Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4469/2
Permit type: Purpose

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: Gurinbiddy Exploration Program

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
300		Mechanical Removal	Mineral Exploration

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 21 July 2016

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. Three Beard vegetation associations have been mapped within the application area (GIS Database):

18: Low woodland; mulga (*Acacia aneura*);
29: Sparse low woodland; mulga, discontinuous in scattered groups; and
82: Hummock grassland, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database; Shepherd, 2009).

A review of previous flora surveys was undertaken by Onshore Environmental that consolidated all of the flora survey work undertaken over the permit area. The following 15 vegetation associations have been mapped within the permit boundary (Onshore Environmental, 2014):

Acacia Low Open Forest

GGAadAcaAmuAaAteTp: Low Open Forest of *Acacia adsurgens* and *Acacia catenulata* subsp. *occidentalis* over Open Shrubland of *Acacia mulganeura*, *Acacia aptaneura* and *Acacia tenuissima* over Very Open Hummock Grassland of *Triodia pungens* on skeletal red loams in deeply incised gullies;

Acacia Low Open Woodland

FPAaAcaApaElaSlPoAcoEdAj: Low Open Woodland of *Acacia aptaneura*, *Acacia catenulata* subsp. *occidentalis* and *Acacia paraneura* over Low Open Shrubland of *Eremophila lanceolata*, *Solanum lasiophyllum* and *Ptilotus obovatus* over Very Open Tussock Grassland of *Aristida contorta*, *Eragrostis dielsii* and *Aristida jerichoensis* var. *subspinulifera* on red brown clay loam on hardpan intergrove plains;

***Callitris* Low Open Forest**

METtExChAaApaAaAci: Low Open Forest of *Callitris columellaris*, *Corymbia ferriticola* and *Eucalyptus leucophloia* subsp. *leucophloia* over Open Tussock Grassland of *Eriachne mucronata*, *Themeda* sp. Mt Barricade (M.E. Trudgen 2471) and *Cymbopogon ambiguus* and Very Open Hummock Grassland of *Triodia pungens* on orange brown loam on upper gorges;

***Themeda* Hummock Grasslands**

FSTsCdHcAanAiGw: Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) with Low Open Woodland of *Corymbia deserticola* subsp. *deserticola* and *Hakea chordophylla* over Open Shrubland of *Acacia ancistrocarpa*, *Acacia inaequilatera* and *Grevillea wickhamii* subsp. *hispidula* on red brown sandy loam on footslopes and stony plains;

HCTpTwTsElChAarGoKv: Hummock Grassland of *Triodia pungens*, *Triodia wiseana* and *Triodia* sp. Shovelanna Hill (S. van Leeeuwin 3835) with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* over Low Shrubland of *Acacia arida*, *Gompholobium oreophilum* and *Keraudrinia velutina* subsp. *elliptica* on red brown loam on hills;

HCTwAhEkEgCh: Hummock Grassland of *Triodia wiseana* with Shrubland of *Acacia hamersleyensis* and Open Mallee of *Eucalyptus kingsmillii* subsp. *kingsmillii*, *Eucalyptus gamophylla* and *Corymbia hamersleyana* (mallee form) on red brown loam and silty loam on hill crests;

HCTwTsTpElChAh: Hummock Grassland of *Triodia wiseana*, *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamerselyana* over Open Shrubland of *Acacia hamersleyensis* on red brown clay loam on hill crests and upper hill slopes;

HSTmTpElChMvSarKv: Hummock Grassland of *Triodia melvillei* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* over Low Open Shrubland of *Mirbelia viminalis*, *Sida arenicola* and *Keraudrenia velutina* subsp. *elliptica* on red skeletal clay loam on steep slopes;

METpTlExAciChPlApyGr: Hummock Grassland of *Triodia pungens* and *Triodia longiceps* with Low Woodland of *Eucalyptus xerothermica*, *Acacia citrinoviridis* and *Corymbia hamerselyana* 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;

SPTpTbEgPlAbAan: 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;

SPTsTwTpEgEtAbApaApr: Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *Triodia wiseana* and *Triodia pungens* with Very Open Mallee of *Eucalyptus gamophylla* and *Eucalyptus trivalva* over Open Shrubland of *Acacia bivenosa*, *Acacia pachyacra* and *Acacia pruinocarpa* on red brown sandy loam and clay loam on stony plains;

***Triodia* Open Hummock Grassland**

HCTpAaAprAcaEllEfrEex: Open Hummock Grassland of *Triodia pungens* with High Open Shrubland of *Acacia aptaneura*, *Acacia pruinocarpa* and *Acacia catenulata* subsp. *occidentalis* over Open Shrubland of *Eremophila latrobei* subsp. *latrobei*, *Eremophila fraseri* and *Eremophila exilifolia* on orange red sandy loam on laterised hills and rises;

HSTmeTpAprAcaAmuCaEmu: Open Hummock Grassland of *Triodia* sp. Mt Ella and *Triodia pungens* with Low Open Woodland of *Acacia pruinocarpa*, *Acacia catenulata* subsp. *occidentalis* and *Acacia mulganeura* over Open Tussock Grassland of *Cymbopogon ambiguus* and *Eriachne mucronata* on red brown loam on very steep riverine slopes;

SPTpTmAaExAcaApaEffAad: Hummock Grassland of *Triodia pungens* and *Triodia melvillei* with Low Open Woodland of *Acacia aptaneura*, *Eucalyptus xerothermica* and *Acacia catenulata* subsp. *occidentalis* and Open Shrubland of *Acacia pachyacra*, *Eremophila forrestii* subsp. *forrestii* and *Acacia adsurgens* on red brown clay loam or silty loam on stony plains and floodplains.

Clearing Description

Gurinbiddy Exploration Project

BHP Billiton Iron Ore Pty Ltd proposes to clear up to 300 hectares of native vegetation within a total boundary of approximately 10,184.3 hectares, for the purpose of mineral exploration. The project is located approximately 75 kilometres west of Newman, in the Shire of East Pilbara.

Vegetation Condition

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

To

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

Comment

Clearing permit CPS 4469/1 was granted by the Department of Mines and Petroleum (DMP) on 8 September 2011 and authorised the clearing of 150 hectares of native vegetation within a boundary of approximately 4,077.1 hectares. BHP Billiton Iron Ore Pty Ltd has applied to increase the clearing authorised to 300 hectares, increase the permit boundary to approximately 10,184.3 hectares, extend the permit duration to 30 November 2031 and amend the annual reporting date to 1 October each year.

3. Assessment of application against clearing principles

Comments

BHP Billiton Iron Ore Pty Ltd has applied to increase the clearing authorised by 150 hectares, increase the permit boundary by 6,107.2 hectares, extend the duration of the permit by an additional 13 years and amend the annual reporting date.

There are 15 vegetation associations mapped within the amended permit area, an increase on the seven vegetation associations mapped within the original permit area (GHD, 2010; Onshore Environmental, 2014). The increase in diversity of vegetation associations is expected given the more than doubling of the permit boundary. None of these vegetation associations have been identified as a Threatened or Priority Ecological Community (Onshore Environmental, 2014; GIS Database).

No species of Threatened flora have been recorded within the permit boundary (Onshore Environmental, 2014; GIS Database). There has been five species of Priority flora recorded within the permit boundary (Onshore

Environmental; 2014). All of these records are from within the original permit boundary (BHP Billiton Iron Ore Pty Ltd, 2016). The species *Aristida jerichoensis* var. *subspinulifera* has since been reclassified from Priority 1 status to Priority 3 and the previous record of *Spartothamnella puberula* has been identified as an incorrect identification as this species is not found in Western Australia (Western Australian Herbarium, 2016). Suitable habitat for these species is common within the surrounding areas (BHP Billiton Iron Ore Pty Ltd, 2016). The proposed amendment is not likely to significantly increase impacts on Priority flora species.

There are six broad fauna habitat types that have been mapped over the permit area (Biologic, 2014):

- Crest/Slope
- Drainage Area
- Hardpan
- Minor Drainage Line
- Mulga
- Stony Plain

The original permit boundary included areas that were mapped as gorge/gully habitat (GHD, 2010). Biologic (2014) has undertaken a review of fauna habitat mapping covering BHP Billiton's tenure to consolidate into one standardised map. Following the review of the fauna habitat mapping, areas within the original permit boundary that were previously mapped as gorge/gully habitat were remapped as crest/slope habitat (Biologic, 2014). Other areas were also mapped as gorge and gully habitat during the fauna surveys over the permit area, however, these have been excluded from the permit boundary (BHP Billiton Iron Ore Pty Ltd, 2016). As there are no longer areas mapped as gorge/gully within the permit boundary, Condition 4 on CPS 4469/1 is no longer required on the permit.

The Western Pebble-mound Mouse (*Pseudomys chapmani* - Priority 4) has been recorded at several locations within the permit boundary (Biologic, 2014). All of the Western Pebble-mound Mouse mounds were recorded within the original permit boundary (Biologic, 2014). Suitable habitat for this species is widespread in the region and the proposed additional clearing is not likely to have a significant impact on this species. There are several other conservation significant fauna species that may potentially occur within the permit boundary including the Ghost Bat (*Macroderma gigas* - Vulnerable) (BHP Billiton Iron Ore Pty Ltd, 2016). Whilst the Ghost Bat may forage within the permit boundary, no suitable roosting caves are located within the permit boundary (BHP Billiton Iron Ore Pty Ltd, 2016).

There are numerous ephemeral watercourses within the additional area (GIS Database). The vegetation association METpTlExAciChPlApyGr was identified as growing in association with watercourses and is primarily associated with the most significant drainage line that passes through the north-east corner of the additional area (Onshore Environmental, 2014; GIS Database). Potential impacts to watercourses may be minimised by the implementation of a watercourse management condition.

The additional area has been mapped as being comprised of the Boolgeeda, Newman, Platform and Spearhole land systems (GIS Database). All of these land systems are generally not prone to erosion (Van Vreeswyk et al., 2004). The proposed clearing of 300 hectares for the purpose of mineral exploration is not likely to cause appreciable land degradation within the permit area.

The additional area is not within any conservation areas, nor is it part of a remnant that provides an ecological linkage between any conservation areas (GIS Database).

The permit area is not within a Public Drinking Water Source Area (GIS Database). The proposed amendment is not likely to have a significant impact on the surface or groundwater quality within the permit boundary or surrounding areas (GIS Database).

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing is at variance to Principle (f), is not likely to be at variance to Principles (a), (b), (c), (d), (g), (h), (i) and (j), and is not at variance to Principle (e).

Methodology

BHP Billiton Iron Ore Pty Ltd (2016)
Biologic (2014)
GHD (2010)
Onshore Environmental (2014)
Van Vreeswyk et al. (2004)
Western Australian Herbarium (2016)

GIS Database:
- DPaW Tenure
- Groundwater Salinity, Statewide
- Hydrography, linear
- Pre-European Vegetation
- Public Drinking Water Source Areas

- Rangeland Land System Mapping
- Threatened and Priority Flora
- Threatened and Priority Ecological Communities Buffered

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

Comments

There are two Native Title claims over the area under application (WC2005/003 and WC2010/11) (Department of Aboriginal Affairs, 2016). However, the 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 is one registered Aboriginal Site of Significance within the application area (Department of Aboriginal Affairs, 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, 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. There were no submissions received.

Methodology Department of Aboriginal Affairs (2016)

4. References

BHP Billiton Iron Ore Pty Ltd (2016) Gurinbiddy Exploration. Native Vegetation Clearing Permit Amendment Application Supporting Document. BHP Billiton Iron Ore Pty Ltd, April 2016.

Biologic (2014) Consolidation of Regional Fauna Habitat Mapping, BHP Billiton Iron Ore Pilbara Tenure. Report prepared for BHP Billiton Iron Ore Pty Ltd, by Biologic, May 2014.

Department of Aboriginal Affairs (2016) Aboriginal Heritage Inquiry System. Department of Aboriginal Affairs. http://maps.dia.wa.gov.au/AHIS2/ (Accessed on 7 July 2016).

GHD (2010) Report for Coondewanna Exploration Tenement Level 2 Flora and Level 1 Fauna Report. Report prepared for BHP Billiton Iron Ore Pty Ltd, by GHD, August 2010.

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 (2014) Consolidation of Regional Vegetation Mapping, BHP Billiton Iron Ore Pilbara Tenure. Report prepared for BHP Billiton Iron Ore Pty Ltd, by Onshore Environmental, June 2014.

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

Western Australian Herbarium (2016) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed 13 July 2016)

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.