Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5386/1
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:
Colloquial name: Western Turner Syncline Power Line Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4		Mechanical Removal	Construction of power lines

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 24 January 2013

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. One Beard vegetation association has been mapped within the application area (GIS Database):

Beard vegetation association 567: Hummock grasslands, shrub steppe; mulga & kanji over soft spinifex & *Triodia basedowii* (Government of Western Australia, 2011; GIS Database).

A flora and vegetation survey conducted by ENV Australia (2012) during 16 to 26 August 2011 and on 11 to 16 October 2011. The vegetation survey identified and mapped one landform type with three vegetation types:

Hillslopes

ElAbSTsTwENspp
Eucalyptus leucophloia subsp. *leucophloia* scattered low trees over *Acacia bivenosa* and *Stylobasium spathulatum* open shrubland over *Triodia wiseana* very open hummock grassland over *Enneapogon* spp. very open tussock grassland on red-brown clayey sand;

AaaArApTbERlm
Acacia aff. *aneura, A. rhodophloia* and *A. pruinocarpa* tall closed scrub over *Scaevola acacioides* and *Dodonaea pachyneura* scattered shrubs over *Triodia brizoides* open hummock grassland over *Eriachne mucronata* scattered tussock grasses on low hills; and

***Ll*Cc**
**Leucaena leucocephala* low woodland over **Cenchrus ciliaris* tussock grassland on red-brown sandy clay on plains in previously cleared areas.

The application area also includes:

CD
Completely degraded/cleared areas including mining infrastructure and tracks.

* denotes weed species.

Clearing Description

Hamersley Iron Pty Ltd is proposing to clear up to four hectares of native vegetation within an application area of 10.4 hectares for the construction of a power line.

The vegetation will be cleared using a dozer, blade down. The vegetation and topsoil will be stockpiled separately for use in rehabilitation.

Vegetation Condition

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994);

To:

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment

The application area is located in the Hamersley subregion of Western Australia and is situated approximately 5 kilometres south-west of the Tom Price town site (GIS Database).

The vegetation condition was derived from a vegetation survey conducted by ENV Australia (2012).

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 application areas occur within the Hamersley subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by mountainous area of Proterozoic sedimentary ranges and plateaux, dissected by gorges. Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

ENV Australia (2012) conducted a flora and vegetation survey of the application area during 16 to 26 August 2011 and 11 to 16 October 2011. The application area has moderate species richness and the application area does not support a high diversity of flora or vegetation units which may be important for the locality or the subregion (ENV Australia, 2012; Rio Tinto, 2012). The flora and vegetation survey (ENV Australia, 2012) identified three vegetation communities associated with one landform type within the application area. There were also areas within the application area which were cleared for mining infrastructure and tracks. The condition of the vegetation types were classified from 'very good' to 'completely degraded' (Keighery, 1994; GIS Database). No vegetation types were considered to be of conservation significance, and the floristic composition and structure of the vegetation types is not considered to be geographically unique or restricted (ENV Australia, 2012; Rio Tinto, 2012).

There were no Priority Flora species recorded within the application area (ENV Australia, 2012). A search on the Department of Environment and Conservation's Threatened and Priority Flora databases revealed no Priority Flora species that may potentially occur in the application area (DEC, 2013). There are no Threatened Flora species, Threatened Ecological Communities or Priority Ecological Communities recorded within the application area (GIS Database).

Two species of weeds were identified during the survey; Leucaena (*Leucaena leucocephala*) and Buffel Grass (*Cenchrus ciliaris*) (ENV Australia, 2012). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There was one faunal habitat identified within the application area (ENV Australia, 2012). This habitat is considered to be common and widespread within the subregion and the faunal assemblages of the application area are unlikely to be different to that found in similar habitat located elsewhere in the region (ENV Australia, 2012). The clearing of 4 hectares of native vegetation within the 10.4 hectare application area is unlikely to have a significant impact in a regional and local context.

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

Methodology

CALM (2002)
DEC (2013)
ENV Australia (2012)
Keighery (1994)
Rio Tinto (2012)
GIS Database:
- IBRA WA (Regions - Subregions)
- Mount Lionel 50cm Orthomosaic - Landgate 2004
- Pre-European vegetation
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

(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

No targeted fauna surveys have been conducted over the application area. A flora survey conducted by ENV Australia (2012) identified one broad fauna habitat within the application area;

- *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees and *Acacia* aff. *aneura*, *A. rhodophloia* and *A. pruinocarpa* tall closed scrub.

The remaining areas are either cleared or heavily degraded and would not represent potential habitat for fauna (ENV Australia, 2012).

There were no significant faunal habitats identified within the application area (ENV Australia, 2012), and the identified fauna habitat is well represented within the locality and Hamersley sub-region (ENV Australia, 2012; Rio Tinto, 2012). No landforms or habitats present within the application area are considered unique or range-restricted.

Fauna habitats within the application area are limited due to the lack of vegetative cover and landforms, and the existing level of disturbance. While highly mobile species may temporarily utilise the survey area, the degraded condition of the native vegetation, and proximity to active mining would most likely cause the application area to be avoided by most fauna. The ecological values of the potential fauna habitats are therefore considered to be low (Rio Tinto, 2012). The proposed clearing of 4 hectares of native vegetation is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species as the application area does not contain significant faunal habitats.

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

Methodology ENV Australia (2012)
Rio Tinto (2012)

(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**
According to available databases, there are no records of Threatened Flora within the application area (GIS Database). A search of the Department of Environment and Conservation's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 20 kilometre radius of the application area (DEC, 2013).

Rio Tinto (2012) conducted flora and vegetation survey of the application area between 20 and 24 March 2012. No Threatened Flora was recorded within the survey area.

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

Methodology DEC (2013)
Rio Tinto (2012)
GIS Database:
- Threatened and Priority Flora List

(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**
A search of the available databases showed that there are no known Threatened Ecological Communities situated within 30 kilometres of the application area (GIS Database).

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

Methodology GIS Database:
- Threatened Ecological Sites Buffered

(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 Pilbara IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

Beard vegetation association 567: Hummock grasslands, shrub steppe; mulga & kanji over soft spinifex & *Triodia basedowii* (Government of Western Australia, 2011; GIS Database).

Beard vegetation association 567 retains approximately 99% of its pre-European extent within the bioregion (Government of Western Australia, 2011). The area proposed to be cleared is not 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	17,804,427	17,729,352	~99.58	Least Concern	6.32
Beard vegetation associations					

- State					
567	777,507	774,896	~99.66	Least Concern	22.33
Beard vegetation associations - Bioregion					
567	776,824	774,213	~99.66	Least Concern	22.35

* Government of Western Australia (2011)
** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2011)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

(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 likely to be at variance to this Principle

According to available databases, there are no watercourses or wetlands within the application area (GIS Database). There are few minor non-perennial watercourses intersecting the application area, however, the vegetation within the application area is not considered to be growing in association with any watercourse or wetland (ENV Australia, 2012).

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

Methodology ENV Australia (2012)
GIS Database:
- Geodata, Lakes
- Hydrography, Linear

(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 application area intersects the Platform and Newman land systems (GIS Database).

The Platform land system is described as dissected slopes and raised plains supporting hard spinifex grasslands. The vegetation on this system is not preferred by livestock and is of very little use for pastoralism. The system is not susceptible to erosion (Van Vreeswyk et al., 2004).

The Newman land system is described as rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. Much of the system is inaccessible or poorly accessible and is unsuitable for pastoral purposes. Spinifex is the dominant vegetation and the system is burnt fairly frequently. The system is generally not susceptible to erosion (Van Vreeswyk et al., 2004).

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

Methodology Van Vreeswyk et al. (2004)
GIS Database:
- Rangeland Land System Mapping

(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 not located within any conservation area (GIS Database). The nearest conservation area is Karijini National Park, located approximately 13.5 kilometres east of the application area (GIS Database).

Given the distance of the application area from Karijini National Park, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the conservation area.

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

Methodology GIS Database:
- DEC Tenure

(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

The application area is not located within a Public Drinking Water Source Area (GIS Database). The application areas are located within the proclaimed Pilbara groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

Several drainage tracts transect the application areas (GIS Database). The drainage patterns in the surrounding area have been impacted by existing railway activities and infrastructure. These drainage tracts are dry for most of the year and only flow and hold surface water for short durations following significant rainfall events (CALM, 2002).

Sediment loads are typically high in flowlines in the Pilbara following large rainfall events and any increase to the sediment load caused by the proposed clearing is likely to be negligible (Rio Tinto, 2012). The clearing of vegetation as a result of this proposal is therefore unlikely to result in any further deterioration in surface or groundwater quality in the local area.

The application area has a groundwater salinity that ranges from potable to marginal (500 - 1,000 milligrams/Litre Total Dissolved solids (TDS) (GIS Database). The proposed clearing of 4 hectares of native vegetation over an application area of 10.4 hectares is unlikely to further deteriorate the quality of underground water (GIS Database).

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

Methodology CALM (2002)
Rio Tinto (2012)
GIS Database:
- Geodata, Lakes
- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas
- RIWI Act, Groundwater Areas

(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 experiences a semi-desert tropical climate, with an annual average rainfall of approximately 313.6 millimetres per year (CALM, 2002; BoM, 2013). Based on an average annual evaporation rate of 3,200 - 3,600 millimetres (BoM, 2013), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (4 hectares) compared to the size of the Ashburton catchment area (7,877,743 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently 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 BoM (2013)
CALM (2002)
GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There is one Native Title claim over the area under application. The claim WC97/89 was determined by the Federal Court on 1 March 2007. 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*.

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 and Conservation 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 10 December 2012 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 - Determined by the Federal Court
- Native Title Claims - Registered with the NNTT

4. References

BoM (2013) Climate Statistics for Australian Locations. A Search for Climate Statistics for Paraburdoo Aero, Australian Government Bureau of Meteorology, viewed 15 January 2013, <http://reg.bom.gov.au/climate/averages/tables/cw_007185.shtml>.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 4 (PIL4 - Hamersley subregion) Department of Conservation and Land Management, Western Australia.

DEC (2013) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 15 January 2013, <http://naturemap.dec.wa.gov.au>.

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.

ENV Australia (2012) Tom Price Life of Mine Flora, Vegetation and Fauna Assessment. Unpublished report prepared for Rio Tinto Iron Ore.

Government of Western Australia (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). 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.

Rio Tinto Iron Ore (Rio Tinto) (2012) CPS 5386/1 - Supporting Documents. Internal Report, December, 2012.

Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	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.