



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2592/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Australian Mines Limited

### 1.3. Property details

Property: LOT 45 ON PLAN 226298 ( FEYSVILLE 6431)  
 Local Government Area: City Of Kalgoorlie-Boulder  
 Colloquial name:

### 1.4. Application

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

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
The Vegetation consists of :  Beard vegetation association 9 - Medium woodland; coral gum (Eucalyptus torquata) & goldfields blackbutt.  Beard vegetation association 468 -Medium woodland; salmon gum & goldfields blackbutt	The vegetation under application is in very good (Keighery 1994) condition for the most part. However, the area has been subjected to grazing from feral goats and has been exposed to past mining exploration activities. There are also several tracks that dissect the area under application	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition and description of the vegetation under application was determined via the use of Orthomosaic photos and a flora survey undertaken by G & G Environmental.

In a flora survey conducted by G & G environmental (2008) 4 major vegetation types were identified:

Woodland of mixed Eucalypts including E. salmonophloia, E. celastroides subs. virella, E. salubris and E. lesouefii over a high open shrubland of Eremophila species over a low shrubland with Dodonaea lobulata, Olearia muelleri and Senna artemisioides subsp. filifolia prominent in red clay with quartz rocks and ironstone pebbles on the slopes of low rolling hills.

Eucalyptus salmonophloia woodland over an open Atriplex nummularia heath in red clay on flat plains.

An open woodland of

mixed Eucalyptus including E. moderata, E. lesouefii, E. salmonophillioa and E. salubris over high open shrubland of nummularia, Eremphilia species and Pittosporum angustifolium over a low open shrubland of mixed shrubs with Dodonaealobulata, Eremophila maculata subsp. brevifolia and Olearia muelleri prominent in red clay with quartz and granite rocks on an undulating plain.

A low Eucalypts moderata woodland with E. celastoides subsp. virella and E. salubris over an open heath of Chorizema aciculare subs. aciculare, Rhagodia spinescens, Scavola spinescens and Phebalium sp. prominent on the slopes of a steep sided hill in red clay with outcropping granite.

### 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 proposed clearing of 10 hectares of native vegetation for the purpose of mineral exploration is within a 46 hectare site. The vegetation within the application area is considered to be in a very good (Keighery 1994) condition for the most part. The area has been previously grazed by both domestic and feral animals, as well as being subjected to past exploration activities (G & G Environmental 2008). The local area (20km radius) is well vegetated. Several fauna species have been identified within or near the application area. The applicant will retain habitat trees within the applied area, and is willing to rehabilitate the area after exploration has ceased.

The entire bioregion has not been exposed to extensive clearing, leaving large amounts of suitable habitat for flora and fauna species throughout the local area and Shire. It is considered unlikely that the area applied to be cleared is representative of an area of outstanding biodiversity.

##### Methodology

G & G Environmental (2008)  
Keighery (1994)  
GIS DataSets:  
- Lake Lefroy Orthomosaic (09/10/07)

#### (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 may be at variance to this Principle**

Within the local area (20km radius) there are no recorded occurrences of fauna species according to GIS data. However, a detailed survey of the application area conducted by G & G Environmental Pty Ltd (2008) revealed that the Earless Pebble Dragon (*Tympanocryptis cephalus*) does occur within the application area, this species is not considered threatened (DEC 2007). The Carpet python (*Morelia spilota imbricata*) which is a priority 4 listed fauna species, is likely to occur in the application area, as the large habitat trees present within the application area will offer winter refuge (DEC 2007).

A total of 17 bird species were recorded within the application area (G & G Environmental 2008), with two of these species being of conservation significance, the Peregrine Falcon (*Falco peregrinus*) and the White-browed Babbler (*Pomatostomus superciliosus ashbyi*). The Major Mitchell's Cockatoo (*Cacatua leadbeateri*) breeds in large tree hollows and is known to occur within the local area (G & G Environmental 2008). The retention of habitat trees will ensure that adverse impacts on tree dwelling fauna species are reduced. In addition, revegetation conditions will also be imposed to further reduce the impact of the proposed clearing on fauna species within the local area.

##### Methodology

DEC (2007)  
G & G Environmental (2008)



GIS Datasets:  
 - SAC Biodatasets - accessed 23 September 08

**(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**  
 Within the local area (20km radius) GIS data records show that there is one rare flora species. Eremophila parvifolia subsp. auricampa was recorded 16km north of the application area. While this species can occur within the same vegetation type as that of the application area, due to the local area being well vegetated it is unlikely that the application area is a significant habitat for rare flora species.

During the survey conducted by G & G Environmental in May 2008, no rare flora species were identified within the application area. The proposed clearing is considered unlikely to be at variance to this principle.

**Methodology** G & G Environmental (2008)  
 GIS DataSets :  
 - Soils, Statewide DA 11/99  
 - SAC Biodatasets accessed 23 September 08

**(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 at variance to this Principle**  
 There are no known Threatened Ecological Communities (TECs) present within application area or local area (20km radius). The proposed clearing is considered not to be at variance to this principle.

**Methodology** G & G Environmental (2008)  
 SacBioDataSets (TEC-PEC-sites-June-08)

**(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 vegetation under application is composed of Beard vegetation associations 9 and 468. Both of these vegetation associations are well represented, with remaining vegetation well above the recommended 30% threshold (Commonwealth 2001). The bioregion (Coolgardie) and City of Kalgoorlie Boulder are also areas high in remaining vegetation (Shepherd et al. 2006). The proposed clearing is considered not to be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	% remaining
IBRA Region			
Coolgardie	12912207	12707623	98.4
Shire			
City of Kalgoorlie			
Boulder	9542441	9542381	100
Beard (9)	240508	239895	99.7
Beard (468)	592022	592022	100

**Methodology** Shepherd et al. (2006)  
 GIS DataSets:  
 - Lake Lefroy 1.4m Orthomosaic (9/10/07)  
 - PreEuropean Vegetation (01/01/01)

**(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 major watercourses or wetlands located within the application area. A minor non-perennial watercourse does run through the application area, however based on aerial photography and images supplied by G & G Environmental (2008) no riparian vegetation is likely to be growing in association with this watercourse. The closest major watercourse is Lake Lefroy, which is located 9.7km south of the application area. The proposed clearing of 10 hectares of native vegetation is unlikely to have any impacts on this lake.

**Methodology** G & G Environmental (2008)  
GIS DataSets:  
- Hydrography, linear (13/07/06)  
- Hydrography, linear (Hierarchy) (13/07/06)  
- Hydrography, Lakes (medium scale, 250k GA)

**(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**  
Rainfall in the local area is 300mm annually. The proposed clearing is to take place within an area that has large amounts of surrounding vegetation. The clearing will be done using raised blades, mostly utilizing existing tracks where possible. All drill holes will be capped appropriately and rehabilitated. Additionally, dust suppression measures will be implemented if required. It is also the intention of the applicant to conduct rehabilitation activities (post exploration) to address both damage caused by clearing and damage caused as a result of previous disturbances.  
  
Given these measures, the proposed clearing is unlikely to cause appreciable land degradation within the application area.

**Methodology** GIS Datasets:  
- Lake Lefroy Orthomosaic (9/10/07)  
- Rainfall, Mean Annual (30/09/01)

**(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 closest conservation area is located 22km west of the application area. The proposed cleared area is not likely to act as a significant remnant, buffer, or ecological linkage to any conservation areas given that the surrounding landscape has not been extensively cleared. Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS DataSets:  
- CALM Managed Land & Waters (01/11/03)  
- Lake Lefroy Orthomosaic (09/10/07)

**(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 may be at variance to this Principle**  
Groundwater salinity within the local area is between 14,000 - 35,000 mg/L. The proposed clearing of 10 hectares of native vegetation within an area that has not been extensively cleared is unlikely to cause a further increase in groundwater salinity.

GIS data shows the soil type to be BB5: Rocky ranges and hills of greenstones - basic igneous rocks: chief soils seem to be shallow calcareous loamy soils (Northcote et al 1960-1968). The soils of the applied area consist mainly of red clay with quartz rocks or pebbles on rolling slopes. Some areas have granite rocks and outcrops on red clay soils (G & G Environmental 2008).

There are no major watercourses or wetlands located within the application area. However a minor non-perennial watercourse is present within the application area.

Due to the soil being largely composed of clay, increased sedimentation into the non-perennial watercourse is unlikely. To minimise any adverse impacts that clearing may have on this watercourse it is recommended that clearing around this watercourse be avoided and a vegetated buffer of 50 metres be retained (DEC 2008).

The applicant has stated (verbally) that the clearing should not need to come within 50 metres of the watercourse. Therefore a condition to retain a 50 metre vegetated buffer around the watercourse within the application shall be imposed.

**Methodology** DEC (2008)  
G & G Environmental (2008)  
Northcote et al. (1960-1968)  
GIS DataSets:  
- Groundwater Salinity, Statewide  
- Hydrography, linear (13/07/06)



**(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 soils of the application area are predominately clay based (G & G Environmental 2008). The hydrogeology consists of rocks of low permeability, this coupled with the poor permeability of clay results in a reduced capacity of water filtration through the soil profile. However, the actual area applied for (10 hectares) is to be cleared using existing tracks and previous exploration gridlines to minimise disturbance on the area. Given these measures, the low rainfall of the local area (20km radius) and the fact that the vegetation applied to be cleared is within an area that has not been extensively cleared, the proposed clearing is unlikely to exacerbate the risk of flooding.

**Methodology G & G Environmental (2008)**

GIS DataSets:

- Lake Lefroy 1.4m Orthomosaic Landgate 2002 (9/10/07)
- Soils, Statewide (30/11/99)
- Rainfall, Mean Annual (1/12/99)

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

**Comments**

No submissions have been received in relation to this matter.

The applicant has expressed interest in working with pastoral property owners, in the hope of controlling the feral goat population.

The applicant has the right to explore and mine within East Location 45 as the mineral lease agreement has been transferred (Trim Ref: DOC 59037).

No further approval is required from the Department of Industry and Resources

**Methodology**

**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:

May be at variance to principles (b) & (i)

Is not at variance to principle (d) & (e)

All other principles are not likely to be at variance

**5. References**

- Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.
- DEC (2008) Memo re Standard Wetlands Advice for Native Vegetation Conservation Branch. Dated 17/07/2008. Species and Communities Branch, Department of Environment and Conservation, Western Australia (TRIM Ref. DOC59490).
- G & G Environmental (2008) Fauna, Flora and Vegetation Survey Of The Woodline 1 Project Proposed Haul Road Buffer Zone, And Goodyear Project. May 2008
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001a) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2006).

**6. Glossary**

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment

DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)