Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6507/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Mount Gibson Mining Ltd**

1.3. Property details

Property: Mining Lease 59/338
Mining Lease 59/454
Local Government Area: Shire of Yalgoo
Colloquial name: Gibson Hill Deposit

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 23 April 2015

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The clearing permit application area has been broadly mapped as Beard vegetation associations:
141: Medium woodland; York gum, salmon gum & gimlet; and
495: Shrublands; thicket, Jam & *Allocasuarina acutivalvis* on ironstone

A flora and vegetation survey conducted by ATA Environmental Pty Ltd (ATA, 2006a) over the application area identified the following two vegetation types:

M1: Open Tree Mallee of *Eucalyptus brachycorys*, *E. hypochlamydea* subsp. *hypochlamydea*, *E. loxophleba* subsp. *supralaevis* and *Callitris glaucophylla* over Thicket of Acacia species over Low Shrubland and Herbs on loam.

T3: Dense Thicket of *Acacia assimilis*, *Allocasuarina acutivalvis* subsp. *prinsepiana* and *Melaleuca nematophylla* over Low Shrubland of *Hemigenia* sp. Paynes Find and *Hibbertia crassifolia* in loam pockets in jaspilite rocks.

Clearing Description
Gibson Hill Deposit
Mt Gibson Mining Ltd proposes to clear up to 1.83 hectares of native vegetation for the purpose of mineral exploration. The project is located approximately 350 km kilometres north-east of Perth, in the Shire of Yalgoo.

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

to

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

Comment
Vegetation condition was determined by ATA (2006a) using the Keighery scale.

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**

The application area is located within the Merredin sub-region of the Avon Wheatbelt Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The Merredin subregion is dominated by Mallees, Acacia thickets and shrubheaths on sandplains. Diverse Eucalyptus woodlands occur around salt lakes, on ranges, and in valleys, and dwarf shrublands of samphire are common in salt areas (GIS Database).

A flora and vegetation survey was conducted by ATA Environmental Pty Ltd (ATA) over the application area in 2006 (ATA, 2006a). A total of 193 flora taxa (including subspecies and varieties) representing 41 families and 7 genera were recorded from the survey area during the flora and vegetation survey (ATA, 2006a).

The application area is located within the Mount Gibson Range vegetation complexes Priority Ecological Community (PEC) (GIS Database).The Mount Gibson Range vegetation complexes PEC covers an area of approximately 1,184 hectares; therefore the proposed clearing for mineral exploration will potentially have a 0.15% impact on the PEC (GIS Database). It is therefore considered unlikely that the proposed clearing will have a significant impact on the PEC.

No Threatened flora, Priority flora or vegetation associations of restricted distribution were recorded within the application area during the flora and vegetation survey (ATA, 2006a). Two Threatened Flora (TF) species (*Darwinia masonii* and *Lepidosperma gibsonii*) were recorded within 10 meters of the application area however the proposed clearing will not involve the removal of any TF individuals (MGM, 2015).

One introduced flora species (*Echium plantagineum*, Paterson's Curse) was recorded within the study area during the flora and vegetation survey (ATA, 2006a). This introduced flora species is not a Declared Pest or listed as a weed of National Significance (ATA, 2006a). Potential impacts on biological diversity from weeds may be minimised by the implementation of a weed management condition.

A fauna assessment was conducted by ATA over the application area in 2005 (ATA, 2006b) and a targeted Malleefowl (*Leipoa ocellata*) and Shield-backed trapdoor spider (*Idiosoma nigrum*) survey was conducted by Biologic in 2013 and 2014 (Biologic, 2014a; 2014b). The fauna survey recorded 358 individual reptiles and mammals and avifauna, representing 112 species (64 species of birds, 38 species of reptiles and 10 species of mammals (ATA, 2006b).

Three conservation significant species (Malleefowl, Shield-backed trapdoor spider and Rainbow Bee-eater) were recorded during the fauna assessments (ATA, 2006; Biologic 2014a; 2014b). None of these conservation significant fauna species are expected to be restricted to the application area or rely exclusively on fauna habitats present within the application area.

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

Methodology

ATA (2006a)
ATA (2006b)
Biologic (2014a)
Biologic (2014b)
MGM (2015)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Threatened and Priority Flora
- Threatened Fauna
- 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 assessment was conducted by ATA over the application area in 2005 (ATA, 2006b) and a targeted Malleefowl (*Leipoa ocellata*) and Shield-backed trapdoor spider (*Idiosoma nigrum*) survey was conducted by Biologic in 2013 and 2014 (Biologic, 2014a; 2014b). The fauna survey recorded 358 individual reptiles and mammals, representing 112 species (64 species of birds, 38 species of reptiles and 10 species of mammals (including three conservation signficant fauna species (Malleefowl, Sheild-backed trapdoor spider and the Rainbow Bee-eater) (ATA, 2006b).

The presence of recently active nest mounds indicate that Malleefowl actively breeds within the the area surrounding the application area (Biologic, 2014a). However, the proposed clearing will not involve the removal of any mounds and vegetation in which active mounds were recorded was not unique to the area, with similar habitat found in the surrounding area and the broader region beyond the application area (Biologic, 2014a). Therefore, the proposed clearing is not expected have a significant impact on this species.

The Shield-backed trapdoor spider was recorded from several locations in the vincintiy of the application area (Biologic, 2014b). However, this species is considered to be widespread throughout the local area and the low number of records for this species, compared to other fauna studies in the broader region, indicates that the Mt Gibson Ranges is not a key habitat for the species (Biologic, 2014b).

The Rainbow Bee-eater was sighted in the area surrounding the application area. However it is unlikely that proposed clearing for mineral exploration will appreciably modify, destroy or isolate an area of important habitat, or seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically

significantly proportion of the population (ATA, 2006b). The habitat utilised by Rainbow Bee-eaters is commonly found in the Mid-west region and the impact of disturbance within the application area will be minor as there are extensive areas of similar and suitable habitat for the Rainbow Bee-eater in the area adjacent to the proposed application area (ATA, 2006b).

The fauna habitats within the application area were not considered to be unique and extended beyond the proposed application area (GIS Database; ATA 2006b). Given the relatively small scale of the proposed clearing (1.83 hectares) and that the sandplain habitats surrounding the ironstone range are similar to the surrounding area it is considered unlikely that the proposed clearing for mineral exploration activities will have a significant impact on habitat criticial for the survival of fauna indigenous to Western Australia.

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

Methodology
ATA (2006b)
Biologic (2014a)
Biologic (2014b)
GIS Database
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation

(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

There are no records of Threatened Flora within the application area (GIS Database).

Two Threatened Flora (TF) species (*Darwinia masonii* and *Lepidosperma gibsonii*) were recorded within 10 meters of the application area, however the proposed clearing will not involve the removal of any TF individuals (GIS Database; MBS, 2013; MGM, 2015).

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

Methodology
MBS (2013)
MGM (2015)
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

The application area is not located within a Threatened Ecological Community (GIS Database).

The flora and vegetation assessment conducted by ATA over the application area did not record any Threatened Ecological Communities (ATA, 2006a).

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

Methodology
ATA (2006a)
GIS Database:
- Threatened Ecological Sites Buffered

(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 falls within the Avon Wheatbelt Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 19% of the Pre-European vegetation remains (see table) (GIS Database; Government of Western Australia, 2013).

The vegetation of the application area has been mapped as the following Beard vegetation association (GIS Database):

141: Medium woodland; York gum, salmon gum & gimlet
495: Shrublands; thicket, Jam & *Allocasuarina acutivalvis* on ironstone.

Approximately 83% of Beard vegetation association 141 and 100% of vegetation association 495 remain at state level (Government of Western Australia, 2013). Therefore, the area proposed to be cleared is unlikely to represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion - Avon Wheatbelt	9,517,109	1,778,407	~18.69	Vulnerable	9.62
Beard vegetation associations - State					
141	1,158,760.22	960,758.57	~82.91	Least Concern	39.37
495	8,493.20	8,493.20	~100	Least Concern	0
Beard vegetation associations - Bioregion					
141	250,614.98	77,323.46	~30.85	Depleted	14.7
495	8,493.20	8,493.20	~100	Least Concern	0

* Government of Western Australia (2013)
** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- 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 not likely to be at variance to this Principle**
There are no permanent or ephemeral water bodies or watercourses within or in close proximity to the application area (GIS Database).

No vegetation associated with a permanent or ephemeral watercourse or wetland was recorded within the application area during the flora and vegetation survey (ATA 2006a).

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

Methodology ATA (2006a)
GIS Database
- Hydrography, linear

(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 located within the Tallering land system which is characterised by low hills and rises and slopes, banded Iron and colluvium (GIS Database). The proposed clearing area is located on gentle sloping hilltops and undulating plains which occur in a major fault system within the Mt Gibson banded ironstone formation (GIS Database).

The soil type within the application area is described as flat to gently undulating terrain with small samphire flats and areas of exposed calcrete (kunkar): chief soils seem to be neutral and alkaline red earths (GIS Database).

Given the small scale and the relatively low impact of the proposed clearing for mineral exploration activities it is unlikely that the associated clearing will cause appreciable land degradation.

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

Methodology GIS Database:
- Rangeland Land System Mapping
- Soils, Statewide

(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 does not lie within any conservation areas (GIS Database).

The nearest conservation area is the Watheroo National Park which lies approximately 130 kilometres south-west of the application area (GIS Database). Given the distance between the application area and the National Park, the proposed clearing is not likely to impact the environmental values of this conservation area.

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

Methodology

GIS Database:
- DEC 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 and there are no permanent or ephemeral water bodies or watercourses within the application area (GIS Database).

Groundwater salinity within the application area is between 7,000 and 14,000 milligrams/Litre Total Dissolved Solids (TDS) which is considered to be relatively saline (GIS Database). The proposed clearing is not likely to cause groundwater or surface water quality within the application area to alter significantly.

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

Methodology

GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

(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

The climate of the Avon Wheatbelt region is mostly hot and dry, with highly variable rainfall throughout the year (BoM, 2015). The region has a semi-arid climate with hot summers, mild winters and an average rainfall of 286 millimetres a year (BoM, 2015).

There are no permanent or ephemeral water bodies or watercourses within or in close proximity to the application area (GIS Database). The proposed clearing within the application area is unlikely to cause or exacerbate the incidence of flooding or localised waterlogging (GIS Database).

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

Methodology

BoM (2015)
GIS Database:
- Hydrography, linear

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

Comments

There is one Native Title Claim (WC2012/005) over the application area (GIS Database). This claim has been filed at the federal court on behalf of the claimant groups. 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 is one registered Aboriginal Site of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, 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.

The clearing permit application was advertised on 30 March 2015 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the application.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims, Determined by the Federal Court
- Native Title Claims, Filed at the Federal Court
- Native Title Claims, Registered with the NNTT

4. References

ATA (2006a) Mt Gibson Magnetite Project Supplementary Vegetation and Flora Surveys, March 2006. Report prepared by ATA Environmental Scientists Pty Ltd for Mt Gibson Mining Ltd, Western Australia.

ATA (2006b) Fauna Assessment Mount Gibson, December 2005. Report prepared by ATA Environmental Scientists Pty Ltd for Mt Gibson Mining Ltd, Western Australia.

Biologic (2014a) Mt Gibson Ranges Targeted Malleefowl Survey, June 2014. Report prepared by Biologic for Mt Gibson Mining Ltd, Western Australia.

Biologic (2014b) Mt Gibson Ranges Targeted *Idiosoma nigrum* Survey, June 2014. Report prepared by Biologic for Mt Gibson Mining Ltd, Western Australia.

BoM (2015) Bureau of Meteorology (WWW Document). Retrieved from http://www.bom.gov.au on 24 March 2015.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.

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

MBS (2013) Targeted Flora Survey Extension Hill Hematite Project Midwest Region, Western Australia; Iron Hill and Gibson Hill Prospect Areas, July 2013. Report prepared by MBS Environmental for Mt Gibson Mining Ltd, Western Australia.

MGM (2015) Mt Gibson Ranges Mine Operations Gibson Hill Deposit *Environmental Protection Act 1986* (WA) Clearing Permit Application Supporting Information, March 2015. Report prepared by Mt Gibson Mining Ltd, 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
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 DPaW 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.