



1. Application details

1.1. Permit application details

Permit application No.: 334/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Newmont Yandal Operations Pty Ltd

1.3. Property details

Property: L53/137
L53/102
L53/72
Local Government Area: Shire Of Wiluna
Colloquial name:

1.4. Application

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

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 107: Hullock grasslands, shrub steppe; mulga and Eucalyptus kingsmillii over hard spinifex (Hopkins et al. 2001; Shepherd et al. 2001)	The area applied to be cleared is 6.3 km long approximately 10m wide to accommodate the construction of a pipeline to update infrastructure in the Sandhill Borefield. The vegetation in the area under application comprises a sparse overstorey of Acacia (including A. aneura and A. pachyacra) and Eucalyptus gamophylla over an understorey dominated by spinifex (Triodia basedowii). The vegetation has been subjected to extensive grazing pressures and has been affected by nearby mining activities (Newmont Australia - Jundee Operations 2005).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The description of the vegetation condition within the area under application (including photographs) was supplied by Adrian Lally, Environmental Manager of Newmont Australia - Jundee Operations (DoE TRIM ref ND732 and ND771).

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 falls within the Jundee Gold Project Area, currently operated by Newmont Yandal Operations Pty Ltd who took over operations from Great Central Mines Ltd in 2002.

With the exception of the habitat that supported the Mulgara population, the Jundee Gold Project Area includes vegetation and faunal assemblages that are widely represented in the Northern Goldfields region (Ecologia Environmental Consultants 1995).

Two female Mulgara were first discovered in the Jundee Gold Project Area in 1994 in close proximity to mine infrastructure and subsequent monitoring in 1995 through to 1997 did not indicate the presence of any additional animals in the local area. A Mulgara management zone was created in 1995 to protect the animals and their core habitat. The area covers approximately 40ha and is located approximately 5.5km north west of the area under application. The two animals were relocated to the Wanjarri Nature Reserve, 120km south of the Jundee Gold Project Area, in 1997. Subsequent monitoring in the Mulgara management zone and other potential Mulgara habitat within the Jundee Project Area has not found any evidence of Mulgara activity (Ecologia Environment 2004).

Several areas of potential Mulgara habitat, including the Mulgara management area, were identified in an approximate 4km radius around the core operation area however the surveys were restricted to the area close to the main operations area and there may be potential Mulgara habitat elsewhere within the Jundee Gold Project Area. Potential Mulgara habitat was identified as clayey sand and sandy loam soils with a moderate to

dense covering of *Triodia basedowii* hummock grass under the influence of paleodrainage or surface drainage systems (Ecologia Environment 2004).

The vegetation within the area under application comprises an understorey of *Triodia basedowii* with a sparse overstorey of *Acacia* and *Eucalyptus* species. While not specifically identified as such, the area under application may be potential *Mulgara* habitat however it is degraded from extensive grazing pressures and has been affected by nearby mining activities and is therefore unlikely to contain *Mulgara*.

All habitats within the Jundee Gold Project Area are degraded from historical grazing and mining activities and, in terms of value for fauna habitat, are unlikely to be of higher value than other vegetation in the local area (Ecologia Environmental Consultants 1995).

Additionally, the extent of native vegetation within the Shire of Wiluna and the pre-European extent of the vegetation type are close to 100% representation (Shepherd et al. 2001).

The area under application is for the trenching and laying of a pipeline. The applicant has indicated that where practical, all damaged vegetation will be placed over the buried pipeline. This will enhance regeneration and further minimise the impact on biodiversity.

Methodology Ecologia Environmental Consultants (1995) (DoE TRIM ref IN19112)
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

A biological assessment survey of the Jundee Gold Project Area, in which the area under application is located, was undertaken by Ecologia Environmental Consultants in 1994 and found 38 bird species, 3 native mammals, 25 reptiles and 3 amphibians. On the basis of literature searches and known habitat preferences, Ecologia Environmental Consultants concluded that the project area may support up to 88 bird, 20 native mammals, 79 reptiles and 5 amphibians species (Ecologia Environmental Consultants 1995).

Within the project area, six fauna species gazetted as 'rare or otherwise in need of special protection' may occur. *Mulgara (Dasycercus cristicauda)* was found to occur in the spinifex steppe vegetation within the project area (Ecologia Environmental Consultants 1995). *Mulgara* is currently classified vulnerable under the Environmental Protection and Biodiversity Conservation Act, 1999 and the Wildlife Conservation Act, 1950 (WA) (Ecologia Environment 2004).

Two female *Mulgara* were first discovered in the Jundee Gold Project Area in 1994 in close proximity to mine infrastructure and subsequent monitoring in 1995 through to 1997 did not indicate the presence of any additional animals in the local area. A *Mulgara* management zone was created in 1995 to protect the animals and their core habitat. The area covers approximately 40ha and is located approximately 5.5km north west of the area under application. The two animals were relocated to the Wanjarri Nature Reserve, 120km south of the Jundee Gold Project Area, in 1997. Subsequent monitoring in the *Mulgara* management zone and other potential *Mulgara* habitat within the Jundee Project Area has not found any evidence of *Mulgara* activity (Ecologia Environment 2004).

Newmont Yandal Operations Pty Ltd took over mining operations in the Jundee Gold project Area from Great Central Mines Ltd in 2002. Newmont Yandal Operations have maintained the *Mulgara* management area and commissioned Ecologia Environment (formerly Ecologia Environmental Consultants) to undertake an assessment of the project area to identify potential *Mulgara* habitat and confirm the presence of *Mulgara*. Several suitable habitat areas were identified, consisting of hummock grass over clayey sand and sandy loam soils. No *Mulgara*, or evidence of *Mulgara* activity, was recorded during the survey. In addition to the assessment, the existing *Mulgara* Management Plan for the Jundee project area was updated to reduce potential impacts to *Mulgara* and their habitats (Ecologia Environment 2004).

While not specifically identified as such, the area under application may be potential *Mulgara* habitat however it is degraded from extensive grazing pressures and has been affected by nearby mining activities and is therefore unlikely to contain *Mulgara*.

With the exception of the potential *Mulgara* habitat, the Jundee Gold project area includes vegetation and faunal assemblages that are widely represented in the North Goldfields region. All habitats within the project area are degraded from historical grazing and mining activities and, in terms of value for fauna habitat, are unlikely to be of higher value than other vegetation in the local area. The lineal nature of the proposed clearing activity is likely to have less of an impact upon fauna than if the clearing was in one large contiguous area. Additionally, the extent of native vegetation within the Shire of Wiluna and the pre-European extent of the vegetation type are close to 100% representation (Ecologia Environmental Consultants 1995; Shepherd et al. 2001).

Methodology Ecologia Environment (2004) (DoE TRIM ref N1240)
Ecologia Environmental Consultants (1995) (DoE TRIM ref IN19112)

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

Comments Proposal is not likely to be at variance to this Principle

There are no records of Declared Rare or Priority species being located within the area under application and none recorded within 100km of the area under application. Ecologia Environmental Consultants surveyed the Jundee Gold Project Area, within which the area under application is located, in 1994 and found no Declared Rare or Priority species under the Wildlife Conservation Act, 1950 (WA).

Methodology Ecologia Environmental Consultants (1995)
GIS Databases:
- 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 threatened ecological community.

Comments Proposal is not likely to be at variance to this Principle

There are no Threatened Ecological Communities recorded within the area under application and none recorded within 100km of the proposal. Ecologia Environmental Consultants (1995) conducted a survey within the Jundee Gold Project Area, within which the area under application is located, and found no Threatened Ecological Communities.

Methodology Ecologia Environmental Consultants (1995)
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 likely to be at variance to this Principle

The State Government is committed to the National Objectives and targets for Biodiversity Conservation (AGPS 2001) which includes a target that prevents clearing of ecological communities at an extent below 30% of that of the pre-European extent (Department of Natural Resources and Environment 2002).

The vegetation at the site is a component of Beard Vegetation Association 107. Of this vegetation type there is ~100% of the pre-European extent remaining and the vegetation type is considered 'of least concern' for bioregional conservation. Up to 3% is already represented in conservation areas (Department of Natural Resources and Environment 2002; Shepherd et al. 2001).

Methodology Hokins et al. (2001)Shepherd et al. (2001)
Department of Natural Resources and Environment (2002)
GIS Databases:
- Pre-European Vegetation - DA 01/01

(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

There are no wetlands or waterways located in the proposed clearing area.

Methodology GIS Databases:
- Hydrography, linear - DOE 01/02/04

(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

The proposed clearing area is situated in a broad valley floor. It is therefore likely to have a low gradient and be located in an area of sediment accumulation where significant water erosion is unlikely. Given its location in the landscape and the lineal nature of the proposed clearing activity, the clearing is unlikely to cause appreciable on-site and off-site degradation.

The area under application is for the trenching and laying of a pipeline. The applicant has indicated that where practical, all damaged vegetation will be placed over the buried pipeline. This will enhance regeneration and further minimise the likelihood of erosion.

Methodology GIS Databases:
- Hydrography, linear - DOE 01/02/04

(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 are no CALM managed lands within 10km of the proposed clearing area.

The benchmark 15% representation in conservation reserves (JANIS Forests Criteria 1997) has not been met for Beards Vegetation Association 107. However, because of the largely uncleared state of this vegetation type, this is not considered to be a serious conservation issue.

Methodology JANIS Forests Criteria (1997)
GIS Databases:
- CALM Managed Lands and Water - CALM 01/08/04
- Pre-European Vegetation y DA 01/01

(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%) (Shepherd, et al 2001).

Methodology Shepherd et al (2001)
GIS Databases:
- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Groundwater Salinity, Statewide - 22/02/00.
- Hydrography, linear - DOE 01/02/04.
- 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 or intensity 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 for which the broad valleys and lake systems of the region are designed to compensate and sustain floodwaters. Given its relatively small size and narrow, linear nature the proposed clearing of 10ha is unlikely to lead to cause or exacerbate the incidence or intensity of flooding.

Methodology GIS Databases:
- Evaporation Isopleths - BOM 09/98.
- Isohyets - BOM 09/98.
- Hydrography, linear - DOE 01/02/04.

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

No comment was received from DOIR or the Shire of Wiluna.

The applicant holds a current groundwater licence for the purpose of mineral processing. No water licence amendment is necessary for the purpose of this clearing application.

There is no Environmental Protection Act licence or works approval for the tenements upon which the clearing application is applicable. Operations covered by the Environmental Protection Act occur on nearby mining tenements.

There is a Native Title Claim over the area under application. However, mining tenements for purposes consistent with the clearing have been granted so therefore the granting of a clearing permit is not a future act under the Native Title Act.

Methodology DoE (2005) (DoE TRIM Ref ND790)

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Building or Structure	Mechanical Removal	10	Grant	The Clearing Principles have been addressed and no objections were raised. No planning issues have been raised by the Shire of Wiluna. The assessing officer therefore recommends that the permit should be granted.

5. References

- 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.
- DoE (2005) Email corresp. (DoE TRIM Ref ND 790)
- Ecologia Environment (2004). Jundee Mulgara (*Dasyercus cristicauda*) Assessment. (DoE TRIM ref N1240)
- Ecologia Environmental Consultants (1995). Biological Assessment Survey of Junee Gold Project Area. (DoE TRIM ref IN19112)
- 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.
- Newmont Australia - Jundee Operations (2005). Correspondence. (DoE TRIM ref ND 732)
- 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.

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DoE)