Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3710/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **A1 Minerals Ltd**

1.3. Property details

Property: Mining Lease 38/968
Local Government Area: Shire of Laverton
Colloquial name: Alpha Project

1.4. Application

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

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 at a scale of 1:250,000 for the whole of Western Australia. One Beard Vegetation Association is located within the application area (Shepherd, 2007):

Beard Vegetation Association 1239: hummock grasslands, open medium tree and mallee steppe; marble gum and mallee (*Eucalyptus youngiana*) over hard spinifex (*Triodia basedowii)* on sandplain.

Botanica Consulting conducted a flora and vegetation survey of a 301.3 hectare area that included the application area in June 2009. Botanica Consulting (2009) recorded one vegetation unit within the application area:

Mulga (*Acacia aneura*) low woodland.

Clearing Description
A1 Minerals (2010) proposes to clear up to 18 hectares of native vegetation, within an area totalling approximately 38.3 hectares. The application area is located approximately 35 kilometres south-east of Laverton (GIS Database).

The purpose of the proposed clearing is to develop an open pit, 'turkey's nest' for pit dewatering and dust suppression, waste rock dump, office, workshop and contractor yard area (A1 Minerals, 2010). Vegetation will be cleared by bulldozer and vegetation and topsoil will be stockpiled for rehabilitation purposes (A1 Minerals, 2010).

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

Comment
The vegetation condition rating was derived from a flora and vegetation survey conducted by Botanica Consulting in June 2009. Botanica Consulting (2009) reports that despite the 'good' rating the area is considered heavily disturbed by extensive drilling activities.

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 Shield subregion of the Great Victoria Desert Interim Biogeographic Regionalisation of Australia bioregion (GIS Database). CALM (2002) reports that the Shield subregion contains yellow sandplain communities with very diverse mammalian and reptile fauna and distinctive plant communities. Threats to these communities are in the form of mining, extensive summer wildfires and feral predators (CALM, 2002). In addition, CALM (2002) reports that hummock grasslands, open low tree steppe (mulga over *Triodia scariosa*) are confined entirely to this subregion.

Botanica Consulting conducted a flora and vegetation survey of a 301.3 hectare area that included the application area in June 2009. Botanica Consulting (2009) recorded a total of 33 plant species representing 19 genera from 17 families within the survey area. Botanica Consulting (2009) reports the following families as representing the majority of the flora; *Mimosaceae* (6), *Myoporaceae* (5), *Malvaceae* (3) and *Chenopodiaceae* (3). These results do not represent diverse flora for this region (Botanica Consulting, 2009).

The vegetation within the application area has been degraded by extensive drilling activity (Botanica Consulting, 2009). The results of the flora and vegetation survey indicate that the area is quite low in flora diversity and Botanica Consulting (2009) reports that no Declared Rare Flora, Priority Flora or Threatened Ecological Communities were recorded within the survey area. The vegetation community is widespread within areas adjacent to the application area and within the Great Victoria Desert bioregion.

Botanica Consulting (2009) reports that no weed species were recorded within the survey area. The presence of introduced weed species would lower the biodiversity value of the proposed clearing area. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. The risk of spreading weed species can be mitigated by imposing a condition for the purpose of weed management.

Keith Lindbeck and Associates conducted a desktop fauna survey, in addition to a reconnaissance field search in July 2009 over a 301.3 hectare area that included the application area. The desktop fauna survey identified five amphibians, 53 reptiles, 10 mammal species and 11 bird species that could potentially occur within the search area (Keith Lindbeck and Associates, 2010). The field search identified four mammals, one reptile and eight bird species within the survey area (Keith Lindbeck and Associates, 2010). It is expected that more fauna species then were recorded during the field survey would occur in the area and the poor results can be explained by the lack of trapping and also by the poor quality of habitat available.

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

Methodology Botanica Consulting (2009)
CALM (2002)
Keith Lindbeck and Associated (2010)
GIS Database
- IBRA WA (Regions - Subregions)

(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

Botanica Consulting conducted a desktop fauna survey and a reconnaissance field survey in July 2009 over a 301.3 hectare survey area that included the application area. There is only one vegetation unit within the survey area, described by Botanica Consulting (2009) as; *Mulga (Acacia aneura) low woodland*. Keith Lindbeck and Associates (2010) states that the results of the desktop survey and available habitat type indicates that the following fauna of conservation significance have the highest potential to occur within the survey area:

- Australia Bustard (*Ardeotis australis*) – Priority 4;
- Malleefowl (*Leipoa ocellata*) – Schedule 1; and
- Rainbow Bee-eater (*Merops ornatus*) – Marine and Migratory.

The Australian Bustard and Rainbow Bee-eater are both widespread, mobile species and as the habitat type within the application area is widespread within surrounding regions, the vegetation within the application area is not likely to represent significant habitat for these species.

The Malleefowl has the potential to occur within the application area, however this species and its nests were not recorded during the flora and fauna survey of the application area (Keith Lindbeck and Associates, 2010). Potential impacts to Malleefowl as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

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

Methodology Botanica Consulting (2009)
Keith Lindbeck and Associates (2010)

(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

Botanica Consulting conducted a flora and vegetation survey of a 301.3 hectare area that included the application area in June 2009. This survey consisted of a desktop survey in addition to a field survey and included a targeted Rare and Priority Flora search (Botanica Consulting, 2009).

The field survey did not identify any Declared Rare Flora or Priority Flora species within the survey area (Botanica Consulting, 2009). Therefore, the proposed clearing of 18 hectares of native vegetation is unlikely to affect the conservation status of any conservation significant flora.

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

Methodology Botanica Consulting (2009)

(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

There are no known Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) within the area applied to clear (GIS Database). The nearest known PEC is located approximately 35 kilometres west of the application area (GIS Database).

Botanica Consulting (2009) reports that no TECs or PECs were identified within the application area during the flora and fauna survey.

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

Methodology

Botanica Consulting (2009)
GIS Database
- Threatened Ecological Sites

(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 Great Victoria Desert Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2007) reports that approximately 100% of the pre-European vegetation still exists within this bioregion (see table below). The vegetation within the application area is recorded as the following Beard Vegetation Association (Shepherd, 2007):

Beard Vegetation Association 1239: hummock grasslands, open medium tree and mallee steppe; marble gum and mallee (*Eucalyptus youngiana*) over hard spinifex (*Triodia basedowii*) on sandplain.

The vegetation within the application area is not a 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 IUCN Class I-IV Reserves
IBRA Bioregion - Great Victoria Desert	21,794,205	21,784,757	~100	Least Concern	~8.5
Beard vegetation associations - State					
1239	2,234,315	2,234,315	~100	Least Concern	~11.9
Beard vegetation associations - Bioregion					
1239	2,233,685	2,233,685	~100	Least Concern	~11.8

* Shepherd (2007)
** 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 the Environment (2002)
Shepherd (2007)
GIS Database
- IBRA WA (Regions - Subregions)

(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

According to available databases there are no watercourses or wetlands within the proposed clearing area (GIS Database). The nearest ephemeral watercourse is approximately 120 metres from the application area (GIS Database).

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

Methodology

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 is not likely to be at variance to this Principle

The application area is mapped as occurring within the Ararak land system (GIS Database).

The Ararak land system is described by Pringle et al. (1994) as consisting of broad plains with mantles of ironstone gravel supporting mulga shrublands with wanderrie grasses. Pringle et al. (1994) states that as a result of low, slopes, protective soil mantles and very diffuse sheet flow, this land system is generally not susceptible to soil erosion and is only mildly susceptible to water starvation problems (and consequent loss of vigour in vegetation). The application area is located in a relatively flat area and there are no watercourses within the area applied to clear (Botanica Consulting 2009; GIS Database). Given this, the clearing of 18 hectares of native vegetation is unlikely to cause appreciable land degradation.

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

Methodology

Botanica Consulting (2009)
Pringle et al. (1994)
GIS Database
- Hydrography, linear
- Rangeland land system mapping

(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 at variance to this Principle

The proposed clearing is not located within any conservation areas (GIS Database). There are no conservation reserves within 100 kilometres of the application area (GIS Database).

Based on the above, the proposed clearing is not 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

According to available databases there are no watercourses within the application area and the application area is located on relatively flat ground, reducing the amount of surface water runoff and hence erosion (GIS Database). A1 Minerals (2010) states that most of the surface water in the region evaporates or soaks through to the sub surface strata.

The proposed clearing of 18 hectares of native vegetation is unlikely to cause deterioration in surface or underground water quality.

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

Methodology

A1 Minerals (2010)
GIS Database
- Hydrography, linear
- Topographical contours, statewide

(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

According to available databases there are no watercourses or wetlands within the application area (GIS Database).

Natural flood events do occur in the region following heavy rainfall (BoM, 2010), however, the clearing of 18 hectares of native vegetation is unlikely to increase the incidence or intensity of flood events.

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

Methodology

BoM (2010)
GIS Database
- Hydrography, linear

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

Comments

There is one Native Title Claim (WC99/001) over the area under application (GIS Database). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the tenement 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*.

According to available databases there are no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation 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.

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation* (*EPBC*) *Act 1999*. The proponent may be required to refer the project to the (Federal) Department of Environment, Water, Heritage and the Arts (DEWHA) for environmental impact assessment under the *EPBC Act*. The proponent is advised to contact the DEWHA for further information regarding notification and referral responsibilities under the *EPBC Act*.

The clearing permit application was advertised by the Department of Mines and Petroleum on 3 May 2010, inviting submissions from the public. There were no submissions received.

Methodology GIS Database
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the *Environmental Protection Act 1986*, and the proposed clearing is not likely to be at variance to Principles (a), (b), (c), (d), (f), (g), (i) and (j) and is not at variance to Principles (e) and (h).

5. References

A1 Minerals (2010) Clearing Permit Application Supporting Documentation. A1 Minerals Ltd, Western Australia.

BoM (2010) Laverton, Western Australia. Bureau of Meteorology. http://www.bom.gov.au/climate/dwo/IDCJDW6130.latest.shtml. Accessed 15 April, 2010.

Botanica Consulting (2009) Flora and Vegetation Survey of Bright Star Alpha area for A1 Minerals Limited August 2009. Unpublished report. Botanica Consulting, Western Australia.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

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.

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

Keith Lindbeck and Associates (2010) A1 Minerals LTD. Alpha Gold Project. Fauna Survey. Keith Lindbeck and Associates Environmental Management Consultants, Western Australia.

Pringle, H., Van Vreeswyk, A. and Gilligan, S. (1994) An Inventory and condition survey of the north-eastern Goldfields, Western Australia. Technical Bulletin 87. Department of Agriculture, Western Australia.

Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.

DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DMP	Department of Mines and Petroleum, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

P1 **Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P2 **Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P3 **Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

P4 **Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

R **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

Schedule 1 **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

Schedule 2 **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

Schedule 3 **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

Schedule 4 **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

P1 **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P2 **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P3 **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which

are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P4 **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

P5 **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999)*

EX **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

EX(W) **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

CR **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

EN **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

CD **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.