



1. Application details

1.1. Permit application details

Permit application No.: 718/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: ML4SA (AML 70/4)
Local Government Area: Shire of Ashburton
Colloquial name: Brockman 2 Iron Ore Mine

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Association 18: Low woodland; mulga (<i>Acacia aneura</i>) (GIS Database). Shepherd et al. reported in 2001 that approximately 99.9% of this vegetation type was remaining, with 2.3% located in reserves.	The vegetation to be cleared has been substantially disturbed by grazing, mineral exploration and mining activities. A flora survey recorded a total of 37 plant taxa, including one weed species <i>Cenchrus ciliaris</i> (Buffel Grass) (Pilbara Iron, 2005), an introduced pastoral grass which has become an aggressive and widespread weed in the region.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The proposed clearing is for a fines stockpile, within the existing Brockman 2 Iron Ore Minesite. The area proposed to clear is immediately adjacent to existing mine roads and infrastructure (Hamersley Iron, 2005).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments **Proposal is not likely to be at variance to this Principle**

The vegetation type within the application area is widespread in the region (GIS Database), and the area is unlikely to be of higher biodiversity than surrounding areas.

The application area is within the Hamersley Pastoral Lease and has been historically subjected to disturbance from grazing (GIS Database). More recently, the application area and immediately surrounding areas have been substantially disturbed by mining and exploration activities, mine roads and infrastructure (Hamersley Iron, 2005).

The relatively small area of proposed clearing in an extensively disturbed site is unlikely to have any significant impact on the biological diversity of the region.

Methodology GIS Database - Pastoral Leases - DOLA 10/01.
- Pre-European Vegetation - DA 01/01.
Hamersley Iron (2005).

(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.

Comments **Proposal is not likely to be at variance to this Principle**

The area proposed to clear is within a pastoral lease (GIS Database), and an operational minesite, and is immediately adjacent to existing mine roads and infrastructure (Hamersley Iron, 2005).

The application area has suffered extensive disturbance from grazing, mineral exploration and mining activities (GIS Database; Hamersley Iron, 2005), and is unlikely to support significant habitat for fauna.

Consequently, the proposed clearing is unlikely to have any significant impact on fauna habitat in the region.

Methodology GIS Database - Pastoral Leases - DOLA 10/01.
 - Pre-European Vegetation - DA 01/01.
 Hamersley Iron (2005).

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments **Proposal is not likely to be at variance to this Principle**
 CALM databases show no records of any populations of Rare or Priority flora within 50km of the application area (GIS Database).

A flora survey of the area proposed to clear was conducted by Pilbara Iron in May 2005. No Declared Rare Flora (DRF) species were located. A single plant of the Priority Flora species *Abutilon trudgenii* (P3) was recorded within the application area (Pilbara Iron, 2005). This species has a wide distribution in the Pilbara region and has previously been recorded in surveys conducted in the Brockman area (CALM, 2006; Pilbara Iron, 2005). Several populations of *Goodenia stellata* (P4) have previously been found in surrounding areas (Hamersley Iron, 2003), but this species was not recorded within the area proposed to clear (Pilbara Iron, 2005).

CALM (2006) advised that the proposed clearing is unlikely to impact on the conservation status of any significant flora, however clearing of *Abutilon trudgenii* (P3) should be avoided where possible.

Methodology CALM Advice (2006).
 GIS Database - Declared Rare and Priority Flora List - CALM 01/07/05.
 Hamersley Iron (2003).
 Pilbara Iron (2005).

(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.

Comments **Proposal is not likely to be at variance to this Principle**
 There are no known Threatened Ecological Communities (TEC's) within the vicinity of the area applied to clear (GIS Database).

Methodology GIS Database - Threatened Ecological Communities - CALM 12/04/05.

(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.

Comments **Proposal is not at variance to this Principle**
 The application area falls within the IBRA Pilbara Bioregion and the Shire of Ashburton. Shepherd et al. (2001) report that approximately 100% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion, although no specific information is available for the Shire of Ashburton. The vegetation in the application area is recorded as Beard Vegetation Association 18: Low woodland; mulga (*Acacia aneura*) (GIS Database). According to Shepherd et al., (2001) there is approximately 99.9% of this vegetation type remaining, and 2.3% in reserves. The area proposed to clear does not represent a significant remnant of native vegetation.

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation Status**	% in reserves/CALM-managed land
IBRA Bioregion - Pilbara Shire of Ashburton	17,944,694*	17,944,694*	100%	Least concern	
	No information available				
Beard vegetation association - 18	24,675,970	24,659,110	~99.9%	Least concern	2.3%

* Shepherd et al. (2001)

** Department of Natural Resources and Environment (2002)

The application area is located within the Hamersley Pastoral Lease and within an operational minesite (GIS Database). The vegetation to be cleared has suffered from numerous disturbance events, due to grazing, mineral exploration and mining activities (Pilbara Iron, 2005).

The flora survey (Pilbara Iron, 2005) recorded one weed species: *Cenchrus ciliaris* (Buffel Grass) within the

application area. Buffel Grass was introduced to the Pilbara region by pastoralists, but has become an aggressive and widespread weed in the region. CALM (2005) advises the proponent to undertake appropriate weed management and hygiene procedures in order to avoid the introduction and spread of weeds into and within the site. Any weed introductions caused by the operation should be appropriately controlled and managed. Clearing of vegetation should be minimized, with existing access tracks and previously disturbed areas used where possible (CALM, 2005).

Methodology CALM Advice (2005).
Dept of Natural Resources and Environment (2002).
GIS Database - Pre-European Vegetation - DA 01/01.
Shepherd et al. (2001).

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments **Proposal is not at variance to this Principle**
There are no watercourses or wetlands within the areas proposed to clear (GIS Database). The proposed clearing is unlikely to have any significant impact on any watercourse or wetland.

Methodology GIS Database - Hydrography, Linear - DOE 01/02/04.
GIS Database - Lakes, 1M - GA 01/06/00.
GIS Database - Rivers 250K - GA.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments **Proposal is not likely to be at variance to this Principle**
The proposed clearing is on flat terrain (GIS Database), within an existing mine development. There are no recorded acid sulphate soils in the area and the clearing is unlikely to result in an increased risk of salinity (GIS Database).

The proposed clearing for a fines stockpile is unlikely to cause appreciable land degradation.

Methodology GIS Database - Acid Sulphate soil risk map, SCP - DOE 04/11/04.
- Salinity Risk LM 25m - DOLA 00.
- Topographic Contours, Statewide - DOLA 12/9/02.

(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.

Comments **Proposal is not at variance to this Principle**
There are no CALM Reserves in the vicinity of the application area. The nearest CALM managed land is the Karijini National Park, approximately 60km east/southeast of the application area (GIS Database).

Therefore the proposed clearing will not impact on any conservation reserve.

Methodology GIS Database - CALM Managed Lands and Waters - CALM 1/07/05.

(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.

Comments **Proposal is not likely to be at variance to this Principle**
There are no permanent watercourses or waterbodies in the vicinity of the application area (GIS Database). The area proposed to clear is reasonably flat (GIS Database), and the relatively small area of proposed clearing should not result in significantly increased surface water run-off.

The proposed clearing is unlikely to have any significant impact on surface or underground water quality.

Methodology GIS Databases:
- Lakes, 1M - GA 01/06/00.
- Rivers 250K - GA.
- Topographic Contours, Statewide - DOLA 12/9/02.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposal is not likely to be at variance to this Principle**
The application area is not associated with any watercourse (GIS Database). The clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

Methodology GIS Database - Hydrography, Linear - DOE 1/02/04.

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

Comments

There is a native title claim (WC97/089) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the Eastern Guruma claimant group. However, the mining tenement has been granted in accordance with the future act regime of *the Native Title Act 1993* and the nature of the act (ie. 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*.

It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no sites of Aboriginal significance are damaged through the clearing process.

Hamersley Iron's Brockman 2 Iron Ore Mine has a current operating licence L49/91 granted in accordance with the *Environmental Protection Act 1986*. The proposed clearing is not at variance to this licence, and no amendment to the licence will be required for the proposed fines stockpile. A Works Approval is not required for the proposed fines stockpile (DoE, 2005).

The proponent has advised that any water required for dust suppression at the proposed fines stockpile will be drawn from existing licensed water sources, and therefore a water licence under the *Rights in Water and Irrigation Act 1914* will not be required for the proposed fines stockpile (DoE, 2005).

Methodology DoE Water Allocation/Licence Advice (2005).
GIS Database - Aboriginal Sites of Significance - DIA 28/02/03.
- Native Title Claims - DLI 7/11/05.

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mineral Production	Mechanical Removal	9	Grant	Recommend that the application be granted as it is not at variance to any of the Clearing Principles.

5. References

- CALM (2005) Land clearing proposal advice. Advice to Program Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia.
- CALM (2006) Land clearing proposal advice. Advice to Program Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia.
- 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.
- DoE (2005) Water Allocation/Licence Advice. Department of Environment, Western Australia.
- Hamersley Iron (2003) Ground Disturbance Authorisation: Nammuldi 2004 Drilling Program. Project Number 2003/10. Hamersley Iron. Western Australia.
- Keighery, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Pilbara Iron (2005) Botanical Survey Advice: Environment Department. Project Number 2005/37. Document Number 111133. Pilbara Iron, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

6 Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAWA	Department of Agriculture, Western Australia.
DA	Department of Agriculture, Western Australia.
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.

DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Act 1999 (Federal Act)
GIS	Geographical Information System.
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	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

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.