



1. Application details

1.1. Permit application details

Permit application No.: 466/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: WMC Resources Ltd

1.3. Property details

Property: M53/489
M36/9
L36/120
Local Government Area: Shire Of Leonora
Colloquial name: Cliffs Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
65		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 107 - hummock grasslands, shrub steppe; mulga and Eucalyptus kingsmillii over hard spinifex.	Area under application is dominated by mulga (Acacia aneura). Eucalyptus communities prominent on sandplains and dunefields (Eucalyptus gongylocarpa, low woodlands and mixed mallees) and along drainage lines (E. camaldulensis and E. lucasii) (SKM 2004)	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	Vegetation description from SKM (2004) Cliffs Underground Nickel Mine Notice of Intent and Works Approval Final Document - information supplied by proponent.
Beard vegetation association 39 - shrublands; mulga scrub. (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 composition of the area under application is the same as in the surrounding area of mulga shrublands, which expands over approximately 8 million hectares. A number of desert-specialised species have been identified within the area under application, however none of these have been considered to be of conservation value (CALM 2005, SKM 2004). A number of specially protected and other fauna species are known to inhabit the region, but most of these species are nomadic in nature and are unlikely to permanently reside in the area under application (SKM 2004). It is therefore considered that the area under application is not of a higher biodiversity level than the surrounding area.

Methodology CALM (2005) (DoE TRIM No. XXXX)
SKM (2004) (DoE TRIM No. IN20054)

(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 may be at variance to this Principle**
The North-Eastern Goldfields supports a diverse range of fauna, with the majority of this fauna sparsely distributed and nomadic in nature. A number of specially protected fauna species may be found in this area including the Woma Python (*Asphidites ramsayii*) (Schedule 4), the Malleefowl (*Leipoa ocellata*) (Schedule 1), the Giant Desert Skink (*Egernia kintorei*) (Schedule 1) and 11 specially protected bird species (CALM 2005, SKM 2004). Given the nomadic nature of the majority of fauna in the North-Eastern Goldfields region it is uncertain whether the proposed clearing will have an impact on these species. Specifically, a small area of the

southern section of the area under application is of the vegetation type utilised by the Mulgara (*Dasyercus cristicauda*) (Schedule 1) (SKM 2004). Whilst there was no evidence of Mulgara presence in the area under application, the area may still be used for their dispersal or represent marginal habitat during times when Mulgara are in high density (CALM 2005, SKM 2004). CALM (2005) advised in their report that it supported the proposed fauna management commitments contained within the Notice of Intent (SKM 2004) including the Significant Fauna Guideline and Mulgara Management Plan. They also advised that the proponent limit the disturbance of the vegetation community favoured by the Mulgara.

Methodology CALM (2005) (DoE TRIM No. XXXX)
SKM (2004) (Trim reference IN20054)

(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

Hemigenia exilis (Priority 4 species) and *Grevillea inconspicua* (Priority 4 species) are known to exist within similar vegetation types as those in the area under application (CALM 2005, SKM 2004). A vegetation survey completed in 2004 did not find any specimens of this species within the project area (SKM 2004). No other species of conservation significance were found within the project area (SKM 2004).

Methodology CALM (2005) (DoE TRIM No. XXXX)
SKM (2004) (DoE TRIM No. IN20054)
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 at variance to this Principle

No Threatened Ecological Communities were identified within the area under application (CALM 2005, SKM 2004). The nearest recording of a Threatened Ecological Community is 83km to the south.

Methodology CALM (2005) (DoE TRIM No. XXXX)
SKM (2004) (Trim reference IN20054)
GIS Databases:
- Threatened Ecological Communities - CALM 15/07/03
- 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 State Government is committed to the National Objectives Targets for Biodiversity Conservation which includes a target that prevents clearance of ecological communities with an extent below 30% of that present pre-European Settlement (Department of Natural Resources and Environment 2002, EPA 2000). All vegetation associations represented in the area under application, including Beard vegetation associations 107 and 39 have 100% vegetation representation, therefore this Principle is not at variance.

	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	No information available				
Beard vegetation associations					
107	3,348,249	3,348,249	~100	Least concern	3.1
39	5,382,170	5,382,170	~100	Least concern	8.2

* Shepherd et al. (2001)

** Department of Natural Resources and Environment (2002)

Methodology Department of Natural Resources and Environment (2002)
EPA (2000)
Shepherd et al. (2001)

(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 watercourses within the area under application (SKM 2004). The nearest watercourse is over 20km from the area under application. It is unlikely that the proposed clearing would have a significant impact on this watercourse.

Methodology SKM (2004) (DoE TRIM No. IN20054)
GIS Databases:
- Geodata Lakes - GA 28/06/02
- 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 may be at variance to this Principle**
The soils in the area under application can be susceptible to wind and water erosion once native vegetation is removed (SKM 2004). As there are no watercourses nearby there is no risk of eutrophication of watercourses. Therefore it is unlikely that the proposed clearing would cause significant land degradation.

Methodology SKM (2004) (DoE TRIM No. IN20054)
GIS Databases:
- Geodata Lakes - GA 28/06/02

(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 nearest conservation reserve to the area under application is the Wanjarri Nature Reserve 5 km to the east. This Reserve has the potential to be impacted by increased human visitation by mine site personnel (CALM 2005). CALM (2005) recommends that the proponents provide advice to employees as to the purpose of the Nature Reserve and why it has been established. CALM (2005) also recommends that the proponent liaise closely with the Regional CALM office throughout the duration of the project to limit potential impacts.

Methodology CALM (2005) (DoE TRIM No. XXXX)
GIS Databases:
- CALM Managed Lands and Waters - CALM 01/08/04

(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**
The area under application is not located with a Public Drinking Water Source Area (PDWSA), but is within the Goldfields Groundwater Area. Water samples collected during a survey did not detect any stygofauna (SKM 2004). Therefore the proposed clearing is unlikely to effect groundwater or surface water quality.

Methodology SKM (2004) (DoE TRIM No. IN20054)
GIS Databases:
- Public Drinking Water Source Areas (PDWSA) - DOE 04/11/04
- Groundwater Resources

(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 area under application is located within a region that experiences low annual rainfall (<300mm) and high evaporation rates (>3800mm) (SKM 2004). Therefore the proposed clearing is unlikely to have a significant effect on peak flood height or duration.

Methodology SKM (2004) (DoE TRIM No. IN20054)
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
The Shire of Leonora has no objections to the proposed clearing. One submission was received from the general public who opposed the proposed clearing as it would lead to an increase in global warming and reduce the amount of rainfall.

Methodology Submission from Shire of Leonora (NI929)
Submission from member of public (ND685)

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mining	Mechanical Removal	65	Grant	<p>After assessing the Clearing Principles, the proposed clearing may be at variance to Principle b and Principle g.</p> <p>For Principle b, the proponent has acknowledged the potential for the Specially Protected Fauna species, the Mulgara, to occur within the area under application. Information to date suggests that while there was no evidence of their presence in the area under application, the area, particularly the southern-western section, may still be used for their dispersal or represent marginal habitat during times when Mulgara are in high density. It is recommended that the Cliffs Nickel Project avoid impacting on the vegetation types in the south-western section of the Cliffs Tenement.</p> <p>For Principle g, the potential for land degradation may be reduced as the proponent intends to clear small areas at a time. The proponent has also outlined a number of measures that are to be applied to help reduce surface water run-off and resultant water erosion.</p> <p>Details of post-mine rehabilitation have also been provided by the proponent, with the outcome of this rehabilitation to be the 'construction of safe landforms (that) will be compatible and sustainable with adjacent landforms and ecological processes' (SKM 2004).</p> <p>As such, the assessing officer recommends that the clearing as proposed be granted.</p>

5. References

- 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 ref XXXXX.
- 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.
- 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.
- SKM (2004) WMC Cliffs Underground Nickel Mine Notice of Intent and Clearing Permit Application (Final) Prepared by Sinclair Knight Merz.