



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1976/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Saracen Gold Mines Pty Ltd

1.3. Property details

Property: Mining Lease M31/3
Minging Lease M31/4
Minging Lease M31/5
Local Government Area: Shire Of Menzies
Colloquial name: Pit

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation located within the project area has been mapped at a 1:250,000 scale as Beard vegetation association 400, and is described as: Succulent steppe with open low woodland; mulga over bluebush (Shepherd *et al.*, 2001).

The vegetation within the application area has been further divided into Land Units (Saracen, 2007). The following Land Units were described:

Land Unit 1: Degraded sparse open chenopod shrubland with scattered acacia species.

Land Unit 2: Degraded chenopod shrubland with occasional *Eremophila longifolia*.

Land Unit 3: Degraded mulga shrubland over mixed halophytes.

The application area falls predominantly within Land Units 1 and 2 (Saracen, 2007).

Clearing Description

The proposed clearing is for the expansion of the Porphyry Pit and waste dump for Saracen Gold Mines Pty Ltd (hereafter referred to as Saracen). The application area is located within the existing Porphyry Site Operations, approximately 130 kilometres northeast of Kalgoorlie.

The proponent has applied to clear a maximum area of 83 hectares within a permit application area totalling 158.5 hectares.

Vegetation Condition

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

To

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The vegetation condition is based on the Keighery (1994) vegetation condition scale, from aerial photography and an assessment provided by Saracen (2007).

The application area is located within the Eudjina Pastoral Lease and immediately adjacent to an operational minesite (GIS Database). Vegetation within the application area has been previously disturbed by grazing, mining and exploration activities, and has thus been substantially altered (Saracen, 2007). Most of the area is therefore rated as fair vegetation condition with minor erosion (Saracen, 2007).

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 East Murchison Subregion and the Murchison Region of the Interim Biogeographic Regionalisation of Australia (IBRA) (GIS Database). The biodiversity values of the subregion were assessed by Cowan (2001). The vegetation of the East Murchison Subregion is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and *Halosarcia* shrublands (Cowan, 2001). Vegetation within the application area, although degraded, is consistent with vegetation found within the East Murchison Subregion.

The proposal is not located within any of the ecosystems considered at risk for the IBRA subregion (Cowan, 2001).

The major land use in the region is pastoralism, and over 80% of this region is pastoral leasehold (GIS

Database; Saracen, 2006). Aerial imagery provided by the proponent as well as other aerial imagery available to the Department of Industry and Resources (DoIR) shows that the application area has also been impacted by mining activities and that the vegetation is sparse and degraded (Saracen, 2007; GIS Database).

Due to the level of disturbance that has already occurred within the proposed clearing area as a result of grazing and mining activities (GIS Database; Saracen, 2007), it is unlikely that the proposal will result in the clearing of native vegetation that has higher biodiversity attributes than that of the surrounding undisturbed vegetation.

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

Methodology Cowan (2001)
Saracen (2006)
Saracen (2007)
GIS Database:
- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00
- Edjudina 140cm Orthomosaic - Landgate03
- Pastoral Leases -DOLA 10/01

(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

According to databases available to DoIR, there are no known records of fauna of conservation significance within 75 kilometres of the application area (GIS Database).

In 2002, M.J. and A.R. Bamford Consulting Ecologists completed a field survey and a desk top analysis of fauna likely to occur in the region of the Saracen tenements and concluded that the vertebrate fauna are typical of the eastern Goldfields: moderately rich in reptiles and birds but depauperate in mammalian fauna. Furthermore, no threatened species were observed during the field survey on the Saracen tenements (Metcalf and Bamford, 2002 cited in Saracen, 2007). Additionally, a search was undertaken for the application area and surrounds (28.7°S 121.7°E/ 31.0°S 123°E) of the Department of Environment and Conservation (DEC) Threatened Fauna database, which includes species which are declared as 'Rare or likely to become extinct (Schedule 1)', 'Birds protected under an international agreement (Schedule 3)', and 'Other specially protected fauna (Schedule 4)'.

Based on habitat type and distribution, it was found that there are nine species of birds, four mammals and one reptile listed as Threatened Species under the *EPBC Act 1999* or protected under Western Australia legislation that are likely to occur in the region of the Saracen tenements (Saracen, 2006). Of these fourteen species, only four bird species and one crustacean were identified within DEC's Threatened Fauna database as having been collected within or near Saracen tenements over the past 100 years (Saracen, 2006): the Malleefowl, the Peregrine Falcon, the Hooded Plover, the Thick-billed Grass-wren (western subspecies) and a Crustacean.

The Malleefowl *Leipoa ocellata* (Schedule 1, fauna that is rare or likely to become extinct, '*Wildlife Conservation (Specially Protected Fauna) Notice, 2006*') may potentially occur in the vicinity of the Saracen tenements. There have been recent unconfirmed sightings of the Malleefowl in dense mulga woodland on nearby Mendelyarri station; however, no active or inactive Malleefowl mounds were found within the application area (Saracen, 2006). Furthermore, there have been no confirmed sightings of the Malleefowl on the Saracen tenements since 1908, where the species was sighted approximately 130 kilometres southwest of the application area (Saracen, 2006). Given the lack of Malleefowl mounds within the application area, it is unlikely that the proposed clearing will impact the conservation status of this species.

The Peregrine Falcon *Falco peregrinus* (Schedule 4, other specially protected fauna, '*Wildlife Conservation (Specially Protected Fauna) Notice, 2006*'), is a wide ranging bird that has little habitat specificity apart from an affinity with cliffs, tall trees for nesting, and water (Pizzey & Knight, 1997). Given the lack of cliffs, tall trees or perennial watercourses within the project area, the proposal is unlikely to impact the conservation status of this species.

The Hooded Plover (western subspecies) *Charadrius rubricollis rubricollis* (listed by the Department of Environment and Conservation (DEC) as Priority 4, taxa in need of monitoring) has only been sighted once in the past 100 years in the vicinity of the Saracen tenements. A pair was sighted in 2001, near Lake Yindargooda which is located approximately 90 km south of the application area (Saracen, 2006).

The Hooded Plover frequents the margins and shallows of salt lakes, also along coastal beaches, where it nests on the upper levels of the beach, in adjacent sand dunes, or on lake shores, and forages at the water's edge for small invertebrates (Garnett & Crowley, 2000). The species is non-migratory, although recent colour-band sightings have shown that birds will move several hundred kilometres (Garnett & Crowley, 2000). The nearest potential habitat for the Hooded Plover to the application area would be Lake Rebecca, which is located approximately 11 kilometres south-southwest of the application area. Furthermore, the application area is on the edge of the known range for the species (Garnett & Crowley, 2000). Based on the above, it is unlikely that the Hooded Plover will be affected by the proposed clearing.

The Thick-billed Grass-wren (western subspecies) *Amytornis textilis textilis* (listed by the DEC as Priority 4, taxa in need of monitoring) was last observed in 1908 approximately 130 kilometres south of the application area (Saracen, 2006). This subspecies suffered a massive decline early in the 20th century, and the current distribution of the Thick-billed Grass-wren is now restricted to areas around Shark Bay (Garnett & Crowley, 2000), and is therefore unlikely to be affected by the proposed clearing.

A Crustacean, *Branchinella apophysata* (listed by the DEC as Priority 1, taxa with few, poorly known populations on threatened lands) was last sighted in 1937, around Mt Margaret which is located approximately 110 kilometres north of the application area. This species of crustacean is known only from a single location near Mt Margaret, and nothing is known of its habitat or ecological requirements (Saracen, 2006). Based on the distance between the application area, the sedentary nature of the species and the only recorded sighting of the species, it is unlikely that the proposal will impact on the conservation of the species.

Fauna refugia in the region of the Saracen tenements include breakaways, rock outcrops, rocky hilltops, drainage lines, dampland areas north of Lake Rebecca and salt lakes after heavy rainfall (Saracen, 2006). These habitats are locally significant in enhancing the biodiversity of the region; however, it is unlikely that the application area will impact on these fauna refugia. The application area comprises predominantly of degraded vegetation with relatively flat topography, and other than a minor, non perennial drainage line, the application area lacks other significant fauna refugia (GIS Database). Vegetation within the application area was substantially altered during previous grazing and mining activity, and further clearing is likely to have a very minor effect on faunal populations.

Additionally, environmental management commitments include 'As a general rule, refugia for indigenous fauna, including breakaways, rocky outcrops and seasonal swamps are not disturbed, integrity of drainages and seasonal habitat for migratory and nomadic birds are protected' (Saracen, 2006).

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

Methodology Garnett & Crowley (2000)
Pizzey & Knight (1997)
Saracen (2006)
Saracen (2007)
GIS Database:
- Threatened Fauna - CALM 30/9/05
- Topographic Contours, Statewide - DOLA 12/09/02

(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

The likelihood of Declared Rare Flora (DRF) occurring within the Saracen tenements was inferred from database searches and flora collections held by DEC (Florabase at the Herbarium, Declared Rare and Priority Flora list and Threatened Flora Database from Species and Communities Branch) (Saracen, 2006). Additionally, Mattiske Consulting Pty Ltd completed several flora and vegetation surveys within the project areas from 1998 to 2002, which were assessed for the presence of rare and priority flora (Saracen, 2006).

The results of the surveys indicate that there are four species of DRF known to occur within the Murchison and Great Victoria Desert IBRA Regions. Of these, three species (*Conospermum toddii* – Victoria Desert Smokebush; *Eucalyptus articulata* – Ponton Creek Mallee and *Thryptomene wittweri*) occur in the general vicinity of the Saracen tenements (Saracen, 2007). While it is possible that these three species could occur on Saracen tenements, only *Conospermum toddii* has been collected nearby (Saracen, 2006).

Over 150 Priority species have been recorded within the Murchison and Great Victoria Desert IBRA Regions, and 20 of these species have been collected in the general vicinity of Saracen tenements. Of these, *Halosarcia* sp 'Angelfish Island', a Priority 1 species, has been collected within the Butchers Well and Mount Celia project area (other Saracen tenements). It also occurs in large numbers on margins of Lake Minigwal (approximately 70 km northeast of the application area) and appears to be a pioneer species colonizing disturbed ground (Davey, 2000 cited in Saracen, 2006).

None of the species listed in the Commonwealth Department of Environment and Heritage's database of Threatened Species and Threatened Ecological Communities, are known to occur on Saracen tenements (Saracen, 2006).

Although DRF and Priority Flora may occur in the vicinity of the Saracen tenements, databases available to DoIR indicate that no DRF or Priority Flora are known to occur within the application area (GIS Database). Similarly, no DRF or Priority species were found within the application area during a survey conducted by Mattiske Consulting Pty Ltd of the proposed clearing site on August 24, 2006 (Saracen, 2007).

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

Methodology Saracen (2006)

Saracen (2007)
 GIS Database:
 - Declared Rare and Priority Flora List - CALM 01/07/05

(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 (TECs) within the East Murchison IBRA subregion (Cowan 2001). No known TECs are located in the vicinity of the application area, or within the application area itself (GIS database; Saracen, 2006).

Furthermore, the proposal is not located within any of the ecosystems at risk mentioned in Cowan (2001).

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

Methodology Cowan (2001)
 Saracen (2006)
 GIS Database:
 - Threatened Ecological Communities CALM 12/04/05

(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 vegetation proposed to be cleared is mapped as Beard vegetation association 400, Succulent steppe with open low woodland, mulga over bluebush (GIS database). According to Shepherd *et al.* (2001), approximately 190,824 hectares or ~100% of Beard vegetation association 400 remains for the Murchison IBRA Region.

Although Beard vegetation association 400 is not represented in any conservation estates within the Murchison IBRA Region, the subregional extent is approximately 100% uncleared, and therefore, the proposed clearing does not pose a threat to the conservation of this vegetation association.

The area proposed to be cleared does not represent a significant remnant of native vegetation in an extensively cleared area.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-european % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion – Murchison	28,120,558	28,120,558	~100	Least Concern	1.1 (1.1)
IBRA Subregion – Eastern Murchison	21,135,046	21,135,046	~100	Least Concern	1.4 (1.4)
Beard veg assoc. – State					
400	190,824	190,824	~100	Least Concern	0.0 (0.0)
Beard veg assoc. – Bioregion					
400	190,824	190,824	~100	Least Concern	0.0 (0.0)

* Shepherd *et al.* (2001) updated 2005
 ** Department of Natural Resources and Environment (2002)

Options to select from: Bioregional Conservation Status of Ecological Vegetation Classes
(Department of Natural Resources and Environment 2002)

Presumed extinct Probably no longer present in the bioregion
 Endangered* <10% of pre-European extent remains
 Vulnerable* 10-30% of pre-European extent exists
 Depleted* >30% and up to 50% of pre-European extent exists
 Least concern >50% pre-European extent exists and subject to little or no degradation over a majority of this area

*** or a combination of depletion, loss of quality, current threats and rarity gives a comparable status**

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd *et al.* (2001)
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 at variance to this Principle**

According to available databases, a minor, non perennial drainage line traverses the application area. The flow of the drainage line is east to west towards Lake Rebecca (GIS Database). Lake Rebecca, a non perennial lake, is located approximately 11 kilometres west-southwest of the application area (GIS Database).

With an average annual rainfall of approximately 200 - 250 mm, and high annual evaporation rates of approximately 3,000 mm (GIS Database), the likelihood of the drainage line having regular flowing water is low.

No groundwater dependent ecosystems are known to occur in or near the application area (GIS Database).

Based on the above, the proposed clearing is at variance to this Principle; however, the area is degraded and practically devoid of vegetation (GIS Database; Saracen, 2007). Additionally, overland flow has been diverted along a diversion bund that is east of the application area and passes to the south of the proposed pit extension (Saracen, 2007). This will ensure that most overland flows are diverted around the proposed site, thereby minimizing the likelihood of accelerated erosion (Saracen, 2007).

Methodology Saracen (2007)
GIS Database:
- Evaporation Isopleths - BOM 09/98
- Geodata, Lakes - GA 28/06/02
- Hydrography, Linear - DoE 1/2/04
- Mean Annual Rainfall Surface (1975 - 2003) DoW
- Potential Groundwater Dependant Ecosystems - DOE 2004
- Rivers 250K - GA

(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 application area was surveyed by the Department of Agriculture and Food (DAFWA) and has been mapped as Gundockerta Land System, which comprises of extensive, gently undulating plains on weathered greenstone with stony mantle and lower alluvial tracts (GIS Database; Saracen, 2007). Land within the application area can be described as: Stony plains - level to very gently inclined plains with abundant mixed pebble mantles of quartz, ironstone, greenstone and occasionally calcrete (Pringle *et al.*, 1994).

Where not protected by a stony mantle, saline plains and adjacent lower alluvial tracts are susceptible to water erosion, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed (Pringle *et al.*, 1994). The erosion risk is low to moderate for the application area.

Minor incised drainage channels exist south of Porphyry which are partially the result of concentrated drainage around existing protection bunds and waste rock landforms (Saracen, 2007). Most overland flow has been diverted along a diversion bund to the east and passes to the south of the proposed pit extension. This diversion bund is breached and will be repaired to ensure most overland flows are diverted around the proposed site thereby minimising the likelihood of accelerated erosion (Saracen, 2007).

Ruby dock weed has been previously recorded in the South Laverton region on rehabilitated mine sites (Saracen, 2007). Saracen has committed to weed management protocols (e.g. vehicle wash down) if weed contamination is considered likely.

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

Methodology Pringle *et al.* (1994)
Saracen (2006)
Saracen (2007)
GIS Database:
- Evaporation Isopleths - BOM 09/98
- Mean Annual Rainfall Surface (1975 - 2003) DoW
- Topographic Contours, Statewide DOLA 19/09/02

(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

A Crown Reserve 8642 (vested with the Water and Rivers Commission for the purpose of a waterway) is located within 2 kilometres of the application area (GIS Database). Advice received from the Department of Water (DoW) dated 10 August 2007 to the Assessing Officer indicates that DoW has no objection to the proposed clearing as the Reserve is up gradient of the proposed clearing and therefore there is a low risk of any sedimentation or erosion from the drilling activities (DoW, 2007).

Another conservation area, the Goongarrie 'A' Class National Park, is located approximately 54 kilometres west of the application area (GIS Database). Given the distance between the conservation reserve and the application area, it is unlikely that the values of the conservation area will be compromised.

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

Methodology DoW (2007)
GIS Database:
- CALM Managed Lands and Waters CALM 1/7/05
- Clearing Regulations - Schedule One Areas - DOE 10/03/05
- Geodata, Lakes - GA 28/06/02

(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) (GIS Database).

There are no permanent creeks in the application area; however, one minor, non perennial drainage line traverses the application area (GIS Database). Most overland flow around the application area has been diverted along a diversion bund to the east and passes to the south of the proposed pit extension (Saracen, 2007). It is therefore unlikely that the proposed clearing would exacerbate sedimentation or turbidity of waterbodies near the application area.

Lake Rebecca, a non perennial lake is located 11 kilometres west-southwest of the application area (GIS Database). Surface water flows from east of the application area westwards to Lake Rebecca; however, surface flow only occurs after major, but infrequent, rainfall events (Saracen, 2006). Increased runoff and sedimentation of the Lake is unlikely.

Groundwater within the area under application is saline at between 3000 - 7000 milligrams per litre of Total Dissolved Solids (TDS) and approximately 35 metres below the surface (GIS Database; Saracen, 2007). The clearing of native vegetation is not likely to decrease the quality of groundwater.

With an average annual rainfall of approximately 200 - 250 mm, and high annual evaporation rates of approximately 3,000 mm (GIS Database), there is likely to be little surface water within the application area or surrounds, and recharge to groundwater would be low. Therefore the proposed clearing is not likely to reduce the quality of surface water.

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

Methodology Saracen (2006)
Saracen (2007)
GIS Database:
- Geodata, Lakes - GA 28/06/02
- Groundwater Salinity, Statewide - DoW Properties
- Hydrography, Linear - DoE 1/2/04
- Public Drinking Water Source Areas DoE 7/2/06
- Rivers 250K - GA

(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 region is classified as semi-desert and characterised by hot summers and cool winters, with an average annual rainfall of 200 - 250 mm and average annual evaporation rates of 3,000 mm (GIS Database; Saracen, 2006). There are no major watercourses within the proposed clearing site, however a minor, non perennial drainage line transects the application area (GIS Database). Existing diversion bunds will be repaired to ensure overland flows are diverted around extensions to the pit and the waste rock landform (WRL) (Saracen, 2007).

The clearing of 83 hectares within the Raeside-Ponton, Salt Lake Basin catchment, which has a total area of more than 11 million hectares (GIS Database), is unlikely to result in an increase in flooding incidence or intensity.

The drainage systems of the region have very low gradients and contain playa lakes (round depressions in the surface of the ground). Lakes form local depocentres with poorly developed radial drainage systems. During occasional intense rainfall events lakes may fill, and in very rare events some may overflow, link-up and discharge to the Nullarbor Plain through Ponton Creek (Pringle *et al.* 1994).

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

Methodology Pringle *et al.* (1994)
 Saracen (2007)
 GIS Database:
 - Evaporation Isopleths - BOM 09/98
 - Hydrographic Catchments - Catchments - DoE 23/3/05
 - Hydrography, Linear - DoE 1/2/04
 - Rainfall, Mean Annual - BOM 30/09/01
 - Rivers 250K - GA

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

Comments

There are no known Native Title claims over the area under application (GIS Database).

Advice received from the Department of Indigenous Affairs (DIA) dated 6 August 2007 to the Assessing Officer indicates that there are three registered Aboriginal Sites of Significance contained wholly or partly within the proposed clearing area on specified tenements M31/3, M31/4 and M31/5: DIA sites 2325 (Porphyry Gold 4), 2326 (Porphyry Gold 5) and 2327 (Porphyry Gold 6) (DIA, 2007). However, on June 13, 2000, the Aboriginal Cultural Material Committee (ACMC) determined that on the basis of the information submitted, DIA sites 2325 (Porphyry Gold 4), 2326 (Porphyry Gold 5) and 2327 (Porphyry Gold 6) did not meet the criteria of section 5 of the *Aboriginal Heritage Act 1972* (AHA) and thus, at this time, are not sites under the AHA (DIA, 2007). DIA sites 2325 (Porphyry Gold 4), 2326 (Porphyry Gold 5) and 2327 (Porphyry Gold 6) are maintained on the register as 'stored data' only (DIA, 2007).

DIA site 2323 (Porphyry Gold 2) was determined by the ACMC to be a site under section 5 of the AHA and thus is protected under the AHA (DIA, 2007). This site is located in the north section of tenement M31/4 and should be avoided (DIA, 2007). In addition, DIA site 19142 (Lake Rebecca) was determined by the ACMC to be a site under section 5 of the AHA and thus is protected under the AHA (DIA, 2007). As it stands, CPS 1976/1 will not impact any places known to the DIA that meet the terms of section 5 of the AHA (DIA, 2007).

It is possible that there are sites that have not yet been reported to the DIA and entered on the Register of Aboriginal Sites. The AHA protects all Aboriginal sites in Western Australia, whether they are known to the DIA or not. Saracen Gold Mines Pty Ltd needs to be aware that if it is unable to avoid impacting Aboriginal Sites, Saracen will need to submit a notice under section 18 of the AHA to the ACMC to obtain the consent of the Minister of Indigenous Affairs prior to the commencement of work (DIA, 2007).

It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no site of Aboriginal significance is damaged through the clearing process.

A Crown Reserve 8642 (vested with the Water and Rivers Commission for the purpose of a waterway) is located within 2 kilometres of the application area (GIS Database), which is a trigger for EPA referral. Advice received from the DoW dated 10 August 2007 to the Assessing Officer indicates that DoW has no objection to the proposed clearing as the Reserve is up gradient of the proposed clearing, and therefore, there is a low risk of any sedimentation or erosion from the drilling activities (DoW, 2007).

The proposed Pit for Saracen Gold Mines Pty Ltd is subject to the *Mining Act 1978* approval process. A mining proposal must be approved by DoIR prior to the commencement of the proposed works.

It is the proponent's responsibility to liaise with DEC and the DoW 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 DIA (2007)
 DoW (2007)
 GIS Database:
 - Clearing Regulations - Schedule One Areas - DOE 10/03/05
 - Native Title Claims - DLI 7/11/05
 - Sites of Aboriginal Significance DIA

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Comment / recommendation
Mineral	Mechanical	83	The proposal has been assessed against the Clearing Principles and the proposal has been found not

at variance to Principle e, not likely to be at variance to Principles a, b, c, d, g, h, i and j, and is at variance to Principle f.

It is concluded that potential impacts to the environment can be mitigated by conditions imposed on the permit. Therefore, it is recommended that the permit be granted subject to the following conditions:

1. The Permit Holder must record the following for each instance of clearing:

- (a) the location where clearing occurred, expressed as grid coordinates using the Geocentric Datum of Australia 1994 coordinate system;
- (b) the area cleared in hectares;
- (c) the dates cleared;
- (d) the method of clearing; and
- (e) the purpose of clearing.

2. The Permit Holder shall provide a report to the Director, Environment Division, Department of Industry and Resources by 31 March each year, setting out the records required under condition 1 of this permit in relation to clearing carried out between 1 January and 31 December of the previous financial year. This report can be included as part of the Annual Environmental Report submitted to DoIR.

5. References

- Cowan, M (2001) Murchison 1 (MUR 1 East Murchison subregion) Subregional description and biodiversity values, dated September 2001. In: "A biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002". Report published by the Department of Conservation and Land Management, Perth, Western Australia.
- Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.
- Department of Indigenous Affairs (2007) Sites of Aboriginal Significance advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources, received 6 August 2007. Department of Indigenous Affairs 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.
- Department of Water (2007) Crown Reserve 8642 advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources, received 10 August 2007. Department of Water.
- Garnett, S.T. and Crowley, G.M. (2000) The Action Plan for Australian Birds 2000. Department of the Environment and Water Resources, 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.
- Pizzey, G. and Knight, F. (1997) Field Guide to the Birds of Australia. Angus & Robertson, Sydney.
- Pringle, H.J.R., Van Vreeswyk, A.M.E., & Gilligan, S.A. (1994) An Inventory and Condition Survey of Rangelands in the North-eastern Goldfields, Western Australia, Rep. No. 87. Department of Agriculture, South Perth, Western Australia.
- Saracen Gold Mines Pty Ltd (2006) Environmental Impact Assessment, Environmental Management Commitments and Procedures. Unpublished Report dated December 2006.
- Saracen Gold Mines Pty Ltd (2007) Supporting information for clearing permit applications associated with re-opening of the Porphyry mine site: 1. Dewatering pipeline to Lake Rebecca, 2. Haul route south to existing Safari Bore haul road and 3. Pit expansion and associated infrastructure. Unpublished Report dated 2007.
- 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

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 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.