



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 4915/3  
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: Western Turner Syncline Marra Mamba Project

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 27 February 2014

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

##### Vegetation Description

Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context. The following Beard vegetation associations are located within the application area (GIS Database):

**82:** Hummock grasslands, low tree steppe; snappygum over *Triodia wiseana*; and

**567:** Hummock grasslands, shrub steppe; mulga and kanji over soft spinifex & *Triodia basedowii*.

A flora and vegetation survey of the original application area was undertaken by Rio Tinto Iron Ore (RTIO) on 4 July and 27 October 2011. The survey identified the following ten vegetation units (RTIO, 2012):

1. Stony Slope 1 (SS1): *Acacia aneura* high shrubland over *Eremophila forrestii* open shrubland over *Triodia pungens*, *Triodia wiseana* very open hummock grassland over various very open herbs.
2. Stony Slope 2 (SS2): *Eucalyptus leucophloia* woodland over *Triodia wiseana* very open hummock grassland over *Trachymene oleracea*, *Goodenia stobbsiana* herbs.
3. Stony Slope 3 (SS3): *Eucalyptus leucophloia*, *Acacia pruinocarpa*, *Acacia aneura*, *Grevillea berryana* low open forest over *Acacia rhodophloia*, *Dodonaea pachyacra* open shrubland over *Triodia wiseana* hummock grassland.
4. Stony Slope 4 (SS4): *Eucalyptus leucophloia*, *Grevillea berryana* low open woodland over *Acacia pruinocarpa*, *Acacia aneura*, *Acacia kempeana* open scrub over *Acacia exilis*, *Senna glutinosa* open shrubland over *Triodia wiseana* hummock grassland.
5. Stony Slope 5 (SS5): *Eucalyptus leucophloia* low woodland over various *Acacia*'s, *Senna*'s, *Corchorus lasiocarpus* low open shrubland over *Triodia wiseana* hummock grassland over various *Ptilotus*, *Trachymene oleracea* very open herbs.
6. Stony Slope 6 (SS6): *Acacia* various *aneura*, *Grevillea berryana* low open forest over *Eremophila forrestii* shrubland over *Triodia wiseana* open hummock grassland.
7. Hill Top 1 (HT1): *Corchorus lasiocarpus*, various *Acacia* regrowth low open shrubland over *Bulbostylis barbata* sedges over various very open herbs.
8. Hill Top 2 (HT2): *Corymbia hamersleyana* scattered low trees over *Senna pruinosa*, *Senna glutinosa* shrubland over *Corchorus lasiocarpus* low open shrubland over *Triodia wiseana* very open hummock grassland over various open herbs.
9. Hill Top 3 (HT3): *Eucalyptus leucophloia* low woodland over *Triodia wiseana* open hummock grassland over various very open herbs.
10. Drainage Line (DL1): *Eucalyptus leucophloia* low open woodland over *Acacia citrinoviridis* high shrubland over

*Petalostylis labicheoides*, *Stylobasium spathulatum* shrubland over *Triodia pungens* very open hummock grassland.

Biota Environmental Sciences (Biota) (Biota, 2012) has surveyed a portion of the application area and also identified a vegetation type associated with gullies within the application area. This is described as:

*Corymbia ferriticola* low open woodland over *Acacia aneura*, *A. citrinoviridis* tall shrubland over *Triodia brizoides*, *T. epactia* open hummock grassland with *Eriachne mucronata* very open tussock grassland.

The amended application area contains an additional 11 vegetation associations, as described by Eco Logical Australia (ELA, 2013):

AanAciTssp: *Acacia aneura*, *A. citrinoviridis* tall open scrub over mixed *Triodia* open hummock grassland

AanApr: *Acacia aneura*, *A. pruinocarpa* tall shrubland over mixed scattered hummock grasses

AanAprTbr: *Acacia aneura*, *A. pruinocarpa* low open forest over *Triodia brizoides* open hummock grassland

AcAmPISP: *Acacia citrinoviridis*, *A. monticola*, *Pterostylis labicheoids* and *Stylobasium spathulatum* tall open scrub over mixed *Triodia* open hummock grassland.

CfAanAciTbrTeERIm: *Corymbia ferriticola* low open woodland over *Acacia aneura*, *A. citrinoviridis* tall shrubland over *Triodia brizoides*, *T. epactia* open hummock grassland with *Eriachne mucronata* very open tussock grassland

EIAbTaTlo: *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia bivenosa* open shrubland over *Triodia angusta*, *T. longiceps* open hummock grassland

EIAhAmTw: *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia hamersleyensis*, *A. maitlandii* tall open shrubland over *Triodia wiseana* open hummock grassland

EIAmTbr: *Eucalyptus leucophloia* scattered low trees over *Acacia maitlandii* tall shrubland over *Triodia brizoides* hummock grassland

EIAsppTe: *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over mixed *Acacia* spp. open shrubland over *Triodia epactia* hummock grassland

EIEgAsppTbr: *Eucalyptus leucophloia*, *E. gamophylla* low open woodland over mixed *Acacia* open shrubland over *Triodia brizoides* open hummock grassland

EITbr: *Eucalyptus leucophloia* scattered low trees over *Triodia brizoides* hummock grassland

**Clearing Description**

Western Turner Syncline Marra Mamba Project.  
Hamersley Iron Pty Ltd has applied to clear up to 106 hectares of native vegetation, within a total application boundary of 888.7 hectares, for the purpose of mineral exploration. The proposed clearing is located approximately 31 kilometres west, south west of Tom Price, in the Shire of Ashburton.

**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**

Vegetation condition was determined by Rio Tinto Iron Ore and Eco Logical Australia using a scale based on Trudgen (1988). These condition ratings were converted to the Keighery (1994) scale by the assessing officer. Clearing Permit CPS 4915/1 was granted by the Department of Mines and Petroleum (DMP) on 24 May 2012 and authorised the clearing of up to 84 hectares. Clearing Permit CPS 4915/2 was granted by the DMP on 26 April 2013 to increase the boundary area by 0.1 hectares to bring the clearing permit boundary in line with the tenement boundary.

**3. Assessment of application against clearing principles**

**Comments**

On 18 November 2013, Hamersley Iron Pty Ltd (Hamersley Iron) applied to increase the area permitted to clear from 84 hectares to 106 hectares. The permit boundary increased from 691 hectares to 888.7 hectares. The amended permit area now includes the Brockman 1 West area.

A review of the proposed increase in boundary identified additional impacts to two Priority Flora species; *Indigofera* sp. Bungaroo Creek (S. van Leeuwen 4301) (Priority 3) and *Sida* sp. Barlee Range (S. van Leeuwen 1642) (Priority 3) (ELA, 2013). *Sida* sp. Barlee Range (S. van Leeuwen 1642) was recorded at six sites across Brockman 1 West, growing on rocky hills above gullies and gorges or out of pisolitic gravel and outcropping (vegetation communities EITbr and AcAmPISP, respectively) (ELA, 2013). A majority of recorded *Sida* sp. Barlee Range (S. van Leeuwen 1642) individuals fall within an exclusion zone within the application boundary. Therefore, direct impacts to *Sida* sp. Barlee Range (S. van Leeuwen 1642) are limited and are not expected to affect the conservation status of this species.

852 individuals of *Indigofera* sp. Bungaroo Creek (S. van Leeuwen 4301) were recorded across several sites within Brockman 1 West (ELA, 2013). A majority of the individuals recorded within the extended application area occur within the vegetation community AcAmPISp. This species now occurs at a much higher abundance compared to the previous application area, which contained three populations consisting of one to ten individuals (RTIO, 2012). The Naturemap database (DEC, 2013) contains 24 records of this species. Due to the restricted distribution of this species, and the limited records within available databases, the proposed clearing may represent a significant impact to this species.

Both AcAmPISp and CfAanAciTbrTeERIm represent drainage communities along gorges and gullies, which were considered in permit decision report CPS 4915/1 to be conservation significant as the landforms and vegetation associated with these communities have value as refugia for fire sensitive species and flora and fauna which prefer rocky, mesic habitats (Biota, 2012). ELA (2013) advise that the Pilbara Olive Python (*Liasis olivaceus barroni*) (Vulnerable; Schedule 1) is likely to occur within gorges and gullies of the Brockman 1 West area, and records of this species exist less than 1 kilometre from the extended application area (Biota, 2013; ELA, 2013). The Pilbara Olive Python occurs in rocky areas within the Pilbara, showing a preference for habitats near water, particularly rock pools (Biota, 2009). A semi-permanent pool occurs in the north west of the extended application area (ELA, 2013). Approximately half of the pool is located within an exclusion boundary, and the rest is situated within gorge/ gully habitat and vegetation community AcAmPISp (ELA, 2013). ELA (2013) also advise that additional conservation significant fauna including the Northern Quoll (*Dasyurus hallucatus*) (Endangered; Schedule 1), Ghost Bat (*Macroderma gigas*) (Priority 4) and Pilbara Leaf-nosed Bat (*Rhinonisteris aurantius*) (Vulnerable; Schedule 1) may occur in gorges and gullies within the application area. Gorges, gullies, and associated vegetation communities are therefore likely to represent an important habitat for conservation significant flora and fauna within the application boundary. These areas have been addressed in the previous permit by a condition that restricts clearing in gorges and gullies. Due to the extensive area of gorge/ gully habitat within the extended application boundary, excluding these areas from clearing will cut off access to a majority of the extended application boundary (Hamersley Iron, 2014). Impacts to *Indigofera* sp. Bungaroo Creek (S. van Leeuwen 4301) and conservation significant fauna may instead be minimised by the implementation of a condition that restricts clearing within gorge/gully habitat to clearing for the purpose of access tracks only. Other fauna habitats present within the application area are consistent with those described in clearing permit decision report CPS 4915/1 and clearing permit decision report CPS 4915/2, and are well represented both locally and regionally throughout the Pilbara (ELA, 2013).

All vegetation communities except for AcAmPISp are considered to be of similar diversity to those assessed within clearing permit decision report CPS 4915/1 and CPS 4915/2, and the vegetation types are not considered to be a remnant on a local or regional scale (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2013; GIS Database). No vegetation communities are considered to represent Threatened or Priority Ecological Communities and no Threatened Flora were recorded within the additional area (ELA, 2013).

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

The Brockman 1 West area falls within the Newman Land System (GIS Database). This land system is the second largest within the Pilbara (Van Vreeswyk et al., 2004). Area within this land system has not been used extensively for pastoralism, and on a regional scale there is minimal evidence of soil erosion (Van Vreeswyk et al., 2004). Drainage channels at the foot of narrow gorges and gullies contain mantles of pebble and cobble material upon red loamy earth (Van Vreeswyk et al., 2004), and may therefore be more susceptible to water erosion if cleared. Potential impacts within drainage channels may be minimised by adding gorges and gullies within Brockman 1 West to the existing condition that restricts clearing in gorges and gullies within the original permit area.

Approximately 1.9% of the Brockman 1 West area was found to be in degraded condition (ELA, 2013). This was associated with land previously cleared for exploration access tracks and drill pads (ELA, 2013). There is substantial soil erosion in previously disturbed access tracks on hillslopes, which suggests that this landform may be susceptible to erosion (ELA, 2013). Potential soil erosion may be minimised by an amendment to the existing rehabilitation condition.

The presence of *Flaveria trinervia* (Speedy Weed) was also recorded along a minor drainage line in the northern part of the proposed extension (ELA, 2013). A weed condition is included in the previous permit, which may minimise land degradation from weed invasion.

Given that the geology of the Newman land system does not appear to be highly susceptible to erosion, the proposed clearing is not likely to be at variance to Principle (g).

Current environmental information has been reviewed and the assessment of clearing principles (h), (i) and (j) is consistent with the assessment in clearing permit decision report CPS 4915/1 and clearing permit decision report CPS 4915/2.

**Methodology** Biota (2009)  
Biota (2012)  
Biota (2013)  
DEC (2013)

Department of Natural Resources and Environment (2002)  
ELA (2013)  
Government of Western Australia (2013)  
RTIO (2012)  
Van Vreeswyk et al. (2004)  
GIS Database:  
- Pre-European Vegetation  
- Rangeland Land System Mapping

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

### Comments

There are two native title claims over the area under application (GIS Database). Native title claim WC1997/089 has been determined by the Federal Court and WC2010/016 has been registered with the Native Title Tribunal on behalf of the claimant groups. 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*.

According to available databases, 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 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 2 December 2013 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

**Methodology** GIS Database:  
- Aboriginal Sites of Significance  
- Native Title Claims - Determined by the Federal Court  
- Native Title Claims - Registered with the NNTT

## 4. References

- Biota (2009) A Targeted Terrestrial Fauna Survey of Expansion Area at Nammuldi-Silvergrass. Consultants report prepared for Rio Tinto Iron Ore Pty Ltd.
- Biota (2012) Western Turner Syncline Phase 2 Vegetation and Flora Report. Consultants report prepared for Rio Tinto Iron Ore Pty Ltd.
- Biota (2013) Western Turner Syncline Targeted Fauna Survey Phase 2. Consultants report prepared for Rio Tinto Iron Ore Pty Ltd.
- DEC (2013) NatureMap: Mapping Western Australia's Biodiversity, Department of Environment and Conservation, <http://naturemap.dec.wa.gov.au/default.aspx>, viewed December 2013.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- ELA (2013) Brockman Syncline Project Area Biological Surveys: Brockman 1 West (AR-12-10913). Consultants report prepared for Rio Tinto Iron Ore Pty Ltd dated August 2013.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. 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.
- RTIO (2012) Flora and Vegetation Survey for Proposed Evaluation Drilling at Western Turner Syncline Marra Mamba Native Vegetation Clearing Permit Supporting Report. Unpublished report dated February 2012.
- 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, Technical Bulletin No. 92. Department of Agriculture Western Australia, South Perth.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>CALM</b>	Department of Conservation and Land Management (now DEC), Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia
<b>DEH</b>	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia

DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

### Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005. Department of Conservation and Land Management, Como, Western Australia*} :-

- P1** **Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2** **Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3** **Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4** **Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R** **Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X** **Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna. Department of Conservation and Land Management, Como, Western Australia*} :-

- P1** **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2** **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation

status before consideration can be given to declaration as threatened fauna.

- P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4** **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5** **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

**Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999*)**

- EX** **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W)** **Extinct in the wild:** A native species which:  
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or  
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN** **Endangered:** A native species which:  
(a) is not critically endangered; and  
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU** **Vulnerable:** A native species which:  
(a) is not critically endangered or endangered; and  
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD** **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.