glutinosa*, *Acacia bivenosa*, and *Acacia pruinocarpa* scattered to open shrubland, over *Cymbopogon ambiguus*, *Eriachne mucronata*, and *Eriachne ciliata* scattered tussock grasses, over *Triodia brizoides* and *Triodia epactia* hummock grassland.

HS-MS2-TeTw - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees to low open woodland, over *Acacia bivenosa* and *Acacia pruinocarpa* scattered tall shrubs, over *Senna glutinosa* subsp. *glutinosa*, *Acacia bivenosa*, *Acacia monticola* and *Acacia pruinocarpa*, scattered shrubs (to open shrubland), over *Cymbopogon ambiguus*, *Eriachne mucronata*, and *Eriachne ciliata* scattered tussock grasses, over *Triodia brizoides* and *Triodia epactia* hummock grassland.

HS-MS3-EIAb - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees, over *Acacia pruinocarpa* and *Acacia bivenosa* scattered to tall open shrubland, over *Acacia bivenosa* and *Acacia monticola* shrubland (to open shrubland), over *Eriachne ciliata*, *Cymbopogon ambiguus* and *Eriachne mucronata* scattered to very open tussock grassland, over *Triodia epactia* and *Triodia brizoides* open to very open hummock grassland.

HS-MS4-Cd - *Corymbia deserticola* subsp. *deserticola* low open woodland (with scattered *Eucalyptus leucophloia* subsp. *leucophloia* low trees), over *Senna glutinosa* subsp. *glutinosa* scattered tall shrubs, over

Senna glutinosa subsp. *glutinosa* open shrubland, over *Cymbopogon ambiguus* scattered tussock grasses, over *Triodia brizoides* hummock grassland.

Foot Slopes

BS-FS1-EITe - *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees, over *Eucalyptus gamophylla* isolated mallee shrubs, over *Acacia inaequilatera* and *Acacia pruinocarpa* scattered to tall open shrubland, over *Senna glutinosa* subsp. *glutinosa*, *Acacia bivenosa* and *Acacia maitlandii* scattered to open shrubland, over *Triodia epactia* hummock grassland (to open hummock grassland).

Clearing Description	<p>Brockman 2 Project.</p> <p>Hammersley Iron Pty Ltd proposes to clear up to 70 hectares of native vegetation within a total boundary of approximately 325 hectares for the purpose of mineral exploration. The project is located approximately 45 kilometres north-west of Tom Price in the Shire of Ashburton.</p>
Vegetation Condition	<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).</p> <p>To:</p> <p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).</p>
Comment	<p>The vegetation condition is derived from vegetation and flora surveys undertaken by Biota (2010a), HGM (1999) and Rio Tinto (2014).</p> <p>Clearing Permit CPS 4712/1 was granted by the Department of Mines and Petroleum on 25 January 2012 and authorised the clearing of up to 50 hectares of native vegetation within a total boundary of 204 hectares. On 17 April 2014 Hammersley Iron Pty Ltd applied to change the clearing permit boundary and increase the area of approved clearing.</p>

3 Assessment of application against Clearing Principles

Comments

This amendment is required to change the permit boundary and increase the area approved for clearing from 50 hectares to 70 hectares.

The amended application area occurs within the Hammersley (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 associations 82 and 175, which are well represented in the state and bioregion retaining almost 100% of their pre-European extent (Government of WA, 2013). Several additional landform types will be impacted by the amended proposal including an additional sixteen 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 205 taxa from 85 genera representing 39 families in the additional application area. The survey recorded one flora taxa of conservation significance *Sida sp. Barlee Range (S. van Leeuwen 1642)* (Priority 3), of which over 405 individuals were recorded within the study area (Rio Tinto, 2014). An estimated 7.16 hectares was identified as holding elevated conservation value for this species however an additional 21 locations comprising at least 130 individuals were recorded in the vicinity of the study area during the survey. According to Rio Tinto (2014), approximately 727 individuals are known from within a 20 kilometre radius of the study area, and this species is also well known across its range. Based on the above the proposed additional clearing is unlikely to significantly impact upon habitat for this species.

Two fauna habitat types were recorded within the amended application area both of which have the potential to provide habitat for conservation significant fauna. Rocky breakaways and gullies habitat is considered to be of comparatively elevated conservation significance (Rio Tinto, 2014). An estimated 4.63 hectares of the Rocky Breakaways and Gullies habitat has the potential to support microhabitat suitable for conservation significant fauna including the Pilbara Olive Python (*Liasis olivaceus barroni*), Northern Quoll (*Dasyurus hallucatus*) and Ghost Bat (*Macroderma gigas*). No conservation significant fauna species have been recorded in the amended application area. Four Western Pebble-mound Mouse mounds were recorded outside of the amended application area to the west and east, however, the proposed exploration activities are unlikely to have a significant impact upon the availability of habitat for this species which is widespread within the central and east Pilbara (Rio Tinto, 2014).

The proposed amendment is required for exploration activities and will require the additional clearing of 20 hectares within an amended application area of 325 hectares. The amended application area includes 4.63 hectares of the Rocky Breakaways and Gullies habitat which has the potential to support microhabitat suitable for conservation significant fauna. A condition which restricts clearing within these areas to access tracks only will minimise the impact of the proposal upon this habitat type.

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 4712/1 (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 is one Native Title Claim (WC97/89) over the area under application (GIS Database). This claim 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 numerous 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

4 References

- Biota (2010a) Nammuldi Infill Areas Vegetation and Flora Survey. Unpublished Report for Rio Tinto Iron Ore, Prepared by Biota Environmental Sciences, June 2010.
- 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.
- HGM (1999) Nammuldi/Silvergrass Soils, Vegetation and Flora Survey. Unpublished Report for Hamersley Iron Pty Ltd, Prepared by Halpern Glick Maunsell Pty Ltd, February 1999.
- 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) Statement Addressing the 10 Clearing Principles – RC Drilling at Brockman 2 Pits 8 to 13. November 2011. Unpublished. Document number RTIO-HSE-0128145.
- Rio Tinto (2014) Brockman 2: Grade Drilling to Evaluate Unclosed Mine South of BS2 Pit 11-13. 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.