



## 1. Application details

### 1.1. Permit application details

Permit application No.: 276/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: Newmont Yandal Operations Pty Ltd

### 1.3. Property details

Property: M53/155  
M53/156

Local Government Area:

Colloquial name: Jundee Operations

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
145		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 18: Low woodland; mulga (Acacia aneura) (Hopkins et al. 2001; Shepherd et al. 2001)	The area under application is open mulga woodland which has been degraded through historical mining and grazing activities (pers. comm. Keith Lindbeck (2005) of Keith Lindbeck and Associates)	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Keith Lindbeck commented that the vegetation within the proposed clearing area is degraded from historical mining and grazing. Within the mining tenements approximately 370ha out of a total of 500ha has been previously mined (pers. comm. Keith Lindbeck (2005) of Keith Lindbeck and Associates).

## 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**  
Keith Lindbeck (pers. comm. 2005) advised that the area under application is degraded from historical pastoral and mining activities. It is therefore unlikely that the vegetation is of higher biodiversity significance than the vegetation in the local region. Additionally, the vegetation type has a high level of representation, both within its total extent and within the Shire of Wiluna.

**Methodology** Keith Lindbeck pers. comm. (2005)  
Hopkins et al. (2001)  
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**  
Keith Lindbeck (pers. comm. 2005) advised that the proposed clearing area is degraded from historical pastoral and mining activities. While the vegetation under application may be of some value for fauna habitat is unlikely to be of higher value than vegetation in the local region. Additionally, the vegetation type has a high level of representation, both within its total extent and within the Shire of Wiluna.

**Methodology** Keith Lindbeck pers. comm. (2005)  
Hopkins et al. (2001)  
Shepherd et al. (2001)  
GIS Databases:  
- Threatened and Priority Fauna database - CALM\*.  
\* This citation signifies that we do not have access to this database and that our use of it is through the CALM advice provided.

**(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**  
 No Declared Rare and Priority Flora were identified within the area under application. Mattiske Consulting Pty Ltd (2003) surveyed a 63ha area within the mining tenement. No Declared Rare or Priority species pursuant to Subsection 2 of Section 23F of the Wildlife Conservation Act (1950) or listed by the Department of Conservation and Land Management (2001) were located during the survey. No endangered or vulnerable species pursuant to s179 of the Environmental Protection and Biodiversity Conservation Act 1999 were located during the same survey.

**Methodology** Mattiske Consulting Pty Ltd (2003)  
 GIS database:  
 Declared Rare and Priority flora List 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**  
 There is no record of a significant ecological community within 10km of the proposed clearing (GIS databases). Mattiske Consulting Pty Ltd (2003) conducted a flora survey covering 63ha within the mining tenement and found no Threatened Ecological Communities.

**Methodology** Mattiske Consulting Pty Ltd (2003)  
 GIS Databases:  
 - Threatened Ecological Community Database - CALM 15/07/03.  
 - Threatened Plant Communities - DEP 06/95.  
 - Environmentally Sensitive Areas - DOE 22/10/04.

**(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 a component of Beard Vegetation Association 18 of which there is ~99% of the pre-European extent remaining and 2.3% in conservation areas (Shepherd et al. 2001). The vegetation remaining in Beard Association 18 and that in the Murchison Bioregion (~100%) and in the Shire of Wiluna (~100%) are considered of 'least concern' (>50%) for bioregional conservation (Department of Natural Resources and Environment 2002).

	Pre-European Area (ha)	Current extent (ha)	Remaining %*	Conservation status**	In Reserves/CALM-managed land, %
IBRA Bioregion; - Murchison	28,206,195	28,206,195	~100	Least concern	
Shire - Wiluna	18,400,000	~18,400,000	~ 100	Least concern	
Beard vegetation Association 18:	24,675,970	24,659,110	99.9	Least concern	2.3

\* (Shepherd et al. 2001)

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

**Methodology** Shepherd et al. (2001).  
 Hopkins et al (2001).  
 Department of Natural Resources and Environment. (2002).  
 GIS Databases:  
 - Pre-European Vegetation - DA 01/01.  
 - Interim Biogeographic Regionalisation of Australia - EA 18/10/00.  
 - EPA Position Paper No 2 Agriculture Region - DEP 12/00.

**(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 at variance to this Principle**

There is a watercourse that flows in a southerly direction through the northern block of the area under application. The watercourse becomes ill-defined prior to leaving the mining tenement. Keith Lindbeck (pers. comm. 2005) advised that the watercourse located within the proposal is a broad ephemeral stream.

**Methodology** Keith Lindbeck pers. comm. (2005).

GIS Databases:

- Hydrography, linear - DOE 01/02/04.
- EPP, Areas - DEP 06/95.
- EPP, Lakes - DEP 28/07/03.
- EPP, Wetlands (draft) - DEP 21/07/04.
- ANCA Wetlands - CALM 08/01.
- Hydrographic Catchments - Catchments DOE 3/4/03.
- RAMSAR Wetlands - CALM 21/10/02.

**(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**

A site visit and advice received from Department of Agriculture WA (2004) regarding a previous and adjacent proposal (CPS 147/1) indicated that the proposed clearing for mining purposes was not likely to cause appreciable on site and off site degradation. The vegetation associations for CPS 147/1 and the area under application are the same. It is therefore likely that the land degradation issues are similar. Thus, the proposed clearing is not likely to cause appreciable on site and off site degradation provided appropriate management strategies are implemented.

**Methodology** DAWA Land Degradation Report for CPS 147/1 (DAWA 2004) (DOE TRIM Ref ND484).

**(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**

There is no CALM managed land within 10km of this proposal.

The benchmark of 15% representation in conservation reserves (JANIS Forests Criteria 1997) has not been met for Beards vegetation type 18. However because of the largely uncleared state of these vegetation types, this is not considered to be a serious conservation issue.

**Methodology** GIS Databases:

- CALM Managed Lands and Water - CALM 01/08/04.
- JANIS Forests Criteria (1997).

**(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**

With an average annual rainfall of 200mm and an annual evaporation rate of 3,800mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is any significant surface flow. Surface flow during these events tends to be relatively fresh. The saline lake system of the Salt Lake Basin of the Western Plateau becomes a medium for the collection and transportation of major flows.

With high annual evaporation rates and low annual rainfall there is little recharge into the regional groundwater table which, at this site is between 1,000 mg/l and 3,000 mg/l, and is considered to be brackish. The proposed clearing of native vegetation is unlikely to have an impact on regional groundwater considering the magnitude of the regional groundwater table and the extent of native vegetation remaining in the Murchison Bioregion (~100%).

**Methodology** GIS Databases:

- Evaporation Isopleths - BOM 09/98.
- Isohyets - BOM 09/98.
- Groundwater Salinity, Statewide - 22/02/00.
- Hydrography, linear - DOE 01/02/04.
- Salinity Monitoring LM 50m - DOLA 00.
- Salinity Risk LM 25m - DOLA 01.
- Topographic Contours, Statewide - DOLA 12/09/02.
- Hydrographic Catchments, Sub-catchments - DOE 01/07/03.

**(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**

With an average annual rainfall of 200mm and an annual evaporation rate of 3,800mm there is little surface flow during normal seasonal rains. It is only during major rainfall events that there is a likelihood of flooding. The broad valleys and lake systems of the region are designed to compensate and sustain floodwaters.

**Methodology GIS Databases:**

- Evaporation Isoleths - BOM 09/98.
- Isohyets - BOM 09/98.
- Hydrography, linear - DOE 01/02/04.
- Topographic Contours, Statewide - DOLA 12/09/02.

**Planning instrument or other matter.**

**Comments**

The Shire of Wiluna have commented that they 'are pleased with the efforts of Newmont with regards to rehabilitation' and have requested that the Department of Environment monitor their activities. The Shire of Wiluna have not lodged an objection to this proposal.

**Methodology Shire of Wiluna submission (2004).**

**4. Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mining	Mechanical Removal	145	Grant	<p>With the exception of Principle (f), the assessable criteria have been addressed and no objections were raised.</p> <p>With respect to Principle (f) the watercourse is described as a broad ephemeral stream that becomes ill-defined and ceases to exist as a natural drainage line within the tenements of this proposal. Parts of the watercourse within the mining tenements of this proposal have been modified and diverted as a result of previous mining activities. The area proposed to be cleared is for the expansion of the current open pit mining operations and surface water management will include diversion of surface water via drains and bunds.</p>

**5. References**

- DAWA (2004) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref ND484.
- 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.
- 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.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- Keighery, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske Consulting Pty Ltd (2003). Flora and Vegetation Survey: Proposed Henry ward to Gourdis/Vause Haul Road, Jundee Operations. DoE TRIM ref IN18754.
- 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.