Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3609/4
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)
Iron Ore (McCamey's Monster) Agreement Authorisation Act 1972, Mining Lease 266SA (AM 70/266)
Miscellaneous Licence 52/108
Local Government Area: Shire of East Pilbara
Colloquial name: Jimblebar to Orebody 18

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
110		Mechanical Removal	Mineral production and associated infrastructure.

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 29 October 2015

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 extent in a regional context. Two Beard vegetation associations are located within the proposed clearing area (GIS Database):

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*; and

216: Low woodland; mulga (with spinifex) on rises.

Several vegetation and flora surveys have been carried out over the permit area. There were 19 vegetation associations recorded within the previous permit boundary which are detailed in Decision Report 3609/3.

A flora survey of the additional area identified the following vegetation associations (BHP Billiton, 2015):

Acacia Low Open Forest

Low Open Forest of *Acacia aptaneura* over Tussock Grassland of *Aristida inaequiglumis, Chrysopogon fallax* and *Themeda triandra* and Low Open Shrubland of *Rhagodia eremaea, Ptilotus obovatus* and *Isotropis forrestii* on floodplains, unincised drainage lines and drainage zones;

Acacia Low Woodland

Low Woodland of *Acacia aptanerua*, *Acacia pruinocarpa* and *Acacia catenulata* subsp. *occidentalis* over Open Shrubland of *Eremophila forrestii* subsp. *forrestii*, *Dodonaea petiolaris* and *Sida ectogama* over Open Tussock Grassland of *Aristida contorta*, *Digitaria ammophila* and *Aristida inaequiglumis* on red orange clay loam on floodplains;

Acacia Low Open Woodland

Low Open Woodland of *Acacia aptaneura*, *Acacia rhodophloia* and *Acacia pruinocarpa* over Open Shrubland of *Senna glutinosa* subsp. x *luerssenii* and *Scaevola acacioides* over Low Open Shrubland of *Eremophila cuneifolia* and *Senna stricta* on ironstone hill crests;

Acacia Shrubland

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

Acacia Open Scrub

Open Scrub of *Acacia aptaneura*, *Acacia bivenosa*, *Acacia ancistrocarpa* and *Acacia tenuissima* over Hummock Grassland of *Triodia pungens* with Low Open Mallee of Eucalyptus *gamophylla* and *Eucalyptus trivalva* on footslopes and stony plains;

Open Scrub of *Acacia ancistrocarpa*, *Grevillea wickhamii* subsp. *hispidula* and *Eremophila longifolia* over hummock Grassland of *Triodia pungens* and Tussock Grassland of *Themeda triandra* and **Cenchrus ciliaris* on minor drainage lines;

Eremophila Low Open Shrubland

Low Open Shrubland of *Eremophila forrestii*, *Senna glutinosa* subsp. x *luerssenii* and *Senna artemisioides* subsp. *oligophylla* with Scattered Tall Shrubs of *Acacia paraneura*, *Acacia aptaneura* and *Acacia ayersiana* and Very Open Tussock Grassland of *Aristida inaequiglumis*, *Aristida contorta* and *Eragrostis eriopoda* on bare stony plains;

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;

Triodia Closed Hummock Grassland

Closed Hummock Grassland of *Triodia angusta* with Open Shrubland of *Acacia tetragonophylla*, *Acacia synchronicia* and *Acacia bivenosa* and Low Open Shrubland of *Eremophila cuneifolia*, *Frankina setosa* and *Senna stricta* on plains;

Triodia Hummock Grassland

Hummock Grassland of *Triodia pungens* and *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with High Open Shrubland of *Acacia trudgeniana*, *Hakea lorea* subsp. *lorea* and *Acacia aptaneura* and Low Open Shrubland of *Eremophila fraseri* subsp. f*raseri, Senna glutinosa* subsp. x *luerssenii* and *Senna glutinosa* subsp. *pruinosa* on dolerite footslopes and stony plains;

Hummock Grassland of *Triodia basedowii* with High Open Shrubland of *Acacia trudgeniana*, *Hakea lorea* subsp. *lorea* and *Grevillea wickhamii* subsp. *hispidula* and Open Shrubland of *Acacia ancistrocarpa*, *Senna artemisioides* subsp. *oligophylla* and *Senna artemisioides* subsp. *helmsii* on sandplains;

Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) and *Triodia pungens* with High Open Shrubland of *Grevillea wickhamii* subsp. *hispidula*, *Acacia trudgeniana* and *Acacia aptaneura* and Open Shrubland of *Senna glutinosa* subsp. x *luerssenii* on footslopes and stony plains;

Hummock Grassland of *Triodia brizoides* and *Triodia pungens* with High Open Shrubland of *Acacia bivenosa* over Open Shrubland of Senna *glutinosa* subsp. x *luerssenii* over *Senna artemisioides* subsp. *helmsii* on hillslopes and footslopes;

Hummock Grassland of *Triodia brizoides* and *Triodia pungens* with Low Woodland of *Acacia aptaneura* over Open Shrubland of *Senna stricta* and *Ptilotus obovatus* on hill crests and south facing hill slopes;

Hummock Grassland of *Triodia brizoides* and *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with High Shrubland of *Acacia wanyu*, *Acacia tetragonophylla* and *Acacia synchronicia* over Open Shrubland of *Senna glutinosa* subsp. x *luerssenii*, *Senna glutinosa* subsp. *pruinosa* and *Eremophila cuneifolia* on hill slopes;

Hummock Grassland of *Triodia angusta* ±*Triodia brizoides* with Low Open Shrubland of *Senna glutinosa* subsp. x *luerssenii*, *Eremophila cuneifolia* and *Eremophila latrobei* subsp. *latrobei* and Low Scattered Trees of *Eucalyptus leucophloia* subsp. *leucophloia* on undulating low hills and stony plains;

Hummock Grassland of *Triodia basedowii* with Low Open Woodland of *Acacia aptaneura* and *Acacia pruinocarpa* over Open Shrubland of *Eremophila forrestii* subsp. *forrestii* on red sandy loam on floodplains;

Hummock Grassland of *Triodia pungens* with Very Open Mallee of *Eucalyptus trivalva* and *Eucalyptus gamophylla* over Shrubland of *Acacia bivenosa*, *Acacia ancistrocarpa* and *Petalostylis labicheoides* on red brown loam on uninsised drainage tracts on stony plains;

Hummock Grassland of *Triodia* sp. Shovelanna Hill and *Trioidia pungens* with Very Open Mallee of *Eucalyptus kingsmillii* subsp. *kingsmillii* and *Eucalyptus gamophylla* on red sandy loam on hill slopes and hill crests;

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. *adoxa* on red brown sandy loam on hill slopes;

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;

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;

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;
Hummock Grassland of *Triodia pungens*, *Triodia wiseana* and *Triodia* sp. Shovelanna Hill with Open Shrubland of *Eremophila fraseri*, *Senna glutinosa* subsp. *pruinosa* and *Senna artemisioides* subsp. *oligophylla* on red brown loamy sand on stony plains and hill slopes;

Triodia Open Hummock Grassland

Open Hummock Grassland of *Triodia pungens* with Low Open Woodland of *Acacia paraneura*, *Acacia aptaneura* and *Acacia ayersiana* and Open Shrubland of *Acacia wanyu* on bare stony plains;

Open Hummock Grassland of *Triodia angusta* and Open Tussock Grassland of *Themeda triandra* with Open Shrubland of *Eucalyptus trivalva*, *Melaleuca eleuterostachya* and *Acacia aptaneura* on minor drainage lines;

Open Hummock Grassland of *Triodia* sp. Shovelanna Hill, *Triodia pungens* and *Triodia basedowii* with Low Open Woodland of *Acacia aptaneura*, *Acacia pruinocarpa* and *Acacia wanyu* and Open Shrubland of *Acacia tetragonophylla*, *Eremophila exilifolia* and *Eremophila latrobei* subsp. *latrobei* on red sandy loam on hill slopes;

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 hamerselyana* on red sandy loam on stony plains;

Tussock Grassland of *Themeda triandra* and *Aristida inaequiglumis* with Low Open Woodland of *Corymbia hamersleyana* and *Acacia aptaneura* and High Open Shrubland of *Acacia ancistrocarpa*, *Acacia bivenosa* and *Eremophila longifolia* on medium drainage lines;

Aristida Open Tussock Grassland

Open Tussock Grassland of *Aristida latifolia*, *Eriachne benthamii* and *Chrysopogon fallax* with Low Open Shrubland of *Senna artemisioides* subsp. *oligophylla* and *Sida fibulifera* and Scattered Tall Shrubs of *Acacia aptaneura* and *Acacia tetragonophylla* on gilgai floodplains and drainage zones;

Aristida Open Bunch Grassland

Open Bunch Grassland of *Aristida contorta* with Low Open Shrubland of *Senna artemisioides* subsp. *oligophylla* and Scattered Low Trees of *Acacia aptaneura* and *Acacia paraneura* on bare stony plains.

*denotes introduced species.

Clearing Description

Jimblebar to Orebody 18 Project
BHP Billiton Iron Ore Pty Ltd (here after referred to as BHP Billiton) proposes to clear up to 110 hectares of native vegetation within a total boundary of 611 hectares for the purpose of mineral production and associated activities. The project is located approximately 40 kilometres east of Newman, in the Shire of East Pilbara.

Vegetation Condition

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994);

To:

Pristine: No obvious signs of disturbance (Keighery, 1994).

Comment

The majority of the application area was sighted as being in a 'pristine' to 'excellent' condition, whilst a small portion associated with previous vehicle tracks was in a 'good' condition (ENV Australia, 2009).

Clearing permit CPS 3609/1 was granted by the Department of Mines and Petroleum on 8 April 2010 and authorised the clearing of 80 hectares of native vegetation within an application area of 210 hectares. CPS 3609/1 was amended on 3 November 2011, increasing the amount of clearing to 83 hectares within an application area of 216.9 hectares. CPS 3609/2 was amended on 23 April 2015 to amend the purpose of clearing to mineral production and associated infrastructure; and amend the period in which clearing is authorised, the permit expiry date and final reporting date.

3. Assessment of application against clearing principles

Comments

BHP Billiton has applied to amend clearing permit CPS 3609/3 for the purpose of increasing the amount of clearing authorised to 110 hectares and increasing the permit boundary from 216.9 hectares to 611 hectares.

Flora and vegetation surveys over the additional area have identified 31 vegetation associations within the area (BHP Billiton, 2015). None of the vegetation communities recorded were identified as a Threatened or Priority Ecological Community (BHP Billiton, 2015; GIS Database). The majority of the vegetation within the additional area is in 'very good' condition (BHP Billiton, 2015).

Species richness within the additional area is considered to be representative of surrounding areas (BHP Billiton, 2015). None of the species recorded within the additional area have been identified as threatened or priority flora species (BHP Billiton, 2015; GIS Database). The vegetation within the additional area is not likely to represent critical habitat for any threatened or priority flora species. Three species of weed have been recorded within the additional area; *Cenchrus ciliaris* (Buffel Grass), *Malvastrum americanum* (Spiked Malvastrum) and *Portulaca oleracea* (Wild Portulaca). Control of established weed populations will be carried

out according to BHP Billiton's weed management procedure.

The following six broad fauna habitats have been mapped within the additional area; minor drainage line, drainage area, stony plain, crest/slope, mulga and sandy plain (BHP Billiton, 2015). These habitats are well represented in the bioregion and were not considered to be of high importance for local fauna species (BHP Billiton, 2015). The Rainbow Bee-eater (*Merops ornatus* – Migratory) has been previously recorded from the additional area (BHP Billiton, 2015). No evidence of nesting has been observed within the permit area (BHP Billiton, 2015). A number of other conservation significant fauna species have the potential to utilise the additional area, however, the habitat present is not likely to represent significant habitat for any of the species. The 'Hill Tops/Breakaways' habitat was identified during previous assessments as having moderate habitat value and is subject to condition 4 of the permit. This habitat was not mapped within the additional area.

There are several ephemeral drainage lines within the additional area (GIS Database). Several of the vegetation associations were identified as growing in association with these drainage lines (BHP Billiton, 2015). The proposed clearing is not likely to have a significant impact on surface or ground water quality in the local area.

The additional area is comprised of the Boolgeeda, Jamindie and McKay land systems (GIS Database). These land systems are generally not susceptible to erosion, however, drainage lines in the Jamindie land system are moderately susceptible to erosion (Van Vreeswyk et al., 2004). There are several drainage lines present within the additional area (GIS Database).

The assessment of the clearing principles is consistent with the assessment contained in decision report CPS 3609/2.

Methodology

BHP Billiton (2015)
Van Vreeswyk et al (2004)
GIS Database:
- DPaW Tenure
- Hydrography, linear
- Imagery
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Flora

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

Comments

There is one Native Title claim (WC05/6) over the areas under application (Department of Aboriginal Affairs, 2015). 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 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 throughout the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the Department of Water, and the Department of Parks and Wildlife, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

Methodology

Department of Aboriginal Affairs (2015)
GIS Database:
- Aboriginal Sites Register System

4. References

BHP Billiton (2015) Supporting information for clearing permit amendment CPS 3609/4.

Department of Aboriginal Affairs (2015) Aboriginal Heritage Inquiry System. Accessed on 1 July 2015.

ENV Australia (2009) Construction water supply pipeline and Ammonium Nitrate Storage Facility - Flora and vegetation assessment. Unpublished report for BHP Billiton Iron Ore.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) Technical Bulletin - An Inventory and Condition Survey of the Pilbara Region, Western Australia, No. 92. Department of Agriculture, Government of Western Australia, Perth, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
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
PEC	Priority Ecological Community, Western Australia
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:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T — **Threatened species:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.

Rankings:
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered - considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.

X — **Presumed Extinct species:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).

IA — **Migratory birds protected under an international agreement:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.

S — **Other specially protected fauna:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.

P1 — **Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.

P2 — **Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.

P3 **Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring:**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

P5 **Priority Five - Conservation Dependent species:**
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.