

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7435/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Big Bell Gold Operations Pty Ltd

1.3. Property details

Property: Mining Lease 51/28

Mining Lease 51/35 Mining Lease 51/161 Mining Lease 51/190 Mining Lease 51/211 Mining Lease 51/325 Mining Lease 51/516 Mining Lease 51/679

Local Government Area: Shire of Meekatharra
Colloquial name: Gibraltar Project

1.4. Application

Clearing Area (ha) No. Trees Method of Clearing For the purpose of:

302.2 Mechanical Removal Mineral Production

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 9 March 2017

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context.

The following Beard vegetation association has been mapped within the application area (Government of Western Australia, 2015; GIS Database):

- 18: Low Woodland; mulga (Acacia aneura)

A flora and vegetation survey was undertaken by MWH in June 2016 that covered part of the application area and an additional area outside the application area. The survey identified the following vegetation types within the application area (MWH, 2016):

AmAf: Acacia macraneura and Acacia fuscaneura tall sparse shrubland, over Eremophila forrestii and Sida calyxhymenia mid sparse shrubland, over Enchylaena tomentosa, Sclerolaena cuneata and Maireana sp. isolated chenopod shrubland.

AtAiAaAm: Acacia tetragonophylla, Acacia ? incurvaneura, Acacia aneura, and Acacia macraneura tall shrubland, over Solanum lasiophyllum, and Sida ectogama mid sparse shrubland, over Aristida contorta and Enneapogon caerulescens isolated tussock grassland.

AmAiAf: Acacia macraneura, Acacia incurvaneura and Acacia fuscaneura tall open shrubland, over *Eremophila linearis* mid sparse shrubland, over *Enchylaena tomentosa, Maireana* sp. and *Dissocarpus paradoxa* sparse chenopod shrubland.

Af: Acacia fuscaneura tall isolated shrubland, over Hakea preissii, Acacia synchronicia, and Hakea leucoptera subsp. sericipes mid sparse shrubland, over Enchylaena tomentosa, and Enchylaena tomentosa var. glabra sparse chenopod shrubland.

AaAa: Acacia ? aptaneura, and Acacia aneura open shrubland, over Acacia tetragonophylla, Hakea preissii, and Acacia synchronicia mid sparse shrubland, over Sclerolaena cuneata, and Enchylaena tomentosa low sparse shrubland.

AmAfAi: Acacia macraneura, Acacia fuscaneura, and Acacia incurvaneura open shrubland, over Eremophila latrobei subsp. latrobei, Eremophila glutinosa, and Eremophila longifolia mid open shrubland, over Ptilotus obovatus low sparse shrubland.

Am: Acacia macraneura tall sparse shrubland, over Hakea preissii, Acacia craspedocarpa, Acacia synchronicia, Acacia tetragonophylla, and Acacia grasbyi mid shrubland, over Ptilotus obovatus, Enchylaena tomentosa, Ptilotus? obovatus, and Dissocarpus paradoxus low sparse shrubland.

ApHrHIAg: Acacia pruinocarpa, Hakea recurva subsp. arida, Hakea leucoptera subsp. sericipes, and Acacia grasbyi tall sparse shrubland, over Acacia synchronicia mid sparse shrubland, over Enchylaena tomentosa, Enchylaena tomentosa var. glabra, Atriplex codonocarpa, and Sclerolaena cuneata open chenopod shrubland.

ApAmAi Ag: Acacia pruinocarpa, Acacia macraneura, Acacia incurvaneura, and Acacia grasbyi tall sparse shrubland, over *Eremophila longifolia*, *Senna glaucifolia*, and *Eremophila fraseri* subsp. *fraseri* mid open shrubland, over *Aristida contorta*, *Eragrostis* sp., and *Monachather paradoxus* sparse tussock grassland.

PaEIAa: Pittosporum angustifolium, Eremophila longifolia, and Acacia? aneura woodland, over Hakea leucoptera subsp. sericipes, Acacia tetragonophylla, and Acacia synchronicia mid open shrubland, over Eragrostis eriopoda tussock grassland.

AmAfAiAt: Acacia macraneura, Acacia ? fuscaneura and Acacia ? incurvaneura tall sparse shrubland over Acacia tetragonophylla, Acacia synchronicia, Eremophila fraseri subsp. fraseri and Psydrax latifolia mid open to mid sparse shrubland over Ptilotus obovatus, Senna glaucifolia, Sida ectogama and Eremophila spathulata low open to low sparse shrubland.

Disturbed areas including historical pits, rehabilitated vegetation, waste dumps and exploration activities.

Clearing Description

Gibraltar Project

Big Bell Gold Operations Pty Ltd has applied to clear up to 302.2 hectares of native vegetation, within a total boundary of approximately 716.3 hectares for the purposes of mineral production. The proposed clearing is located approximately 8 kilometres south of Meekatharra within the Shire of Meekatharra.

Vegetation Condition

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

To

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

Comment

The vegetation condition is based on the flora and vegetation survey conducted by MWH (2016).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

A survey within the application area identified 11 different vegetation associations (MWH, 2016). The vegetation condition ranged from very good to completely degraded with the majority of the application area being in very good condition (Keighery, 1994; MWH, 2016). A significant portion of the application area was in completely degraded condition (MWH, 2016). None of the vegetation associations within the application area have been identified as being a Threatened or Priority Ecological Community (MWH, 2016; GIS Database).

A total of 146 flora taxa from 27 families and 47 genera were recorded from the greater flora survey area (MWH, 2016). The floral diversity and composition recorded was consistent with the Murchison bioregion and the landforms present (MWH, 2016). None of the species recorded were identified as a Threatened or Priority flora species (MWH, 2016).

Three weed species were identified within the application area (MWH, 2016). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There were four broad fauna habitats identified across the application area (MWH, 2016). The habitats are well represented in the local region and the diversity of habitats is similar to those of the surrounding areas. No species of conservation significance have been recorded within the application area (MWH, 2016). Given the habitats and habitat features present within the application area, the application area not likely to support a higher level of faunal diversity than surrounding areas.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

Keighery (1994) MWH (2016)

GIS Database:

- Threatened and Priority Flora
- Threatened Ecological Sites Buffered
- (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.

Comments

Proposal is not likely to be at variance to this Principle

A fauna survey covering the majority of the application area identified the following four broad fauna habitats

(MWH, 2016):

- Mulga Plain
- Minor Drainage
- Stony Rise
- Rocky Outcrop

There were also areas that were described as degraded and have been degraded by mining related infrastructure (MWH, 2016). All of the habitats recorded were considered to be widespread and of limited significance for local fauna species (MWH, 2016). Soil types across the vast majority of the habitats were comprised of red to orange clay loams with ironstone/quartzite gravel, with occasional sandy alluviums scattered through Mulga Plain and Minor Drainage habitats (MWH, 2016).

The Mulga Plain habitat was the most dominant habitat within the application area with the remaining habitats only comprising a small portion of the area (MWH, 2016). There are also significant areas that were mapped as disturbed. The vegetation of the Mulga Plain was suitable for supporting small birds, reptiles and mammals and has high foraging potential for nectivorous birds when in flower (MWH, 2016). The habitat is also suitable for burrowing and fossorial species however, the habitat is not likely to support high species diversity and is largely composed of generalist species (MWH, 2016).

No fauna species of conservation significance were recorded during the fauna survey however, one species; *Lerista eupoda* (Priority 1) was considered likely to occur within the application area (MWH, 2016). This species prefers sandy soils and abundant leaf litter which is moderately common along the margins of the Minor Drainage habitat and within some areas of the Mulga Plain habitat (MWH, 2016). There is only a very small amount of Minor Drainage habitat within the application area and the Mulga Plain habitat is common and widespread throughout the region (MWH, 2016). Therefore, this species is not likely to be reliant on the habitat within the application area.

There were also four conservation significant species that were considered as possibly occurring within the application area (MWH, 2016). However, these species are all avian species that are only likely to utilise the application area as part of a larger home range.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology MWH (2016)

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

Comments Proposal is not likely to be at variance to this Principle

According to available databases, there are no known records of any Threatened flora within the application area (GIS Database). The flora survey of the application area did not record any Threatened flora species (MWH, 2016). The vegetation of the application area is not likely to be necessary for the continued existence of Threatened flora (MWH, 2016; GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology MWH (2016)

GIS Database:

- Threatened and Priority 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.

Comments Proposal is not likely to be at variance to this Principle

According to available databases, there are no records of any Threatened Ecological Communities (TECs) within the application area or within 50 kilometres of the application area (GIS Database). The vegetation survey of the application area did not identify any TECs (MWH, 2016).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology MWH (2016)

GIS Database:

- Threatened and Priority Ecological Communities
- (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.

Comments Proposal is not at variance to this Principle

The application area lies within the Murchison Interim Biogeographical Regionalisation of Australia (IBRA)

bioregion in which approximately 99.97% of the pre-European vegetation remains (Government of Western Australia, 2015; GIS Database).

The vegetation of the application area has been broadly mapped as Beard vegetation association 18 (GIS Database). This vegetation association has not been extensively cleared as over 99% remains at both a state and bioregional level (Government of Western Australia, 2015). There has been significant clearing for previous mining activities however, the application area is not a remnant nor does it form part of any remnants within the local area (GIS Database).

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology Government of Western Australia (2015)

GIS Database:

- IBRA Australia
- Imagery
- Pre-European Vegetation

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

Comments Proposal is at variance to this Principle

There are no permanent watercourses within the application area, however, there are a number of ephemeral drainage lines within the application area (GIS Database). The vegetation growing within the drainage lines were not confined to watercourses or is groundwater dependant (MWH, 2016). The drainage within the application area flows south towards Lake Annean, located approximately 23 kilometres south, which is a nationally important wetland (Department of the Environment and Energy, 2010; MWH, 2016). However, the current drainage lines have been heavily modified by existing mining activities and the proposed clearing is not likely to have a significant impact on watercourses in the local area (GIS Database).

Based on the above, the proposed clearing is at variance to this Principle.

Methodology Department of the Environment and Energy (2010)

MWH (2016)

GIS Database:

- Hydrography, linear
- Imagery

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

Comments Proposal may be at variance to this Principle

The application area is comprised of the Jundee and Wiluna land systems (Curry et al., 1994; GIS Database). The Wiluna land system is described as low greenstone hills with occasional lateritic breakaways and broad stony slopes, lower saline stony plains and broad drainage tracts supporting sparse mulga shrublands with patches of halophytic shrubs. Several units of this land system are mildly to moderately susceptible to accelerated erosion when degraded (Curry et al., 1994).

The Jundee land system is described as hardpan wash plains with variable dark gravelly mantling, weakly groved vegetation and minor sandy banks supporting scattered mulga shrublands (Curry et al., 1994). This land system is generally not susceptible to erosion except in concentrated drainage zones which are mildly susceptible to accelerated erosion when degraded (Curry et al., 1994).

Large parts of the application area have been degraded by previous mining activities (MWH, 2016; GIS Database). The clearing of 302.2 hectares has the potential to increase erosion in if areas are left open for long periods of time. Potential impacts from erosion may be minimised by the implementation of a staged clearing condition.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology Curry et al. (1994)

MWH (2016)

GIS Database:

- Imagery
- Rangeland Landsystems

(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.

Comments Proposal is not likely to be at variance to this Principle

The application area is not located within any conservation areas or Department of Parks and Wildlife managed lands (GIS Database).

The application area is located approximately 80 kilometres west of the former Mooloogool Pastoral Lease which is managed by Department of Parks and Wildlife for conservation purposes (GIS Database).

At this distance, it is not likely that the vegetation within the application area would act as a buffer or be important as an ecological linkage to this conservation area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

GIS Database:

- DPaW Tenure

(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.

Comments

Proposal is not likely to be at variance to this Principle

The application area is not located within a Public Drinking Water Source Area (GIS Database). Generally, groundwater within the application area is 1,000 to 3,000 milligrams per litre of total dissolved solids which is considered to be brackish (GIS Database). The broader region remains largely uncleared and it is not likely that the proposed clearing will have an impact on groundwater quality in the local area.

The application area contains no permanent water bodies, however there are several minor, ephemeral drainage lines located within the application area (GIS Database). With an average annual rainfall of approximately 239.1 millimetres (BoM, 2017) and an annual evaporation rate of 3,800 millimetres (GIS Database) it is expected that there would be little surface flow during normal seasonal rains. It is only during major rainfall events that there is likely to be any significant surface flow and during these events it tends to be relatively fresh.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

BoM (2017)

GIS Database:

- Groundwater Salinity, Statewide
- Hydrography, linear

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

Comments

Proposal is not likely to be at variance to this Principle

With an average annual rainfall of 239.1 millimetres and an average annual evaporation rate of 3,800 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2017). Given the likelihood of little surface flow, the proposed clearing is not likely to cause or increase the incidence or intensity of flooding.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology

BoM (2017)

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

Comments

There is one native title claim over the application area (WC2004/010) (Department of Aboriginal Affairs, 2017). 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 Sites of Aboriginal Significance located in the area applied to clear (Department of Aboriginal Affairs, 2017). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal 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 6 February 2017 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

4. References

BoM (2017) Bureau of Meteorology Website - Climate Data Online, Meekatharra Airport. Bureau of Meteorology. http://www.bom.gov.au/climate/averages/tables/cw 007045.shtml (Accessed 28 February 2017)

Curry, P.J., Payne, A.L., Leighton, K.A., Hennig, P. and Blood, D.A. (1994) An Inventory and Condition Survey of the Murchison River Catchment and Surrounds, Western Australia.

Department of Aboriginal Affairs (2017) Aboriginal Heritage Enquiry System. Department of Aboriginal Affairs. http://maps.dia.wa.gov.au/AHIS2/ (Accessed 28 February 2017).

Department of the Environment and Energy (2010) Directory of Important Wetlands in Australia - Information Sheet, Anneen Lake. http://www.environment.gov.au/cgi-bin/wetlands/report.pl (Accessed 28 February 2017)

Government of Western Australia (2015) 2015 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2015. WA Department of Parks and Wildlife, 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.

MWH (2016) Gibraltar and Five Mile Well Project Areas; Level 1 Flora and Fauna Assessment. Report prepared for Metals X Limited, by MWH, July 2016.

5. Glossary

Acronyms:

BoMBureau of Meteorology, Australian GovernmentDAADepartment of Aboriginal Affairs, Western AustraliaDAFWADepartment of Agriculture and Food, Western Australia

DEC Department of Environment and Conservation, Western Australia (now DPaW and DER)

DEE Department of the Environment and Energy, Australian Government

DER Department of Environment Regulation, Western Australia
DMP Department of Mines and Petroleum, Western Australia

DRF Declared Rare Flora

DoE Department of the Environment, Australian Government (now DEE)

DoW Department of Water, Western Australia

DPaW Department of Parks and Wildlife, Western Australia

DSEWPaC Department of Sustainability, Environment, Water, Population and Communities (now DEE)

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.	
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