



## 1. Application details

### 1.1. Permit application details

Permit application No.: 909/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: South Kal Mines Pty Ltd (SKM)

### 1.3. Property details

Property: PART LOT 59 ON PLAN 226332 ( KARRAMINDIE 6429)  
Local Government Area: Shire Of Coolgardie  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20		Mechanical Removal Mechanical Removal	Extractive Industry Extractive Industry

## 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. lesouefii)	The vegetation of the area in which clearing is to occur consists of 8 different habitat types (Western Botanical, 2004). The area is dominated by Eucalypt woodlands with shrub understorey (Western Botanical, 2004).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The area under application is for clearing of 20 ha for mining and exploration. Aerial photography for the surrounding area shows an existing mining pit within an area of native vegetation.
Beard vegetation association 936 - Medium woodland; salmon gum			

## 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 comprises of common vegetation associations for the area with more than 1,000,000 ha remaining (Shepherd et al, 2001). This is consistent with the vegetation described by Western Botanical.

Aerial photography for the area shows the area to contain a number of mining pits, track as well as areas of native vegetation.

The vegetation proposed to be cleared does not appear to have a higher diversity than the surrounding area.

**Methodology** Western Botanical (2004)  
GIS datasets:  
Kalgoorlie 1.4m Orthomosaic - DLI 02  
Pre-European Vegetation - DA 01/01

### (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 report by MBS Environmental (September 2005) states that the following threatened and priority fauna could potentially occur in the area proposed to be cleared:

Malleefowl, Slender-billed Thornbill, Peregrine Falcon, Central Long-eared Bat, Hooded Plover, Crested Bellbird, White-browed Babbler, Shy Heathwren, South-West Carpet Python, Fork-tailed Swift, Great Egret Cattle Egret, and Rainbow Bee-eater.

The report states that all efforts will be taken to minimise clearing and to rehabilitate at the conclusion of the mining. The land systems 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 where possible and trees will be retained where possible.

CALM has 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.

The threatened species of butterfly *Ogyris subterrestris petrina* is at risk from mining activities but as individuals have not been seen since 1993 (DeH) it is difficult to speculate whether the proposed clearing will impact its habitat.

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. CALM supports the MBS Environmental management action in Section 6.2.5 that trees (especially those with hollows) are retained where possible.

Conditions have been placed on the clearing permit requiring revegetation of areas cleared, identifying the presence of Malleefowl (*Leipoa ocellata*) and preventing clearing within 50m of identified Malleefowl mounds.

Providing the Proponent carries out all management actions outlined in Section 6.2.5 of the MBS Environmental 2005 Report, including the rehabilitation of the area on completion of mining, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** MBS Environmental (2005) Purpose Permit Application Shirl Prospect, Assessment of Clearing Principles, Prepared for South Kal Mines Pty Ltd, September 2005.  
CALM (2005).

**(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 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.

CALM has advised:

CALM 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.

&#61623; *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.

*Gastrolobium graniticum* forms small thickets in sandy or sandy loam soils near granite rocks (CALM 1998). Habitat type 1.4 is listed as occurring within the notified area on the memo from Harmony, South Kal Mines, included as part of the MBS Environmental 2005 report. However, it is not shown as occurring within the 100 hectare envelope outlined in Figure 2 of the report, but a few hundred metres to the north and west of the rectangle. CALM's advice at the present time is based on the precautionary principle and, until evidence is presented to the contrary, will assume that habitat type 1.4 is present within the notified area as stated in the memo.

Habitat type 1.4 is described as RAS Rocky Acacia Shrublands on gabbro:

&#61623; Rocky Acacia shrubland. *Acacia acuminata* narrow phyllode form, *Acacia warramba* 2 to 3m, PFC 40% with few associated species on shallow gravelly soils over granite or gabbro. Gently inclined site.

This may be suitable habitat for *Gastrolobium graniticum* given the granite base. NB. Should any Declared Rare flora species be found, clearing must be planned so as to avoid them. It may also be suitable habitat for Priority flora *Melaleuca coccinea* (P3) and *Allocasuarina eriochlamys* ssp. *grossa* (P3) as they were noted to occur in association with *Acacia acuminata* (Jam Tree) and *Acacia warramba* (Cockerton 2003). Where disturbance of priority flora taxa cannot be avoided, the proponent should liaise with the Department of Conservation and Land Management's Wildlife Branch. CALM advises that all significant flora should be reported to CALM in the first instance.

No rare or priority species were identified during the flora, vegetation and Habitats survey of the project area (Western Botanical, 2004).

The proponent has advised that clearing will not be carried out in habitat type 1.4 as it is not within the application area.

**Methodology** CALM (2005)

Western Botanical (2004).  
GIS Database:  
Declared Rare and Priority Flora List - CALM 13/08/04

**(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 TEC's within 50 km of the proposed clearing.  
There is no evidence to suggest that any EPBC Act listed TECs or State listed TECs are present on the site of the proposed clearing. The proposal is not likely to be at variance to this Principle.

**Methodology** CALM (2005).  
GIS Database:  
Threatened Ecological Communities - CALM 15/07/03

**(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 proposed clearing is within the Coolgardie IBRA region and the Coolgardie Shire. Hopkins et al (2001) states that 98.5% of the pre-European extent is remaining in the Coolgardie IBRA region (Shepherd et al. 2001).

The State Government is committed to the National Objectives and 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 complexes in this application are well above the recommended minimum of 30% representation. The vegetation at the site consists of Beard Vegetation Associations:

9 - Medium woodland; coral gum (*E. torquata*) and goldfields blackbutt (*E. lesouesii*) has 99.7% remaining and 936 - Medium woodland; salmon gum has 89.2% remaining.  
(Hopkins et al. 2001) (Shepherd et al. 2001).

These vegetation types are therefore of least concern for biodiversity conservation (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 database: -Pre-European Vegetation - DA 01/01

**(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 some minor, non-perennial watercourses within the area proposed to be cleared. Provided the surface water is managed on the mine site to maintain the natural flow regime this principle is not likely to be at variance with this principle. A condition has been imposed to ensure that the natural flow is maintained.

The proponent has also advised in their application that the area will be revegetated once mining activities cease.

**Methodology** DAWA (2005)  
GIS Databases:  
Hydrology, linear - DOE 1/2/04;  
RAMSAR, Wetlands - CALM 21/10/02

**(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 permit area has not been surveyed by the Department of Agriculture's rangeland survey and therefore is not covered by land system mapping.

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 minesite 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).

**Methodology** DAWA (2005)

**(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 9 CALM managed lands within 50km radius of the proposed clearing. Five of these reserves are Timber Reserves, 2 Nature Reserves, 1 State Forest and 1 Conservation Park.

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. This proposal is not likely to be at variance to this principle.

**Methodology** CALM (2005)  
GIS Database: CALM Managed Lands and Waters - 1/06/04

**(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 proposal is not likely to affect surface water quality as there are no permanent watercourses within the proposed clearing area and the groundwater is highly saline. The mean annual rainfall is 300mm and the mean annual evaporation is about 2600mm as such run off is likely to be minimal. The low rainfall and high evaporation rate also infers low recharge rates.

**Methodology** GIS Database:  
Groundwater Salinity, Statewide - 22/02/00  
Rainfall, Mean Annual - BOM 30/09/01  
Evaporation Isopleths - BOM 09/98

**(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**

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

**Methodology** GIS Databases:  
Topographic Contours, Statewide - DOLA 12/09/02

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

**Comments**

No submissions were received and there are no other relevant approvals or planning instruments that affect this proposal.

**Methodology**

**4. Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Extractive Industry	Mechanical Removal		<b>Grant</b>	indication of area proposed to be cleared
Extractive Industry	Mechanical Removal	20	<b>Grant</b>	The clearing principles have been addressed and it is considered that the clearing as proposed is not likely to be at variance to any of them.  Given the small area to be cleared, the assessing officer recommends that the clearing permit be granted with revegetation and reporting conditions.

**5. References**

- AGPS (2001) The national objective and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra.
- 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 IN25055.
- DAWA (2005) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia.
- 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.

- 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, 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 (2005) Purpose Permit Application Shirl Prospect, Assessment of Clearing Principles, Prepared for South Kal Mines Pty Ltd, September 2005.
- 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 (February 2004) Flora, vegetation and habitats of the South Kal Mines, Pty Ltd Holdings and Surrounding Area WA. TRIM ref HD26371

## 6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)