



## 1. Application details

### 1.1. Permit application details

Permit application No.: 786/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Placer Dome Asia Pacific Limited

### 1.3. Property details

Property: M27/41, M27/59, M27/72, M27/414, M27/47, M27/114, M27/73, M27/196, M27/415, P27/1165, P27/1113, P27/1160, P27/1172, P27/1546, P27/1169, P27/1114, P27/1161, P27/1173, P27/1158, P27/1162, P27/1170, P27/1164, P27/1174, P27/1159, P27/1171, P27/1175

Local Government Area: City Of Kalgoorlie/Boulder

Colloquial name: Perilya Tenements

### 1.4. Application

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

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Association 20: Low woodland; mulga mixed with <i>Allocasuarina cristata</i> and Eucalyptus sp.	The application is for mineral exploration activities over several mining and prospecting leases, located approximately 20km north/northwest of Kalgoorlie. The proposal is to clear up to 100ha over a total area of approximately 2038ha.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The application area is located within the Kanowna pastoral lease, and the entire area has been grazed. The Goldfields region has a history of land and vegetation disturbance from grazing, woodcutting, mining and mineral exploration activities (MBS, 2005).
Beard Vegetation Association 540: Succulent steppe with open low woodland: sheoak over saltbush (Shepherd et al., 2001).	The clearing will occur over a period of 5 years, with up to 20ha of active clearing at any one time. Cleared land will be rehabilitated at the completion of the exploration activities (MBS, 2005).		
	Vegetation within the area applied to clear is approximately 90% Beard Veg. Assoc. 20, and approximately 10% Beard Vegetation Association 540 (GIS Database - Pre- European Vegetation - DA 01/01).		

## 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 falls within the Kanowna Pastoral Lease and is in a region which has a long history of disturbance from grazing, and mineral exploration and mining activities (MBS, 2005).

Limited information is available in the form of past flora or fauna surveys and database records to comprehensively determine the biodiversity value of the vegetation proposed to be cleared (CALM, 2005). However, there have been a number of flora surveys in the vicinity of the application area which can be drawn upon to infer the floristic community composition and regional representativeness of the vegetation. MBS (2005) have asserted that the plant communities found at the Perilya Tenements are widespread and common throughout the region and are not representative of an area of outstanding floristic diversity. Furthermore,

previous studies by van Etten (2005a, 2005b) on other Placer Dome tenements in the Kalgoorlie West Operations area, in which the Perilya Tenements occur, revealed a low variability between the vegetation communities present, and a level of species richness which is generally low to medium compared to other communities/areas in W.A (CALM, 2005).

From the information available it would appear that this proposal is unlikely to have any significant impact on the biological biodiversity of the region (CALM, 2005).

**Methodology** CALM Advice (2005); MBS Environmental (2005); van Etten (2005a); van Etten (2005b).

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area falls within the Kanowna pastoral lease (GIS Database), and the vegetation has been subjected to varying degrees of disturbance from grazing and mining activities (MBS, 2005).

No fauna species of conservation significance have been recorded in the vicinity of the application area (MBS, 2005). However several species of conservation significance are considered likely to occur: Malleefowl, *Leipoa ocellata* (VU); *Branchinella denticulata* (P1) (a crustacean); Hooded Plover, *Charadrius rubricollis rubricollis* (P4); and 4 migratory birds: Great or White Egret, *Ardea alba*; Cattle egret, *Ardea ibis*; Slender-billed Thornbill (western), *Acanthiza iredalei*; Forktailed swift, *Apus pacificus* and Rainbow bee-eater, *Merops ornatus* (MBS, 2005).

The majority of the rare, threatened or vulnerable taxa identified as potentially occurring in the application area are known to have widespread regional distributions, and there are very few species which are restricted to the Eastern Murchison Biogeographical subregion (CALM, 2005).

MBS Environmental (2005) report that the fauna habitats represented in the application area are widespread in the region. The proposed clearing of up to 20ha at any one time, over a period of five years, is unlikely to have any significant impact on the fauna habitats in the region (CALM, 2005).

**Methodology** CALM Advice (2005); GIS Database - Pastoral Leases - DOLA 10/01; MBS Environmental (2005).

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments Proposal is not likely to be at variance to this Principle**

CALM Databases show no records of any populations of Declared Rare or Priority flora within the vicinity of the area applied to clear. The nearest known Priority Flora species is a population of *Eremophila praecox* (P1), which occurs approximately 17km southwest of the application area (GIS Database).

No known flora surveys have been undertaken within the application area. However, several surveys have been conducted in nearby areas, which represent similar vegetation types. Surveys of the Kanowna Belle mining area (immediately adjacent to the eastern edge of the application area) were conducted in 1993 by Mattiske and Associates, and in 2005 by van Etten. A survey of the Paddington mining area (approximately 7km to the west/northwest of the application area) was conducted by van Etten in 2005.

No species of Declared Rare or Priority flora were recorded in any of these surveys (MBS, 2005; Mattiske et al, as cited in MBS, 2005; van Etten, 2005a; van Etten, 2005b). One Declared Rare Flora species; *Gastrolobium graniticum* (R), was considered likely to occur in the area (Mattiske et al, 1993, as cited in MBS, 2005), however this species was not found during any of the nearby surveys (Mattiske et al, 1993, as cited in MBS, 2005; MBS, 2005; van Etten, 2005a; van Etten, 2005b).

The vegetation types applied to clear are widespread and well represented in the region (GIS Database; MBS, 2005; van Etten, 2005a; van Etten 2005b). Therefore the proposed clearing of small areas (up to a total of 100ha) distributed over an area of approximately 2038ha is unlikely to have any significant impact on Rare or Priority flora in the region.

**Methodology** GIS Database - Declared Rare and Priority Flora List - CALM 01/07/05; GIS Database - Pre-European Vegetation - DA 01/01; MBS Environmental (2005); van Etten (2005a); van Etten (2005b).

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Comments Proposal is not likely to be at variance to this Principle**

There are no known Threatened Ecological Communities within at least 50km of the area proposed to clear (CALM 2005; GIS Database).

**Methodology** CALM Advice, (2005); 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 applied to clear is well represented in the region (MBS, 2005; van Etten, 2005a; van Etten, 2005b), and the clearing is unlikely to significantly reduce the overall representation of these vegetation associations on a regional scale (CALM, 2005).

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation Status**	% in reserves/CALM-managed land
IBRA Bioregion - Murchison	28,206,195*	28,206,195*	100%	Least concern	
City of Kalgoorlie/Boulder	No information available				
Beard vegetation associations					
- 20	1,558,296	1,552,012	~99.6%	Least concern	17%
- 540	182,232	182,232	~100%	Least concern	35.7%

\* Shepherd et al. (2001)

\*\* Department of Natural Resources and Environment (2002)

**Methodology** CALM Advice (2005); Dept. Natural Resources & Environment (2002); MBS Environmental 2005); Shepherd et al. (2001); van Etten (2005a); van Etten (2005b).

**(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 application area. There are two seasonal watercourses running through the application area. One watercourse leads into a system of salt lakes immediately to the north of the area under application. At the southern edge of this salt lake system is a small salt pan which is located on the northern boundary of the area under application (GIS Database).

Placer Dome has designed management strategies to minimise any disturbance to creekbeds, banks and fringing vegetation. These strategies include: avoiding drilling in creek beds; utilising existing creek crossings wherever possible; locating any new creek crossings where natural conditions provide for minimal bed and bank disturbance; locating tracks and drill pads to minimise erosion of watercourse beds and slopes; and avoiding watercourse areas when the creeks are flowing (MBS, 2005).

The proposed clearing is unlikely to have any significant impact on any watercourse or wetland.

**Methodology** GIS Database - Lakes, 1M - GA 01/06/00; GIS Database - Rivers 250K - GA.; MBS Environmental (2005).

**(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 topography of the area is gently undulating with occasional ranges of low hills (GIS Database; MBS, 2005). The level to gently inclined plains with calcareous loamy earths and red loamy earth soils typically support Salmon Gum and Gimlet woodland over Salt Bush and Blue Bush understorey (DAWA, 2005).

The soils are slightly susceptible to soil erosion if protective vegetative cover is removed. Impedence of natural drainage can cause accelerated soil erosion and loss of native vegetation downslope, through water starvation. Similarly, disturbance of drainage lines and their flows can cause soil erosion (DAWA).

Provided the proposed management strategies are implemented, the proposed land clearing is unlikely to cause any significant land degradation (DAWA, 2005).

**Methodology** DAWA Advice (2005); GIS Database - Topographic Contours, Statewide - DOLA 12/9/02; MBS Environmental (2005).

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal is not at variance to this Principle**

The nearest CALM Managed area is the Bullock Holes Timber Reserve, located approximately 18km to the east/northeast of the eastern boundary of the application area (GIS Database).

The proposed clearing is unlikely to impact on the environmental and conservation values of any listed CALM managed areas (CALM, 2005).

**Methodology** CALM Advice (2005); GIS Database - CALM Managed Lands and Waters - CALM 1/07/05.

**(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**

There are no permanent watercourses or waterbodies within the area applied to clear (GIS Database).

The proposed exploration drilling is likely to intercept the highly saline water table at some sites (MBS, 2005). However, the sparse nature of the proposed clearing is unlikely to cause deterioration in the quality of any surface or underground water.

**Methodology** GIS Database - Rivers 250K - GA.; GIS Database - Lakes, 1M - GA 01/06/00; MBS Environmental (2005).

**(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 area applied to clear is located in an arid region, and is not associated with any permanent watercourse (GIS Database). The proposed clearing of up to 100ha, over a total area of approximately 2,038ha, is not likely to cause or exacerbate the incidence or intensity of flooding.

**Methodology** GIS Database - Rivers 250K - GA.

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

**Comments**

There are three Native Title Claims over the application area from the Central West Goldfields, Maduwongga, and Widgi peoples (GIS Database). However, the mining tenements have been granted, and the clearing is for a purpose consistent with the tenement type, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no current Operating Licences, Works Approvals, Groundwater or Surface Water Licences for the area applied to clear (DoE, 2005). The proponent is advised to check with the Department of Environment to ascertain whether these Licences or Approvals are required before proceeding with the proposed clearing.

**Methodology** DoE Water Allocation/Licence Advice (2005); GIS Database - Native Title Claims - DLI 19/12/04.

#### 4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mineral Exploration	Mechanical Removal	100	Grant	Assessable criteria have been addressed and no objections were raised. The assessing officer therefore recommends that the permit should be granted, subject to the following Permit Conditions:  1. The Permit Holder shall record the following for each instance of clearing: a) location where clearing occurred (using Geocentric Datum Australia 1994); b) purpose of clearing; c) area cleared in hectares; d) area rehabilitated in hectares.  2. The Permit Holder shall provide a report to the Director, Environment, DoIR by 1 February 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 year. This report can be included as part of the Annual Environmental Report submitted to DoIR.  3. The Permit Holder shall retain the vegetative material and topsoil removed by clearing in accordance with this Permit and shall, within six months, lay the vegetative material and topsoil on the cleared area.

#### 5. References

- CALM (2005) Land clearing proposal advice. Advice to Program Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia.
- DAWA (2005) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales ; catchment bioregional, landscape, local. Department of Natural Resources and Environment,

Victoria.

- DoE (2005) Water Allocation/Licence Advice. Department of Environment, 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.
- MBS Environmental (2005) Purpose Permit Application Assessment of Clearing Principles - Prepared for Placer Dome Perilya Tenements. Martinick Bosch Sell Pty Ltd, Western Australia.
- 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.
- van Etten, E. (2005a) Vegetation and Flora of Kanowna Belle Mining Area. A report prepared for Placer Dome Inc. by Centre for Ecosystem Management, Edith Cowan University, Western Australia.
- van Etten, E. (2005b) Vegetation and Flora of the Paddington Mining Area. A report prepared for Placer Dome Inc. by Centre for Ecosystem Management, Edith Cowan University, Western Australia.

## 6. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government.
<b>CALM</b>	Department of Conservation and Land Management, Western Australia.
<b>DAWA</b>	Department of Agriculture, 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 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>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.