



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1483/3
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: St Ives Gold Mining Company Pty Ltd

1.3. Property details

Property: Mining Lease 15/300
Mining Lease 15/575
Miscellaneous Licence 15/61
Miscellaneous Licence 15/214
Local Government Area: Shire of Coolgardie
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 16 June 2011

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
<p>The vegetation in the application area is broadly mapped as Beard Vegetation Associations:</p> <p>- 9: Medium woodland; coral gum (<i>E. torquata</i>) & Goldfields blackbutt (<i>E. lesouffii</i>); and</p> <p>- 936: Medium woodland; Salmon Gum (Shepherd, 2009; GIS Database).</p> <p>A vegetation survey of 24.4ha within Mining Lease 15/300 was conducted on 3 August 2006 by Botanica Consulting. Vegetation of the proposed clearing area was described as Salmon Gum woodland. The dominant overstorey species was Salmon Gum (<i>Eucalyptus salmonophloia</i>), whilst</p>	<p>The area applied to clear surrounds the existing Cave Rocks open pit and waste dump. St. Ives intends to re-open the Cave Rocks mine, which was operational between 1985-1987 (Botanica Consulting, 2006). The proposed clearing will allow for the cutback of the existing pit, creation of two smaller pits to the south, expansion of the existing waste dump, run-of mine (ROM) pad construction and haul road extension (Botanica Consulting, 2006).</p>	<p>Pristine: No obvious signs of disturbance (Keighery, 1994).</p>	<p>The vegetation surrounding the existing Cave Rocks pit and waste dump is sparse and degraded, whilst vegetation further from the open pit and waste dump is in better condition (Botanica Consulting, 2006). Disturbances in the area are the result of historic mine workings and exploration activity, in addition to grazing by pastoral livestock (Botanica Consulting, 2006).</p> <p>Clearing permit CPS 1483/1 was granted by the Department of Industry and Resources on 1 February 2007 and was valid from 3 March 2007 to 3 March 2012. The clearing permit authorised the clearing of 39.8 hectares of native vegetation. An application to amend clearing permit CPS 1483/1 was submitted by St Ives Gold Mining Company to DoIR on 6 October 2008. St Ives Gold Mining Company Pty Ltd requested that the reporting period, as per the requirement of Condition 4 of the permit, be modified from calendar year to financial year in order for the clearing permit reporting requirements to align with St Ives' other government reporting requirements. The size of the permitted area and clearing area boundary that was approved to clear under clearing permit CPS 1483/1 remained unchanged. The permit expiry date was also extended to 31 July 2012. An application to amend permit CPS 1483/2 was submitted to the Department of Mines and Petroleum by St Ives Mining Company Pty Ltd on 3 May 2011. St Ives Gold Mining Company Pty Ltd requested that the reporting period, as per the</p>

the midstorey was dominated by *Atriplex bunburyana*, *A. nummularia*, *Acacia jennerae*, *Eremophila interstans* subsp. *virgata*, *E. oldfieldii* subsp. *angustifolia* and *Santalum accuminatum*. The understorey consisted of *Ptilotus exaltatus*, *P. obovatus*, *Atriplex vesicaria*, *Sclerolaena diacantha*, *S. eriacantha*, *Maireana georgei* and *Swainsona canescens*.

Botanica Consulting (2006) identified two weed species within the Salmon Gum Woodland: Mint Weed (*Salvia reflexa*) and Burr Medic (*Medicago polymorpha*). Maltese cockspur (*Centaurea melitensis*) is also known from the Cave Rocks area, but was not recorded during this survey.

requirement of Condition 4 of the permit, be modified from financial year to calendar year due to changes in company reporting periods. The size of the permitted area and clearing area boundary that was approved to clear under clearing permit CPS 1483/2 will remain unchanged.

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 proposed clearing area surrounds the existing Cave Rocks open cut pit and waste dump. Botanica Consulting (2006) reported the vegetation nearest to the pit and waste dump to be sparse and degraded as a result of previous extensive clearing, grazing from pastoral livestock and the presence of existing roads. Vegetation further from the Cave Rocks pit and waste dump was considered to be of good condition.

The vegetation in the application area consists of *Eucalyptus salmonophloia* woodland. This vegetation type is not restricted to the proposed clearing area, and occurs throughout the surrounding region (Botanica Consulting, 2006). Although the Coolgardie 3 subregion, within which the area applied to clear falls, is characterised by a high diversity of Eucalypt species, most of these species are wide ranging and often occur in one or more adjoining subregions (Botanica Consulting, 2006). There is no evidence to suggest that the floral diversity of the proposed clearing area is higher than any other area in the surrounding region.

Following a fauna assessment of the Cave Rocks Project area, ATA Environmental (2006a) concluded that species of birds, mammals, reptiles and amphibians present, or likely to be present in the area, would also be present or visit similarly vegetated areas in the wider region. Furthermore, it is the view of ATA Environmental (2006a) that habitats in the proposed clearing area are extensive in the surrounding region.

Whilst the proposed clearing will result in the mortality of some sedentary fauna species, there is unlikely to be any significant impact upon the biodiversity of the region (ATA Environmental, 2006a).

The proposed clearing is within two 'C' Class conservation areas managed by the Department of Environment and Conservation (DEC). These are the Kambalda Timber Reserve (TR 199/25) and Kambalda Nature Reserve (CR 33300). The proponent has committed to a number of conservation offset measures to ensure no net loss of biodiversity and conservation values occurs as a result of the proposed clearing and subsequent mining operations (DEC, 2006). These include:

- St Ives Gold Mining (SIGM) have made a commitment to take a lead role in facilitating the formation and coordination of a Kambalda Regional Weed and Feral Animal Abatement Working Group, and the implementation of the actions determined by this working group;
- SIGM have committed to infill and rehabilitate two disused ex-pastoral dams within the Kambalda Timber Reserve;

- Stabilisation and rehabilitation of the current Cave Rocks waste dump with a post-mining plan for incorporation into the surrounding land use purpose of nature conservation; and

- SIGM will implement a weed management program in the Cave Rocks area. This program will focus on controlling outbreaks of weeds (particularly Maltese cockspur).

The Conservation Commission which is the vesting body for both of these conservation areas, has given its 'in principle' support for the Cave Rocks project to proceed. With consideration to the proposed offset measures, the DEC (2006) is confident that the proposal is unlikely to lead to significant impacts on critical biodiversity conservation values.

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

Methodology ATA Environmental (2006a)
Botanica Consulting (2006)
DEC (2006)

(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

ATA Environmental conducted a Level 2 fauna assessment of the SIGM tenements between 2 April - 11 April, 2006, which included the Cave Rocks project area. The assessment involved trapping, avifauna and bat surveys, spotlighting, non-systematic searches, and opportunistic sightings of fauna species (ATA Environmental, 2006b). Prior to field assessment being conducted, a review of the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* on-line database, the WA Museum on-line database (Faunabase), and DEC's Threatened and Priority Fauna database was also undertaken to identify fauna species of conservation significance that may potentially occurring within the SIGM tenements. The assessment conducted by ATA Environmental was designed to compliment the Spring fauna survey of the SIGM tenements, undertaken by Western Wildlife between 20 November - 2 December 2005 (ATA Environmental, 2006b).

According to ATA Environmental (2006a), only two species listed under the *Environment Protection and Biodiversity Conservation Act 1999* are likely to utilise habitat in the proposed clearing area: Rainbow Bee-eater (*Merops ornatus*), and Fork-tailed Swift (*Apus pacificus*). Both species are listed as Migratory. The Rainbow Bee-eater is wide ranging species and would most likely move to adjacent, undisturbed areas to forage upon the commencement of clearing (ATA Environmental, 2006a). The Fork-tailed Swift is an almost exclusively aerial species, occasionally coming to ground to breed (ATA Environmental, 2006a). Neither of these species are likely to be impacted by the proposed clearing.

A further four species listed under the *Environment Protection and Biodiversity Conservation Act 1999* as possibly occurring in the SIGM tenements are: Slender Thornbill (*Acanthiza iredalei iredalei*), Malleefowl (*Leipoa ocellata*), Great Egret (*Ardea alba*), and Cattle Egret (*Ardea ibis*) (ATA Environmental, 2006b). None of these species are deemed likely to occur in the proposed clearing area due to a lack of suitable habitat. The Great Egret, Cattle Egret, and Slender-billed Thornbill inhabit wetland and shoreline areas such as marshes, samphire flats and lakes, none of which are present in the Cave Rocks area. The Malleefowl is not likely to utilise habitats in the proposed clearing area as the understorey vegetation at Cave Rocks is mostly sparse and open. The Malleefowl prefers dense vegetation (ATA Environmental, 2006a).

Three species listed as Schedule 4 under the Wildlife Conservation Act 1950 may potentially utilise habitats in the proposed clearing area: Peregrine Falcon (*Falco peregrinus*), Major Mitchell's Cockatoo (*Cacatua leadbeaterii*) and the Carpet Python (*Morelia spilota imbricata*) (ATA Environmental, 2006a).

There is anecdotal evidence from SIGM staff that the Peregrine Falcon exists in the project area. This species was not recorded in either the Autumn or Spring surveys of the SIGM tenements (ATA Environmental, 2006b). Given the abundance of suitable habitat in the surrounding area, it is likely that this species would relocate to adjacent undisturbed vegetation upon the commencement of clearing (ATA Environmental, 2006b).

Major Mitchell's Cockatoo may very occasionally be seen foraging in the proposed clearing area, but would not be dependent upon this habitat (ATA Environmental, 2006a). The Cave Rocks project area contains a few large Salmon Gums that have suitable breeding hollows for cockatoos (ATA Environmental, 2006a). If possible, the clearing of large trees should be avoided, as this will preserve potential breeding hollows for this and other species. According to ATA Environmental (2006a), Salmon Gums containing hollows are found in relatively good numbers regionally, therefore the proposed clearing is unlikely to have a significant impact on Major Mitchell's Cockatoo.

The Carpet Python has been observed within the St. Ives tenements on numerous occasions, indicating that there is a resident population present (ATA Environmental, 2006b). Based on habitat preferences, the Carpet Python may occur in the proposed clearing area. ATA Environmental (2006a) states that any Carpet Pythons present in the application area will be lost during the clearing process, but this is unlikely to have a significant

impact upon the species. Geographically, the Carpet Python is widespread throughout the south-west, but at low density across its distribution. Any population present in the proposed clearing area is therefore likely to be small (ATA Environmental, 2006b). It is recommended that any Carpet Pythons caught in the proposed clearing area should be relocated to undisturbed areas prior to clearing to improve their chances of survival.

Four species listed as Priority 4 on the DEC's 'Priority Fauna List' were recorded during the fauna survey of the SIGM tenements: Shy Heathwren (*Hylacola cauta whitlocki*), Crested Bellbird (*Oreoica gutturalis gutturalis*), White-browed Babbler (*Pomatostomus superciliosus ashbyi*) and the Greater Long-eared Bat (*Nyctophilus timoriensis*) (ATA Environmental, 2006). A further three Priority 4 species were identified as 'likely to utilise' habitats within the SIGM tenements: Hooded Plover (*Charadrius rubricollis*), Australian Bustard (*Ardeotis australis*), and Bush Stone-curlew (*Burhinus grallarius*) (ATA Environmental, 2006b).

According to ATA Environmental (2006a) none of these Priority species are likely to be affected by the proposed clearing due to either the absence of suitable habitat in the application area, or the abundance of suitable habitat in surrounding areas.

The vegetation of the area applied to clear can be broadly described as Eucalypt woodland (Salmon Gum) with an understorey of chenopods (ATA Environmental, 2006a). This vegetation type has extensive coverage in the regional area. The vegetation applied to clear is sparse and degraded in some areas, especially in the vicinity of the existing pit, waste dump, and access tracks (GIS Database). There is also some evidence of pastoral grazing (Botanica Consulting, 2006). Based on this information, and the results of the fauna surveys, ATA Environmental (2006a; 2006b) concludes that the area applied to clear does not contain habitat of high ecological significance from a faunal perspective, or contain faunal assemblages that are ecologically significant.

Desktop studies have also indicated that the Cave Rocks area is not likely to support stygofauna as there is a deficiency of groundwater in the area and a rarity of calcrete within the geological strata (SIGM, 2006). These are both essential habitat requirements for stygofauna (SIGM, 2006).

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

Methodology ATA Environmental (2006a)
ATA Environmental (2006b)
Botanica Consulting (2006)
SIGM (2006)
GIS Database:
- Lake Lefroy - 1.4m Orthomosaic

(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

DEC records show one population of *Acacia websteri* (Priority 1) approximately 8 kilometres west of the area applied to clear (GIS Database). This would appear not to be a serious conservation issue as the population is found within a different vegetation association than the current proposal (GIS Database).

Botanica Consulting undertook a vegetation survey on 3 August 2006, covering an area of approximately 24.4 hectares. The surveyed area surrounds the existing Cave Rocks pit and waste dump, and is where clearing and subsequent expansion of the waste dump, pit cutback and development of two new pits is proposed. No Declared Rare Flora (DRF) or Priority Flora species were recorded during this survey (Botanica Consulting, 2006).

Although 15.4 hectares within the proposed clearance area was not surveyed by Botanica Consulting (2006), Jim's Seeds, Weeds and Trees (2006) surveyed three sample locations at the Cave Rocks area during a regional vegetation survey of the SIGM tenements in November and December 2005. This survey did not find any DRF or Priority Flora species in the Cave Rocks area (Jim's Seeds, Weeds & Trees, 2006). Four Priority species were identified on mining tenements south and southeast of Lake Lefroy: *Prostanthera splendens* (Priority 1), *Eucalyptus websteriana* subsp. *norsemanica* (Priority 1), *Eremophila perglandulosa* (Priority 1) and *Trachymene pyrophila* (Priority 2) (Jim's Seeds, Weeds & Trees, 2006). It is not likely that the clearing proposed in the Cave Rocks area will have any impact upon these species.

Flora surveys were conducted in 1992 and 2001 throughout the Kambalda Nature Reserve, a 'C' Class reservation located directly east of the area under application. Two Priority species, *Calamphoreus inflatus* (Priority 4) and *Eremophila pustulata* (Priority 3) were observed during the 2001 survey (Mattiske Consulting 2001 as cited in Jims Seeds, Weeds & Trees, 2005a), however, *E. pustulata* is no longer a priority species and as such is considered 'not threatened' (Jims Seeds, Weeds & Trees, 2005a). The Priority Flora species *Phlegmatospermum eremaeum* (Priority 2) has also been previously identified within the Kambalda Nature Reserve (WMC Resources Ltd, 1992 as cited in Jim's Seeds, Weeds & Trees, 2005b). None of the above species were recorded during Botanica's survey of the proposed clearing area in August 2006 (Botanica, 2006).

Botanica Consulting (2006) advised that the vegetation within the proposed clearing area is sparse and degraded nearest to the historic mine workings. No restricted habitats such as rocky outcrops, hillslopes or breakaways are present. Botanica Consulting (2006) and Jim's Seeds, Weeds and Trees (2006) reported that the vegetation in the Cave Rocks area (Eucalyptus woodland) has extensive coverage in the regional area. It is therefore unlikely that the proposed clearing will impact upon significant flora or habitat for significant flora.

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

Methodology Botanica Consulting (2006)
 Jim's Seeds, Weeds & Trees (2005a)
 Jim's Seeds, Weeds & Trees (2005b)
 Jim's Seeds, Weeds & Trees (2006)
 Matiske Consulting (2001)
 WMC Resources Ltd (1992)
 GIS Database:
 - Declared Rare and Priority Flora List
 - Pre-European Vegetation

(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 (TEC's) in close proximity to the area applied to clear (GIS Database). The nearest known TEC is approximately 297 kilometres south-east of the proposed clearing area (GIS Database), and therefore it is unlikely that the proposal will impact upon any known TEC's.

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

Methodology 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 area applied to clear falls within the IBRA Coolgardie Bioregion (GIS Database). According to Shepherd (2009), there is approximately 98.42% of the pre-European vegetation remaining in this Bioregion.

The vegetation of the application area has been classified as Beard Vegetation Association 9: Medium woodland; Coral Gum (*Eucalyptus torquata*) & Goldfields Blackbutt (*Eucalyptus lesouffii*), and Beard Vegetation Association 936: Medium woodland; Salmon Gum (GIS Database). According to Shepherd (2009), there is approximately 99.76% and 100% of these vegetation types remaining within the Coolgaride bioregion respectively. The area proposed to clear does not represent a significant remnant of vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-european % in IUCN Class I-IV Reserves
IBRA Bioregion – Coolgardie	12,912,204	12,707,873	~98.42	Least Concern	~10.87
Beard veg assoc. – State					
9	240,509	239,928	~99.76	Least Concern	~1.26
936	698,752	678,067	~97.04	Least Concern	~2.25
Beard veg assoc. – Bioregion					
9	240,442	239,867	~99.76	Least Concern	~1.26
936	586,792	586,791	~100	Least Concern	~1.2

* Shepherd (2009)

** Department of Natural Resources and Environment (2002)

The vegetation under application is not a remnant of vegetation in region that has been extensively cleared.

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- Pre-European Vegetation
- IBRA WA (regions – subregions)

(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 watercourses or wetlands within the area applied to clear (GIS Database). A minor non-perennial watercourse runs through the application area, forming part of the Merougil Creek. This creek terminates approximately 8 kilometres east where it reaches Lake Lefroy (GIS Database). Given that the proposed clearing area is within a large timber reserve, it is unlikely that the vegetation to be cleared acts as a significant buffer for Lake Lefroy. Furthermore, the vegetation in the area applied to clear does not restricted to wetland areas, and is broadly categorised as transitional Eucalyptus Woodland (Jims Seeds, Weeds & Trees, 2006).

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

Methodology Jims Seeds, Weeds & Trees (2006)
GIS Database:
- Hydrography, linear
- Hydrography, Lakes (coarse scale, 1M GA)
- Rivers

(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 proposed clearing area is located within the Great Western Plateau, a topographically monotonous surface of low relief and gradients between 1-2% (Beard, 1972 as cited in HGM, 1998). The major soil type across the proposed clearing area is a red sandy loam (Newbey, 1984 as cited in HGM, 1998).

DAFWA (2006) advise that given surface water is managed effectively and the site is rehabilitated post-mining, the clearing of this land does not present a soil erosion risk. SIGM have made commitments to rehabilitate and manage surface water so as to reduce any potential for erosion that may be associated with clearing vegetation across this site (SIGM, 2006). Rehabilitation of disturbed areas and management of surface water runoff will be managed under the appropriate Mining Proposal in accordance with the *Mining Act 1978*.

With low average annual rainfall (approximately 300 millimetres) and high annual evaporation rates in the range of 2,600 millimetres (GIS Database), recharge to groundwater would be low, effectively minimising the risk of salinisation. Similarly, residency time for locally ponded waters would be limited, effectively reducing the risk of waterlogging across the area to be cleared. Any clearing is unlikely to increase salinisation, either on-site or off-site, as saline and subsaline soils are common throughout the region (HGM, 1998). Wind roses for Kalgoorlie indicate low wind speeds (HGM, 1998), which would minimise the risk of wind erosion should the vegetation be cleared.

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

Methodology DAFWA (2006)
HGM (1998)
SIGM (2006)
GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual

(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 area applied to clear is located within the Kambalda Timber Reserve (TR 199/25), a 1,323 hectare 'C' Class reservation (GIS Database). A small portion of the area applied to clear (less than 1 hectare) exists within the boundaries of the Kambalda Nature Reserve (CR 33300), also a 'C' Class reservation (GIS Database).

The Conservation Commission, which is the vesting body for both of these reserves, has given its 'in principle' support for the Cave Rocks project to proceed. This outcome was reached after the proponent undertook consultation with stakeholders such as the DEC, Department of Industry and Resources (DoIR), Environmental Protection Authority (EPA), Main Roads of Western Australia (MRWA), Water Corporation, Conservation Council of Western Australia, Coolgardie Shire, local pastoralists and the Kambalda community (SIGM, 2006).

SIGM have committed to conservation offset measures to ensure no net loss of biodiversity and conservation values occur as a result of the proposed clearing and subsequent mining operations. Such measures include:

-SIGM has made a commitment to take a lead role in facilitating the formation and coordination of a Kambalda Regional Weed and Feral Animal Abatement Working Group and the implementation of the actions determined by this working group;

- SIGM have committed to infill and rehabilitate two disused ex-pastoral dams within the Kambalda Timber Reserve;

- Stabilisation and rehabilitation of the current Cave Rocks waste dump with a post-mining plan for incorporation into the surrounding land use purpose of nature conservation; and

- A weed management program will be implemented within the Cave Rocks area by SIGM. This program will focus on controlling outbreaks of weeds (particularly Maltese cockspur).

DEC (2006) considers that overall, the offsets being proposed by SIGM and the commitments given in the Cave Rocks facilitation plan are acceptable and consistent with the level of proposed impacts on the Kambalda Timber Reserve and Kambalda Nature Reserve.

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

Methodology DEC (2006)
SIGM (2006)
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 area applied to clear is not within a Public Drinking Water Source Area (GIS Database). One minor non-perennial watercourse dissects the application area, however it is anticipated that the proposed clearing will not have any impact upon surface water quality of this feature.

Previous drilling activities within the Cave Rocks project area have not encountered any groundwater (SIGM, 2006). Hydrogeological investigations of the area have concluded that there are no appreciable aquifers or aquitards present (SIGM, 2006). It is expected that the proposed clearing will have no significant impact upon groundwater levels, quality, or groundwater-dependent ecosystems including stygofauna.

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

Methodology SIGM (2006)
GIS Database:
- 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 average annual rainfall of the area applied to clear is approximately 300 millimetres, with average annual evaporation rates in the range of 2,600 millimetres (GIS Databases). It is expected that there would be little surface water flow during normal seasonal rains. When intense rainfall events do occur, the broad valleys and lake systems of the region (such as Lake Lefroy) act to disperse floodwaters.

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

Methodology GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual

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

Comments

There is one native title claim (WC98/027) over the area under application (GIS Database). However, 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.

In March 2006, SIGM commissioned a Social Impact Assessment (SIA) of their entire operations, including Cave Rocks, as part of their ongoing stakeholder consultation. The aim of the SIA was to ascertain SIGM's impacts on their stakeholders and ways forward for further social improvement (SIGM, 2006). Stakeholder consultation relating specifically to the Cave Rocks project followed the SIA, with the main stakeholders including DoIR, DEC, Coolgardie Shire and Mt Monger Pastoral Station (SIGM, 2006).

On 11 December 2006, the Conservation Commission met with DoIR, SIGM and the DEC to discuss the Cave Rocks Mining Proposal. Following this meeting, the Conservation Commission gave their 'in principle' support for the proposal to proceed. On 14 December 2006, the Environmental Management Branch of the DEC advised the EPA Service Unit that from a DEC perspective, concerns regarding potential impacts for the proposal to result in a net loss of biodiversity and conservation values had largely been addressed. Accordingly, assessment of the proposal under part IV of the *Environmental Protection Act 1986* was deemed not necessary.

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

Clearing permit CPS 1483/1 was granted by the Department of Industry and Resources on 1 February 2007 and was valid from 3 March 2007 to 3 March 2012. The clearing permit authorised the clearing of 39.8 hectares of native vegetation. An application to amend clearing permit CPS 1483/1 was submitted by St Ives Gold Mining Company to DoIR on 6 October 2008. St Ives Gold Mining Company Pty Ltd requested that the reporting period, as per the requirement of Condition 4 of the permit, be modified from calendar year to financial year in order for the clearing permit reporting requirements to align with St Ives' other government reporting requirements. The size of the permitted area and clearing area boundary that was approved to clear under clearing permit CPS 1483/1 remained unchanged. The permit expiry date was also extended to 31 July 2012. An application to amend permit CPS 1483/2 was submitted to the Department of Mines and Petroleum by St Ives Mining Company Pty Ltd on 3 May 2011. St Ives Gold Mining Company Pty Ltd requested that the reporting period, as per the requirement of Condition 4 of the permit, be modified from financial year to calendar year due to changes in company reporting periods. The size of the permitted area and clearing area boundary that was approved to clear under clearing permit CPS 1483/2 will remain unchanged.

Methodology SIGM (2006).
GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Registered with the NNTT

4. References

- ATA Environmental (2006a) Fauna Assessment: St Ives Cave Rocks Satellite Pit, Waste Dump and Haul Road.
- ATA Environmental (2006b) Vertebrate Fauna Assessment: St Ives Gold Mine, ATA Environmental, Western Australia.
- Botanica Consulting (2006) Vegetation Survey of the Cave Rocks Proposed Satellite Pit, Waste Dump (M15/300) & Haul Road (L15/214, L15/61).
- DAFWA (2006) Land degradation assessment report. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR), received 22 December 2006. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia.
- DEC (2006) Biodiversity advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR), received 18 January 2007. Biodiversity Coordination Section, Department of Environment and Conservation, 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.
- HGM (1998) Lake Lefroy environmental assessment (prepared for WMC Resources Ltd); Report - ES4490C, March 1998.
- Jim's Seeds, Weeds & Trees (2005a) Flora survey of the proposed clearing area within the Cave Rocks mining lease (M15/300).
- Jim's Seeds, Weeds & Trees (2005b) Review of flora and fauna for the St. Ives Gold Mine tenements.
- Jim's Seeds, Weeds & Trees (2006) Regional Vegetation Survey within the Mining Tenements of St Ives Gold Mine (SIGM). Prepared for St Ives Gold Mine, Goldfields Ltd. Boulder, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Mattiske Consulting (2001) Potential species for rehabilitation of Cave Rocks waste rock dump in Kambalda Nature Reserve. Prepared for WMC Resources Ltd.
- Newbey, K.R. (1984) Physical Environment in The Biological Survey of the Eastern Goldfields of Western Australia. Part 2 Widgiemooltha - Zanthus. Record. Western Australian Museum. Suppl. No. 18
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5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005. Department of Conservation and Land Management, Como, Western Australia*} :-

P1	Priority One - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from
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disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

- P2 Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3 Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4 Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1 Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2 Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3 Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4 Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). Priority Codes for Fauna. Department of Conservation and Land Management, Como, Western Australia} :-

- P1 Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2 Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3 Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4 Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5 Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (Environment Protection and Biodiversity Conservation Act 1999)

- EX Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W) Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN Endangered:** A native species which:

- (a) is not critically endangered; and
- (b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU

Vulnerable: A native species which:

- (a) is not critically endangered or endangered; and
- (b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

CD

Conservation Dependent: A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.