



## 1. Application details

### 1.1. Permit application details

Permit application No.: 433/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **Blg Bell Gold Operations Pty Ltd**

### 1.3. Property details

Property:

- M20/293
- M21/7
- M21/10
- M21/14
- M21/24
- M21/44
- M21/49
- M21/55
- M21/56
- M21/65
- M21/69
- M21/74
- M21/75
- M21/83
- M21/89
- M21/93
- M21/96
- M21/97
- M21/99
- P21/565
- M21/100
- P21/479
- M21/103
- M21/105
- M21/133
- P21/564
- M21/135
- P21/575
- P21/584
- M21/141
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L20/29  
L20/38  
L21/11  
M21/122  
M21/123  
M21/130  
M21/131  
M21/132  
P20/1842  
E21/37  
M21/145  
M21/110  
M21/146  
M21/147

**Local Government Area:**

**Colloquial name:**

Golden Crown & Lakeside Tenements

#### 1.4. Application

|                           |                  |                           |                            |
|---------------------------|------------------|---------------------------|----------------------------|
| <b>Clearing Area (ha)</b> | <b>No. Trees</b> | <b>Method of Clearing</b> | <b>For the purpose of:</b> |
| 21.6                      |                  | Mechanical Removal        | Mineral exploration        |

## 2. Site Information

### 2.1. Existing environment and information

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

| <b>Vegetation Description</b>  | <b>Clearing Description</b>  | <b>Vegetation Condition</b>  | <b>Comment</b>   |
|--|--|--|--|
| 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 regenerate (Keighery 1994) | Beard 125 is the discharge point from mining activities at Golden Crown into Lake Austin as identified in historical photographs, Big Bell Gold Mine Great Fingall Discharge to Lake Austin (April 2000) (TRIM Ref GD240 & GD241).   |
| Beard 313: Succulent steppe with open scrub; scattered Acacia sclerosperma & A. victoriae over bluebush (Shepherd et al., 2001).       | Beard 313 accounts for approximately 90% of the area under notice.                           | Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)         | The proposal area is within a mining lease area, so is either currently subject to or surrounded by significant disturbance.<br><br>Observed during site visit: confirmed the area has extensive disturbance and contains infrastructure from the historical mining activities including open pits (Great Fingal, Try Again and Yellow Taxi), abandoned railway lines, dewatering routes to Lake Austin, administration buildings and haul roads. (TRIM Ref GD240 & GD241)   |
| Beard 1127: Mosaic: Saltbush & bluebush/samphire (Shepherd et al., 2001).  | This vegetation is located at the existing dewatering infrastructure site (TRIM Ref: GD241). | Pristine: No obvious signs of disturbance (Keighery 1994)  | As detailed in Beard 240.  |
| Beard 240: Succulent steppe with open scrub; scattered Acacia sclerosperma & bowgada over saltbush & bluebush (Shepherd et al., 2001). | This vegetation is located at the existing dewatering infrastructure site (TRIM Ref: GD241). | Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994) | Beard 240 and 1127 forms the discharge area from the Great Fingal Mine in to Lake Austin. A preliminary assessment by van Etten, 2002, describes the vegetation as mostly in a healthy state. However, van Etten, 2002 describes no evidence of impact from the 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 18: Low woodland;  | The area under notice is   | Degraded: Structure  | The proposal area is within a mining lease area, so is   |

mulga; *Acacia aneura* (Shepherd et al., 2001).

located on the existing Big Bell premises. The vegetation of the entire site comprises lower storey native species, spanning low woodland, bare areas (Lake Austin), mosaic and succulent steppe with open scrub.

severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)

either currently subject to or surrounded by significant disturbance.

Observed during site visit: confirmed the area has extensive disturbance and contains infrastructure from the historical mining activities including open pits (Great Fingal, Try Again and Yellow Taxi), abandoned railway lines, dewatering routes to Lake Austin, administration buildings and haul roads. (TRIM Ref GD240 & GD241)

### 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 vegetation of the site retains primarily Low woodland and Succulent steppe with open scrub, which are well represented in the area surrounding the project area. The site has been extensively mined and grazed (Austin Downs Station, Lease Number 600) and is degraded. Given its history, the site does not represent an area of significant biodiversity.

**Methodology** Site visit.

Gis Database: Pastoral Leases -DOLA 10/01  
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**

CALM advice sought by Harmony NOI (2002) and confirmed no threatened fauna occur in the project area. Ecologia (1994) consultants were commissioned to conduct a fauna survey for the NOI. Several animal species exist in the area, evident by the scats that have been deposited. These include kangaroos, emus, rabbits, goats and foxes. Kangaroos were observed around the existing open cut, whilst emus were observed on the Try Again waste rock dump.

**Methodology** Site visit.

Harmony Golden Crown Operations NOI, 2002  
Desktop survey: CALM Threatened and Priority Fauna Database. [The comprehensiveness of the database is dependant on the amount of survey carried out in the area and does not necessarily represent a comprehensive listing (CALM 2004)].

#### (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**

Known declared rare fauna have been found in the vicinity of the area under application and within tenement number ML20/293. However these actually occur within the Townsite of Cue and along the road reserve north of Cue.

Priority 1 *Dodonaea* sp. Ninghan (H.Demarz 5121) and priority 2 *Grevillea inconspicua* were identified. The location of the significant flora is within the tenement ML20/293 that is held by Harmony. However, the exact location of the flora within this tenement is actually the far north east corner of ML20/293 and is within the Townsite of Cue.

CALM (1994) advice states that no threatened flora occur in the area.

Two sites containing priority 4 *Grevillea inconspicua* were located approximately 1.5 km's north of Cue on the road reserve of the Great Northern Highway. *Grevillea inconspicua* was also identified within the north east section of Cue Townsite on unallocated crown land. Given the proposed location and representative floristic survey for Try Again/Golden Crown and the small area to be cleared (21.6ha) it is not likely to be necessary for the continued existence of significant flora.

**Methodology** GIS database: Declared Rare and Priority Flora List-CALM 13/09/03, Threatened Ecological Communities-CALM 15/07/03, Environmentally Sensitive Areas-DOE 22/10/04.

#### (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 main project area. However, Environmentally Sensitive Areas were located as described in principle C. Again, proposed location and the small area to be cleared (22.6 ha) it is not likely impact on the maintenance of the identified significant ecological communities.

**Methodology** GIS databases: Environmentally Sensitive Areas-DOE 22/10/04 (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 (primarily numbers 313 and 18) with small areas of associations 125, 240 and 1127 occurring in the southern section of the area under application. The southern section contains Lake Austin and historic mining activities included dewatering into Lake Austin in the mid 1990's (Harmony, 2002). There is greater than 50% of associations 18, 313, 125, 240 and 1127 remaining in Western Australia making them of least concern by Bioregional Conservation Status standards. The Murchison IBRA Bio region also has a vegetation extent greater than 50%, therefore this area is not considered to be extensively cleared (Shepherd et al, 2001).

|                            | 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 - Cue                | 0                                    | 0                   | 0            | N/a                   | 0             |
| Beard veg type - 18        | 24,675,970                           | 24,659,110          | 99.9         | Least concern         | 4.8           |
| Beard veg type - 313       | 77,838                               | 77,838              | 100          | Least concern         | 0             |
| Beard veg type - 125       | 3,940,746                            | 3,536,992           | 89.8         | Least concern         | 7.4           |
| Beard veg type - 240       | 134,601                              | 132,867             | 98.7         | Least concern         | 32.7          |
| Beard veg type - 1127      | 78,286                               | 78,286              | 100          | Least concern         | 0             |

\* (Shepherd et al. 2001)

\*\* (Department of Natural Resources and Environment 2002)

**Methodology TRIM REF GD240**

GIS database: Interim Biogeographic Regionalisation of Australia-EA 18/10/00, Local Government Authorities-DLI 08/07/04, Pre-European Vegetation-DA 01/01, EPA Position Paper No. 2 Agriculture Region-DEP 12/00. Shepherd et al, 2001. [This reference is not up to date. The probability of the extent of clearing being greater than stated is high].

**(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 (DoE 2003). There are numerous watercourses described as 'minor, non perennial' in the area under application (DoE, 2004). Historical dewatering activities of the site would suggest that these minor watercourses would not represent an ecosystem of significant environmental value.

There are no major drainage channels running through the area and the most significant drainage tract is a small creekline located along the western edge of the Try Again open-cut. This drainage channel combines with a number of others approximately 500m south of the open-cut, from where it drains into Lake Austin (Harmony, 2002).

Lake Austin lies at the southern end of the area under application. van Etten (2002) provides a preliminary assessment of the dewatering activities into the site. Given the 22.6 ha of proposed clearing, and lack of detrimental effects of historical dewatering 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, 2002. TRIM REF 240 & 241  
van Etten, 2002. TRIM REF 239

**(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**

Harmony, 2002 describes the Environmental Management Plan and rehabilitation commitments. It is the practice to rehabilitate and will gradually progress to any further deposits. Rehabilitation commitments as outlined in Harmony (2002) are consistent with this assessment advice.

The proposed clearing does not fall within a salinity acid sulfate soils risk area and is in a low rainfall zone (300mm per year). As the Fingall permit is for exploration drilling over a large area, the historical landuse of the site (the extensive mining and grazing) the proposed exploration drilling is not likely to increase land degradation of this site.

**Methodology** Harmony, 2004 TRIM REF GD244  
Harmony NOI 2002, TRIM REF GD243  
GIS Databases: Salinity Risk LM 25-DOLA 00, Acid Sulfate Soil Risk Map SC-DOE 01/02/04, Soils Statewide-DA 11/99.

**(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 project area is not adjacent to any existing or proposed conservation areas.

**Methodology** GIS Databases: CALM Regional Parks-CALM 12/04/02, WRC Estate-WRC 5/99, Proposed National Parks FMP-CALM 19/03/03, Register of National Estates-EA 28/10/03.

**(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**

Proposed clearing is not expected to impact on groundwater tables. There are 13 current WIN sites (stock, mining and monitoring purposes) within the proposed area, and numerous other sites within the vicinity of the proposal. The area under application lies within the Murchison River Catchment and Basin (DoE 2003).

**Methodology** GIS Databases: Current WIN data sets.

**(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**

Flooding impacts unlikely to occur as a result of the proposed clearing, given the proposal is relatively small. van Etten (2002) describes the main drainage channel of the area under application as .natural drainage channel, is approximately one metre wide at the discharge point, but gradually increases to around 5m wide where it enters Lake Austin mostly one or two metres below the general level of the saltmarsh, but occasionally opens out into small low-lying areas which would flood if the water level in the channel was high or the lake filled due to heavy rain. Little is known of the hydrology of the area in the past, would have been dry most of the time. Following substantial rains, water would enter the channel from surface runoff from the surrounding catchment and perhaps from rising groundwater, which was observed at the time of survey to be only 1/2 metre or so below the channel bed in areas upstream from the discharge. When the lake is full (a rare event which last occurred in early 2000), water levels in the channel would be expected to be high and some flooding of the surrounding saltmarsh flat would be likely'.

However, given the relatively small area of vegetation to be cleared, the land's history of mining and pastoral grazing the proposed clearing is unlikely to increase the risks associated with flooding.

**Methodology** Harmony, 2004. TRIM REF: GD244  
Harmony, 2002. TRIM REF: GD243  
van Etten, 2002. TRIM REF: GD239  
GIS Databases: FMD ARI Extent of Flooding & Floodway Limit-DOE 02/03, FMD Floodplain Map Index-DOE 02/03, Rainfall Mean Annual-BOM 30/09/01.

**Planning instrument or other matter.**

**Comments**

The Shire of Cue have 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, 2004 (TRIM Ref: IN20276)

**4. Assessor's recommendations**

| Purpose             | Method             | Applied area (ha)/ trees | Decision | Comment / recommendation   |
|---------------------|--------------------|--------------------------|----------|--|
| Mineral exploration | Mechanical Removal | 21.6                     | Grant    | The assessable criteria have been addressed and no objections were raised.<br><br>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.<br>The assessing officer therefore recommends that the permit should be granted. The department provides the following advice:<br>1) all sites affected by mining should be returned to a stable, non-erodible, and safe condition.<br>2) all sites should be restored to biologically sustainable ecosystems requiring minimum long term management.<br>3) rehabilitation should commence as soon as possible.<br>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 (1994) Request for Rare Flora information. Advice to Harmony. Department of Conservation and Land Management, Western Australia. DoE TRIM ref GD254.
- 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.
- Ecologia (1994) List of vertebrates recorded or expected to occur within the landforms present in the Golden Crown Project area. TRIM Ref GD252
- Harmony (2002) Big Bell Gold Operations Notice of Intent Try Again Open-cut Extension Golden Crown Operations (TRIM REF: GD243).
- 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. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- van Etten, 2002 Discharge from Great Fingal Mine to Lake Austin: Preliminary Assessment, Edith Cowan University. TRIM Ref: GD239