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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4639/3
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **BHP Billiton Iron Ore Pty Ltd**

1.3. Property details

Property: *Iron Ore (Mount Goldsworthy) Agreement Act 1964*, Mineral Lease 281SA (AML 70/281)
Local Government Area: Shire of East Pilbara
Colloquial name: Hill 65

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
200		Mechanical Removal	Mineral exploration, hydrogeological investigations, bore field establishment and associated infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 12 June 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. The following Beard vegetation associations are located within the application area (GIS Database):

18: Low woodland; mulga (*Acacia aneura*); and
82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana.*

Three vegetation and flora surveys have been conducted within the application area (Astron, 2010; Onshore, 2011a; 2011b). A total of 12 broad floristic communities were mapped to occur within the application area:

***Acacia* Low Woodland:** Low Woodland of *Acacia aneura* var. *tenuis, Acacia pruinocarpa* and *Hakea lorea* subsp. *lorea* over Open Shrubland of *Eremophila forrestii* subsp. *forrestii* and *Eremophila lanceolata* over Very Open Tussock Grassland of *Themeda triandra*, *Eulalia aurea* and *Aristida inaequiglumis*;

***Acacia* Low Open Woodland:** Low Woodland of *Acacia aneura* var. *tenuis* and *Acacia pruinocarpa Acacia pachyacra* over Open Tussock Grassland of *Themeda triandra, Aristida inaequiglumis* and *Aristida contorta;*

***Acacia* Low Open Forest:** Low Open Forest of *Acacia aneura* var. subsp. var. *tenuis, Acacia pruinocarpa* and *Hakea lorea* subsp. *lorea* over Open Shrubland of *Eremophila forrestii* subsp. *forrestii* and *Eremophila lanceolata* over Very Open Tussock Grassland of *Themeda triandra*, *Eulalia aurea* and *Aristida inaequiglumis*;

***Acacia* High Shrubland:** High Shrubland of *Acacia monticola, Acacia elachantha* and *Gossypium robinsonii* over Open Hummock Grassland of *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana;*

***Aristida* Open Tussock Grassland:** Scattered Low Trees of *Acacia aneura* var. *pilbarana* over Very Open Tussock Grassland of *Aristida contorta* on Red Brown Clayey Loams, on Alluvial Drainage Flats and in some Plain Areas;

***Corymbia* Low Woodland:** Low Woodland to Low Open Woodland *Eucalyptus leucophloia* subsp. *leucophloia*, *Corymbia hamersleyana*, *C. ferriticola*, *C. deserticola* over Open Shrubland of mixed species over Open Tussock and Hummock Grassland of mixed species on Red Brown Loamy Colluvium in Gorges;

***Eucalyptus* Woodland:** Low Open Woodland of *Eucalyptus xerothermica* and *E. leucophloia* subsp. *leucophloia* over Open Shrubland of *Acacia* species over Very Open Hummock Grassland of *Triodia pungens* and Very Open Tussock Grassland of *Themeda triandra* on Sandy Alluvium within some Incised Drainage Areas;

***Themeda* Open Tussock Grassland:** Low Open Forest of *Eucalyptus victrix*, *Corymbia hamersleyana* and *Acacia aneura* var. *pilbarana* over Open Shrubland of *Acacia maitlandii* and other mixed species over Tussock

Grassland of mixed species on Sandy Alluvium within some Incised Drainage Areas;

***Themeda* Tussock Grassland:** Low Woodland to Open Forest of *Corymbia hamersleyana*, *Eucalyptus victrix* and *E. xerothermica* over Shrubland of mixed species over Tussock Grassland of *Themeda triandra* and *Eulalia aurea* and Hummock Grassland of *Triodia* species on Sandy Alluvium within some Incised Drainage Areas;

***Themeda* Closed Tussock Grassland:** Closed Tussock Grassland of *Themeda triandra, Aristida inaequiglumis* and *Digitaria ammophila* with Low Woodland of *Acacia aneura* var. *tenuis* and *Eucalyptus xerothermica;*

***Triodia* Hummock Grassland:** Low Open Woodland of *Acacia aneura* var. *pilbarana*, *Corymbia deserticola* and *A. pruinocarpa* over Open Shrubland of mixed species over Hummock Grassland of *Triodia melvillei* on Red Brown Clayey Loams, on Alluvial Drainage Flats in some Plain Areas; and

***Triodia* Open Hummock Grassland.**

Clearing Description

Hill 65.

BHP Billiton Iron Ore Pty Ltd (BHP) proposes to clear up to 200 hectares within a total boundary of 10,679 hectares for the purposes of mineral exploration, hydrogeological investigation, the establishment of a potable water supply bore field and associated infrastructure. The project is situated approximately 105 kilometres north west of Newman, in the Shire of East Pilbara.

Vegetation Condition

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

to

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

Clearing permit CPS 4639/1 was granted by the Department of Mines and Petroleum on 22 December 2011. The clearing permit authorised the clearing of 140.2 hectares of native vegetation within a total boundary of 10,216 hectares. CPS 4639/1 was amended on 24 October 2013 to increase the permit boundary to 10,679 hectares.

3. Assessment of application against clearing principles

Comments

On 2 April 2014, BHP Billiton Iron Ore Pty Ltd (BHP) applied to increase the area to be cleared from 140.2 hectares to 200 hectares for the purpose of mineral exploration, hydrogeological investigation, the establishment of a potable water supply bore field and associated infrastructure within Hill 65.

Vegetation associations within the application area do not belong to either a Threatened Ecological Community (TEC) or a Priority Ecological Community (PEC) (Onshore Environmental Services, 2011a). The proposed clearing lies within the boundary of three Coolibah-lignum flat Priority Ecological Communities (PEC) (GIS Database). The sub types intersected include one Coolibah woodland over lignum over swamp wandiree community and two Coolibah woodland over lignum and silky browntop (*Eulalia aurea*) communities (DEC, 2013). Threats to this PEC include dewatering processes, grazing, and vegetation clearing associated with infrastructure corridors, such as that proposed by the applicant (DEC, 2013). However, none of the vegetation units identified to occur within the application area represent a Coolibah-lignum flat (Onshore Environmental Services, 2011a), and it is likely that the intersecting area represents a buffer zone. Impacts to PECs may be minimised by the implementation of a restricted clearing condition within major drainage line habitat.

Since clearing permit CPS 4639/2 was granted, one additional fauna survey (Biologic, 2013) has been conducted over 'Area C West' within the application area. Combined with findings from previous fauna surveys, a total of nine habitat types have been identified within the application area (Astron, 2010; Onshore, 2011a; Biologic, 2011; Biologic, 2013):

1. Basalt Low Hills;
2. Cliffs;
3. Crest/ Hillslope;
4. Drainage Area;
5. Gorge/ Gully;
6. Hardpan Plain;
7. Major Drainage Line;
8. Mulga Woodland/ Mulga Association; and
9. Sandplain.

Three of these habitats (Gorge/Gully, Cliffs and Major Drainage Lines) are known to be significant for the persistance of fauna, including Priority and Threatened species (clearing permit decision report CPS 4639/1; CPS 4639/2; BHP, 2014). A fauna management condition exists on the permit to restrict clearing within Gorge/ Gully habitat. Cliff habitat is known to be significant for fauna due to its ability to provide shelter, denning and foraging habitat. In particular, Cliff habitat is important to the persistance of the following conservation significant species which have been recorded within the application area:

- Pilbara Olive Python (*Liasis olivaceus barroni*; Schedule 1)
- Ghost Bat (*Macroderma gigas*; Priority 4); and
- Rainbow Bee-eater (*Merops* ornatus; Schedule 3).

Gorge/Gully and Cliff habitat may also be used by the Northern Quoll (*Dasyurus hallucatus*; Schedule 1) and Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*; Schedule 1), which have been recorded near the application area (Biologic, 2013; BHP, 2014). Further impacts to fauna which rely on Gorge/ Gully and Cliff habitat may be minimised by the implementation of a fauna management condition which includes both Gorge/ Gully and Cliff habitat.

Major Drainage Line habitat grows in association with two vegetation communities, including *Themeda* Tussock Grassland and *Eucalyptus* Woodland (Astron, 2010; Onshore, 2011a; Biologic, 2011; Biologic, 2013; BHP, 2014). Due to their association with non-perennial watercourses, these vegetation associations are riparian in nature. BHP (2014) have committed to clear within Major Drainage Lines for the purpose of access tracks only. A condition to reflect this commitment is recommended. Further impacts to Major Drainage Line fauna habitat, riparian vegetation and surface water may be minimised by the implementation of restricted clearing and water management conditions.

Based on the above, the proposed clearing may be at variance to Principle (b), and is at variance to Principle (f).

Current environmental information has been reviewed and the assessment of clearing principles (a), (c), (d), (e), (g), (h), (i) and (j) is consistent with clearing permit decision reports CPS 4639/1 and CPS 4639/2.

Methodology

Astron (2010)
BHP (2014)
Biologic (2011)
Biologic (2013)
DEC (2013)
Keighery (1994)
Onshore Environmental Services (2011a)
Onshore Environmental Services (2011b)
Van Vreeswyk et al (2004)
GIS Database:
- Hydrography, linear
- Threatened Ecological Sites Buffered

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

Comments

There is one Native Title Claim (WC2011/006) over the area under application (GIS Database). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. 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 several 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, the 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 amendment application was advertised on 21 April 2014 by DMP inviting submissions from the public. No submissions have been received from the public regarding this application.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Filed with the Federal Court
- Native Title Claims - Registered with the NNTT

4. References

Astron Environmental Services (2010) Packsaddle West Vegetation and Flora Survey and Fauna Assessment. Prepared for BHP Billiton Iron Ore Pty Ltd.

BHP Billiton Iron Ore Pty Ltd (2014) CPS 4639/2 Hill 65 Native Vegetation Clearing Permit. Application to amend CPS 4639/1.

Biologic (2011) Area C and Surrounds Vertebrate Fauna Survey. Unpublished report for BHP Billiton Iron Ore Pty Ltd.
Biologic (2013) Area C West Vertebrate Fauna Survey (Draft Report). Unpublished report for BHP Billiton Iron Ore Pty Ltd.
DEC (2013) Priority Ecological Communities for Western Australia. Species and Communities Branch, 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.
Onshore Environmental Services (2011a) Level 2 Flora and Vegetation Survey, Level 1 Fauna Assessment Camp Hill Exploration Leases. Prepared for BHP Billiton Iron Ore Pty Ltd.
Onshore Environmental Services (2011b) Flora and vegetation survey, Area C and surrounds. Prepared for BHP Billiton Iron Ore Pty Ltd.
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, Technical Bulletin No. 92 Department of Agriculture Western Australia, South Perth.

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.