



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6426/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Southern Gold Limited**

1.3. Property details

Property: Mining Lease 25/333
Mining Lease 25/162
Mining Lease 25/234
Miscellaneous Licence 25/43
Local Government Area: City of Kalgoorlie –Boulder
Colloquial name: Cannon Mining Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
40.3		Mechanical Removal	Mineral Production and Associated Infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 26 February 2015

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
The clearing permit application area has been broadly mapped as Beard vegetation association: 468: Medium woodland, salmon gum and goldfields blackbutt. A flora and vegetation survey conducted by Native Vegetation Solutions (NVS, 2014) over the application area identified the following three vegetation types: VSA 2 - <i>Eucalyptus lesouefii</i> woodland on undulating hills. VSA 4 - Salmon Gum (<i>Eucalyptus salmonophloia</i>) woodland. VSA 5 - <i>Eucalyptus lesouefii</i> woodland over mixed shrubland.	Cannon Mining Project. Southern Gold Ltd proposes to clear up to 40.3 hectares of native vegetation within a total boundary of approximately 40.3 hectares, for the purpose of mineral production and associated infrastructure. The project is located approximately 30 kilometres south-east of Kalgoorlie, in the City of Kalgoorlie-Boulder.	Very Good: Vegetation structure altered, obvious signs of disturbance (Keighery, 1994). to Degraded: Structure severely disturbed, regeneration to good condition requires intensive management (Keighery, 1994).	Vegetation condition was determined by NVS (2014) using the Keighery scale.

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 area is located within the Eastern Goldfields sub-region of the Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The Eastern Goldfields subregion is dominated by Mallees, Acacia thickets and shrubheaths on sandplains. Diverse Eucalyptus woodlands occur around salt lakes, on ranges, and in valleys and dwarf shrublands of samphire are common in salt areas (Kendrick and Stanley, 2003).

A flora and vegetation survey was conducted by Native Vegetation Solutions (NVS) over the application area in April 2014 (Strategen, 2014). The flora and vegetaiton survey was limited to the mine site and buffer within tenement M25/333 and did not include the area of clearing required for the haul road (Strategen, 2014). The haul road route comprises areas of cleared vegetation including access tracks associated with pastoral activities and contains degraded vegetation which has been subjected to grazing and human access

(Strategen, 2014). It is therefore unlikely that this area would contain vegetation that comprises a high level of biological diversity.

A total of 73 flora taxa (including subspecies and varieties) representing 20 families and 38 genera were recorded from the application area during the flora and vegetation survey (Strategen, 2014).

No Threatened Ecological Communities, Priority Ecological Communities, Threatened and Priority flora species or vegetation associations of restricted distribution were recorded within the application area during the flora and vegetation field survey (Strategen, 2014).

A total of four introduced flora species were recorded within the application area during the flora and vegetation survey (Strategen, 2014). These included *Citrullus lanatus* (Pie Melon), *Cucumis myriocarpus* (Prickly Paddy Melon), *Salvia verbenaca* (Wild Sage) and *Centaurea melitensis* (Maltese Cockspur) (Strategen, 2014). None of these introduced flora species are Declared Pest or listed as Weeds of National Significance (Strategen, 2014).

A Level 1 fauna survey, including a desktop assessment and field survey was conducted by Bamford Consulting Ecologists over the application area in 2012 (Bamford, 2012). The desktop assessment identified 292 species (including five frogs, 85 reptiles, 166 birds and 36 mammals) have the potential to occur within the application area (Bamford, 2012). The expected fauna assemblage in the application area was described as typical of the Kalgoorlie region and did not comprise a high level of biological diversity (Bamford, 2012).

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

Methodology Bamford (2012)
Kendrick and Stanley (2003)
Strategen (2014)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation

(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 fauna desktop assessment identified 292 species (including five frogs, 85 reptiles, 166 birds and 36 mammals) with the potential to occur within the application area (Bamford, 2012).

The field survey recorded 37 species of fauna including observations of the conservation significant Purple Crowned Lorikeet (*Glossopsitta porphyrocephala*) within and adjacent to the application area and indirect evidence (old mound) of a Malleefowl (*Leipoa ocellata*) within the application area. One further conservation significant species, the Yellow Plumed Honey Eater (*Lichenostomus ornatus*), was observed feeding in Eucalypt canopy outside the application area (Strategen, 2014).

The fauna habitats within the application area were not considered to be unique and are relatively widespread in the region and surrounding areas (GIS Database; Strategen, 2014). It is not expected that the proposed development will involve the removal of whole or part of significant habitat for fauna indigenous to Western Australia. Clearing associated with the haul road route is also not expected to result in a significant impact to species at a local or regional scale (Strategen, 2014).

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

Methodology Bamford (2012)
Strategen (2014)
GIS Database:
- Pre-European Vegetation
- Topographic contours

(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 Threatened Flora within the application area (GIS Database).

The flora and vegetation survey conducted by NVS over the application area did not record any species of Threatened Flora (Strategen, 2014).

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

Methodology Strategen (2014)
GIS Database:
- Threatened and Priority Flora

(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 the application area (GIS Database).

The flora and vegetation survey conducted by NVS over the application area did not record any Threatened Ecological Communities (Strategen, 2014).

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

Methodology Strategen (2014)
GIS Database:
- Threatened Ecological Sites Buffered

(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 application area falls within the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 98% of the Pre-European vegetation remains (see table) (GIS Database; Government of Western Australia, 2013).

The vegetation of the application area has been mapped as the following Beard vegetation association (GIS Database):

468: Medium woodland, salmon gum and goldfields blackbutt.

Approximately 99% of Beard vegetation association 468 remains at both the state and bioregional level (Government of Western Australia, 2013). Therefore, the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion - Coolgardie	12,912,204	12,648,491	~98	Least Concern	16.4
Beard vegetation associations - State					
468	592,022	583,903	~99	Least Concern	23.1
Beard vegetation associations - Bioregion					
468	592,022	583,903	~99	Least Concern	23.1

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation

(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 no permanent water bodies or watercourses within or in close proximity to the application area (GIS Database).

No vegetation associated with a permanent watercourse or wetland was recorded within the application area during the flora and vegetation field survey (Strategen, 2014).

There are five minor non-perennial drainage lines that intersect the application area (GIS Database). The surface flows of these drainage lines are likely to be dry most of the year. It is not expected the proposed clearing will have a significant effect on native vegetation growing in, or in association with a watercourse or wetland (Strategen, 2014; GIS Database).

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

Methodology Strategen (2014)
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

Land system information available from nearby areas indicates that the broader area has varying susceptibility to erosion, particularly within alluvial plains where perennial shrub cover has been substantially reduced or the soil surface has been disturbed (Strategen, 2014). However, potential land degradation is likely to be minimised and managed through mitigation measures including revegetation of temporarily disturbed areas.

The soil type within the application area is described as calcareous loamy earths, yellow sandy and loamy earths, red loamy earths, red deep sands and salt lake soils (Strategen, 2014; GIS Database).

Potential impacts from erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology Strategen (2014)
GIS Database:
- Rangeland Land System Mapping
- Soils, Statewide

(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 application area does not lie within any conservation areas (GIS Database).

The nearest reserve (Lakeside Timber Reserve), is located approximately 10 kilometres south-east of the application area (GIS Database). Given the distance between the application area and the reserve, the proposed clearing is not likely to impact the environmental values of this area.

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

Methodology GIS Database:
- DEC Tenure

(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 application area is not located within a Public Drinking Water Source Area (PDWSA) and there are no permanent water bodies or watercourses within the application area (GIS Database).

There are five minor non-perennial drainage lines that intersect the application area (GIS Database). The surface flows of these drainage lines are likely to be dry most of the year. It is not expected the proposed clearing will have a significant impact on the surface water quality of these drainage lines (Strategen, 2014; GIS Database).

Groundwater salinity within the application area is between 14,000 and 35,000 milligrams/Litre Total Dissolved Solids (TDS) which is considered to be saline (GIS Database). The proposed clearing is not likely to cause ground water quality within the application area to alter significantly.

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

Methodology Strategen (2014)
GIS Database:
- Groundwater Salinity, Statewide

- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

(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

The climate of the Goldfields region is mostly hot and dry, with highly variable rainfall throughout the year (BoM, 2015). Kalgoorlie has a semi-arid climate with hot summers and mild winters, and an average rainfall of 267 mm relatively evenly distributed throughout the year. Rainfall can however be highly erratic year to year (BoM, 2015).

There are no permanent water bodies or watercourses within or in close proximity to the application area (GIS Database).

The application area is characterised by predominantly flat to gently undulating plains therefore given the likelihood of little surface flow, the proposed clearing within the application area is unlikely to cause or exacerbate the incidence of flooding or localised waterlogging (Strategen, 2014; GIS Database).

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

Methodology BoM (2015)
Strategen (2014)
GIS Database:
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 2 February 2015 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the application.

There is one Native Title Claim (WC2014/002) over the application area (GIS Database). This claim has been filed at the federal court on behalf of the claimant groups. The mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the Department of Water, and the Department of Parks and Wildlife, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims, Determined by the Federal Court
- Native Title Claims, Filed at the Federal Court
- Native Title Claims, Registered with the NNTT

4. References

Bamford (2012) Fauna Assessment of the Southern Gold Cannon Project, report prepared by Bamford Consulting Ecologists for Strategen Environmental Consultants, Western Australia.

BoM (2015) Bureau of Meteorology (WWW Document). Retrieved from <http://www.bom.gov.au>.

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.

Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.

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., and Stanley F. (2003) Pilbara 4 (PIL4 - Roebourne synopsis). A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.

Native Vegetation Solutions (NVS) (2012) Level 1 Flora and Vegetation Survey for the Cannon Deposit Mining Project–Bulong (M25/333), prepared for Southern Gold, July 2012.

Strategen (2014) Cannon Mining Project - Native Vegetation Clearing Permit Application: Cannon Gold Mine (M25/333 and L25/43) Southern Gold Limited. Report prepared by Strategen Environmental Consultants for Southern Gold Ltd, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T	Threatened species: Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora). Threatened Fauna and Flora are further recognised by DPaW according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo <i>Calyptorhynchus latirostris</i> is specially protected under the <i>Wildlife Conservation Act 1950</i> as a threatened species with a ranking of Endangered. <u>Rankings:</u> CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild. EN: Endangered - considered to be facing a very high risk of extinction in the wild. VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
X	Presumed Extinct species: Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
IA	Migratory birds protected under an international agreement: Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice. Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
S	Other specially protected fauna: Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
P1	Priority One - Poorly-known species: Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
P2	Priority Two - Poorly-known species: Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.

P3

Priority Three - Poorly-known species:

Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.

P4

Priority Four - Rare, Near Threatened and other species in need of monitoring:

Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.

Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

P5

Priority Five - Conservation Dependent species:

Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.