



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4549/3
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: Brockman 4 Drilling Program

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 30 October 2014

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context. One Beard vegetation association has been mapped within the application area:

Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database).

Hamersley Iron Pty Ltd (2011) identified 37 vegetation communities in the application area within seven vegetation types, using a primary vegetation survey of the CPS 4549/1 permit area by Biota (2005a) and supporting flora surveys by Biota (2007; 2009). Hamersley Iron Pty Ltd (2011) described the vegetation communities of the CPS 4549/1 permit boundary as follows:

Creepline:

1. AmoAmAaTeTw – *Acacia monticola*, *A. maitlandii*, *A. atkinsiana* tall open shrubland over *Triodia epactia*, *T. wiseana* open hummock grassland; and
2. ExAciAbTe – *Eucalyptus xerothermica* scattered trees to open woodland over *Acacia citrinoviridis*, *A. bivenosa* (tall) shrubs to closed shrubland over *Triodia epactia* very open hummock grassland to open hummock grassland.

Drainage:

1. PITe – *Petalostylis labicheoides* shrubland over *Triodia epactia* hummock grassland;
2. C11 – *Acacia citrinoviridis*, *A. ancistrocarpa* tall open shrubland to tall closed scrub over *Triodia epactia* mid-dense hummock grassland;
3. C12 – *Acacia monticola*, *A. maitlandii*, *A. atkinsiana* tall open shrubland over *Triodia epactia*, *T. wiseana*, mid-dense to open hummock grassland;
4. C14 – *Eucalyptus leucophloia* low woodland over *Acacia citrinoviridis*, *A. monticola*, *Dodonaea pachyneura* tall shrubland over *Triodia epactia* mid-dense hummock grassland;
5. C16 – *Corymbia hamersleyana* scattered low trees over *Acacia bivenosa*, *Petalostylis labicheoides* shrubland over *Triodia epactia* hummock grassland;
6. C20 – *Acacia* aff. *aneura* low open forest over *Acacia citrinoviridis* tall open shrubland over *Triodia epactia* open hummock grassland; and
7. C21 – *Petalostylis labicheoides* shrubland over *Triodia epactia* mid-dense hummock grassland.

Hills and Slopes:

1. AanEITe – *Acacia aneura*, *Eucalyptus leucophloia* subsp. *leucophloia* low open forest over *Triodia epactia* hummock grassland.

Hills, Slopes and Mesa:

1. AanGbCfTe – *Acacia aneura*, *Grevillea berryana*, *Corymbia ferritcola* low open forest over *Triodia epactia* hummock grassland; and
2. AprTe – *Acacia pruinocarpa* open shrubland over *Triodia epactia* hummock grassland.

Plains:

1. AsyTloTa – *Acacia synchronicia* open shrubland over *Triodia longiceps*, *T. angusta* open hummock

- grassland;
2. AxTeTlo – *Acacia xiphophylla* tall open shrubland over *Triodia epactia*, *T. longiceps* hummock grassland;
 3. ElAexTbr – *Eucalyptus leucophloia* subsp. *leucophloia* scattered trees over *Triodia longiceps*; *T. angusta*, *T. brizoides* hummock grassland;
 4. ElTloTaTbr – *Eucalyptus leucophloia* subsp. *leucophloia* scattered trees over *Triodia longiceps*, *T. angusta*, *T. brizoides* hummock grassland;
 5. P11 – *Acacia synchronicia* scattered shrubs over *Triodia angusta* mid-dense hummock grassland;
 6. P12 – *Acacia synchronicia*, *A. bivenosa*, *Cassia pruinosa*, *C. luerssenii* mixed shrubland over *Triodia brizoides* closed hummock grassland;
 7. P15 – *Acacia bivenosa*, *A. exilis*, *A. ancistrocarpa* open shrubland over *Triodia wiseana* mid-dense hummock grassland;
 8. P2 – *Acacia ayersiana* low open forest/woodland over *Eremophila forrestii* open shrubland over *Triodia epactia*, *T. wiseana* hummock grassland;
 9. P3 – *Eucalyptus leucophloia* scattered low trees over *Acacia aneura* (various forms), *A. ayersiana* tall open shrubland over *Triodia epactia*, *T. wiseana* mid-dense hummock grassland;
 10. P4 – *Acacia xiphophylla*, *A. aneura* low woodland to tall open shrubland over *Eremophila cuneifolia*, *Rhagodia eremaea* low open shrubland over *Triodia wiseana* open to mid-dense hummock grassland;
 11. P5 – *Acacia xiphophylla*, *A. aff. aneura* tall shrubland over *Triodia brizoides*, *T. epactia* open hummock grassland;
 12. P6 – *Corymbia deserticola* scattered low trees over *Acacia atkinsiana*, *A. exilis* tall open shrubland over *Triodia wiseana* closed hummock grassland;

Stony Hills:

1. ElTw – *Eucalyptus leucophloia* scattered low trees over *Triodia wiseana* hummock grassland;
2. ElTwTm – *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Triodia wiseana*, *T. melvillei* hummock grassland;
3. H10 – *Eucalyptus leucophloia* low open woodland over *Acacia bivenosa* open shrubland over *Triodia brizoides*, *T. epactia* hummock grassland and *Themeda* sp. Mt. Barricade, *Cymbopogon ambiguous* open tussock grassland;
4. H12 – *Eucalyptus leucophloia* low open woodland over *Acacia hamersleyensis* open shrubland over *Triodia brizoides*, *T. epactia* mid-dense hummock grassland and *Themeda triandra*, *Eriachne mucronata* open tussock grassland;
5. H14 – *Eucalyptus leucophloia* scattered low trees over *Triodia wiseana* mid-dense hummock grassland;
6. H15 – *Eucalyptus leucophloia* scattered low trees over *Triodia epactia* mid-dense hummock grassland;
7. H16 – *Eucalyptus leucophloia* scattered low trees to low open woodland over *Astrotricha hamptonii*, *Ficus brachypoda* scattered tall shrubs over *Themeda* sp. Mt Barricade, *Eriachne mucronata* open tussock grassland;
8. H2 – *Eucalyptus leucophloia* scattered low trees over *Acacia atkinsiana* open shrubland over *Triodia wiseana* mid-dense hummock grassland;
9. H3 – *Eucalyptus leucophloia* scattered low trees over *Acacia maitlandii* shrubland to open heath over *Triodia wiseana* mid-dense hummock grassland;
10. H4 – *Acacia hamersleyensis* tall open shrubland over *Triodia wiseana* closed hummock grassland;
11. H8 – *Acacia ancistrocarpa* open heath to tall open shrubland over *Triodia wiseana* mid-dense to closed hummock grassland; and
12. H9 – *Eucalyptus leucophloia* scattered low trees over *Acacia inaequilatera* tall shrubland over *Triodia wiseana* mid-dense hummock grassland.

Stony Plains:

1. ElAanAayTeTw – *Eucalyptus leucophloia* scattered low trees over *Acacia aneura*, *A. ayersiana* tall open shrubland over *Triodia epactia*, *T. wiseana* hummock grassland.

A flora and vegetation of the additional areas included in CPS 4549/2 was undertaken by Eco Logical on 19 July 2013. This survey identified the following four vegetation communities within these additional areas (Eco Logical, 2013):

- ElGrTp - *Eucalyptus leucophloia* subsp. *leucophloia* low open woodland over *Gossypium robinsonii* scattered tall shrubs over *Triodia pungens* very open hummock grassland occurring on drainage lines dissecting rocky hills;

- ChElTwTp - *Corymbia hamersleyana* and *Eucalyptus leucophloia* subsp. *leucophloia* low scattered trees over *Triodia wiseana* and *Triodia pungens* hummock grassland occurring on rocky hills and lower slopes;

- AbAsHl - *Acacia bivenosa*, *Acacia sibirica* and *Hakea lorea* open shrubland over *Eremophila forrestii* subsp. *forrestii* and *Ptilotus obovatus* very open shrubland over *Triodia pungens* hummock grassland; and

- ElAcApAb - *Eucalyptus leucophloia* subsp. *leucophloia* low scattered trees over *Acacia citrinoviridis*, *Acacia pruinocarpa* and *Acacia bivenosa* open shrubland over *Triodia pungens* hummock grassland occurring on drainage lines.

A review of previous flora surveys undertaken at the Brockman area identified the following vegetation units within the additional areas included in CPS 4549/3 (Rio Tinto, 2014):

- H5: *Eucalyptus leucophloia* scattered low trees over *Acacia maitlandii* shrubland over *Triodia wiseana* hummock grassland;

- H8: *Acacia ancistrocarpa* open heath to tall open shrubland over *Triodia wiseana* mid-dense to closed hummock grassland;

- H9: *Eucalyptus leucophloia* scattered low trees over *Acacia inaequilatera* tall shrubland over *Triodia wiseana* mid-dense hummock grassland;

- H14: *Eucalyptus leucophloia* scattered low trees over *Triodia wiseana* mid-dense hummock grassland;

- HG3: *Eucalyptus leucophloia* low open woodland over *Acacia bivenosa* open shrubland over *Triodia brizoides*, *T. epactia* hummock grassland and *Themeda* sp. Mt Barricade, *Cymbopogon ambiguus* open tussock grassland;

- PS1: *Acacia aneura*, *A. ayersiana* tall open shrubland over *Triodia epactia*, *T. wiseana* hummock grassland;

- PS6: *Eucalyptus leucophloia*, (*E. gamophylla*, *Corymbia deserticola*, *C. hamersleyana*) scattered low trees over *Acacia atkinsiana*, *A. exilis*, *A. bivenosa*, *A. ancistrocarpa*, *Senna* spp. Shrubland over *Triodia epactia* and/or *T. wiseana* hummock grassland.

Clearing Description	Brockman 4 Drilling Program. Hammersley Iron Pty Ltd proposes to clear up to 55 hectares of native vegetation within a boundary of approximately 380.9 hectares for the purpose of mineral exploration. The project area is located approximately 60 kilometres west of Tom Price within the Shire of Ashburton.
Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994); To: Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).
Comment	The vegetation will be cleared using a blade down technique where practicable or scrub rake in level terrain. The vegetation and topsoil will be stockpiled separately for use in rehabilitation. The vegetation condition was derived from a vegetation survey conducted by Biota (2005; 2007; 2009). Clearing permit CPS 4549/1 was granted by the Department of Mines and Petroleum on 13 October 2011 and authorised the clearing of 19.4 hectares within a boundary of 157.6 hectares. The permit was amended on 10 July 2014 to increase the amount of clearing authorised to 30 hectares and increase the permit boundary to 219.5 hectares. The permit duration was also extended by a further five years. Hammersley Iron Pty Ltd has applied to amend CPS 4549/2 to increase the clearing authorised to 55 hectares and increase the permit boundary to 380.9 hectares. This amendment is to allow further exploration drilling in the area.

3. Assessment of application against clearing principles

Comments

Hammersley Iron Pty Ltd has applied to increase the clearing authorised by 25 hectares and increase the clearing permit boundary by a further 161.4 hectares.

There have been seven vegetation units mapped within the additional area, four of which have not been previously identified within the clearing permit boundary (Rio Tinto, 2014). In addition to these vegetation units, nearly 20 percent of the additional area has been mapped as disturbed and is in 'completely degraded' condition (Rio Tinto, 2014). None of these vegetation communities are considered to be a Threatened or Priority Ecological Community (GIS Database; Rio Tinto, 2014).

No species of Threatened or Priority flora have been previously recorded within the additional area (GIS Database; Rio Tinto, 2014). The Priority 3 species *Ptilotus subspinescens* and Priority 4 species *Goodenia nuda* are considered likely to occur in the additional area due to the habitat present and local records of both species (Rio Tinto, 2014). *Goodenia nuda* is known from numerous records across a wide distribution of the Pilbara (Rio Tinto, 2014; Western Australian Herbarium, 2014). *Ptilotus subspinescens* is restricted to the western Pilbara, however is often common where recorded as Rio Tinto has recorded this species from over 900 locations (Rio Tinto, 2014). The proposed additional clearing is not expected to have a significant impact on either of these flora species.

There has been three broad fauna habitats identified within the additional area; hill slopes and crests, gorges and breakaways, and plains (Rio Tinto, 2014). The gorges and breakaway habitat has the potential to be significant as it can provide critical habitat for the Northern Quoll (*Dasyurus hallucatus*), Pilbara Olive Python (*Liasis olivaceus* subsp. *barroni*), Pilbara Leaf-nosed Bat (*Rhinonictis aurantius*) and Ghost Bat (*Macroderma gigas*). This area consists of small areas of breakaways and two small gorges (Rio Tinto, 2014). Inspection of this habitat in the east of the permit boundary found any caves present were too shallow to create ideal micro climates for both bat species (Eco Logical, 2013). No suitable denning sites were observed for the Northern Quoll during this inspection (Eco Logical, 2013). Given no significant gorges are present in the additional area, the gorges and breakaway habitat is also not likely to be significant for threatened species in the local area. The other habitats are common in the local area and the proposed clearing is not likely to significantly impact local fauna species.

The additional area is comprised of the Boolgeda, Newman and Platform land systems (GIS Database). These land systems are generally not prone to erosion (Van Vreeswyk et al., 2004). There are a number of additional minor ephemeral watercourses within the additional areas (GIS Database). The proposed clearing is not likely to have a significant impact on surface or ground water quality in the local area.

The assessment against the clearing principles remains consistent with the assessment in decision report CPS 4549/2.

Methodology Eco Logical (2013)
Rio Tinto (2014)
Van Vreeswyk et al. (2004)
Western Australian Herbarium (2014)
GIS Database:
- Hydrography, linear
- Rangeland Land System Mapping
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

There are two native title claims (WC2001/005; WC1997/089) over the application area (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*.

According to available databases, there are four registered Aboriginal sites of significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, Department of Parks and Wildlife and the Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 18 August 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 – Determined by the the Federal Court

4. References

- Biota (2005) Brockman 4 Vegetation and Flora Survey. Unpublished report prepared for Hamersley Iron.
- Biota (2007) A Vegetation and Flora Survey of the White Quartz Road Corridor near Tom Price. Unpublished report prepared for Pilbara Iron.
- Biota (2009) A Vegetation and Flora Survey of Beasley River. Unpublished report prepared for Rio Tinto Iron Ore.
- Eco Logical (2013) Brockman Syncline Project Area Biological Surveys - Brockman 4 East (AR-13-11385). Unpublished report for Rio Tinto Iron Ore Pty Ltd, dated August 2013.
- Hamersley Iron Pty Ltd (2011) Statement Addressing the 10 Clearing Principles. Brockman 4 Resource and Hydro Drilling. Unpublished report, December 2010.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Rio Tinto (2014) Supporting information for amendment application CPS 4549/3, dated August 2014.
- 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, Department of Agriculture, Western Australia.
- Western Australian Herbarium (2014) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. <<http://florabase.dpaw.wa.gov.au/>> Accessed 20 October 2014.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia

EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

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

- T Threatened species:**
Specially protected under the *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 DPaW 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.