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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5926/4
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)
Local Government Area: Shire of East Pilbara
Colloquial name: Western Ridge Exploration Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
308		Mechanical Removal	Mineral Exploration, Hydrogeological Investigations, Creek Diversion, Geotechnical Investigations and Associated Works

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 16 June 2016

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The following two Beard vegetation associations have been broadly mapped within the application area:

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

A large-scale flora and vegetation survey was conducted over the original permit boundary (CPS 5926/1) and its surrounds in May and August 2010. During June 2014, a Level 2 flora and vegetation survey was conducted, covering the additional areas that were added to the permit under amendments CPS 5926/2 and 5926/3. A total of 28 vegetation associations from 12 broad floristic formations have been mapped within the current permit area (BHP Billiton Iron Ore, 2016).

Acacia Low Open Forest

1a: Low Open Forest (to Low Open Woodland) of *Acacia aptaneura*, *Acacia pruinocarpa*, *Acacia ayersiana* and *Acacia catenulata* subsp. *occidentalis* over Shrubland of *Eremophila forrestii* subsp. *forrestii* and *Senna artemisioides* subsp. *oligophylla* and Open Hummock Grassland of *Triodia pungens* forming groves on hardpan plains;

1b: Low Open Forest (to Low Woodland) of *Acacia aptaneura*, *Acacia pruinocarpa* and *Eucalyptus xerothermica* over Shrubland of *Eremophila forrestii* subsp. *forrestii*, *Sida ectogama* and *Eremophila latrobei* subsp. *latrobei* over Open Tussock Grassland of *Themeda triandra*, *Aristida inaequiglumis* and **Cenchrus ciliaris* on stony floodplains and unincised drainage zones;

1c: HS AcaAaAprSaEllAbTbrTw: Low Open Forest of *Acacia catenulata* subsp. *occidentalis*, *Acacia aptaneura* and *Acacia pruinocarpa* over Open Shrubland of *Scaevola acacioides*, *Eremophila latrobei* subsp. *latrobei* and *Acacia bivenosa* over Open Hummock Grassland of *Triodia brizoides* and *Triodia wiseana* on red brown clay loam on breakaways and steep hill slopes;

Corymbia Low Woodland

2: Low Woodland of *Corymbia hamersleyana*, *Eucalyptus xerothermica* and *Acacia aptaneura* over High Open Shrubland of *Petalostylis labicheoides*, *Acacia pyrifolia* subsp. *pyrifolia* and *Acacia maitlandii* over Open Tussock Grassland of *Eriachne tenuiculmis*, *Themeda triandra* and **Cenchrus ciliaris* along medium drainage lines;

Acacia Low Open Woodland

3: Low Open Woodland of *Acacia aptaneura* over High Open Shrubland of *Acacia tetragonophylla* and *Acacia*

synchronicia over Very Open Tussock Grassland of **Cenchrus ciliaris*, *Aristida latifolia* and *Eriachne mucronata* on quartz plains;

Acacia Open Scrub

4: Open Scrub of *Acacia bivenosa* over Hummock Grassland of *Triodia angusta* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* on undulating ironstone and chert hills;

Acacia High Open Shrubland

5: High Open Shrubland of *Acacia aptaneura*, *Acacia synchronicia* and *Acacia tetragonophylla* over Low Open Shrubland of *Eremophila cuneifolia*, *Solanum lasiophyllum* and *Maireana georgei* over Very Open Bunch Grassland of *Aristida contorta* on stony chert ironstone plains and rises;

Triodia Closed Hummock Grassland

6: Closed Hummock Grassland of *Triodia brizoides* and *Triodia wiseana* with Shrubland of *Eremophila fraseri* and High Open Shrubland of *Acacia bivenosa* and *Acacia kempeana* on high dolerite hills;

Triodia Hummock Grassland

7a: Hummock Grassland of *Triodia wiseana* ± *Triodia brizoides* with Open Shrubland of *Acacia bivenosa* and *Acacia inaequilatera* and Low Open Shrubland of *Senna artemisioides* subsp. *oligophylla* on dolerite footslopes and undulating low hills;

7b: Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *Triodia wiseana* and/or *Triodia brizoides* with Open Shrubland of *Acacia bivenosa*, *Acacia tenuissima* and *Senna glutinosa* subsp. *glutinosa* and Low Open Shrubland of *Eremophila canaliculata*, *Ptilotus obovatus* and *Acacia spondylophylla* on hill crests, steep scree slopes and banded iron formation (BIF) ridges;

7c: Hummock Grassland of *Triodia angusta* and *Triodia wiseana* with High Shrubland of *Acacia bivenosa*, *Acacia kempeana* and *Acacia sibirica* and Low Open Mallee of *Eucalyptus socialis* subsp. *eucentrica* or *Eucalyptus gamophylla* on calcrete, quartz and dolerite low hills, stony rises and stony plains;

7d: Hummock Grassland of *Triodia wiseana* and *Triodia angusta* with High Shrubland of *Acacia bivenosa*, *Acacia kempeana* and *Acacia sibirica* on quartz / dolerite mixed plains;

7e: Hummock Grassland of *Triodia longiceps* with Low Woodland of *Eucalyptus xerothermica* and *Acacia aptaneura* and High Open Shrubland of *Acacia aptaneura*, *Acacia sibirica* and *Acacia kempeana* on stony floodplains;

7f: Hummock Grassland of *Triodia pungens* with High Open Shrubland of *Acacia kempeana*, *Acacia sibirica* and *Acacia bivenosa* and Scattered Trees of *Corymbia hamersleyana* on dolerite derived sandy plains in broad valleys;

7g: Hummock Grassland of *Triodia pungens* with Open Scrub of *Acacia bivenosa* and *Acacia tenuissima* on minor drainage lines;

7h: HC TsTpEkEg: 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;

7i: HS TwElChHcAanAbAa: 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;

7j: SP TsAi: 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;

7k: HS TsTpAaAprAciAaEllSgl: Hummock Grassland of *Triodia* sp. Shovelanna Hill and *Triodia pungens* with High Open Shrubland of *Acacia aptaneura*, *Acacia pruinocarpa* and *Acacia citrinoviridis* and Open Shrubland of *Acacia aptaneura*, *Eremophila latrobei* subsp. *latrobei*, *Senna glutinosa* subsp. x *luerssenii* on red loamy sand on upper hill slopes;

7l: ME TpTTlExAciChPlApyGr: Hummock Grassland of *Triodia pungens* and *Triodia longiceps* with Low Woodland of *Eucalyptus xerothermica*, *Acacia citrinoviridis* and *Corymbia hamersleyana* over High Shrubland of *Petalostylis labicheoides*, *Acacia pyrifolia* var. *pyrifolia* and *Gossypium robinsonii* on red brown clay loam on medium drainage lines and surrounding floodplains;

7m: SP TpTbEgPlAbAan: 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

8a: Open Hummock Grassland of *Triodia brizoides* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and Open Shrubland of *Dodonaea pachyneura*, *Eremophila latrobei* subsp. *latrobei* and *Acacia bivenosa* on cliff faces;

8b: GG TpCfeFbAcaDpaAh: 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;

8c: HS TsTpTbAaAprAwAteEexEll: 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;

Aristida Tussock Grassland

10: Tussock Grassland of *Aristida latifolia*, *Aristida jerichoensis* var. *subspinulifera* and *Eragrostis xerophila* with High Open Shrubland of *Acacia aptaneura*, *Acacia tetragonophylla* and *Acacia synchronicia* and Low Open Shrubland of *Sida fibulifera*, *Senna artemisioides* subsp. *oligophylla* and *Senna hamersleyensis* on gilgai drainage flats and minor drainage lines;

Acacia Low Woodland

11: FP AcaAaExEffTp: Low Woodland of *Acacia catenulata* subsp. *occidentalis*, *Acacia aptaneura* and *Eucalyptus xerothermica* over Open Shrubland of *Eremophila forrestii* subsp. *forrestii* over Open Hummock Grassland of *Triodia pungens* on red sandy loam on floodplains;

Acacia Shrubland

12: MI AmoAanPlChElTtAin: 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;

Eucalyptus Woodland

13: MA EcEvAciApyMgCcEaTt: 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.

*indicates introduced species

Clearing Description

Western Ridge Exploration Project.
BHP Billiton Iron Ore Pty Ltd (BHP Billiton Iron Ore) proposes to clear up to 308 hectares of native vegetation within a boundary of approximately 4,432 hectares, for the purpose of mineral exploration, hydrogeological investigations, creek diversion, geotechnical investigations and associated works. The project is located immediately south-west of BHP Billiton Iron Ore's existing Mount Whaleback mining operations, approximately five kilometres south-west 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

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

Comment

Clearing permit CPS 5926/1 was granted by the Department of Mines and Petroleum on 1 May 2014 and authorised the clearing of 220 hectares of native vegetation within a boundary of approximately 3,660 hectares. Amended permit CPS 5926/2 was granted on 4 December 2014, increasing the amount of clearing authorised to 300 hectares, increasing the permit boundary to approximately 4,379 hectares, and extending the permit duration to 30 November 2024.

Amended permit CPS 5926/3 was granted on 18 February 2016, increasing the permit boundary to approximately 4,432 hectares, there was no change to the amount of clearing authorised.

On 14 April 2016, the Permit Holder applied to amend CPS 5926/3 to add "creek diversion" into the authorised clearing purpose, and increase the area of clearing authorised by eight hectares to 308 hectares. The permit boundary will remain unchanged. The additional eight hectares of clearing will allow for the diversion of the "Southern Creek" to facilitate future development activities at Orebody 35.

3. Assessment of application against clearing principles

Comments

BHP Billiton Iron Ore has applied to amend the permit to increase the area of clearing from 300 hectares to 308 hectares and to amend the authorised purpose of clearing.

The additional eight hectares of clearing will allow for the diversion of a minor ephemeral unnamed creekline (referred to by BHP Billiton Iron Ore as "Southern Creek"), and will facilitate future development activities at Orebody 35 (BHP Billiton Iron Ore, 2016). The creekline will be diverted upstream of the proposed Orebody 35 mine pit by the construction of a diversion bund and drain, and water flows will be redirected downstream into a minor unnamed tributary of the Fortescue River (BHP Billiton Iron Ore, 2016).

BHP Billiton Iron Ore (2016) reports that the vegetation downstream of the proposed diversion point consists of Acacia low woodland, which is not considered to be riparian vegetation and is widespread throughout the permit area. As the creekline is dry for most of the year and the vegetation community is not restricted to the area surrounding the creekline, the vegetation is unlikely to be wholly dependent on water from creek flows.

No Threatened or Priority flora species or ecological communities occur within the eight hectare area proposed to be cleared for the creek diversion (BHP Billiton Iron Ore, 2016).

The additional eight hectares of clearing within the existing permit boundary is unlikely to result in any significant additional environmental impacts.

The amendment application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986.* Environmental information has been reviewed, and the assessment of the proposed clearing against the clearing principles remains consistent with the assessment contained in decision report CPS 5926/3.

Methodology BHP Billiton Iron Ore (2016)

GIS Database:
- DPaW Tenure
- Hydrography, linear
- Pre-European Vegetation
- Public Drinking Water Source Areas (PDWSAs)
- Threatened and Priority Flora
- Threatened and Priority Ecological Communities (TEC/PEC) - Boundaries

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

Comments

There is one Native Title Claim (WC2005/06) over the area under application (DAA, 2016). This claim has been registered with the National 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 two registered Aboriginal Sites of Significance within the application area (DAA, 2016). 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 application was advertised on 9 May 2016 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology DAA (2016)

4. References

BHP Billiton Iron Ore (2016) Application to Amend CPS 5926/3: Western Ridge Exploration. Native Vegetation Clearing Permit Amendment Application Supporting Document. BHP Billiton Iron Ore Pty Ltd, Western Australia, April 2016.

DAA (2016) Aboriginal Heritage Enquiry System. Department of Aboriginal Affairs. http://maps.dia.wa.gov.au/AHIS2/ (Accessed 3 June 2016).

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

Definitions:

{DPaW (2015) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T **Threatened species:**
Published as Specially Protected under the *Wildlife Conservation Act 1950,* listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**
Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EN **Endangered species**
Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

VU **Vulnerable species**
Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EX **Presumed extinct species**
Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

IA **Migratory birds protected under an international agreement**
Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

CD **Conservation dependent fauna**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

OS **Other specially protected fauna**
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

P **Priority species**
Species which are poorly known; or
Species that are adequately known, are rare but not threatened, and require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species:**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species:**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species:**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations 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 locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

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 are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

(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.

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

(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.

(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.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

(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.

(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.

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.