



1. Application details

1.1. Permit application details

Permit application No.: 432/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Big Bell Gold Operations Pty Ltd

1.3. Property details

Property:

- M20/103
- M20/22
- M20/21
- M20/301
- M20/202
- M20/171
- M20/256
- M20/299
- M20/354
- M20/252
- M20/78
- E20/496
- E20/517
- E21/104
- M20/102
- M20/104
- M20/105
- M20/218
- M20/272
- M20/273
- M20/274
- M20/291
- M20/297
- M20/298
- M20/300
- M20/313
- M20/315
- M20/316
- M20/321
- P20/1481
- M20/332
- P20/1506
- M20/347
- P20/1567
- M20/349
- M20/350
- M20/352
- P20/1572
- M20/353
- P20/1577
- M20/416
- M20/417
- M20/434
- P20/1659
- M20/441
- P20/1735
- M20/456

M20/486
M21/102
M21/104
P20/1505
P20/1734
P20/1736
P20/1737
P20/1738
P20/1769
P20/1844
P20/1873

Local Government Area:

Colloquial name:

Cuddingwarra Tenements

1.4. Application

Clearing Area (ha)

22.6

No. Trees

Method of Clearing

Mechanical Removal

For the purpose of:

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
Beard 313: Succulent steppe with open scrub; scattered <i>Acacia sclerosperma</i> & <i>A. victoriae</i> over bluebush (Shepherd et al. 2001).	The area under application is within the Cuddingwarra mining area which is situated in the Murchison Mineral Field. The nearest township is Cue, approximately 10km southeast (Harmony, 2002). The area under application occurs in the Austin Botanical District of the Murchison Region (Beard, 1990). The wider area primarily consists of low chenopod and mulga shrublands. No declared rare or threatened flora species were located during Harmony Flora survey (2002). One habitat type persisted in the area to be cleared, alluvial plain snakewood chenopod shrubland. The dominant species are <i>Acacia eremaea</i> (Snakewood) and <i>A. masliniana</i> (Spiny Snakewood) interspersed with <i>Atriplex bunburyana</i> (Silver Saltbush), <i>Maireana pyramidata</i> (Sago bush), <i>Senna artemisioides</i> subsp. <i>helmsii</i> (Crinkled Senna) and <i>Scaevola spinescens</i> (Currant Bush). A rare flora database search by CALM (2000a) revealed no declared rare species, although 20 Priority Flora listed species are expected to occur in the Cue region.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The proposal is within a mining lease area, so is either currently subject to or surrounded by significant disturbance. Observed during site visit: DoE site inspection (by Craig Scott and Nanette Schapel of the City of Chester [CPS 362/1] and Cuddingwarra [CPS 383/1] mining areas) with photographs on 30 November 2004 confirm the severe extent of historical disturbance including mining and pastoral grazing. TRIM ref GD248, GD228, GD229, GD230, GD231, GD270, GD271, GD274, GD273, GD274 and GD275). Pastoral leases - DOLA 10/01.
Beard 18: Low woodland; mulga (<i>Acacia aneura</i>) (Shepherd et al. 2001).	The vegetation of the site comprises of a small section of association 18, located in the far northern and centre sections of the area under application.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	The proposal is within a mining lease area, so is either currently subject to or surrounded by significant disturbance.
Beard 125: Bare areas; salt lakes (Shepherd et al. 2001).	Area not vegetated and only represents a small portion of the overall area.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to	Beard 125 forms the discharge point into Lake Austin for Cuddingwarra Mining Operations.

Beard 240: Succulent steppe with open scrub; scattered Acaia sclerosperma & bowgada over saltbush & bluebush (Shepherd et al. 2001).	The area under application is not likely to clear vegetation from this site due to its location in relation to the overall area under application. This vegetation is located in the southern most section of the area under application and contains the dewatering point and infrastructure for dewatering activities into Lake Austin from the Cuddingwarra mining area.	regenerate (Keighery 1994) Pristine: No obvious signs of disturbance (Keighery 1994)	Beard 240 and 1127 forms the discharge area from the Cuddingwarra mine into Lake Austin. A preliminary assessment by van Etten (2002) describes the vegetation as mostly in a health state. However no evidence of impact from previous events, and given the discharge water seems to be largely confined to the incised drainage channel which flows into Lake Austin, it appears likely that the planned discharge will not have a serious detrimental effect on the saltmarsh vegetation surrounding the discharge. TRIM Ref GD239
Beard 1127: Mosaic: Saltbush & bluebush/samphire (Shepherd et al. 2001).	The area under application is not likely to clear vegetation from this site due to its location in relation to the overall area under application. This vegetation is located in the southern most section of the area under application and contains the dewatering point and infrastructure for dewatering activities into Lake Austin from the Cuddingwarra mining area.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	As detailed above.

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 has been extensively mined and grazed (Austin Downs Station lease number 600) and is degraded. Site visit 30 November 2004 with DoE officers Craig Scott and Nanette Schapel, with Harmony officer Paul Rokich confirm (Harmony, NOI, 2002) the extent of historical disturbance TRIM ref GD248, GD228, GD229, GD230, GD231, GD270, GD271, GD274, GD273, GD274 and GD275. Given this history, this site does not represent an area of significant biodiversity.
Methodology	TRIM REF's GD248, GD228, GD229, GD230, GD231, GD270, GD271, GD274, GD273, GD274 and GD275. Harmony NOI, 2002 (L160/88) GIS Databases: Pastoral Leases-DOLA 10/01, Pre-European Vegetation_DA01/01. Shepherd et al. 2001

(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 Harmony (2002) sought CALM advice on any specially protected or priority fauna that may occur in the area. CALM advice detailed <i>Macrotis lagotis</i> , <i>Leipoa ocellata</i> and <i>Egernia stokesii badia</i> (Schedule 1), <i>Falco peregrinus</i> (Schedule 4). Priority Taxa included <i>Burhinus grallarius</i> (P4), <i>Ardeotis australis</i> (P4) and <i>Lerista eupoda</i> (P1). Harmony (2002) conducted a fauna survey which did not encounter any of these species.
Methodology	Harmony NOI, 2002 GIS Databases: Threatened Ecological Communities-CALM 15/07/03 CALM, 2002b

(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 Harmony environmental officers carried out a flora survey within the area under application that found no declared rare or priority flora species within the Cuddingwarra mining area. The survey was conducted via foot traverses and a total of 23 species was identified (Harmony NOI 2002). CALM correspondence dated April 2002 also showed that no records of rare flora were known from the location. Harmony (2002) states that any rare, threatened or priority flora found in the immediate and surrounding areas of the project area will be conserved where possible and ground traversed searches for further populations conducted. Any rare flora found will be
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reported to CALM to ensure their ongoing management.

Methodology GIS Databases: Declared Rare and Priority Flora - CALM 13/08/04
CLAM, 2002a
Harmony NOI, 2002.

(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 likely to be at variance to this Principle**
No significant ecological communities occur within the area under application.

Methodology GIS Databases: Threatened Ecological Communities-CALM 15/07/03, (Data pertaining to outlying mining tenements is limited and does not necessarily constitute a comprehensive listing of significant ecological communities of the area in question).

(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 part of Beard vegetation associations 313, 18, 240, 125 and 1127 that lies in the Shire of Cue in the Murchison Bioregion. There is greater than 50% of associations 313, 18, 240, 125 and 1127 remaining in Western Australia making it of least concern by the Bioregional Conservation Status standards.

	Pre-European Reserves/CALM- area (ha)	Current extent (ha)	Remaining %*	Conservation status**	managed land,
%					
IBRA Bioregion - Murchison	28,206,195	28,206,195	100	Least concern	0
Shire of Cue	0	0	0	N/a	0
Beard Veg Type - 313	77,838	77,838	100	Least concern	0
Beard Veg Type - 18	24,675,970	24,659,110	99.9	Least concern	2.5
Beard Veg Type - 240	134,601	132,867	98.7	Least concern	32.7
Beard Veg Type - 125	3,940,746	3,536,992	89.8	Least concern	0.4
Beard Veg Type - 1127	78,286	78,286	100	Least concern	0

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

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

(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**
The area under application lies within the Murchison River Catchment and Basin. There are several wash areas, minor non-perennial watercourse and one minor tributary as described by DoE, 2004. Surface flow in the project area generally occurs after heavy rainfall and has sheet flow characteristics. There are no major drainage channels running through the area that will be impacted upon, with the closest channel being Wyah Pool and its associated drainage pathway, stretching from Milly Soak in the north to Lake Austin in the south (Harmony NOI 2002).
The historical landuse of the site would suggest that the wash areas, minor non-perennial watercourses and minor tributary would not represent an ecosystem of significant environmental value. Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases: Hydrographic Catchments-Catchments DoE 03/04/03, Hydrographic linear DoE 01/02/04. Harmony NOI 2002.

(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 proponent intends to rehabilitate in accordance with Notice of Intent section 4.8 rehabilitation procedures. Given the extensive mining and grazing history of the land (Austin Downs Station lease number 600), the proposed clearing is not likely to increase land degradation of the site.

Methodology Harmony NOI, 2002.
GIS Databases: Salinity Risk LM 25-DOLA 00, Acid Sulphate Soil Risk Map SC-DOE 01/02/04, Soils Statewide-DA 11/99, Pastoral Leases-DOLA 10/01.

(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 at variance to this Principle

The area under application is not adjacent to any existing or proposed conservation areas.

Methodology GIS Databases: CALM Regional Parks-CALM 12/04/02, WRC Estates-WRC 5/99, 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 at variance to this Principle

The area under application lies within the Murchison River basin and catchment. There are no proclaimed, gazetted or declared areas or catchments that this proposal may impact upon. The local water table appears to be around 10m below ground level (measured from the standing water tables in adjacent drill holes). The groundwater in this area is suitable for livestock (i.e less than 6000 mg/L TDS). Water quality monitoring, using hand held salinity meters, will be conducted regularly to ensure that water quality remains below recommended levels for livestock. The groundwater in the area is typical of groundwater on the western side of Wyah Pool, with salinities in the region of 3,000 mg/L TDS (Harmony NOI, 2002).

Methodology GIS Databases: PWDSA data sets (priority areas gazetted WRC 24/05/02, priority areas-policy-WRC 01/11/02, protection zones-WRC 01/11/02, gazetted-WRC 01/11/02 and policy-WRC 01/11/02) and Public Drinking Water Source Areas (PWDSAs) DOE 01/06/04.
Harmony NOI 2002.

(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 at variance to this Principle

Surface flow from the project area generally occurs after heavy rainfall and has sheet flow characteristics. The project area has a semi-arid climate and an average annual rainfall of 225mm. Given the area of vegetation to be cleared is small, the land's history of pastoral grazing and mining, with the revegetation commitments, the proposed clearing is unlikely to increase the risks associated with flooding.

Methodology GIS Databases: FMD ARI Extent of Flooding and Floodway Limit-DOE 02/03, FMD Floodplain Map Index-DOE 02/03.

Planning instrument or other matter.

Comments

The Shire of Cue has not indicated that there are any planning requirements/approvals that would affect the clearing.
The concern of the Yamatji Marlpa Barna Baba Maaja Aboriginal Corporation is clarified by advice received from the State Solicitor's Office that indicate the granting of the permit would not be invalidated by the Native Title Act 1993.

Methodology Yamatji Marlpa Barna Baba Maaja Aboriginal Corporation, 2005.

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
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5. References

REFERENCES