



1. Application details

1.1. Permit application details

Permit application No.: 510/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Big Bell Gold Operations

1.3. Property details

Property: M21/10
M21/75
M21/89
Local Government Area: Shire Of Cue
Colloquial name: Mining Leases M21/75, M21/89, M21/10

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
30		Mechanical Removal	Mining

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
Beard vegetation association 313: Succulent steppe with open scrub; scattered Acacia sclerosperma and A. victoriae over bluebush (Hopkins et al. 2001, Shepherd et al. 2001).	The Cue area, specifically the Kinsella proposed open pit sites, is situated on a chenopod plain and is dominated by Maireana pyramidata, M. georgei, Eremophila lachnocalyx and Frankenia species with occasional Hakea preissii, Acacia synchronycia (formerly A. victoriae) and A. aneura. The northern pit area lies within and adjacent to moderately disturbed old workings. An area south of the northern pit supports scattered Eremophila pantonii with the south pit supporting scattered Eremophila fraseri. The southern pit area, almost wholly enclosed within the chenopod plain, shows some historical disturbance (Cockerton, G., 2003).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	No site visit was undertaken, the proponent has provided current photographs of representative vegetation (TRIM Ref: GD 440) and a Flora Survey of the area (TRIM Ref: 20090). The evidence provided shows some historical disturbance and suggests that the previous use of land (through mining activity and grazing) has significantly reduced species richness and density however there is insufficient information in the abovementioned documents to make an accurate assessment on the condition of the vegetation.

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 area under application falls within the Murchison Bioregion; a region not recognised for its biodiversity. The proposed area has historically been used for grazing and mining purposes. In addition, the proponent has provided photographs of representative vegetation (TRIM Ref: GD 440) and a Flora Survey of the area (TRIM Ref: 20090). Evidence provided suggests that the previous use of land (through mining activity and grazing) has significantly reduced species richness and density. The area under application has minimal biodiversity concerns and is unlikely to be at variance to this Principle (CALM 2005).

Methodology GIS Databases: Interim Biogeographic Regionalisation of Australia-EA 18/10/00.

(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**
Several animal species exist in the area, evident by the scats that have been deposited. These include kangaroos, emus, rabbits, goats and foxes (Harmony NOI 2002). The proposed area has historically been used for grazing and mining purposes, which has reduced species richness and density providing little habitat for fauna. Therefore the proposed application is unlikely to be at variance to this Principle (CALM 2005).

Methodology Harmony NOI 2002, TRIM Ref No. GD243.
CALM 2005.
GIS Databases: CALM's Threatened and Priority Fauna Database - CALM [The comprehensiveness of the database is dependent on the amount of survey carried out in the area and does not necessarily represent a comprehensive listing (CALM, 2005)].

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

Comments **Proposal is not likely to be at variance to this Principle**
The Cue area, specifically the Kinsella proposed open pit site is dominated by *Maireana pyramidata*, *M. georgei*, *Eremophila lachnocalyx* and *Frankenia* species with occasional *Hakea preissii*, *Acacia synchronycia* (formerly *A. victoriae*) and *A. aneura*. The pit area also supports scattered *Eremophila pantonii* and *Eremophila fraseri* (Cockerton, G., 2003).
No priority, DRF, undescribed or otherwise significant species were noted within or adjacent to the proposed development sites and the vegetation shows some historical disturbance limiting its potential conservation value (Cockerton, G., 2003). It is unlikely that the proposed clearing will impact on significant flora and therefore not likely to be at variance to this Principle (CALM 2005).

Methodology GIS Databases: Declared Rare and Priority Flora list - CALM 13/08/03.
Cockerton, G., 2003
CALM 2005.

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significant ecological community.

Comments **Proposal is not at variance to this Principle**
The Threatened Ecological Community (TEC) database did not highlight any TEC areas within the Project area and therefore the proposal is not at variance to this Principle.

Methodology GIS Databases: Threatened Ecological Communities - CALM 15/07/03

(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 Murchison Bioregion and Beard vegetation association 313 both have greater than 50% of the native vegetation remaining, making them of least concern by conservation status standards. The proposed clearing is therefore not at variance to this Principle.

	Pre-European Reserves/CALM- area (ha)	Current extent (ha)	Remaining %*	Conservation status**	managed land,
% IBRA Bioregion - Murchison	28,206,195	28,206,195	100.0	Least concern	Not available
Shire - Cue	Not available	Not available	Not available	Not available	Not available
Beard veg type - 313	77,838	77,838	100.0	Least concern	0.0

* (Shepherd et al. 2001)
** (Department of Natural Resources and Environment 2002)

Methodology GIS Databases: Interim Biogeographic Regionalisation of Australia - EA 18/10/00, Pre-European Vegetation - DA 01/01, Local Government Authorities - DLI 08/07/04.
Shepherd et al, 2001.
Department of Natural Resources and Environment, 2002

(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 at variance to this Principle

One minor non-perennial watercourse exists within the area under application, however it does not represent a habitat of environmental significance. The ephemeral creek will be diverted around the pit to ensure stormwater flow is not impeded. The proposed clearing is therefore not at variance to this Principle.

Methodology GIS Databases: Hydrography, linear - DoE 01/02/04

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

Comments Proposal is not at variance to this Principle

The vegetation proposed to be cleared is a relatively small area (30 hectares) that experiences average rainfall and does not fall within the salinity risk or acid sulphate risk area. The low impact nature of this application raises no potential land degradation issues and therefore is not at variance to this Principle.

Methodology GIS Databases: Rainfall, Mean Annual - BOM 30/09/01, Salinity Risk LM 25m - DOLA 00, Acid Sulphate Soil Risk Map, SCP - DOE 01/02/04.

(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

No conservation areas have been identified within the area of the proposal. There is a WRC Estate approximately 780m to the North of the proposed clearing area. Therefore the proposal is not at variance to this Principle.

Methodology GIS Databases - CALM Regional Parks - CALM 12/04/02, WRC Estate - WRC 05/99, CALM Managed Lands & Waters - CALM 01/06/04, Proposed National Parks FMP-CALM 19/03/03, Register of National Estate - EA 28/01/03

(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 area under application falls within the Murchison River catchment. The proposal does not fall within any Public Drinking Water Source Areas or Protection Zones. The area under proposal is a relatively small area and therefore is not likely to cause deterioration in the quality of surface or groundwater. (Midwest Gascoyne Hydro Unit, 2005) The proposal is therefore not likely to be at variance to this Principle.

Methodology GIS Databases - Current WIN data sets, PDWSA Protection Zones - DOE 07/01/04, Public Drinking Water Sources (PDWSAs) - DOE 29/11/04, Hydrographic Catchments - Catchments - DOE 03/04/03. Midwest Gascoyne Hydro Unit, 2005.

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

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

The area under application has a mean annual rainfall of 300mm. The proposed area has gravel soils, however it is not in a low-lying area or close to a significant water source. The proposed site is not in near proximity to a major population centre and therefore it is unlikely that the proposal will lead to an increase in peak flood height or duration.

Methodology GIS Databases - Rainfall, Mean Annual - BOM 30/09/01

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

Comments

The Shire of Cue has indicated that there are no planning requirements or approvals that would affect the clearing application.

Discussions with other programs within the DoE have revealed that a current EP and water licence exist for this mining site and there are no issues.

Methodology Submission - Shire of Cue

4. Assessor's recommendations

Purpose	Method Applied	Decision	Comment / recommendation
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Mining	Mechanical Removal	area (ha)/ trees 30	Grant	The assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted.
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5. References

- CALM (2005) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref GD529.
- Cockerton, G. (2003) DRF and priority flora surveys Mt Magnet and Cue May 2003. York, 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.
- Harmony (2002) Big Bell Gold Operations Notice of Intent. Harmony (Australia) Pty Ltd, Western Australia. (TRIM Ref: GD243)
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, BJ (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. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)