



1. Application details

1.1. Permit application details

Permit application No.: 225/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Barrick Gold of Australia**

1.3. Property details

Property: M52/308
M52/395
M52/253
Colloquial name: 180km from Meekatharra

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
75		Mechanical Removal	Building or Structure (Aerodrome extensions)

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 18: Low woodland; mulga (<i>Acacia aneura</i>). Vascular flora on the Plutonic Project tenements includes: <i>Acacia anuera</i> , <i>A. linophylla</i> , <i>A. pruinocarpa</i> , <i>A. sclerosperma</i> , <i>A. tetragonaphylla</i> , <i>Acacia sp.</i> , <i>Ptilotus obvatus</i> , <i>P. rotundifolius</i> , <i>Cassia nemophila var. zygophylla</i> , <i>Maireana sp.</i> , <i>Eremophila fraseri</i> , <i>Eremophila sp.</i> , <i>Eucalyptus camaldulensis</i> , <i>Grevillea sp.</i> , <i>Canthium latifolium</i> (Australian Groundwater Consultants, 1989).	The vegetation under application (75ha) is located in mining tenements M52/308, M52/395 and M52/253 that are located in Kumarina, 180km from Meekatharra in the Meekatharra Shire. The site is on a flat low lying area of red sandplain. Not all of the species recorded from the mining tenements may necessarily be present in the area under application.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Ben Wither (Barrick Gold) emailed photographs of the current aerodrome and the vegetation included in the proposed extension (TRIM Ref: GD210). 'The Plutonic Project area is located on Three Rivers Station, which is owned by Plutonic Gold and leases back to the previous owners. The station originally ran sheep and cattle from around the 1920's until 1974 at which time sheep numbers were destocked until 1984 where they were completely removed. During 1990 the cattle numbers were also reduced due to grazing pressures and the continued drought conditions. Currently the area on which the Mining activities exists is fenced off excluding all cattle activity (Withers, 2004). The intensive grazing history is evident in the photographs taken of the area under application. There is almost no understorey remaining and the <i>Acacia</i> species present are sparse.

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 at variance to this Principle

The area under application falls within the Gascoyne Bioregion and the Augustus subregion - a semi arid desert region. Analysis of GIS databases, in addition to a consultant botanist's report, suggests that this vegetation is not representative of an area of outstanding biodiversity in the bioregion. The area under application has historically been used for pastoral grazing since the late 1800s. The effect of grazing on the landscape and vegetation has been dramatic and well documented (Australian Groundwater Consultants, 1989).

'Plant diversity on the area surveyed was relatively low with (15) species from (8) plant families identified. These species were common over the entire area covered by the three Mining Leases. The structural characteristics and plant density of the vegetation are very similar to the surrounding plant communities' (Australian Groundwater Consultants, 1989).

The area of vegetation under application is relatively small and well represented in surrounding areas. Given the land's history of pastoral grazing and the current lease holder's exclusion of stock and selective ripping to trap water and promote germination, the condition of vegetation should improve on its current condition.

Methodology GIS databases: Declared Rare and Priority Flora List-CALM 13/08/03, Threatened Ecological Communities-CALM 15/07/03, Threatened Plant Communities-DEP 06/95, Environmentally Sensitive Areas-DOE 22/10/04, Interim Biogeographic Regionalisation of Australia-EA 18/10/00, Interim Bioregionalisation of Australia (subregions)-EA 18/10/00.
EPA, 2002.
Australian Groundwater Consultants, 1989.

(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 at variance to this Principle**

Analysis of existing databases reveals that there are no documented Specially Protected, Priority Listed, or otherwise significant fauna in the vicinity of the area proposed to be cleared (Australian Groundwater Consultants, 1989). The area under application has historically been used for pastoral grazing since the late 1800s. The effect of grazing on the landscape and vegetation has been dramatic and well documented (Australian Groundwater Consultants, 1989).

'Australian Groundwater Consultants Pty Limited commissioned the Western Australian Museum to conduct a computer-data-bank survey of the vertebrate fauna of the Plutonic Gold Project area in February 1989, to determine the regional and rare fauna associated with the site. Their findings concluded that the project area did not support any rare or unusual native fauna. The fauna native to the region are highly mobile and habitats present on the leases are very common, and it is concluded that the habitats which may be lost due to mining are of little or no conservation significance' (Australian Groundwater Consultants, 1989).

Methodology GIS databases: Threatened Ecological Communities-CALM 15/07/03, Environmentally Sensitive Areas-DOE 22/10/04.
Australian Groundwater Consultants, 1989.

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

Comments **Proposal is not at variance to this Principle**

Analysis of GIS data indicates that there are no Declared Rare Flora, otherwise significant flora or the presence of significant habitat for priority flora in the vicinity of the area under application. The nearest Priority 1 flora are *Eremophila micrantha* (approximately 18.7, 20.1 and 34.3km away) and *Eucalyptus semota* (approximately 31.3km away).

Vegetation found within the Plutonic Project mining leases is typical of the Ashburton Botanical District in the Gascoyne Bioregion; these mulga low woodlands are widespread and extend south into the Austin Botanical Province (Australian Groundwater Consultants, 1989). The consultants indicate that the leases do not contain any floristically unique flora.

Methodology GIS databases: Declared Rare and Priority Flora List-CALM 13/08/03, Threatened Ecological Communities-CALM 15/07/03, Threatened Plant Communities-DEP 06/95, 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).
Australian Groundwater Consultants, 1989.

(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**

Analysis of GIS databases for known significant ecological communities reveals that there are no threatened ecological communities, threatened plant communities, declared rare or priority flora or environmentally sensitive areas in the vicinity of the area under application.

The area under application has historically been used for pastoral grazing since the late 1800s. The effect of grazing on the landscape and vegetation has been dramatic and well documented (Australian Groundwater Consultants 1989). The historic usage of this land would significantly reduce the likelihood of Threatened Ecological Communities, other significant ecological communities or priority threatened ecological communities existing in the proposed clearing area.

Methodology GIS databases: Declared Rare and Priority Flora List-CALM 13/08/03, Threatened Ecological Communities-CALM 15/07/03, Threatened Plant Communities-DEP 06/95, 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 association 18 and lies in the Meekatharra Shire in the Gascoyne Bioregion. There is greater than 50% of association 18 remaining in Western Australia and the Gascoyne Bioregion also has a vegetation extent greater than 50%. This vegetation type and the bioregion are therefore considered of least concern for bioregional conservation (Department of Natural Resources and Environment 2002).

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation status**	Reserves/CALM-managed land, %
IBRA Bioregion - Gascoyne	18,169,908	18,169,908	100	Least concern	
Shire - Meekatharra	No information available				
Beard veg type - 18	24,675,970	24,659,110	99.9	Least concern	4.8

* (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, 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 at variance to this Principle

The area under application is in the Gascoyne Basin that lies in the Gascoyne Catchment - a designated low rainfall (300mm per year) zone. There are numerous branching minor non-perennial and indefinite watercourses in the vicinity. Australian Groundwater Consultants (1989) describe the watercourses as 'poorly defined drainage channels.' Due to the low and intermittent rainfall in this area, none of these minor watercourses have significant environmental value or support wetland-dependent ecological communities (pers comm, Midwest Gascoyne Hydrology Unit-DOE, 2004).

Methodology GIS databases: Hydrographic Catchments-Catchments DOE 3/4/03, Hydrography linear - DOE 01/02/04. DOE, 2004. Australian Groundwater Consultants, 1989.

(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 proposed clearing does not fall within a salinity risk area and is in a low rainfall zone (300mm per year). The proposed clearing is not likely to increase wind or water erosion or land salinisation on or off site.

The area of vegetation proposed to be cleared is relatively small and given the history of pastoral grazing and the current lease holder's exclusion of stock and selective ripping to trap water and promote germination, the risk of land degradation should be reduced.

Methodology GIS Databases: Salinity Risk LM 25-DOLA 00, Soils Statewide-DA 11/99. Australian Groundwater Consultants, 1989.

(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

There are no CALM Regional Parks or proposed National Parks in the area. The nearest parcels of land registered as National Estate include the gazetted Collier Range National Park - vested with the Conservation Commission (approximately 53km away), the Carnarvon Range (approximately 91km away - near Wiluna) and the Windich Spring (approximately 140km away - near the Canning Stock Route. There are 2 Waters and Rivers Commission Estate reserves known as R17593 and R6398 that lie within the CALM managed, ex Doolgunna reserve (approximately 16km away - ex DIR leasehold).

The area under application is an adequate distance from these conservation areas such that the vegetation under application does not impact on the environmental values, provide a buffer, contribute to an ecological linkage, or provide habitats not well represented on conservation land.

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

The area under application is in the Gascoyne River Basin that lies in the Gascoyne River Catchment. There are a number of bores in the vicinity, the closest is approximately 1.2km away (Randalls Well). Given the relatively small area of proposed clearing and the degraded nature of vegetation remaining, it is unlikely that the removal of vegetation would have an adverse impact on water quality in these bores (Midwest Gascoyne Hydrology Unit-DoE, 2004).

'The groundwater quality is typically in the range 1000-2000mg/L, although local anomalies are expected ... Impacts on water quality will likely be negligible, as pumping will take place from a calcrete aquifer which is periodically recharged via rainfall and surface stream flow (Australian Groundwater Consultants, 1989).'

Methodology GIS Databases: Current WIN data sets (sites-all custodians, surface water sites-other-DEWCP and non-DEWCP, surface water sites-stream gauging-DEWCP and non-DEWCP, telemetry sites-DEWCP, uncatalogued sites-DEWCP and non-DEWCP), 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. Australian Groundwater Consultants, 1989.

(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**

Given the relatively small area of vegetation to be cleared, the history of pastoral grazing and the current lease holder's revegetation management plan, the proposed clearing is unlikely to increase the risks associated with flooding.

Methodology 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.

(k) Planning instrument or other matter.

Comments **Proposal is not at variance to this Principle**

The area under application is part of mining tenements M52/308, M52/395 and M52/253 leased to the Plutonic Gold Mine Limited, owned by Barrick Gold of Australia Limited. The Meekatharra Shire Council have not indicated that there are any planning requirements/approvals that would affect the clearing.

Methodology Shire of Meekatharra, 2004.

4. Assessor's recommendations

Purpose	Method Applied	Decision	Comment / recommendation
Building or Structure	Mechanical Removal 75 area (ha)/ trees	Grant	Based on the information sourced from GIS databases and the proponent, it is recommended that a clearing permit be granted.

5. References

- Australian Groundwater Consultants Pty Ltd (1989) Plutonic Gold Project. Notice of Intent. August 1989.
- 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.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.
- EPA (2002) Terrestrial Biological Surveys as an element of biodiversity protection. Position Statement No. 3. March 2002. Environmental Protection Authority
- 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.
- Withers, B (2004) Barrick Gold. Emailed photographs of the current aerodrome and the vegetation included in the proposed extension DoE TRIM ref: GD210