



1. Application details

1.1. Permit application details

Permit application No.: 362/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Harmony Big Bell Gold Operations

1.3. Property details

Property: M20/103

Local Government Area: Shire Of Cue
Colloquial name: M20/103, City of Chester

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 313: Succulent steppe with open scrub; scattered Acacia sclerosperma & A. victoriae over bluebush (Hopkins et al. 2001, Shepherd et al. 2001).	Vegetation under application (30ha) is located in mining tenement M20/103 within the Cuddingwarra mining area which is situated in the Murchison Mineral Field. The nearest township is Cue, approximately 10km to the 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 a Harmony Flora survey (2002). One habitat type persisted in the area to be cleared, alluvial plain snakewood chenopod shrubland. The dominant species are Acacia eremaea (Snakewood) and A. masliniana (Spiny Snakewood) interspersed with Atriplex bunburyana (Silver Saltbush), Maireana pyramidata (Sago Bush), Senna artemisioides subsp. helmsii (Crinkled Senna) and Scaevola spinescens (Currant Bush). A rare flora database search by CALM (2002a) 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)	Photographs of the area provided by the proponent, and confirmed by DoE site inspection (by Craig Scott and Nanette Schapel) and photographs on 30 November 2004 confirm the severe extent of historical disturbance including mining and pastoral grazing. (DoE TRIM ref GD228, GD229, GD230 and GD231). Pastoral Leases - DOLA 10/01

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 site 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's GD228, 229, 230 and 231). Given this history, the site does not represent an area of significant biodiversity.

Methodology TRIM REF's GD228, 229, 230 and 231.
Harmony NOI 2002 (L160/88)
GIS Database: Pastoral Leases -DOLA 10/01

(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 *Macrotis lagotis*, *Leipoa ocellata* and *Egernia stokesii badia* (Schedule 1), *Falco peregrinus* (Schedule 4). Priority Taxa included *Burhinus grallarius* (P4), *Ardeotis australis* (P4) and *Lerista eupoda* (P1). Harmony (2002) conducted a fauna survey which did not encounter any of these species.

Methodology Harmony NOI, 2002.
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 that found no declared rare or priority flora species within the proposed open-cut area. The survey was conducted via foot traverses and a total of 23 species was identified in the subject area (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 City of Chester open-cut will be conserved where possible and ground traversed searches for further populations conducted. Any rare flora found will be reported to CALM to ensure their ongoing management'.

Methodology Harmony NOI, 2002.
CALM, 2002a
GIS Databases: Declared Rare and Priority Flora-CALM 13/08/03.

(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 City of Chester project area (Harmony, 2002).

Methodology GIS databases: Threatened Ecological Community Database - 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 association 313 and lies in the Shire of Cue in the Murchison Bioregion. There is greater than 50% of the association 313 remaining in Western Australia making it of least concern by the Bioregional Conservation Status standards.

	Pre-European Area (ha)	Current extent (ha)	Remaining %*	Conservation status**	Reserves/CALM-managed land, %
IBRA Bioregion – Murchison	28,206,195	28,206,195	100	Least concern	0
Shire – Cue	0	0	0	N/a	0
Beard Veg Type - 313	77,838	77,838	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 no water courses within the area under application, however there are 2 watercourse areas adjacent to the area under application which are described as Flood Limit Area and Wash Area. Surface flow in the City of Chester 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, 2002). The historical landuse of the site would suggest that these minor watercourses would not represent and 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, Hydrography 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 the Noitce 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 resut in land degradation of this 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

No conservation areas have been identified near the proposal.

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 2 WRL bores within a 4km distance used for by the proponent for mining activites. 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 6000mg/L TDS). Water quality monitoring, using handheld salinity meters, will be conducted regularly to ensure that water quality remains below recommended levels for livestock. The groundwater in City of Chester 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: WRL Drawpoints-DOE, 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 in the City of Chester 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 **Proposal is not at variance to this Principle**

The Shire of Cue have not indicated that there are any planning requirements/approvals that would affect the clearing.

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mining	Mechanical Removal	30	Grant	<p>30ha within the digitised area. The assessable criteria have been addressed and no objections were raised.</p> <p>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.</p> <p>The assessing officer therefore recommends that the permit should be granted. The department provides the following advice:</p> <ol style="list-style-type: none">1) all sites affected by mining should be returned to a stable, non-erodible, and safe condition.2) all sites should be restored to biologically sustainable ecosystems requiring minimum long term management.3) rehabilitation should commence as soon as possible.4) all topsoil of insignificant auriferous grade should be removed from the areas affected by mining and stored on temporary dumps.5) stockpiled topsoil should be re-spread over disturbed areas at the completion of mining.6) the area should then be contoured, ripped and revegetated with species native to the area or appropriate to the prevailing conditions.7) rehabilitation progress should be monitored annually through Ecosystem Function Analysis techniques to determine revegetation success and remedial work undertaken as required.

5. References

- CALM (2002a) Declared Rare and Priority Flora advice. Advice to Harmony. Department of Conservation and Land Management, Western Australia. DoE TRIM ref GD251.
- CALM (2002b) Fauna advice. Advice to Harmony. Department of Conservation and Land Management, Western Australia. DoE TRIM ref GD251.
- Department of Environment (2004). Site visit to Cuddingwarra Project Area, example of disturbance (TRIM REF: GD248, GD231, GD230, GD229 and GD228).
- 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 City of Chester Open-cut and Cuddingwarra Operations (TRIM REF: GD235).
- Harmony, 2004 Project Plan Cuddingwarra, City of Chester (TRIM REF: GD236)
- 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.
- Yamatji Marlpa Barna Baba Maaja Aboriginal Corporation, 2004 Comments Regarding Application To Clear Native Vegetation – CPS362/1 (Trim Ref: GD247)