Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3364/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: HBJ Minerals Pty Ltd

1.3. Property details

Property: LOT 50 ON PLAN 226299 (FEYSVILLE 6431)
LOT 50 ON PLAN 226299 (FEYSVILLE 6431)

Local Government Area:

Colloquial name:

1.4. Application

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

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 types: 9: Medium woodland; coral gum (E. torquata) & Goldfields blackbutt (E. lesouefi). 468: Medium woodland; salmon gum & Goldfields blackbutt. (SAC Bio Datasets 04/11/2009; Shepherd, 2007)	The area under application is for clearing of 15 ha over 202 ha project area for mineral production. The project area is within Lot 50, a ~3,200 ha area located approximately 30 km south-east of the Kalgoorlie-Boulder town site. The vegetation within the areas in which clearing is to occur consists of six vegetation communities with the dominant vegetation community being Eucalypt woodland (Dioro - South Kal Operations, 2009).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The area under application has been subject to a history of extensive timber cutting, livestock grazing and pastoral activities (Dioro - South Kal Operations, 2009). Further, aerial photography shows the existing mining infrastructure and haul roads within the area under application (project area).

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 under application is predominantly Eucalypt woodland typical of the goldfields region (Dioro - South Kal Operations, 2009).

Further, the area under application has been subject to a history of extensive grazing activities and timber cutting for firewood and housing with the vegetation to be cleared being predominantly regrowth (Dioro - South Kal Operations, 2009). The project area has also been previously disturbed as it contains existing open pits, a waste dump and haul roads.

A spring flora survey commissioned by Dioro - South Kal Operations (2009) identified eighty-five flora species and no rare or priority flora species within the project area, and considered the vegetation to be in good to fair condition.

Given the high level of disturbance from historical and existing activities and the limited habitat value of the

vegetation, it is not considered likely that the vegetation comprises a high level of biological diversity.

Methodology Reference:
- Dioro-South Kal Operations (2009)
GIS Databases:
- Kanowna 1.4m Orthomosaic - Landgate 2003
- Lake Lefroy 1.4m Orthomosaic - DLI 02

(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**
One fauna species of conservation significance is known to occur within a 25 km radius of the proposed clearing, the Arid Bronze Azure (Ogyris subterrestris petrina, Declared Threatened Fauna). This butterfly , which is known only from a small area north east of Lake Douglas, is at risk from mining activities but as individuals have not been seen since 1993, it is considered to be extinct in the Goldfields (Williams and Williams, 2008).

There are recent records of Malleefowl in the area (25 to 50 km) that are relatively recent; therefore the proponent will be required to actively check for the presence of Malleefowl mounds before commencing any clearing operations.

A report commissioned by Dioro - South Kal Operations (2009) states that all efforts will be taken to minimise clearing and to rehabilitate at the conclusion of mining to minimise any long term impacts on habitats in the area. Management strategies to be adopted (Dioro - South Kal Operations, 2009) include:
- Utilising existing tracks, firebreaks, fence lines for access where possible,
- Locating tracks so as to avoid large trees and shrubs and their root zones,
- Implementing a weed management program, and
- Retain trees (especially those with hollows) where possible.

Given the clearing is limited to 15 ha within a 202 ha project area and that the vegetation is in good (Keighery, 1994) condition, the proposed clearing is not likely to be at variance to this Principle.

To mitigate any impacts from the proposed clearing, a fauna (malleefowl) management condition will be imposed on the clearing permit.

Methodology References:
- Dioro-South Kal Operations (2009)
- Williams, M.R. and Williams, A.A. (2008)
GIS Database:
- SAC Bio Datasets 04/11/2009

(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 known records of the rare flora - Gastrolobium graniticum - within the local area (25 km radius) with the closest known record being ~70 kms west of the area under application.

A flora survey commissioned by Dioro - South Kal Operations (2009) identified eighty-five flora species and no rare or priority flora species within the project area.

Therefore the proposed clearing is not likely to be at variance to this Principle.

Methodology Reference:
- Dioro-South Kal Operations (2009)
GIS Database:
- SAC Bio Datasets 04/11/2009

(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 known records of a Threatened Ecological Community (TEC) within the local area (25 km radius). The nearest recorded TEC is Russell Range mixed thicket vegetation complex (Vulnerable), located ~320 km south-east of the area under application.

Given the distance to the nearest recorded TEC, it is not considered likely that the vegetation proposed to be cleared comprises the whole or part of or is necessary for the maintenance of a TEC.

Methodology GIS Database:
- SAC Bio Datasets 04/11/2009

(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 vegetation under application is mapped within Beard Vegetation types 9 and 468, which have 99.7% and 100% of pre-European vegetation extent remaining within the Bioregion, respectively (Shepherd, 2007).

The Environmental Protection Authority (EPA) supports a 30% threshold level as recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000). The vegetation types under application retain more than this 30% threshold level.

Given the high representation of the vegetation types identified with the area under application, the vegetation under application is not considered to be significant as a remnant in an extensively cleared area.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Coolgardie (C)	12,912,204	12,707,619	98.4	
Shire of Kal-Boulder*	9,548,213	9,548,132	100	
Beard vegetation types*				
9 (within C Bioregion)	240,442	239,834	99.7	7.7
468 (within C Bioregion)	583,357	583,357	100	22.5

* (Shepherd, 2007)

Methodology References:
- EPA (2000)
- Shepherd (2007)

GIS Databases:
- Interim Biogeographic Regionalisation of Australia
- SAC Bio Datasets 04/11/2009

(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 may be at variance to this Principle**
There are two minor drainage lines that traverse the area under application. It is considered that some of the vegetation under application, such as the vegetation associated with the land unit loamy plains supporting shrubby eucalypt woodlands (Dioro - South Kal Operations, 2009) may be growing in association with watercourses. Therefore the proposed clearing may be at variance to this Principle.

To mitigate the potential impact on the drainage lines, a revegetation management condition will be imposed on the clearing permit.

Methodology Reference:
- Dioro-South Kal Operations (2009)

GIS Database:
- Hydrography, linear

(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**
Waste rock landform and pits cover 21.5% of the 202 ha project area with three land units identified within the remainder of the area under application (Dioro - South Kal Operations, 2009):
- Land unit 1, Low hills (crest, upper and mid slopes), covers 25.6% of the project area and has low vulnerability to erosion.
- Land unit 2, Gravelly rises and undulating plains, covers 11.4% of the project area and has low vulnerability to erosion.
- Land unit 6, Loamy plains supporting shrubby eucalypt woodlands, covers 41.5% of the project area and has low to moderate vulnerability to erosion. This land unit is at risk of sheeting and rilling with occasional more

severe gullying (Dioro - South Kal Operations, 2009).

Management actions to be undertaken include utilising existing tracks, where possible and the rehabilitation of disturbed areas once mining activities cease (Dioro - South Kal Operations, 2009) which will assist in the avoidance of long-term land degradation.

Given that Land unit six is susceptible to soil erosion the clearing as proposed may cause appreciable land degradation. Therefore the proposed clearing may be at variance to this Principle.

To mitigate any impacts from the proposed clearing, a revegetation management condition will be imposed on the clearing permit.

Methodology Reference:
- Dioro-South Kal Operations (2009)

(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 reserves within the area under application with the nearest reserves, being DEC managed land Lakeside Timber Reserve, located approximately 12 km north of the proposed clearing.

The area under application has been subject to a history of extensive grazing activities and timber cutting for firewood and housing with the vegetation to be cleared being predominantly regrowth (Dioro - South Kal Operations, 2009). The project area has also been previously disturbed as it contains existing open pits, a waste dump and haul roads.

Given the high level of disturbance from historical and existing activities and the distance to the DEC managed land, the clearing as proposed is not likely to have significant impact on adjacent or nearby conservation areas.

Methodology Reference:
- Dioro-South Kal Operations (2009)
GIS Database:
- DEC Managed Lands and Water

(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 may be at variance to this Principle**
Waste rock landform and pits cover 21.5% of the 202 ha project area and three land units cover the remainder of the project area (area under application), of which Land unit six: Loamy plains supporting shrubby eucalypt woodlands has low to moderate vulnerability to erosion (Dioro - South Kal Operations, 2009). This land unit is at risk of sheeting and rilling with occasional more severe gullying (Dioro - South Kal Operations, 2009).

There are two minor drainage lines that traverse the area under application. The proposed clearing may result in water erosion particularly in drainage tracts. The drainage lines discharge into nearby saline wetlands (Dioro - South Kal Operations, 2009). Water erosion of the soils within land unit six may increase sediment loads within water runoff, which may result in the deterioration of water quality of the saline wetlands. Therefore the proposed clearing may be at variance to this Principle.

To mitigate any impacts from the proposed clearing, a revegetation management condition will be imposed on the clearing permit.

Methodology Reference:
- Dioro-South Kal Operations (2009)
GIS Databases:
- Hydrography, linear

(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 250mm and an annual evaporation rate of 2,600mm there is little surface flow during normal seasonal rains. Given the area under application occurs on a relatively flat landscape and there is little surface flow, the proposed clearing is not likely to cause or increase the incidence or intensity of flooding.

Methodology GIS Databases:
- Evaporation Isopleths
- Isohyets
- Topographic Contours, Statewide

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

Comments

The area under application is within the Proclaimed Groundwater Area of Goldfields. Therefore any abstraction of groundwater would require a licence. HBJ Minerals Pty Ltd (2009a) has advised that they have a licence (GWL 59931(4)) for the abstraction of groundwater.

HBJ Minerals Pty Ltd (2009a) has provided information from DEC Goldfields Region, advising that a Works Approval or an amendment to their EP licence is not necessary as the mined ore that will be mined will be processed at Jubilee and the dewatering activity of discharged to the environment is less than 50,000 kL per year; therefore, it is not a prescribed activity.

Lot 50 is freehold land owned by Franco Nevada Australia Pty Ltd; the land is leased to HBJ Minerals Pty Ltd for mining and exploration purposes (HBJ Minerals Pty Ltd, 2009). Lot 50 is zoned Rural under the Local Town Planning Scheme.

Methodology

References:
- HBJ Minerals Pty Ltd (2009)
- HBJ Minerals Pty Ltd (2009a)

GIS Databases:
- Cadastre
- RIWI Act, Groundwater Areas
- Town Planning Scheme Zones

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 clearing as proposed may be at variance to Principles (f), (g) and (i).

5. References

Dioro-South Kal Operations (2009) South Kal Operations Pty Ltd, Purpose Permit Application, Location 50 - Triumph Cut Back, Assessment of Clearing Principles. TRIM Ref DOC100968

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, Western Australia.

HBJ Minerals Pty Ltd (2009) Dioro N.L., HBJ Minerals Pty Ltd: Purpose Permit Application CPS 3364/1, October 2009. TRIM Ref DOC100963

HBJ Minerals Pty Ltd (2009a) HBJ Minerals Pty Ltd: Additional information (Email). TRIM Ref DOC105369 and DOC105400

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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.

Williams, M.R. and Williams, A.A. (2008). Threat of habitat clearing to the Arid Bronze Azure butterfly (Ogyris subterrestris petrina) population bordering Barbalin Nature Reserve. Department of Environment and Conservation, Perth. Unpublished Report.

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)