



1. Application details

1.1. Permit application details

Permit application No.: 1603/1
 Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: South Kalgoorlie Mines Pty Ltd

1.3. Property details

Property: EAST LOCATION 59 BEING PT LOT 59 ON PLAN 226332
 Local Government Area: SHIRE OF COOLGARDIE
 Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
30		mechanical	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 association 9: Medium woodland; coral gum (E. torquata) & Goldfields blackbutt (E. lesouefi).	The area under application is for clearing of 30 ha over 10 years for pit development (including an underground pit, waste dump, haul road, run of mine pad, infrastructure and exploration drilling) within a 1,000 ha project area (Shirl Prospect). The proposed clearing of 30ha is to expand a 50ha area granted in June 2006 (CPS 909/3). The project area, which is within Lot 59, is located approximately 9km south-east of Coolgardie.	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 (MBS Environmental 2006). Further, aerial photography for the area shows disturbance including existing mining pits and tracks within the project area.
Beard vegetation association 936: Medium woodland; salmon gum.			
(Hopkins et al. 2001; Shepherd et al. 2001).	The vegetation of the area in which clearing is to occur consists of 9 different vegetation habitat types (MBS Environmental 2006). The dominant vegetation is Eucalypt woodland (MBS Environmental 2006).		

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 has been subject to a history of extensive timber cutting with the vegetation to be cleared being predominantly regrowth (MBS Environmental, 2006). Further, aerial photography for the area shows disturbance within the 1,000 ha project area including the existing mining pits and tracks.

Given the high level of disturbance from historical and existing activities, it is considered unlikely the area under application comprises a higher level of biological diversity.

Methodology MBS Environmental (2006) (TRIM Ref DOC8196)
 GIS Datasets:
 - Kalgoorlie 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 may be at variance to this Principle

The report submitted by MBS Environmental (2006) states that the following significant fauna could potentially occur within the project area (1000ha):

- Malleefowl, *Leipoa ocellata*, Vulnerable (State) WC Act and (Federal) EPBC Act;
- Slender-billed Thornbill, *Acanthiza iredalei iredalei*, Vulnerable (State) WC Act and (Federal) EPBC Act;
- Peregrine Falcon, *Falco peregrinus*, Specially Protected (State) WC Act and (Federal) EPBC Act;
- Central Long-eared Bat (central form), *Nyctophilus timoriensis* (P4);
- Hooded Plover, *Thinornis rubricolis rubricolis* (P4);
- Crested Bellbird (southern), *Oreoica gutturalis gutturalis* (P4);
- Shy Heathwren (western subspecies), *Hylacola cauta whitlocki* (P4);
- South-west Carpet python, *Morelia spilota imbricata* (P4);
- White-browed Babbler (western wheatbelt), *Pomatostomus superciliosus ashbyi* (P4);
- Fork-tailed Swift, *Apus pacificus*, (Federal) EPBC Act;
- Great Egret, *Ardea alba*, (Federal) EPBC Act;
- Cattle Egret, *Ardea ibis*, (Federal) EPBC Act;
- Rainbow Bee-eater, *Merops ornatus*, (Federal) EPBC Act.

The report (MBS Environmental, 2006) also states that all efforts will be taken to minimise clearing and to rehabilitate at the conclusion of the mining. The land systems within the project area are represented widely on a regional scale and the small scale of the project is unlikely to impact on the status of significant fauna. Existing tracks will be utilised and trees will be retained where possible.

A recent clearing proposal (CPS 909/1) within the same project area was assessed and granted. The assessment included Biodiversity Coordination Section (BCS), DEC (2005) advice regarding fauna species occurring in the area. BCS (2005) advised the following:

'Bird species such as White-browed Babbler, Crested Bellbird (Southern), Hooded Plover and Malleefowl may utilise the notified area but the habitat present is unlikely to be 'significant' for these species since the land systems are well represented in the locality. Chuditch may utilise the area too, if present, but this record is from 1974.'

'Records of Malleefowl in the area are relatively recent therefore the proponent should actively survey for the presence of Malleefowl mounds before commencing any clearing operations.'

'It is likely that the vegetation within the notified area, particularly areas of Salmon Gum woodland, is utilised as suitable habitat and nesting hollows for a wide variety of fauna.'

Given the above, it is recommended the proponent should actively survey for the presence of malleefowl mounds before commencing any clearing and that trees (especially those with hollows) should be retained where possible. Therefore, the area applied to be cleared shall be walked, prior to clearing, to determine the presence of malleefowl (*Leipoa ocellata*) mounds. Further, clearing shall not occur within 50 m of any malleefowl mounds identified in the survey.

Methodology Biodiversity Coordination Section, DEC (2005) (TRIM Ref IN25055)
MBS Environmental (2006) (TRIM Ref DOC8196)

(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

A recent clearing proposal (CPS 909/1) within the same project area was assessed and granted. The assessment included Biodiversity Coordination Section (BCS), DEC (2005) advice regarding the Declared Rare Flora (DRF) and Priority species occurring within the 1,000ha project area. BCS (2005) advised the following:

- There are 4 recorded populations of *Gastrolobium graniticum* (Declared Rare Flora) within 50 km of the proposed clearing. There are also 13 known priority flora populations within this area. Two of these priority species (*Acacia websteri* and *Eremophila praecox*) occur on the same vegetation type as the proposed clearing.
- BCS databases show 38 records of the Declared Rare taxon *Gastrolobium graniticum* and 100 records of 37 species of Priority Flora within a 50 km radius of the notified area.'
- '*Gastrolobium graniticum* (Granite Poison) is described on CALM's Florabase as an erect, open shrub, to 2.5m high. Flowers are yellow, orange, red, Aug-Sep. Occurs on sandy soils, granite. Margins of rock outcrops, along drainage lines.'
- Habitat type 1.4 (described as RAS Rocky Acacia Shrublands on gabbro) may be suitable habitat for *Gastrolobium graniticum* and Priority flora *Melaleuca coccinea* and *Allocasuarina eriochlamys* ssp. *grossa*.

Habitat type 1.4 is not shown as occurring within the 1,000 hectare Project area (Shirl Prospect) (TRIM Ref ED1657), but a few hundred metres to the north and north-west of the Project area. Further, no rare or priority species were identified during the flora, vegetation and habitats survey of the Project area (Cockerton, 2004 cited in MBS Environmental, 2006).

Therefore, the clearing as proposed is unlikely to include or be necessary for the continued existence of rare flora.

Methodology Biodiversity Coordination Section, DEC (2005) (TRIM Ref IN25055)
MBS Environmental (2006) (TRIM Ref DOC8196)
Cockerton (2004)

(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 records of Threatened Ecological Communities (TECs) within the local area (100km radius). The nearest recorded TEC is located approximately 130km south-west. It is therefore unlikely that the vegetation proposed to be cleared comprises the whole or part of or is necessary for the maintenance of a TEC.

Methodology GIS Databases:
- Threatened Ecological Community Database - CALM 12/04/05
- Environmentally Sensitive Areas - DOE 08/03/05

(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 and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Department of Natural Resources and Environment 2002).
The Vegetation Complexes in the area under application are above the recommended minimum of 30% representation.

	Pre-European (ha)*	Current extent (ha)*	Remaining (%)*	Conservation status**	In reserves/CALM managed land
IBRA Bioregions					
- Coolgardie	12 917 718	12 719 084	98.5	Least Concern	
Shire of Coolgardie	No information available				
Vegetation type:					
Beard: Unit 9	250 894	250 183	99.7	Least Concern	3.0%
Beard: Unit 936	1 016 210	906 826	89.2	Least Concern	2.3%

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

Given there is 98.5% of remnant vegetation remaining within the Region and there is 99.7% (Beard 9) and 89.2% (Beard 936) (Shepherd et al. 2001) of native vegetation remaining, the vegetation proposed to be cleared is not significant as a remnant of native vegetation in the surrounding area.

However, it is noted that the recommended JANIS Forests Criteria (1997) of 15% representation in secure tenure for the Beard Complexes (9 and 936) has not been met.

Methodology Department of Natural Resources and Environment (2002)
Hopkins et al. (2001)
Shepherd et al. (2001)
JANIS Forests Criteria (1997)
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 a number of minor non-perennial watercourses, including Italian Gully, located throughout the area under application.

There are some minor, non-perennial watercourses within the area proposed to be cleared.

Provided the surface water is managed according to the Flood Water Management Plan, this principle is not likely to be at variance with this principle. The proponent will liaise with the Commissioner of Soil and Land Conservation in relation to management of this issue.

The proponent has also advised in their application that the area will be revegetated once mining activities cease, and conditions have been imposed to require this. Therefore the proposed clearing is not likely to be at variance to this principle.

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 at variance to this Principle

The permit area has not been surveyed by the Department of Agriculture's rangeland survey and therefore is not covered by land system mapping. Advice in relation to a clearing proposal within the same project area was received from the Commissioner of Soil and Land Conservation in relation to potential land degradation risks as follows:

'The geological survey mapping suggests that Gabbro and Ultrabasic Archaean rock underlays the permit area. The geology and the flora survey information provided with the permit application suggest that the land units proposed to be cleared are similar to those found in the Binneringie land system. This land system is not recognised as being particularly prone to soil erosion under pastoral use. Provided surface water is managed on the mine site to avoid soil erosion and to essentially maintain the natural flow regime, serious land degradation is unlikely to occur.'

Therefore the proposed clearing is not likely to be at variance with principle (g).

A Flood Water Management Plan (Harmony 2006) has been submitted by the proponent outlining the management of the drainage systems. The management actions to be undertaken include, utilising existing tracks and creek crossings and the rehabilitation of disturbed areas once mining activities cease (MBS Environmental 2006). These will assist in the avoidance of long-term land degradation.

To mitigate any impacts from the proposed clearing a condition for a condition requiring revegetation has been imposed on this permit.

Methodology DAWA (2005) (TRIM Ref IN25236)
Harmony (2006) (TRIM Ref HP3466)
MBS Environmental (2006) (TRIM Ref DOC8196)

(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 lands, located approximately 8km west (Kangaroo Hills Timber Reserve), 10km south-east (Yallari Timber Reserve), 12km south (Scahill Timber Reserve), 12km east (Karamindie Forest) and 15km north north-east (Karrawang Nature Reserve) of the proposed clearing.

The area under application has been subject to a history of extensive timber cutting for firewood with the vegetation being predominantly regrowth. The area has also been previously disturbed as it contains existing tracks, open pits, public roads, railway and a gas pipeline (MBS Environmental 2006).

The area applied to be cleared does not appear to contribute to, provide a buffer for, or provide an ecological linkage to any of these conservation areas. Further, due to the high level of disturbance from historical and existing activities and the distance to the DEC Managed Lands, the clearing as proposed is unlikely to have significant impact on local conservation values.

Methodology MBS Environmental (2006) (TRIM Ref DOC8196)
GIS databases:

(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 at variance to this Principle

With an average annual rainfall of 250mm and an annual evaporation rate of 2,600mm there is likely to be little surface flow during normal seasonal rains. During major rainfall events there would be significant surface flow for which the Bandy Creek Catchment of the Salt Lake Basin becomes a medium for the collection and transportation of the major flows.

With high annual evaporation rates and low annual rainfall there is little recharge into regional groundwater table. At this site the groundwater salinity level is between 14,000 mg/l and 35,000 mg/l, which is considered to be high saline to hyper saline.

Further, a Flood Water Management Plan (Harmony, 2006) has been submitted by the proponent outlining the management of the drainage systems in the event of high volume rainfall.

Given the above, the clearing of vegetation under application is unlikely to cause deterioration in the quality of surface or underground water.

Methodology Harmony (2006) (TRIM Ref HP3466)
GIS Databases:
- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Groundwater Salinity, Statewide - 22/02/00
- Hydrographic Catchments, Catchments - DOE 23/03/05

(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 at variance to this Principle

Given the area proposed to be cleared in relatively flat, low rainfall and high evaporation rates, it is unlikely that the clearing of 30 ha over 10 years would exacerbate peak flood height or duration.

A Flood Water Management Plan (Harmony, 2006) has been submitted by the proponent outlining the management of the drainage systems in the event of high volume rainfall. Therefore, the clearing as proposed is not at variance to this principle.

Methodology Harmony (2006) (TRIM Ref HP3466)
GIS Databases:
- Evaporation Isopleths - BOM 09/98
- Isohyets - BOM 09/98
- Topographic Contours, Statewide - DOLA 12/09/02

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. However, this application for mineral exploration and pit development is not associated with ground water extraction.

Mineral exploration is not a prescribed premise as defined under Environmental Protection Regulations 1987 Schedule 1 - Prescribed premises. It is the proponent's responsibility to liaise with the Department of Environment and Conservation to determine whether a Works Approval, or any other licences or approvals is required for future proposed works.

There is an Aboriginal Site of Significance listed within the area under application, the applicant will be advised of their obligations under the Aboriginal Heritage Act 1972.

There are two native title claims over the area under application. However, as Part Lot 59 on Plan 226332 is Freehold land, Native Title is not applicable.

Methodology GIS databases:
- Aboriginal Sites of Significance - DIA 28/02/03
- Native Title Claims - DLI 7/11/05
- RIWI Act, Groundwater Areas - WRC 13/06/00
- RIWI Act, Surface Water Areas - WRC 18/10/02

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
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5. References

- Biodiversity Coordination Section, DEC (2005) Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM Ref IN25055
- Cockerton, G. (2004) Flora, Vegetation and Habitats of the South Kal Mines Pty Ltd Holdings and surrounding area, W.A. August 2003 ý February 2004. Unpublished report. Western Botanical.
- DAWA (2005) Land degradation advice. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. TRIM Ref IN25236
- 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.
- Harmony (2006) Flood Water Management MPR661, South Kalgoorlie Mine-Shirl Prospect. TRIM Ref HP3466
- 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, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MBS Environmental (2006) Purpose Permit Application, Shirl Prospect: Assessment of Clearing Principles, October 2006, Prepared for South Kal Mines Pty Ltd. TRIM Ref DOC8196
- 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
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)