



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 6014/2  
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, Mining Lease 272SA (AM 70/272)  
Local Government Area: Shire of Ashburton  
Colloquial name: Marandoo East Drilling Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
30		Mechanical removal	Mineral Exploration, Hydrological Drilling, Geotechnical Investigations and Associated Activities

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 16 July 2015

## 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):

**18:** Low woodland; mulga (*Acacia aneura*)

**29:** Sparse low woodland; mulga, discontinuous in scattered groups

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

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

A flora and vegetation assessment conducted by Eco Logical Australia Pty Ltd (ELA) (ELA, 2013) identified one vegetation community within the original permit boundary:

**ApAaAa:** *Acacia pruinocarpa*, *Acacia aptaneura* and *Acacia aptaneura* (hybrid) tall shrubland over *Acacia pachyacra*, *Psyrax latifolia* and *Eremophila forestii* subsp. *forrestii* scattered shrubs over *Triodia epactial/pungens* open hummock grassland and *Themeda triandra* very over tussock grassland on clay plains with ironstone wash and scattered ironstone pebbles.

The additional areas have been previously surveyed by Biota Environmental Services in 2008. The following vegetation associations were identified (Rio Tinto, 2015):

#### Vegetation of Broad Drainage Areas and Basins

**1a:** Low open forest of *Acacia aneura* over a tussock grassland dominated by *Chrysopogon fallax*;

**1b:** Open *Aristida contorta* grassland;

**1c:** Low open woodland of *Acacia aneura*, usually with *A. pruinocarpa*, over scattered hummocks to hummock grassland of *Triodia melvillei* or *T. schinzii*;

#### Vegetation of Flats

**4e:** *Triodia wiseana* and *T. pungens* hummock grassland;

#### Vegetation of Low Foothills and Escarpments

**6a:** Low woodland of *Acacia aneura* var. *pilbarana* with *Eucalyptus leucophloia* subsp. *leucophloia* over an open shrubland dominated by *Petalostylis labicheoides* and *Acacia maitlandii* over a closed hummock grassland of *Triodia brizoides* and *T. wiseana*;

### Vegetation of Major Flowlines and Creeks

**2a:** Open forest of *Acacia aneura* (typically var. *pilbarana*), with substantial amounts of *A. pruinocarpa*, over a tussock grassland dominated by species such as *Chrysopogon fallax*, *Eulalia aurea* and *Themeda triandra*;

**2b:** *Eucalyptus xerothermica*, *Acacia aneura* var. *pilbarana* low open forest over *Acacia bivenosa*, *Santalum lanceolatum* open shrubland over *Triodia longiceps* hummock grassland and *Themeda triandra*, *Eulalia aurea* very open tussock grassland;

**2c:** *Eucalyptus xerothermica* – *Acacia aneura* woodland over *Acacia citrinoviridis* tall shrubland;

### Vegetation of Minor Creeks

**3a:** Mixed *Acacia* species shrubland over *Triodia wiseana* and *T. sp.* Shovelanna Hill (S. van Leeuwen 3835) hummock grasses;

### Vegetation of Ridges and Erosional Spurs

**5b:** *Eucalyptus leucophloia* scattered low trees over *Acacia* spp. scattered shrubs over *Triodia wiseana* (*T. brizoides*, *T. sp.* Shovelanna Hill (S. van Leeuwen 3835)) hummock grassland;

**5c:** *Eucalyptus leucophloia* scattered low trees over *Acacia* spp. scattered shrubs over *Triodia sp.* Shovelanna Hill (S. van Leeuwen 3835), (*T. wiseana*) hummock grassland;

**5d:** *Eucalyptus gamophylla* scattered low mallees over *Acacia* spp. scattered tall shrubs over *Triodia sp.* Shovelanna Hill (S. van Leeuwen 3835), (*Triodia wiseana*) hummock grassland;

**5f:** *Acacia aneura* low woodland to woodland;

**5h:** *Triodia wiseana* hummock grassland with mixed *Acacia* spp. emergent shrubs;

### Other mapping units

**CL:** Previously cleared areas, such as tracks.

<b>Clearing Description</b>	Marandoo East Drilling Project. Hamersley Iron Pty Ltd proposes to clear up to 30 hectares of native vegetation within a total boundary of approximately 359 hectares, for the purpose of mineral exploration, hydrological drilling, geotechnical investigations and associated activities. The project is located approximately 43.4 kilometres east of Tom Price, in the Shire of Ashburton.
<b>Vegetation Condition</b>	Pristine: No obvious signs of disturbance (Keighery, 1994); to: Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).
<b>Comment</b>	The vegetation condition was described using a scale based on Trudgen (1988) and has been converted to the corresponding conditions from the Keighery (1994) scale. A pre-existing track has impacted vegetation within the application boundary (ELA, 2013).  Clearing permit CPS 6014/1 was granted by the Department of Mines and Petroleum on 18 December 2014 and authorised the clearing of up to six hectares within a boundary of approximately 75 hectares. Hamersley Iron Pty Ltd has applied to amend the permit to increase the amount of clearing authorised to 30 hectares and increase the permit boundary to approximately 359 hectares. They have also applied to amend the purpose of the permit from evaluation drilling and access tracks to mineral exploration, hydrological drilling, geotechnical investigations and associated activities.

## 3. Assessment of application against clearing principles

### Comments

Hamersley Iron Pty Ltd has applied to amend clearing permit CPS 6014/1 for the purpose of increasing the amount clearing authorised by 24 hectares, increasing the permit boundary by approximately 284 hectares and changing the purpose to mineral exploration, hydrological drilling, geotechnical investigations and associated activities.

Flora and vegetation surveys over the additional area have identified 14 vegetation associations across six major landforms (Rio Tinto, 2015). The majority of the vegetation within the application area was in 'pristine' and 'excellent' condition with little disturbance present (Rio Tinto, 2015). None of the vegetation associations were identified as a Threatened Ecological Community (GIS Database; Rio Tinto, 2015). The additional areas are within the buffer zone of the 'Coolibah-lignum flats: *Eucalyptus victrix* over *Muehlenbeckia* community' Priority Ecological Community (PEC) (GIS Database). The landform and vegetation representative of this PEC were not recorded within the additional areas (Rio Tinto, 2015).

The dominant plant groups in the additional areas are generally consistent with other flora surveys in the Marandoo area and species diversity is considered to be comparable with other studies in the region (Rio Tinto,

2015). No species of weed have been recorded within the additional area, however, *Bidens bipinnata* has been recorded on a track 200 metres from the additional area and could potentially be present (Rio Tinto, 2015). The Priority four species *Eremophila magnifica* subsp. *magnifica* was recorded at one location within the additional area (Rio Tinto, 2015). This species was recorded at numerous locations adjacent to the permit area (Rio Tinto, 2015). Given its extent outside the additional areas, the proposed clearing is not likely to have a significant impact on this species.

There has been four broad fauna habitats identified within the additional areas; flowlines, gorges and gullies, plains and hills (Rio Tinto, 2015). Over 80% of the additional area was mapped as plains and hills habitat (Rio Tinto, 2015). These habitats are common within the region and are not likely to represent significant habitat for local fauna species. Gorge and gullies habitat is known to provide denning sites for the Northern Quoll (*Dasyurus hallucatus* - Schedule 1; Endangered) (Rio Tinto, 2015). There is only 0.07 hectares of this habitat within the additional area (Rio Tinto, 2015). The flowlines habitat is considered to have moderate microhabitat values that provide watering points for a wide range of birds, reptiles and mammals and are used by several predatory species for hunting (Rio Tinto, 2015). This habitat is well represented within the local region. The proposed clearing of 30 hectares within a larger boundary of 359 hectares is not expected to have a significant impact on local fauna species.

There are numerous non-perennial drainage lines within the additional areas (GIS Database). Vegetation associations 2a, 2b, 2c and 3a were all identified as being associated with watercourses in the additional area (Rio Tinto, 2015). These drainage lines are common in the local area and the proposed clearing for exploration activities is not expected to have a significant impact on surface water quality or riparian vegetation in the local region.

The additional areas are all located within five kilometres of Karijini National Park (GIS Database). Part of the amended boundary lies within a 5(1)(g) Reserve that functions as an infrastructure corridor and is excised from the Karijini National Park area (GIS Database). The permit is subject to a condition requiring Hamersley Iron Pty Ltd to adhere to commitments within their environmental management plan for drilling within conservation significant areas. Any additional activities within the 5(1)(g) Reserve would also be subject to this condition. Provided the clearing is undertaken in accordance with the environmental management plan the proposed clearing is not likely to have a significant impact on the values of Karijini National Park.

The assessment of the clearing principles is consistent with the assessment contained in decision report CPS 6014/1.

**Methodology** Rio Tinto (2015)  
GIS Database:  
- DPaW Tenure  
- Hydrography, linear  
- Imagery  
- Threatened and Priority Ecological Communities Boundaries  
- Threatened and Priority Ecological Communities Buffers  
- Threatened and Priority Flora

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

##### Comments

There are no native title claims over the area under application (GIS Database). 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 three 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 27 April by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

**Methodology** GIS Database:  
- Aboriginal Sites Register System

#### 4. References

- ELA (2013) Flora and Vegetation Survey for Marandoo East Drilling (AR-13-11714): Native Vegetation Clearing Permit Supporting Report. Report prepared for Rio Tinto Iron Ore Pty Ltd by Eco Logical Australia Pty Ltd, February 2014.
- 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 (2015) Desktop Flora, Vegetation and Fauna Habitat Assessment at Marandoo Northern Extension. Supporting documentation for clearing permit amendment CPS 6014/2.

Trudgen, M.E. (1998) A Report on Flora and Vegetation of the Port Kennedy Area. Unpublished report prepared for Bowman Bishaw and Associates, West Perth.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DPaW and DER)
<b>DER</b>	Department of Environment Regulation, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DotE</b>	Department of the Environment, Australian Government
<b>DoW</b>	Department of Water, Western Australia
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>s.17</b>	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

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

<b>T</b>	<b>Threatened species:</b> 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.
<b>X</b>	<b>Presumed Extinct species:</b> 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).
<b>IA</b>	<b>Migratory birds protected under an international agreement:</b> 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.
<b>S</b>	<b>Other specially protected fauna:</b> Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
<b>P1</b>	<b>Priority One - Poorly-known species:</b> 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.
<b>P2</b>	<b>Priority Two - Poorly-known species:</b> 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.