



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 1056/1

Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: PMR QUARRIES PTY LTD T/A WA LIMESTONE

### 1.3. Property details

Property: M70/733

Local Government Area: Shire Of Kalamunda

Colloquial name: Mining Lease 70/733 - Pickering Brook

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
12.4		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	Clearing Description	Vegetation Condition	Comment
<p>The vegetation in the application area is broadly mapped as Beard Vegetation Association 3: Medium forest; jarrah-marri.</p> <p>(Hopkins et al. 2001; Shepherd et al. 2001)</p> <p>On the 22nd and 24th September 1996, Ecologia Environmental Consultants conducted a botanical assessment of the mining lease M70/733 (Ecologia, 1997). During the survey, three broad vegetation types were identified within the project area:</p> <p>1. Moderately dense <i>Eucalyptus marginata</i> / <i>E. calophylla</i> woodland;</p> <p>2. Open <i>Eucalyptus marginata</i> / <i>E. calophylla</i> woodland;</p> <p>3. Open <i>Banksia grandis</i> woodland.</p> <p>These broad vegetation types were further broken down into the following six sub-units (Ecologia, 1997):</p> <p>a. Moderately dense <i>Eucalyptus marginata</i> over a <i>Macrozamia riedlei</i> dominated shrubland;</p> <p>b. Open <i>Eucalyptus calophylla</i> over moderately dense mixed shrubs;</p> <p>c. Open to sparse <i>Eucalyptus calophylla</i> and <i>Banksia grandis</i> over low mixed shrubs and herbs;</p> <p>d. Open <i>Eucalyptus marginata</i> woodland over <i>Macrozamia riedlei</i> and <i>Xanthorrhoea preissii</i> dominated understorey;</p> <p>e. Sparse <i>Eucalyptus marginata</i> over tall dense <i>Bossiaea aquifolium</i> dominated shrubland; and</p> <p>f. Open <i>Banksia grandis</i> over low mixed shrubs.</p>	<p>The proposal is for the clearing of up to 12.4 hectares of native vegetation within mining lease M70/733 for the expansion of an existing gravel quarry within the Pickering Brook area. Previously rehabilitated areas will require disturbance to support the mining activities as proposed.</p>	<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)</p>	<p>The site is typical of a Jarrah-Marri woodland and is bordered by recently cleared and mined areas to the north, revegetated areas to the south, and State Forest to the east and west (Western Wildlife, 2006). Much of the native forest that exists on mining lease M70/733 was burnt in January 2005 and has also suffered disturbance in the form of logging.</p> <p>The assessing officer attended a site visit on the 22nd June 2006 which confirmed that a portion of the area under application had already been cleared under a 'Notice of Intent to Clear' issued in accordance with Regulation 9 of the <i>Soil and Land Conservation Regulations 1992</i>. Authority to clear under this approval expired on the 8th July 2006.</p>

### 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**

A botanical survey of the mining lease M70/733 was conducted by Ecologia on 22 and 24 September 1996. A total of 152 vascular plant species were recorded from 80 genera (Ecologia, 1997). Vegetation sampling in Jarrah/Marri woodland by Worsley Alumina Pty Ltd (1985) recorded similar species richness to that reported above. Worsley's sampling was undertaken in the same geomorphological system to the WA Limestone study site, however survey methodology was different (Ecologia, 1997). There is no evidence to suggest that the proposed clearing area contains a higher level of biodiversity than surrounding areas (DEC, 2006).

The proposed clearing area consists largely of Jarrah/Marri woodland that is likely to have been selectively logged in the past, and re-vegetated areas that are still in the early stages of succession. Western Wildlife (2006) reported that trees in the proposed clearing area (in both the native forest and re-vegetated areas) were relatively young and did not contain hollows. Only one tree was identified that may have potentially contained a hollow (Western Wildlife, 2006). The lack of hollow-bearing trees has implications in terms of fauna species diversity, as the site is less likely to act as a breeding ground for cockatoo and owl species which are reliant upon hollows. Mammals such as the Brush-tailed Phascogale (*Phascogale tapoatafa tapoatafa*) which relies upon hollows for shelter, are also less likely to reside in the proposed clearing area (Western Wildlife, 2006).

The proposed clearing area is bounded by cleared and mined areas to the north and south, with re-vegetation immediately to the west. Native forest exists to the east. These disturbed areas are less likely to act as corridors for the movement of fauna into the area under application. Based on surrounding disturbances, the proposed clearing area is unlikely to comprise a higher level of biological diversity than other forested areas in the surrounding region.

No Threatened Ecological Communities (TEC's), Declared Rare Flora (DRF) or Priority Flora species are known from the proposed clearing area (GIS Database; DEC, 2006). Furthermore, there are no restricted habitats such as wetlands or watercourses present in the application area, therefore the area is unlikely to act as a breeding ground for frog species (Western Wildlife, 2006).

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

##### Methodology

GIS Database:

- Declared Rare and Priority Flora List- CALM 01/07/05.

- Threatened Ecological Communities - CALM 12/04/05.

DEC (2006).

Ecologia (1997).

Western Wildlife (2006).

Worsley Alumina Pty Ltd (1985).

#### (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 the Department of Environment and Conservation's (DEC) Threatened Fauna dataset, there are no known records of species of conservation significance within the area proposed to be cleared (GIS Database).

Western Wildlife was commissioned by WA Limestone to undertake an assessment of the project area, specifically addressing the likelihood of it providing habitat for fauna of conservation significance (Western Wildlife, 2006). Prior to the site inspection, a list of the conservation significant fauna that would be expected to occur in the vicinity of the area proposed to be cleared was generated by searching available databases. The databases which were searched in support of the assessment were: the Western Australian Museum's online database (FaunaBase), the DEC's Threatened and Priority fauna database, Birds Australia Atlas Database and the *Environmental Protection and Biodiversity Conservation Act 1999* Protected Matters search tool (Western Wildlife, 2006).

The site was visited on the 4th July 2006 with the entire area traversed on foot (Western Wildlife, 2006). All vertebrate fauna encountered was recorded and notes were made on the fauna habitats present on the site. Any large trees that may contain potential hollows for cockatoos were also recorded.

Based on habitat preferences and known distributions, Western Wildlife (2006) listed the following reptile species of conservation significance as potentially occurring in the proposed clearing area: Carpet Python (*Morelia spilota imbricata*), Darling Range Ctenotus (*Ctenotus delli*), and the Southern Death Adder (*Acanthophis antarcticus*).

The Carpet Python is listed as Schedule 4 (other specially protected fauna) under the *Wildlife Conservation (Specially Protected Fauna) Notice 2006*, and as Priority 4 on the DEC's Threatened and Priority Fauna Database. The small size of the application area would be likely to potentially support only one or two individual

Carpet Pythons, therefore the proposed clearing is not likely to significantly impact upon this species (Western Wildlife, 2006).

The Darling Range Ctenotus is listed as Priority 4 on the DEC's Threatened and Priority Fauna Database. This species inhabits Jarrah and Marri woodlands with a shrub-dominated understorey on laterite, sand or clay, and occasionally on granite outcrops (Western Wildlife, 2006). Based on habitat preferences, this species may occur anywhere in the proposed clearing area. However, there is no evidence to suggest that the proposed clearing area represents significant habitat for this species.

The Southern Death Adder (southwest population) is listed as Priority 3 on the DEC's Threatened and Priority Fauna Database. This species is confined to the Darling Range and is known to inhabit Jarrah woodlands near granite outcrops and in densely vegetated creeks (Western Wildlife, 2006). Based on habitat preferences, this species may possibly occur in the forested portion of the proposed clearance area, but is unlikely to be found in the re-vegetated area (Western Wildlife, 2006). However, there is no evidence to suggest that the proposed clearing area represents significant habitat for this species.

One bird species of conservation significance was observed in the study area during the site visit by Western Wildlife: Forest Red-tailed Black Cockatoo (*Calyptorhynchus banksii naso*). This species is listed as Schedule 1 (fauna that is rare or is likely to become extinct) under the *Wildlife Conservation (Specially Protected Fauna) Notice 2006*. Although observed in the application area, this species is not likely to use the area for breeding given the scarcity of large hollow-bearing Eucalypts (Western Wildlife, 2006). The proposed clearing area may be used for feeding, however, an abundance of food species outside the area under application would suggest it is unlikely to represent significant habitat for this species.

Based on habitat preferences and known distributions, the following bird species of conservation significance were listed as potentially occurring in the proposed clearing area: Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*), Baudin's Black-Cockatoo (*Calyptorhynchus baudinii*), Peregrine Falcon (*Falco peregrinus*), Rainbow Bee-eater (*Merops ornatus*), Fork-tailed Swift (*Apus pacificus*), Barking Owl (*Ninox connivens*) and Masked Owl (*Tyto novaehollandiae novaehollandiae*) (Western Wildlife, 2006).

Carnaby's Black-Cockatoo is listed as Schedule 1 (fauna that is rare or is likely to become extinct) under the *Wildlife Conservation (Specially Protected Fauna) Notice 2006*, and as Endangered under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*. This species feeds on seeds of Jarrah, Marri and Dryandra sessilis (Western Wildlife, 2006). Baudin's Black-Cockatoo is listed as Schedule 1 under the *Wildlife Conservation (Specially Protected Fauna) Notice 2006* and as Vulnerable under the *EPBC Act 1999*. This species feeds on seeds of Marri, various Eucalypts, Hakea spp and Banksia spp. (Western Wildlife, 2006). Both species may visit the proposed clearing area to feed, however it is unlikely that they will use the site to breed given the lack of suitable breeding hollows. The proposed clearing area is therefore unlikely to represent significant habitat for these species.

The Peregrine Falcon is listed as Schedule 4 (other specially protected fauna) under the *Wildlife Conservation (Specially Protected Fauna) Notice 2006*. This falcon is a wide ranging raptor which nests in tall trees (Western Wildlife, 2006). The small area proposed to clear would only be a part of the larger range of one or two individuals. The Peregrine Falcon is also less likely to nest in the proposed clearing area given the scarcity of tall trees (Western Wildlife, 2006). The proposed clearing area is therefore unlikely to represent significant habitat for this species.

The Rainbow Bee-eater and the Fork-tailed Swift are both listed as Migratory under the *EPBC Act 1999*. The Rainbow Bee-eater is a frequent visitor to Perth in the summer months, breeding in sandy banks. Whilst it is likely to visit the proposed clearing area seasonally, it is not likely to breed here (Western Wildlife, 2006). The Fork-tailed Swift is largely an aerial species, and the effect of the proposed clearing on this species is likely to be negligible (Western Wildlife, 2006).

The Barking Owl (Priority 2 on the DEC's Threatened and Priority Fauna Database) and Masked Owl (Priority 3 on the DEC's Threatened and Priority Fauna Database) are both wide ranging species which may be occasional visitors to the proposed clearing area (Western Wildlife, 2006). The proposed clearing area is not likely to represent significant habitat for these species given that they rely on large hollow-bearing Eucalypts for breeding (only one tree was identified in the study site as potentially containing a hollow) (Western Wildlife, 2006).

Based on habitat preferences and known distributions, the following mammal species of conservation significance were listed as potentially occurring in the proposed clearing area: Chuditch (*Dasyurus geoffroi*), Brush-tailed Phascogale (*Phascogale tapoatafa tapoatafa*), Quenda (*Isodon obesulus*), Brush Wallaby (*Macropus irma*) and Western False Pipistrelle (*Falsistrellus mackenziei*) (Western Wildlife, 2006).

The Chuditch is listed under Schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2006*, and as Vulnerable under the *EPBC Act 1999*. Chuditch have territories of 55 - 120 hectares (females) or 400 hectares (males) (Strahan, 1995 as cited in Western Wildlife, 2006). The proposed clearing area is therefore not large enough to support a chuditch population, but may be part of one or more individuals larger home-range. The proposed clearing area is not likely to represent significant habitat for the Chuditch.

An old CALM record of the Brush-tailed Phascogale (Priority 3 on the DEC's Threatened and Priority Fauna Database) in the Pickering Brook area suggests that this species may be present in the proposed clearing area (Western Wildlife, 2006). This species uses tree hollows for shelter and breeding and only one tree was identified in the proposed clearing area as potentially having a hollow. The proposed clearance area is not likely to represent significant habitat for this species.

The Quenda (Priority 5 on the DEC's Threatened and Priority Fauna Database) inhabits areas with a dense understorey, particularly in dense wetland vegetation (Western Wildlife, 2006). Given the absence of wetland vegetation in the proposed clearing area, the Quenda is not likely to be significantly impacted.

The Brush Wallaby (Priority 4 on the DEC's Threatened and Priority Fauna Database) is known to occur in forests and woodlands with a dense shrub understorey (Western Wildlife, 2006). This species may therefore occur in parts of the proposed clearing area, but is less likely in the re-vegetated areas. There is no evidence to suggest that the proposed clearing area represents significant habitat for this species.

The Western False Pipistrelle (Priority 4 on the DEC's Threatened and Priority Fauna Database) is a small bat that occurs in high rainfall Jarrah forest and coastal woodlands (Western Wildlife, 2006). Whilst this species may potentially forage in the proposed clearing area it is unlikely to reside here as it is known to roost in small colonies in tree hollows (Western Wildlife, 2006).

During the site visit Western Wildlife (2006) noted that the proposed clearing area contains recently re-vegetated areas and native forest that is likely to have been selectively logged in the past. Consequently, only one large mature tree was identified that has the potential to contain a hollow large enough for breeding cockatoos or owls (Western Wildlife, 2006). Whilst the vegetation in the area has the potential to be used by several species of conservation significance for foraging, it is unlikely to represent 'significant' habitat (especially for breeding purposes) for fauna species of conservation significance (Western Wildlife, 2006; DEC, 2006). Furthermore, the proposed clearing is not likely to have a significant impact on local fauna populations as linkages east and west of the proposed clearing area can still be maintained via the continuous native forest around the southern border of the mining lease (Western Wildlife, 2006). The staged nature of the clearing will also allow fauna to migrate into uncleared areas, and the post-mining rehabilitation of disturbed areas will ensure that net vegetation loss is only temporary.

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** GIS Database:  
- Threatened Fauna - CALM 30/09/05.  
DEC (2006).  
Strahan (1995).  
Western Wildlife (2006).

**(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**

According to the available Department of Environment and Conservation (DEC) datasets, no Priority or Declared Rare Flora (DRF) species are known to occur within the area under application (GIS Database). However, DEC datasets have records of numerous Priority Flora species within a 10km radius of the application area as well as records of the following DRF: *Acacia anomala*, *Thelymitra stellata*, *Conospermum undulatum*, *Diuris drummondii* and *Diuris purdiei* (DEC, 2006).

On the 22nd and 24th September 1996, Ecologia Environmental Consultants conducted a botanical assessment of the mining lease M70/733 (Ecologia, 1997). Ten quadrats/sites approximately 10 m x 10 m were chosen using aerial photographs and field observations to ensure all vegetation types were represented. Four vegetation transects were followed in the south of the project area and opportunistic collections were made during the survey. No DRF or Priority Flora species were recorded (Ecologia, 1997).

DEC (2006) reports that *Acacia anomala*, *Thelymitra stellata* and *Conospermum undulatum* are in flower at the end of September i.e. the time of Ecologia's survey in 1996. Therefore there is a higher probability of these species being found, if present, during this survey. *Diuris drummondii* and *Diuris purdiei* respond well to fire but are also found in damp/land situations and thus given the lack of damp/lands in the area to be cleared, it is unlikely they will occur in the area. Given the results of Ecologia's 1996 Spring survey, it is unlikely that the vegetation proposed to be cleared includes rare flora (DEC, 2006).

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** GIS Database:  
- Declared Rare and Priority Flora List - CALM 01/07/05.  
DEC (2006).  
Ecologia (1997).

**(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) identified within mining lease M70/733 (GIS Database). The nearest known TEC is approximately 12.3 km west of the area under application.

None of the vegetation communities described by Ecologia (1997) are TECs or ecologically at risk as described by Williams and Mitchell (2001) in 'A biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002'.

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** GIS Database:  
 - Threatened Ecological Communities - CALM 12/04/05.  
 Williams and Mitchell (2001).

**(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 proposed to be cleared is located within the Northern Jarrah Forest IBRA subregion, of which approximately 58.8% of the Pre-European vegetation extent remains (Shepherd et al. 2001a).

The benchmark of 15% representation in conservation reserves (JANIS Forests Criteria, 1997) has been met for Beard vegetation association 3 within the Northern Jarrah Forest IBRA subregion. The area proposed to be cleared does not represent a significant remnant of native vegetation when compared to the extent of the above Beard vegetation type remaining in the Northern Jarrah Forest IBRA subregion, and the clearing associated with this proposal is of 'least concern' for biodiversity conservation (Department of Natural Resources and Environment, 2002). Ongoing rehabilitation of disturbed areas is being carried out using local provenance species which will ensure that post-rehabilitation species composition is comparable to that which currently exists throughout undisturbed parts of the project area.

Based on all of the above, the proposed clearing is considered not at variance to this principle.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% in reserves/CALM-managed land*
IBRA Subregion –					
Northern Jarrah Forest (JF1)	1,898,799***	1,117,139***	~58.8%	Least concern	~16.9%
Shire of Kalamunda	32,389	No information available			
Beard vegetation associations –					
Northern Jarrah Forest (JF1)					
- 3	908,040	747,888	~82.4%	Least concern	~15.0%

\* Shepherd et al. (2001, 2001a)  
 \*\* Department of Natural Resources and Environment (2002)  
 \*\*\* Area within the Intensive Landuse Zone

**Methodology** GIS Databases:  
 - Interim Biogeographic Regionalisation of Australia - EA 18/10/00.  
 - Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00.  
 - Local Government Authorities - DLI 8/07/04  
 - Pre-European Vegetation - DA 01/01.  
 Department of Natural Resources and Environment (2002).  
 JANIS Forests Criteria (1997).  
 Shepherd et al. (2001).  
 Shepherd et al. (2001a).

**(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 watercourses or wetlands within the area proposed to be cleared (GIS Database).

The quarry is situated within the boundaries of the Kangaroo Gully sub-catchment of the Canning River Catchment Area. The site is near the outer catchment boundary, with a generally westerly tending slope. Drainage is towards the headwaters of the Kangaroo Gully creek, with the actual creek line approximately 250

metres from the western boundary of the mining lease (Department of Water pers. comm. 20th November 2006).

Although several ephemeral watercourses can be found just outside the M70/733 lease area, these will not be impacted by the clearing associated with this proposal. The operator has made a commitment within the site Management Plan to "ensure any excavation on ridges is located away from drainage lines, and that all excavation will be from the floor of the pit which will be internally drained" (WA Limestone, 1998). This commitment will ensure that there is little likelihood of additional sediment flowing into the Kangaroo Gully sub-catchment.

In addition, it is listed as a tenement condition on mining lease M70/733 that "the construction, operation of the project, including measures for the protection and management of the environment, will be undertaken in accordance with the document titled: - Management Plan - M70/733 - Pickering Brook - WA Limestone dated 29 July 1998" (MiTiS, 2006). Failure to comply with the conditions imposed on M70/733 could result in a fine or forfeiture of the tenement under the provisions of the *Mining Act 1978*.

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** GIS Database - Hydrography, linear - DOE 01/02/04.  
DoW (2006).  
MiTiS (2006).  
WA Limestone (1998).

**(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 western portion of the Darling Plateau containing the quarry project area is characterised by laterite gravels and block laterite, with the main soils being ferruginous gravels overlying the lateritic duricrust (Beard 1976 as cited by Ecologia 1997). With vegetation cover, these types of soils are generally not prone to erosion and given that the clearing will be staged with ongoing rehabilitation of previously mined areas, it is not likely that areas will remain bare long enough to increase the susceptibility of erosion across the site.

The operator has stated within the Annual Environmental Report for 2005/06 that all ripping and contouring for rehabilitation across the site is planned to minimise surface water runoff and promote effective revegetation (WA Limestone, 2006). The above objectives are consistent with those made within the Management Plan which must be adhered to as a condition imposed on the mining lease M70/733.

The clearing of 12.4 hectares of native vegetation within the Kangaroo Gully sub-catchment which is largely State Forest will not increase the potential for salinisation throughout the project area. The groundwater throughout this area is considered to be of good quality at between 500mg/L to 1,000mg/L of Total Dissolved Solids (GIS Database).

The project area has been confirmed as weed and dieback-free, with the material produced from the site having previously been certified as dieback-free (WA Limestone pers. comm. 6th December 2006). The management of dieback across the site is done in accordance with the Management Plan which details the following procedures for dieback management (WA Limestone, 1998):

- Secure the site from uncontrolled access;
- Quarantine forest areas ahead of clearing and excavation;
- Do not bring any soil or plant material onto the site;
- Wash down excavation and processing vehicles off site;
- Bitumise and maintain the access road; and
- Manage drainage to prevent waterlogging and ponding.

Weed management across the project area is also carried out in accordance with the site Management Plan with key points being (WA Limestone, 1998):

- Do not bring any plant, soil or fill material to the site;
- Secure the site to prevent illegal dumping of rubbish;
- Remove all rubbish promptly;
- Treat any weeds promptly no matter how few there are;
- It is better to work from the least weed affected areas to the most weed affected, which therefore gives a smaller area to treat with spray or earthworks; and
- Do not use weed affected soils for rehabilitation, but bury them at least 500 mm below the surface.

It is a condition on mining lease M70/733 that "the construction, operation of the project, including measures for the protection and management of the environment, will be undertaken in accordance with the document titled: - Management Plan - M70/733 - Pickering Brook - WA Limestone dated 29 July 1998" (MiTiS, 2006).

Given that the movement of soil and vegetative material by machinery could increase the risk of introduction of dieback or weeds throughout the area under application, a hygiene condition has been imposed on the permit

to ensure that the above risks are can be effectively managed.

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** GIS Database:  
- Groundwater Salinity, Statewide - 22/02/00.  
Ecologia (1997).  
MiTiS (2006).  
WA Limestone (1998).  
WA Limestone (2006).

**(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 project area is situated in State Forest, namely the Victoria forest block which covers an area of 1,571 hectares (GIS Database). Outside of the mining operation, this forest block is primarily native forest which has been selectively logged.

Western Wildlife (2006) advise that the area applied to be cleared will perform some linkage function, linking native forest between the east and west of the site. However, this link is unlikely to be vital for most fauna species as there is continuous native forest around the southern border of the mining lease.

The former Department of Conservation and Land Management (CALM), have inspected the site and given permission to WA Limestone to proceed with the clearing of Stages 8-10. In a letter addressed to WA Limestone, CALM advise "that permission is granted to proceed with the clearing of stages 8-10 pursuant to the Department of Environment (DoE) approval granted 29 November 2004. The DoE has allowed clearing mining lease 70/733, exempt from approvals under Section 119 of the *Environmental Protection Amendment Act 2003*, until 8 July 2006. Clearing beyond this date will need to be supported with a clearing application to the Department of Industry and Resources" (CALM, 2005).

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** GIS Database:  
- CALM Managed Lands and Waters - CALM 01/07/05.  
CALM (2005).  
Western Wildlife (2006).

**(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**

No watercourses or wetlands exist within the project area, although it is located within a Public Drinking Water Source Area (PDWSA), namely the Canning River Catchment Area (GIS Database).

The Department of Water (DoW) advise that the draft Canning River Catchment Area Drinking Water Source Protection Plan proposes a Priority 1 management classification and a 2 kilometre Reservoir Protection Zone (RPZ) for the area. The site is located outside the proposed Kangaroo Gully Pumpback Dam RPZ. In accordance with the Land Use Compatibility Table, a gravel quarry is "acceptable with conditions" in a P1 area. (Department of Water pers. comm. 20th November 2006).

The operation should not pose a significant risk to the drinking water source, provided best management practices regarding fuels, chemicals, personnel facilities, stormwater drainage, site security (to prevent unauthorised access and anti-social behaviour when no employees are present at the site) and rehabilitation of the site are used (Department of Water pers. comm. 20th November 2006).

The Department of Water advise that the conditions of mining lease M70/733 require the proponent to submit a mining plan detailing, amongst other things, site water management and assessment of rehabilitation performance. They further require the proponent to liaise with the Water Authority (now represented by DoW and the Water Corporation) in developing, and agreeing on, water management prescriptions for the site, as well as with DEC (formerly CALM) regarding operations and progressive rehabilitation (Department of Water pers. comm. 20th November 2006). Failure to comply with the conditions imposed on M70/733 could result in a fine or forfeiture of the tenement under the provisions of the *Mining Act 1978*.

The clearing of 12.4 hectares of native vegetation within the Kangaroo Gully sub-catchment which is largely State Forest, will not increase the potential for salinisation or deterioration of groundwater quality throughout the project area. The groundwater throughout this area is considered to be of good quality at between 500mg/L to 1,000mg/L of Total Dissolved Solids (GIS Database).

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** GIS Database:  
 - Groundwater Salinity, Statewide - 22/02/00.  
 - Public Drinking Water Source Areas (PDWSAS) - DOE - 07/02/06.  
 DoW (2006).

**(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 quarry is situated within the boundaries of the Kangaroo Gully sub-catchment of the Canning River Catchment Area. The site is near the outer catchment boundary, with a generally westerly tending slope. Drainage is towards the headwaters of the Kangaroo Gully creek (Department of Water pers. comm. 20th November 2006).

The moderate amount of clearing associated with this proposal will not increase the potential for flooding within the project area, and WA Limestone have made a commitment within the site Management Plan that the floor of excavated areas will be formed into free-draining areas that will retain rainfall and not allow surface runoff, ponding or waterlogging (WA Limestone, 1998).

Based on all of the above, the proposed clearing is considered not likely to be at variance to this principle.

**Methodology** DoW (2006).  
 WA Limestone (1998).

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

**Comments**

There are no Native Title Claims over the areas under application (GIS Database).

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

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.

A submission from the Shire of Kalamunda was received stating that they had no objection to the issuing of a clearing permit for the activities as proposed. The Shire did recommend that consideration be given to the issues of weed control and dieback management, both of which have been addressed in the assessment of this application.

**Methodology** GIS Database:  
 - Aboriginal Sites of Significance - DIA 04/07/02.  
 - Native Title Claims - DLI 19/12/04.  
 Shire of Kalamunda (2006).

**4. Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mineral Production	Mechanical Removal	12.4	Grant	<p>The clearing principles have been addressed and the proposal is considered to be not at variance to principle e, and not likely to be at variance to principles a, b, c, d, f, g, h, i or j. The assessing officer therefore recommends that the permit should be granted, subject to the following conditions:</p> <ol style="list-style-type: none"> <li>The Permit Holder shall clean all vehicles, plant and equipment of soil, soil slurry, mud and vegetation material prior to each entry into the areas cross-hatched yellow on Plan 1056/1.</li> <li>For each instance of clearing done under this permit, the Permit Holder must record:               <ol style="list-style-type: none"> <li>the location of where the clearing occurred, expressed as grid coordinates using the Geocentric Datum of Australia 1994 coordinate system;</li> <li>the size of the areas cleared in hectares;</li> <li>the dates on which the area was cleared; and</li> <li>the area rehabilitated in hectares.</li> </ol> </li> </ol>



3. The Permit Holder shall include in a report those records required under condition 2 of this permit in relation to the clearing activities. This report shall be submitted to the Director, Environment Division, of the Department of Industry and Resources by 31 July 2007 and each subsequent year for the life of this permit.

## 5. References

- DEC (2006) Biodiversity advice for land clearing application. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR), received 12 December 2006. 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.
- DoW (2006) Water Allocation Advice. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Received 20 November 2006. Department of Water, Western Australia.
- Ecologia Environmental Consultants (1997) Boral Resources: Quarry M70/733 - Botanical Assessment. January 1997. Western Australia.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- MiTIS (2006) Mineral Title System. MiTiS version 5.0 PROD. Department of Industry and Resources.
- 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 (updated 2005).
- Shire of Kalamunda (2006) Shire submission regarding application to clear natural vegetation - PMR Quarries Pty Ltd T/A WA Limestone. 20 February 2006.
- Strahan, R. (1995) The Mammals of Australia, Reed Books, NSW.
- WA Limestone (1998) Management Plan - M70/733: Pickering Brook. 29 July 1998.
- WA Limestone (2006) Annual Report:- 1st July 2005 - 30th June 2006. Prepared for the Department of Industry and Resources by WA Limestone. 24 July 2006.
- Western Wildlife (2006) Pickering Brook Quarry Extension: Threatened Fauna Assessment. Prepared for WA Limestone, 19 July 2006.
- Williams, K. and Mitchell, D. (2001) Jarrah Forest 1 (JF1 - Northern Jarrah Forest 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.
- Worsley Alumina (1985) Worsley Alumina Project. Flora and Fauna Studies, Phase Two. Worsley Alumina Pty Ltd, Perth.

## 6. Glossary

### Acronyms:

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

