



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3633/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: Mining Lease 38/09
Local Government Area: Shire of Laverton
Colloquial name: Brightstar Beta Project

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 27.8 | | 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 areas (Shepherd, 2007):

Beard Vegetation Association 18: low woodland mulga (*Acacia aneura*).

Minesite Rehabilitation Services conducted a flora and fauna survey of the application areas in September 2003. Minesite Rehabilitation Services (2003) described the vegetation unit within the application area as follows:

- Acacia woodland which contains variable halophytic low to mid shrublands with eucalypt and *Casuarina* overstorey.

The predominant genera in the various categories are *Casuarina*, *Acacia* and eucalypts in the low woodland category; *Acacia*, *Cassia* and *Eremophila* in the tall shrub category (>2 metres); *Atriplex*, *Maireana* in the mid shrub category (1 – 2 metres); *Atriplex*, *Maireana*, *Ptilotus* and *Solanum* in the low shrub category (<1 metre); ground storey plants comprise of ephemeral grasses, forbs and perennial grasses.

Clearing Description

A1 Minerals (2010) proposes to clear up to 27.8 hectares of native vegetation. The application areas are located approximately 30 kilometres south-east of Laverton (GIS Database).

The purpose of the proposed clearing is to develop an open cut mine and waste dump (A1 Minerals, 2010). Vegetation will be cleared by machinery using raised blade technique and vegetation will be stockpiled for future rehabilitation (A1 Minerals, 2010).

Vegetation Condition

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

To

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 fauna survey conducted by Minesite Rehabilitation Services (2003).

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 areas are located within the Eastern Murchison subregion of the Murchison Interim Biogeographic Regionalisation of Australia bioregion (GIS Database). This subregion is described by CALM (2002) as being rich and diverse in both its flora and fauna. CALM (2002) reports that most species are wide ranging and usually occur in at least one, and often several, adjoining regions.

Minesite Rehabilitation Services (2003) conducted a flora and fauna survey of Mining Lease 38/09 in September 2003. Minesite Rehabilitation Services (2003) reports that a total of 70 plant species representing 34 genera from 17 families were recorded within the survey area. Minesite Rehabilitation Services (2003) reports the following families as representing the majority of the flora; *Chenopodiaceae* (14), *Myoporaceae* (11), *Asteraceae* (9), *Mimosaceae* (6) and *Poaceae* (6). These results do not represent particularly diverse flora.

The vegetation within the application areas is fairly degraded and better quality vegetation exists in areas outside of Mining Lease 38/09 (Minesite Rehabilitation Services, 2003). Therefore, the application areas are expected to have a comparable or lower floristic diversity than areas outside of Mining Lease 38/09. Furthermore, no Declared Rare Flora, Priority Flora or Threatened Ecological Communities were recorded within Mining Lease 38/09 during the flora and fauna survey (Minesite Rehabilitation Services, 2003).

A1 Minerals (2010) report that no weed species were recorded within the application areas. The presence of introduced weed species would lower the biodiversity value of the proposed clearing areas. 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.

Minesite Rehabilitation Service conducted a desktop fauna survey, in addition to an opportunistic field search in September 2003. This field search identified 12 bird species and one mammal species within Mining Lease 38/09 (Minesite Rehabilitation Services, 2003). More fauna species than this 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. Fauna diversity is expected to be higher in areas outside of the application areas due to the abundance of better quality vegetation available in areas outside of Mining Lease 38/09.

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

Methodology A1 Minerals (2010)
CALM (2002)
Minesite Rehabilitation Services (2003)
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**

Minesite Rehabilitation Services (2003) conducted a desktop fauna survey and an opportunistic field survey in September 2003. There is only one vegetation unit within the application areas, described by Minesite Rehabilitation Services (2003) as; *Acacia woodland which contains variable halophytic low to mid shrubland with some Casuarina overstorey*. Minesite Rehabilitation Services (2003) states that the results of the desktop survey indicate that the following fauna of conservation significance have the potential to occur within the application areas:

- Australian Bustard (*Ardeotis australis*) – Priority 4 on the Department of Environment and Conservation's (DEC's) Threatened and Priority fauna list;
- Malleefowl (*Leipoa ocellata*) – Schedule 1 (Fauna that is rare or likely to become extinct) *Wildlife Conservation (Specially Protected Fauna) Notice 2010* and *Vulnerable Environment Protection and Biodiversity Conservation Act 1999*; and
- Rainbow Bee-eater (*Merops ornatus*) – Marine and Migratory, *EPBC Act 1999*.

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

The Malleefowl has the potential to occur within the application areas, however, this species and its nests were not recorded during the flora and fauna survey of the application areas. A1 Minerals (2010) have stated that a targeted Malleefowl mound search will be undertaken immediately prior to disturbance.

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

Methodology A1 Minerals (2010)
Minesite Rehabilitation Services (2003)

(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**

Minesite Rehabilitation Services conducted a flora and vegetation survey in September 2003. This survey consisted of a desktop survey in addition to a field survey and included a targeted Rare and Priority Flora search (Minesite Rehabilitation Services, 2003).

The field survey did not identify any Declared Rare Flora or Priority Flora species within the application areas (Minesite Rehabilitation Services, 2003). Therefore, the proposed clearing of 27.8 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 Minesite Rehabilitation Services (2003)

(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 areas applied to clear (GIS Database). The nearest known PEC is located approximately 30 kilometres north-west of the application areas (GIS Database).

Minesite Rehabilitation Services (2003) reports that no TECs or PECs were identified within the application areas during the flora and fauna survey.

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

Methodology Minesite Rehabilitation Services (2003)
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 areas fall within the Murchison 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 areas is recorded as the following Beard Vegetation Association (Shepherd, 2007):

Beard Vegetation Association 18: low woodland; mulga (*Acacia aneura*).

The vegetation within the application areas 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 - Murchison | 28,120,590 | 28,120,590 | ~100 | Least Concern | ~1.1 |
| Beard vegetation associations - State | | | | | |
| 18 | 19,892,305 | 19,890,195 | ~100 | Least Concern | ~2.1 |
| Beard vegetation associations - Bioregion | | | | | |
| 18 | 12,403,172 | 12,403,172 | ~100 | Least Concern | ~0.4 |

* 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 at variance to this Principle

The application areas have two minor, ephemeral drainage lines transecting them (GIS Database). Based on the low rainfall and high evaporation rate of the region, these watercourses are expected to be dry for the majority of the year and only flow following heavy rainfall.

Aerial photographs indicate that these drainage lines have been disturbed by mining activities and one of the drainage lines appears to have been modified by the pre-existing minesite (GIS Database). According to Minesite Rehabilitation Services (2003) the drainage lines consist of the same species that occur throughout the rest of the application areas, however, at a higher density.

There are numerous ephemeral drainage lines present outside of the application areas and the vegetation communities growing along the watercourses within the application areas are well represented in the local area and are therefore not restricted vegetation communities.

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

Methodology Minesite Rehabilitation Services (2003)
GIS Database
- Burtville 50cm Orthomosaic - Landgate 2006
- 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 areas are mapped as occurring within the Gundockerta and Sunrise Land Systems (GIS Database).

The Gundockerta land system is described by Pringle et al. (1994) as consisting of extensive, gently undulating, calcareous, stony plains, supporting bluebush shrublands. Pringle et al. (1994) states that where not protected by a stony mantle, saline plains and adjacent alluvial tracts are susceptible to water erosion, particularly in areas where perennial shrub cover is substantially reduced and / or the soil surface is disturbed. These landforms do not occur to a large extent within the application areas and furthermore, the application areas are relatively flat and thus the removal of vegetation is unlikely to significantly increase the flow of surface water.

The Sunrise land system is described by Pringle et al. (1994) as consisting of stony plains supporting mulga shrublands. Pringle et al. (1994) reports that this land system is generally not susceptible to soil erosion, partly as a consequence of extensive protective stony mantles.

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

Methodology Pringle et al. (1994)
GIS Database
- 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 likely to be 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 areas (GIS Database).

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**
According to available databases there are no significant water bodies within the application areas, however, two minor, ephemeral drainage lines intersect the application areas (GIS Database). The application areas are located on relatively flat ground reducing the amount of surface runoff. A1 Minerals (2010), states that most of the surface water in the region evaporates or soaks through to sub surface strata.

The proposed clearing of 27.8 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

(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 two minor, ephemeral watercourses within the application areas (GIS Database).

The region occasionally experiences heavy rainfall events caused by cyclonic activity (BoM, 2010). During these times natural flood events can occur in the region, however, the clearing of 27.8 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 areas (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 22 March 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 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).

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.
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.
Minesite Rehabilitation Services (2003) Deep Yellow Limited. Mikado Mining Project. Flora and Fauna Survey of M38/0009. September 2003. Minesite Rehabilitation Services Pty Ltd, 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.

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 in 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.