



1. Application details

1.1. Permit application details

Permit application No.: 519/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: WMC Resources

1.3. Property details

Property: E69/1847
Local Government Area: Shire Of Ngaanyatjarraku
Colloquial name: Exploration drilling - E69/1847

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.2		Mechanical Removal	Mineral exploration

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)	The western region of drilling is on a plain with mainly scattered mulga (Acacia aneura) with a scattered mid-storey of Eremophila latrobei and Senna artemisioides ssp. artemisioides. The understorey is mostly grasses, significantly Kangaroo Grass (Themeda triandra) and Soft Wandarri Grass (Monochather paradoxus), except where there is pooling of runoff where Ptilotus obovatus and Eremophila species are prevalent. (Western Botanical 2005 TRIM ref. KGI266)	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Fire scarring was noticeable to the south of the proposed area but only in patches in the area itself. Some camels were present but no evidence of significant grazing. (WMC Resources 2005 TRIM ref. KGI266)
Beard vegetation association 19 - Low woodland; mulga between sandridges			
Beard vegetation association 252 - Hummock grasslands, shrub steppe; mulga and mallee over soft spinifex. (Hopkins et al. 2001, Shepherd et al. 2001)			

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 in the proposed area of clearing has been affected in patches by fire approximately 2-3 years ago but is mostly in very good condition. The vegetation community is widespread and substantially intact (~99-100%) and the clearing is small in area (3ha). Therefore, it is unlikely that the clearing will be at variance with this Principle.

Methodology Western Botanical (2005) (DoE Trim No. KGI266)
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**
There is no survey available of the area but there is some evidence of grazing. The habitat is likely to support a range of native fauna. However, given the small size of the area to be cleared, and that the drill rigs will be unable to drill on the dunes where reptiles are expected to be in abundance, the impact on the local fauna is not expected to be significant. CALM has advised that extensive, well represented habitat exists in the adjacent areas to offset any habitat loss arising from this clearing.

Methodology CALM advice (2005) TRIM ref. KGI628
Western Botanical (2005) TRIM ref. KGI266

(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**
A survey of the area proposed to be cleared was undertaken by Western Botanical. No Declared Rare Flora were located within the area under application (Western Botanical 2005, CALM 2005).

Methodology Western Botanical (2005) (DoE Trim No. KGI266)
CALM (2005) Land Clearing Proposal Advice (DoE Trim No. KGI628)

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 significant ecological community.

Comments **Proposal is not likely to be at variance to this Principle**
The proposed area of clearing is within an area listed on the Register of the National Estate (the Ranges of the Western Desert - Warburton Rd, Warburton via Laverton). This registration is based on natural values and includes the economic and rare species of *Acacia validinerva*, *Ptilotus royceanus* and new species of *Eucalypt* and *Protanthera* (Australian Heritage Database, accessed 21/04/2005). The vegetation survey by Western Botanical (2005) did not find evidence of these species within the area of proposed clearing.

No Threatened Ecological Communities occur within a 50km radius of the proposed clearing and CALM (2005) advice indicates that the clearing is not likely to be at variance with this Principle.

Methodology CALM advice (2005) (DoE Trim No. KGI628)
Western Botanical (2005) (DoE Trim No. KGI266)
Australian Heritage Database website (Accessed 21/04/2005)

GIS Databases:
- Threatened Ecological Communities - CALM 15/7/03

(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 Targets for Biodiversity Conservation (AGPS 2001) which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European (Department of Natural Resources and Environment 2002, EPA 2000). The vegetation types within this application (see table below) is of 'least concern' for biodiversity 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:					
Central Ranges	No information available				
Shire:					
Ngaanyatjarraku	No information available				
Beard vegetation associations:					
18	24,675,970	24,659,110	99.9	Least concern	2.5
19	4,888,643	4,885,387	99.9	Least concern	0.0
252	157,898	157,898	100	Least concern	0.0

* 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)
EPA (2000)

GIS Databases:-
Pre-European Vegetation - DA 01/01
Interim Biogeographic Regionalisation of Australia - EA 18/10/00

(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 not likely to be at variance to this Principle

There are no significant wetlands within 30km of the proposed area of clearing and the nearest drainage feature is approximately 2km away.

Methodology GIS Databases:-
Rivers 250K - GA
Lakes, 1M - GA 01/06/00

(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 small area of the clearing (3ha) and the dispersed nature of the clearing, being a set of drill points over the 3ha area, makes wind erosion unlikely.

The average annual rainfall is 200-250mm whilst the average annual evaporation is 3400mm. The area is a plain with slight gradient, some low dunes and small rocky outcrops. The runoff from any normal rainfall event then would be small.

Methodology GIS Databases:-
Evaporation Isopleths - BOM 09/98
Isohyets - BOM 09/98

(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 may be at variance to this Principle

The proposed area of clearing is within an area listed on the Register of the National Estate (the Ranges of the Western Dessert - Warburton Rd, Warburton via Laverton). The area is registered for natural values. The area of proposed clearing is on the plains surrounding the Ranges, an area commented on in the Australian Heritage Database as being 'sandy and rocky with diverse vegetation'.

The survey undertaken by Western Botanical, and the small area of the clearing, make it unlikely that the proposed clearing would have a significant effect on the listed area.

The nearest CALM-managed lands, Gibson Desert Nature Reserve, is located approximately 130km north-west of the proposed clearing

Methodology CALM advice (2005) (DoE Trim No. KGI628)
Australian Heritage Database website (Accessed 21/04/2005)

GIS Databases:-
CALM Managed Lands and Waters - CALM 1/06/04
System 1 to 5 and 7 to 12 Areas – DEP 06/95
Environmentally Sensitive Areas – DOE 8/3/05

(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

There are no permanent lake features evident within 50km and the nearest evident drainage structure is approximately 2km from the proposed area of clearing. The groundwater salinity in the proposed area of clearing is 1000-3000mg/L TDS – potable to brackish.

The average annual rainfall is 200-250mm and the average annual evaporation rate is 3400mm. Given the low rainfall and high evaporation there is little surface flow during a normal rainfall event to affect surface or ground water recharge given the limited area of the clearing (3ha) compared to the groundwater province area of approx. 324,000km.

Methodology GIS Databases:-
Groundwater Subareas - WRC 10/10/00
Groundwater Salinity, Statewide - 22/02/00
Lakes 250K – GA
Rivers 250K – GA
Public Drinking Water Source Areas (PDWSAs) - DOE 29/11/04
Groundwater Provinces - WRC 98

(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

The average annual rainfall is 200-250mm and the average annual evaporation is 3400mm. It is only during major rainfall events that the area would experience flooding with water draining to the south and west. It is not considered that the removal of vegetation from this area would have an impact on peak flood height and duration.

Methodology GIS Databases:-
Evaporation Isopleths - BOM 09/98
Rainfall, Mean Annual - BOM 30/09/01

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

Comments

This proposal was referred to the EPA. The decision was made not to assess the clearing under Part IV of the Environmental Protection Act 1986.

There is a Native Title Claim over the area under application by the Warburton-Mantamuru peoples. However, the mining tenement for a purpose consistent with the clearing has been granted so therefore the granting of a clearing permit is not a future act under the Native Title Act.

Methodology Supporting documentation with application TRIM ref. IN20528

4. Assessor's recommendations

Purpose	Method Applied	area (ha)/ trees	Decision	Comment / recommendation
Mineral exploration	Mechanical Removal	3.2	Grant	<p>The proposed area of clearing is within an Environmentally Sensitive Area (ESA) as it is within the National Estate, Ranges of the Western Desert, Laverton - Warburton Rd, Warburton via Laverton. It is also a Schedule 1 Area as it is under System 12 in the Red Book. This may put the clearing at variance with Principle H but given the small area of the clearing it is unlikely to cause appreciable impact to the conservation values of either reserve.</p> <p>All other principles were addressed and the clearing is found unlikely to be at variance with them.</p> <p>The proposal was referred to the EPA by the DoIR and in February the EPA judged that it did not require assessment by them.</p> <p>As such, the assessing officer recommends that this permit should be granted.</p>

5. References

- AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.
- Australian Heritage Database, The Register of the National Estate, <http://www.ahc.gov.au/register/index.html>, accessed 21/04/2005
- CALM (2005) Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM No. KGI628.
- 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 (1992) Environmental Protection (Swan Coastal Plain Lakes) Policy 1992. Western Australian Government Gazette, 24 December , 1992, pp 6287-93
- 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.
- Western Botanical (2005) Assessments of flora and vegetation at proposed drill sites West Musgrave Project area WMC Resources Ltd. DoE TRIM ref. KGI266.