



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4470/3
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 Newman) Agreement Act 1964, Mineral Lease 244SA (AML 70/244)
Local Government Area: Shire of East Pilbara
Colloquial name: Orebody 24 Exploration Drilling Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
40		Mechanical Removal	Exploration drilling, hydrological investigations, associated infrastructure and power lines.

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 March 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. Two Beard vegetation associations have been mapped within the application area (GIS Database):

Beard vegetation association 29: Sparse low woodland; mulga, discontinuous in scattered groups; and
Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*.

Onshore (2014) described 16 vegetation associations within seven broad floristic communities of the application area:

Cenchrus Tussock Grassland

Tussock Grassland *Cenchrus ciliaris* and *Cenchrus setiger* with Low Woodland of *Eucalyptus victrix*, *Acacia citrinoviridis* and *Atalaya hemiglauca* on brown sandy loam on major drainage lines and adjacent flood plains;

Acacia Shrubland

Shrubland of *Acacia monticola*, *Acacia ancistrocarpa* and *Petalostylis labicheoides* with Scattered Low Trees of *Corymbia hamersleyana* and *Eucalyptus leucophloia* subsp. *leucophloia* over Open Tussock Grassland of *Themeda triandra* and *Aristida inaequilatera* on red loamy sand on minor drainage lines;

Corymbia Low Open Woodland

Low Open Woodland of *Corymbia candida* subsp. *dipsodes* and *Acacia aptaneura* over Open Tussock Grassland of *Cenchrus ciliaris* and *Cenchrus setiger* and Very Open Hummock Grassland of *Triodia basedowii* on red brown loam on floodplains and minor drainage lines;

Eucalyptus Low Woodland

Tussock Grassland of *Themeda triandra*, *Eulalia aurea* and *Eriachne tenuiculmis* with High Shrubland of *Acacia pyrifolia* var. *pyrifolia*, *Acacia tumida* var. *pilbarensis* and *Petalostylis labicheoides* and Open Woodland of *Eucalyptus victrix* and *Corymbia hamersleyana* on red brown silty loam on medium drainage lines and flood plains;

Eucalyptus Woodland

Woodland of *Eucalyptus camaldulensis* subsp. *refulgens* and *Eucalyptus victrix* over High Open Shrubland of *Acacia citrinoviridis*, *Acacia pyrifolia* var. *pyrifolia* and *Melaleuca glomerata* over Tussock Grassland of *Cenchrus ciliaris*, *Eulalia aurea* and *Themeda triandra* on brown clay loam on banks of major drainage lines;

Triodia Hummock Grassland

(a) Hummock Grassland of *Triodia basedowii* with Low Open Woodland of *Corymbia hamersleyana* and *Eucalyptus gamophylla* over Low Open Shrubland of *Scaevola parvifolia*, *Bonamia erecta* and *Kennedia prorepens* on red loamy sand on sand plains;

(b) Hummock Grassland of *Triodia wiseana* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia*, *Corymbia hamersleyana* and *Hakea chordophylla* and Open Shrubland of *Acacia*

ancistrocarpa, *Acacia bivenosa* and *Acacia aptaneura* on red sandy loam on hill slopes;

- (c) Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with High Open Shrubland of *Acacia inaequilatera* on red brown loamy sand on hill slopes and stony plains;
- (d) Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *Triodia wiseana* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* over Low Open Shrubland of *Acacia hilliana* and *Acacia adoxa* var. *adoxo* on red brown sandy loam on hill slopes;
- (e) Hummock Grassland of *Triodia pungens* with Low Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia ferriticola* over Open Shrubland of *Dodonea pachyneura* on red brown sandy clay loam in gullies;
- (f) Hummock Grassland of *Triodia pungens* and *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with Scattered Low Trees of *Eucalyptus leucophloia* subsp. *leucophloia* over Scattered Tall Shrubs of *Acacia aptaneura*, *Acacia kempeana* and *Acacia sibirica* on red brown loam on hill crests, hill slopes and breakaway slopes;
- (g) Hummock Grassland of *Triodia wiseana* and *Triodia angusta* with Open Mallee of *Eucalyptus socialis* subsp. *eucentrica* and Open Shrubland of *Acacia bivenosa*, *Petalostylis labicheoides* and *Acacia pyrifolia* var. *pyrifolia* on light brown clay loam on calcrete plains and rises;
- (h) Hummock Grassland of *Triodia wiseana*, *Triodia brizoides* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* over High Open Shrubland of *Acacia maitlandii*, *Grevillea wickhamii* subsp. *hispidula* and *Acacia bivenosa* on red brown sandy loam on hill crests and upper hill slopes;
- (i) Hummock Grassland of *Triodia pungens* and *Triodia basedowii* with Open Mallee of *Eucalyptus gamophylla* and Shrubland of *Petalostylis labicheoides*, *Acacia bivenosa* and *Acacia ancistrocarpa* on red brown loamy sand on stony plains and footslopes;

Triodia Open Hummock Grassland

- (a) Open Hummock Grassland of *Triodia pungens* with Low Open Woodland of *Corymbia ferriticola*, *Ficus brachypoda* and *Acacia catenulata* subsp. *occidentalis* over High Open Shrubland of *Dodonea pachyneura* and *Acacia hamersleyensis* on red sandy clay loam in gullies and on breakaways; and
- (b) Open Hummock Grassland of *Triodia lanigera* with Open Shrubland of *Acacia ancistrocarpa* and *Acacia pachyacra* and Scattered Low Trees of *Acacia paraneura*, *Acacia pruinocarpa* and *Corymbia hamersleyana* on red sandy loam on stony plains.

Clearing Description

Orebody 24 Exploration Drilling Project.

BHP Billiton Iron Ore Pty Ltd (BHP) has applied to clear up to 40 hectares of native vegetation, within a total application boundary of 1,125.85 hectares, for the purpose of exploration drilling, hydrological investigations and supporting infrastructure. The proposed clearing is located approximately nine kilometres north east of Newman, in the Shire of East Pilbara.

Vegetation Condition

Pristine: (Keighery, 1994).

to

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

Comment

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

Clearing permit CPS 4470/1 was granted by the Department of Mines and Petroleum on 13 October 2011, and is valid from 5 November 2011 to 1 October 2016. The clearing permit authorised the clearing of 40 hectares of native vegetation. CPS 4470/1 was amended on 27 October 2011 to include the installation of power lines to the purpose for which the clearing may be conducted. The duration of the permit was also extended by 5 years to allow the rehabilitation condition to be implemented.

3. Assessment of application against clearing principles

Comments On 21 January 2014, BHP Billiton Iron Ore Pty Ltd (BHP) applied to increase the permit boundary from 1,005 hectares to 1,122.89 hectares for the purpose of exploration within Orebody 24.

Since clearing permit CPS 4470/2 was granted, a level 2 flora and vegetation assessment (ENV, 2012), targeted flora and vegetation survey (Onshore Environmental, 2013), consolidated vegetation mapping (Onshore Environmental, 2014), level 1 fauna assessment (ENV, 2011), and targeted vertebrate fauna survey (Biologic, 2014) has occurred within the application boundary of Orebody 24 (BHP, 2014).

The proposed increase in boundary includes no additional vegetation associations, Priority flora, or Threatened flora (ENV, 2012; BHP, 2014). One individual of Priority flora *Isotropis parviflora* (Priority 2) has been previously identified within the amendment area, but was unable to be located in subsequent surveys (ENV, 2012; BHP, 2014). It is considered likely that the individual has senesced as is typical of this coloniser species (BHP, 2014). All vegetation associations are considered to be of similar diversity to those assessed within clearing permit

decision report CPS 4470/2, and the vegetation types are not considered to be a remnant on a local or regional scale (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2013; GIS Database).

Five vegetation associations are considered to occur within drainage lines and flood plains (ENV, 2012; BHP, 2014), and are therefore considered to be riparian in nature. None of the vegetation associations represent Threatened or Priority Ecological Communities, although the application area intersects the buffer zone of the Ethel Gorge Aquifer Stygobiont community (BHP, 2014). As the greatest threat to this TEC is groundwater drawdown through water abstraction and dewatering activities, the clearing of 40 hectares of native vegetation for the purpose of mineral exploration is not likely to significantly impact upon water resources within the local area, and is therefore not likely to impact upon this TEC, consistent with clearing permit decision report CPS 4470/2.

Therefore, the proposed clearing is at variance to Principle (f), is not likely to be at variance to Principles (c), (d), and is not at variance to Principle (e).

A desktop and field survey conducted by Biologic (2014) identified 85 avian, 22 mammal, 51 reptile and three amphibian species to occur within the amended application area. Fauna surveys undertaken by ENV (2011) and Biologic (2014) have recorded seven conservation significant species within the application area; Pilbara Leaf-nosed Bat (*Rhinonictis aurantia*; Schedule 1), Pilbara Olive Python (*Liasis olivaceous barroni*; Schedule 1), Ghost Bat (*Macroderma gigas*; Priority 4), Western Pebble-mound Mouse (*Pseudomys chapmani*; Priority 4), Australian Bustard (*Ardeotis australis*; Priority 4), Peregrine Falcon (*Falco peregrinus*; Schedule 4) and Rainbow bee-eater (*Merops ornatus*; Schedule 3). These species are new records since the first permit was granted.

Seven fauna habitats have been identified by Biologic (2014) including:

1. Gorge/Gully;
2. Riverine/ Major Drainage Line;
3. Minor Drainage Line;
4. Mulga Woodlands;
5. Sand Plains;
6. Crest/Slope; and
7. Stony/ Sand Plains.

Both Gorge/Gully and Riverine/ Major Drainage Line habitats have been identified as having high habitat value (ENV, 2011; BHP, 2014; Biologic, 2014). However, the area within the application boundary covered by these habitat types is minimal. Minor Drainage Line habitat is of moderate value, as a result of the cave and permanent water body habitat features located within them (Biologic, 2014). The proposed clearing may decrease the quality and availability of Minor Drainage Line habitat within the application area by increasing fragmentation within this habitat type. No significant habitat caves were identified within the application area, however Biologic (2014) identified a total of 10 permanent waterbodies within the amendment boundary. The waterbodies are important shelter and foraging habitat features for fauna, including the Pilbara Olive Python and the Northern Quoll (Biologic, 2014). These have been voluntarily excised from the application boundary by BHP using 50 metre buffers around waterbodies with records of Pilbara Olive Python occupancy, and 10 metre buffers around all others.

Therefore, the proposed clearing may be at variance to Principles (a) and (b).

Current environmental information has been reviewed and the assessment of clearing principles (g), (h), (i) and (j) is consistent with the assessment in clearing permit decision report CPS 4470/2.

Methodology BHP (2014)
Biologic (2014)
Department of Natural Resources and Environment (2002)
ENV (2011)
ENV (2012)
Government of Western Australia (2013)
Onshore Environmental (2013)
Onshore Environmental (2014)
GIS Database:
- Pre-European Vegetation

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

Comments

There is one Native Title claim over the area under application (WC05/6). 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 20 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 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 February 2014 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT

4. References

- BHP (2014) Supporting Document for Orebody 24 Exploration: Native Vegetation Clearing Permit 4470/2 Amendment Application. BHP Billiton Iron Ore, Western Australia.
- Biologic (2014) Orebody 24 Targeted Vertebrate Fauna Survey. Unpublished report for BHP Billiton Iron Ore Pty Ltd.
- 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 (2011) Eastern Ridge (OB 23/24/25) Fauna Assessment. Unpublished report for BHP Billiton Iron Ore Pty Ltd.
- ENV (2012) Eastern Ridge (OB 23/24/25) Flora and Vegetation Assessment. Unpublished report for BHP Billiton Iron Ore Pty Ltd.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. 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.
- Onshore Environmental (2013) Targeted Flora and Vegetation Survey Orebody 24. Unpublished report for BHP Billiton Iron Ore Pty Ltd.
- Onshore Environmental (2014, in prep) Consolidated Pilbara Vegetation Mapping. Unpublished report for BHP Billiton Iron Ore Pty Ltd (in preparation).

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	Environmental 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.