



1. Application details

1.1. Permit application details

Permit application No.: 867/2
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Kirstin McMillan Hamersley Iron Pty Ltd

1.3. Property details

Property: State Agreement Act Mining Lease ML4SA (AML70/4)
Local Government Area: Shire Of Ashburton
Colloquial name: Tom Price Iron Ore Mine

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
15.8		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 567: Hummock grasslands, shrub steppe; mulga and kanji over soft spinifex and <i>Triodia basedowii</i> (GIS Database). Shepherd et al. reported in 2001 that approximately 100% of this vegetation type was remaining, with 22.5% located in reserves.	The vegetation type to be cleared is well represented in the Pilbara Region (GIS Database), and no Rare or Priority flora species have been found within the application area (Pilbara Iron, 2005). The vegetation to be cleared has been substantially disturbed by previous mineral exploration activities (Hamersley Iron, 2005), and a flora survey recorded five weed species within the application area: <i>Cynodon dactylon</i> , <i>Aerva javanica</i> , <i>Acetosa vesicaria</i> , <i>Solanum nigrum</i> and <i>Lactuca serriola</i> (Pilbara Iron, 2005).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The application area is 15.8 ha, for the extension of the mine pit, within the existing Tom Price minesite.

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 proposed to clear is unlikely to be of higher biological diversity than surrounding areas. No flora or fauna species of conservation significance are known to occur within the application area (CALM, 2005; GIS Database; Pilbara Iron, 2005).

The application area is immediately adjacent to an existing minesite and has suffered substantial disturbance from previous mineral exploration activities (Hamersley Iron, 2005). The relatively small area of additional clearing within the existing minesite is unlikely to have any significant impact on biological diversity in the region.

Based on the above, the proposed clearing is not likely to be at variance to this principle.

Methodology

CALM Advice (2005).
Hamersley Iron (2005).
Pilbara Iron (2005).

GIS Database:
- Pre-European Vegetation - DA 01/01.

(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

There are limited CALM fauna records that relate to the area under assessment. No evidence or discussion accompanied the proponent's application to indicate whether any fauna surveys have been undertaken in the area that is proposed to be cleared. However, aerial imagery provided by the proponent indicates that past and present mining activities have impacted on fauna habitat in the immediate vicinity of the proposed clearing. Due to these factors CALM is unable to provide comprehensive fauna advice, however based on the limited information available the area appears to be unlikely to support significant habitat for fauna populations, and therefore the proposal is unlikely to be at variance with this Principle (CALM, 2005).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology CALM Advice (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. The nearest known flora of conservation significance is a population of *Lepidium catapycnon* (R), approximately 74km northeast of the application area (GIS Database).

A flora survey of the areas proposed to clear, and surrounding areas was conducted by Pilbara Iron in August 2005. The survey recorded a total of 137 plant species, from 34 families. Five weed species were recorded: *Cynodon dactylon*, *Aerva javanica*, *Acetosa vesicaria*, *Solanum nigrum* and *Lactuca serriola*. No species of Rare or Priority flora were recorded within the survey area (Pilbara Iron, 2005).

The botanical survey advice supplied by the proponent revealed that no Declared Rare or Priority Flora were located within the area that is proposed to be cleared (CALM, 2005). CALM has no records of declared rare flora taxa in the vicinity of the proposed clearing. Based on the aforementioned survey results, CALM advises that the proposal is not likely to be at variance to this Principle (CALM, 2005).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

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

(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 (CALM, 2005; GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology CALM Advice (2005).
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. 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 567: Hummock grasslands, shrub steppe; mulga and kanji over soft spinifex and *Triodia basedowii* (GIS Database). According to Shepherd et al., (2001) there is approximately 100% of this vegetation type remaining, and 22.3% 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**	Pre-european % in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,164	17,794,651	99.9	Least Concern	6.3
Beard veg assoc. – State					
567	777,517	777,517	100	Least Concern	22.3
Beard veg assoc. – Bioregion					
567	776,833	776,833	100	Least Concern	22.3

* Shepherd et al. (2001)

** Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing is not at variance to this Principle.

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

(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 at variance to this Principle

One minor seasonal creekline cuts across the northern corner of the application area (GIS Database). There are no permanent watercourses or wetlands within the area applied to clear.

Based on the above, the proposed clearing is at variance to this Principle. However, the proposed clearing is unlikely to have any significant impact on any watercourse or wetland.

Methodology GIS Database:
- Lakes, 1M - GA 01/06/00;
- 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 area applied to clear is for the extension of an existing mine pit. 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 application area is located within the Platform Land System, which is described as highly dissected plains of partly consolidated colluvium (DAWA, 2006). This land system is not regarded as being prone to erosion, and the proposed clearing is unlikely to cause appreciable land degradation (DAWA, 2005).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology DAWA Advice (2006).
GIS Database:
- Acid Sulphate soil risk map, SCP - DOE 04/11/04.
- Salinity Risk LM 25m - DOLA 00.

(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 likely to be at variance to this Principle

The application area is approximately 10km west of the western boundary of the Karijini National Park. There are no other CALM managed lands within a 50km radius of the areas applied to clear (GIS Database).

The proposed clearing is associated with an existing operational minesite, and is unlikely to cause any appreciable additional impact on the Karijini National Park (CALM, 2005).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology CALM Advice (2005).
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). As the proposed clearing is for the extension of an existing mine pit, the clearing is unlikely to result in increased surface water run-off.

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

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology GIS Databases:
- Lakes, 1M - GA 01/06/00.
- Rivers 250K - GA.

(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 permanent watercourse (GIS Database).

The proposed clearing, for the extension of an existing mine pit, is not likely to cause or exacerbate the incidence or intensity of flooding.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

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. This claim has been registered with the National Native Title Tribunal on behalf of the 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.

The proposed clearing occurs in an area that is covered by the following Registered Indigenous Heritage Site: Hamersley (ID 11186). 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 Tom Price Iron Ore Mine has a current operating licence 4762/10 granted in accordance with the Environmental Protection Act 1986. The proposed clearing is not at variance to this licence, however if dewatering regimes change so that water will be discharged to the environment, an amendment to the licence will be required. Please note this Licence was due to expire on 28/5/2006 (DoE, 2005).

The proponent has advised that any water required for dust suppression at the proposed pit extension 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 pit extension (DoE, 2005).

CPS 867/2 is an amendment to CPS 867/1 for the purpose of extending the duration of the permit until 28th February 2009. CPS 867/1 was granted on 25th January 2006 and is due to expire 28th February 2008.

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 comments

Purpose	Method	Applied	Comment
		area (ha)/ trees	

The amended proposal has been assessed against the Clearing Principles and the proposal has been found to be not at variance to Principle e and not likely to be at variance to principles a, b, c, d, g, h, i and j and is at variance to Principle f.

It is recommended that conditions be placed on any permit granted to require the permit holder to record areas cleared under the authority of the permit and report those areas to the Department of Industry and Resources prior to the expiry of the permit.

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.
- DAWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture 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 (2005) Application for an Area Clearing Permit Mt Tom Price Iron Ore mine, NEPX Pit - East Extension. Hamersley Iron Pty Ltd, 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 2005/80. Document Number 112978. 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.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
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.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation 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.
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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.