



1. Application details

1.1. Permit application details

Permit application No.: 2850/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Mining Co Pty Ltd

1.3. Property details

Property: LOT 57 ON PLAN 107521 (FORTESCUE 6716)
PART LOT 161 ON PLAN 220580 (FORTESCUE 6716)
LOT 242 ON PLAN 221144 (FORTESCUE 6716)
Local Government Area: Shire Of Ashburton
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
23		Mechanical Removal	Infrastructure Maintenance

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 93: Hummock grasslands, shrub steppe; kanji over soft spinifex	The application is to clear 23ha of native vegetation for the purpose of constructing an emergency airstrip and access road. The vegetation is considered to be in a good (Keighery, 1994) condition as it has been previously cleared (in WWII) and contains numerous weed species.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	Vegetation condition was assessed through aerial photography and a survey (Rio Tinto, 2008).

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 application is to clear 23 hectares of vegetation for the purpose of establishing an emergency airstrip and upgrading an access road. The area to be cleared consists of Beard vegetation associations 93 of which there is approximately 100% of the Pre-European extent remaining (Shepherd et al., 2007). The vegetation on site has obvious signs of disturbance and the condition of the vegetation is classified as good (Keighery, 1994). The dominant grass species is *Triodia epactia* hummock with scattered shrubs of *Acacia inaequilatera*, *Acacia synchronica*, *Hakea chrodophylla*. Weed species such as *Cenchrus ciliaris* (buffel grass) are abundant in the application area (Rio Tinto, 2008). Weed conditions will be placed on the permit to mitigate the spread of weeds from the application area.

There are 7 known records of the priority ecological community Warramboos (Robe Valley Pisolitic Hills) subterranean invertebrate community of pisolitic hills in the Robe Valley, which fall within a 30km radius of the application area. The application area is outside the buffer to this community and situated in a vastly different hydrogeology, topographic contour and vegetative area.

Given the high extent of vegetation remaining, the application area is unlikely to represent an area of higher biodiversity value when compared to representative vegetation in a local and regional context.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology Rio Tinto (2008)

(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**
The vegetation within the application area has been previously disturbed through clearing, access tracks, grazing activities and weed infestation. The condition of the vegetation to be cleared is considered to be good (Keighery, 1994), though, surrounding vegetation is considered to be in a better condition.

The fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area. The area to be cleared does not represent a fauna corridor and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna.

There are numerous known records of the priority 4 species Lakeland Downs Mouse (*Leggadina lakedownsii*) within a 30km radius of the application area, with the closest being 7.1km north of the application area. This species is known to occur in the Pilbara and the Kimberley. Its populations rise and fall dramatically, probably in response to climatic fluctuations and availability of seeds. They are known to occur on sandy soils and cracking clays (DEC, 2008). Given the vast region of cracked and gilgaied clays throughout the local area (30km radius), and the good (Keighery, 1994) condition of the vegetation within the application area, it is unlikely that the clearing will compromise Lakeland Down Mouse habitats.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology DEC (2008)
Keighery (1994)
GIS Layers:
- Sac Bio Datasets 101208

(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 rare flora species within the local area (30km radius) of the application area. Therefore, it is unlikely that the proposal is at variance to this principle.

Methodology GIS Layer:
Sac Bio datasets 101208

(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 known threatened ecological communities within a 30km radius of the application area. Therefore, it is unlikely that the application is at variance to this principle.

Methodology GIS Layers:
Sac Bio datasets 101208

(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			
	Pre-European (ha)	Current extent (ha)	Remaining (%)	% Extent in IUCN 1 - 4
IBRA Bioregions**				
Pilbara	17,804,187	17,794,646	99.95	6.32
Subbioregion				
Hammersley	5,634,725	5,634,725	100	12.88
Shire*				
Ashburton 10,086,665	10,072,450	99.86	12.37	
Beard Vegetation Complex**				
93	3,042,113	3,042,064	100	0.42

* (Shepherd et al. 2007)

Approximately 99.95% and 100% of the Pre-European vegetation remains in the IBRA Pilbara bioregion and Hammersley IBRA sub-region respectively, within which this proposal is located (Shepherd et al., 2007).

The vegetation applied to be cleared is part of Beard Vegetation association's 93, which has approximately 100% of the Pre-European extent remaining and therefore the 23ha area proposed to be cleared is not considered to be a significant remnant of native vegetation within an extensively cleared area.

Based on the above, the proposed clearing is not at variance to this Principle.

Methodology Shepherd et al. (2007)
GIS Layers:
- Pre European Vegetation - DA 01/01
- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00.
- 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**
The application area is 100m west of Robe River. The riparian vegetation condition of the Robe River has been ranked as being in fair condition, with buffel grass very common (Pilbara survey, 2001). The vegetation under application is considered to be in a good (Keighery, 1994) condition containing numerous weed species, including buffel grass (Rio Tinto, 2008).

Given the vegetation surrounding the application area is in a better condition than within, and the area under application does not contain vegetation growing in, or in association with a watercourse or wetland, it is unlikely that the proposal is at variance to this principle.

Methodology Pilbara survey (2001)
Keighery (1994)
Rio Tinto (2008)
GIS Layer:
Hydrography linear (hierarchy) - DoW 13/7/06

(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 topography of the proposed clearing area is flat (50 AHD), and situated on rocks with low permeability and surficial sediment with shallow aquifers. Water and wind erosion is unlikely.

Rainfall and evapotranspiration rate for the local area (30km radius) are both 400mm, suggesting that there is a low risk of waterlogging through rainfall within the proposed clearing area.

Given the above, it is unlikely that the proposal is at variance to this principle.

Methodology GIS Layers:
Evapotranspiration rate - Bureau of Meteorology (Australia) 2001
Hydrogeology (statewide) - DOW 13/07/06
Average Annual Rainfall Isohyets - WRC 29/09/98
Topographic contours statewide - DOLA and ARMY 12/09/02

(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**
There are no conservation areas within a 30km radius of the application area. Therefore it is unlikely that the proposal is at variance to this principle.

Methodology GIS Layer:
- Register of National Estate Environment Australia, Australian and world heritage division 12 Mar 02

(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

Clearing of 23 hectares of vegetation is unlikely to have a significant impact on groundwater in the proposed area given the average annual rainfall of the site is 400mm, with most rainfall occurring over the summer months (BoM, 2008), and an evapotranspiration rate of 400mm per annum. Groundwater salinity is fresh to marginal being 500-3000 TDS mg/L.

Furthermore, the existing vegetation is shallow rooted grass and shrub species and thus the proposed clearing is unlikely to have a significantly impact the level or quality of the groundwater table.

The proposed area lies within The Pilbara Rivers and Tributaries Area as proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water. The applicant is in the process of applying for a licence to take water from the Department of Water (DOC71049).

Given the above, it is unlikely that the proposal will be at variance to this principle.

Methodology BoM (2008)
DEC TRIM Ref:DOC71049
GIS Layers:
Evapotranspiration Isopleths - WRC 29/09/98
Groundwater salinity Statewide DoW 13/07/06
Hydrology - linear DOW 13/7/06
RIWI Act - Area DoW 13/07/06
Topographic Contours, Statewide - DOLA 12/09/02

(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

Clearing of 23ha is unlikely to have a significant impact on quality or quantity of groundwater given the mean annual rainfall for the site is 400 mm with most rainfall occurring around the summer months (BoM, 2008), and an evapotranspiration rate of 400 millimetres per annum.

Given the above, it is unlikely that the proposed clearing will cause or exacerbate the incidence or intensity of flooding.

Methodology BoM (2008)
GIS Layers:
Groundwater salinity Statewide DoW 13/07/06
Evapotranspiration Isopleths - WRC 29/09/98
Hydrographic Catchments, catchments - DoW 01/06/07
Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 02/08/05

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

Comments

The applicant has applied for development approval from the Shire of Ashburton for the proposal (DOC71049).

The proposed area lies within The Pilbara Rivers and Tributaries Area as proclaimed under the Rights in Water and Irrigation Act 1914. Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water. The applicant has applied for a licence to take water from the Department of Water (DOC71049).

Methodology GIS Layers:
RIWI Act - Areas DOW - 13/07/06

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is not likely to be at variance to any of the clearing Principles.

5. References

BoM 2008. Bureau of Meteorology - Rainfall of Karratha 2007. Sited on 1/1/2008 at <http://www.bom.gov.au/climate/dwo/IDCJDW6064.latest.shtml>

- DEC 2008. Lakeland Downs Short-Tailed Mouse, *Leggadina lakedownensis*, Watts 1976). Sited on 19 December 2008 at www.naturebase.net.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Kendrick, P., 2001. Pilbara 3 (PIL2 - Hammersley subregion). A biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002, pg 568, Department of Conservation and Land Management.
- Rio Tinto, 2008. Native Vegetation Clearing Permit Report for the Yarraloola Emergency Airport Strip for Mesa A - Warrambo Project. Rio Tinto July 2008.
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
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 DEC)

