



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3140/2
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Barrick (PD) Australia Limited

1.3. Property details

Property: Mining Lease 24/462
Local Government Area: City of Kalgoorlie-Boulder
Colloquial name: Crossroads Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 14 July 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>The vegetation of the application area is broadly mapped as Beard Vegetation Association 20: low woodland; mulga with <i>Allocasuarina cristata</i> & <i>Eucalyptus</i> sp. (GIS Database).</p> <p>Botanica Consulting (2008) describe the vegetation of the application area as:</p> <ol style="list-style-type: none"> <i>Eucalyptus lesouefii</i> open woodland; <i>Eucalyptus celastroides</i> ssp. <i>celastroides</i> woodland; and <i>Acacia acuminata</i> thicket. 	<p>Barrick (PD) Australia Limited (Barrick) has applied for an area permit to clear up to 115.1 hectares of native vegetation. The proposed clearing is for the purpose of constructing a new mine site, consisting of two waste rock dumps, a mine pit, stockpiles, RoM pad and a turkeys nest (Barrick, 2009).</p>	<p>Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).</p>	<p>The vegetation condition was derived from a description by Botanica Consulting (2008). Vegetation was altered due to obvious signs of disturbance such as historic tracks and grazing (Botanica Consulting, 2008).</p> <p>Clearing permit CPS 3140/2 was granted by the Department of Mines and Petroleum (DMP) on 20 August 2009, and was valid from 19 September 2009 to 30 September 2011. The clearing permit authorised the clearing of up to 115.1 hectares of native vegetation. An application for an amendment to clearing permit CPS 3140/1 was submitted by Barrick to DMP on 13 May 2011. Barrick has applied to extend the duration of the permit for an additional two years. The amount of clearing and the clearing area boundary that was approved under clearing permit CPS 3140/1 will remain unchanged.</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**
The application area is located within the East Murchison subregion of the of the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The vegetation of this subregion is dominated by mulga woodlands often rich in ephemerals; hummock grassland, saltbush shrublands and halosarcia shrublands (CALM, 2002).

Three vegetation associations were identified within the application area, containing a total of 40 flora species from 21 genera. Vegetation association 1 '*Eucalyptus lesouefii* open woodland' contained a total of 29 flora species; vegetation association 2 '*Eucalyptus celastroides* ssp. *celastroides* woodland' contained a total of 24 flora species; and vegetation association 3 '*Acacia acuminata* thicket' contained a total of 12 flora species (Botanica Consulting, 2008). Given that only three vegetation associations occur within the application area containing a total of 40 flora species the assessing officer does not consider this to be a high level of floristic diversity.

Botanica Consulting (2008) state that the flora of the application area is not restricted and similar floristic compositions occur throughout the Murchison and Coolgardie bioregions. None of the vegetation associations have regional environmental significance as defined by the *Environment Protection and Biodiversity and Conservation Act 1999* (Botanica Consulting, 2008).

There were no Threatened Ecological Communities or Priority Ecological Communities identified within the application area (Botanica Consulting, 2008; GIS Database).

There were no Declared Rare Flora or Priority Flora species identified within the application area (Botanica Consulting, 2008).

The condition of the vegetation in the application area was recorded as 'very good', depicting that the vegetation was altered due to obvious signs of disturbance. The disturbance was in the form of historic exploration drilling and vehicle tracks (Botanica Consulting, 2008).

No flora species listed as Declared weeds under the *Agriculture and Related Resources Protection Act 1976* or any other general environmental weeds were recorded during the Botanica Consulting (2008) flora survey. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

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

Methodology Botanica Consulting (2008)
CALM (2002)
GIS Database:
- IBRA WA (Regions - Subregions)
- Threatened Ecological Sites Buffered

(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

Keith Lindbeck and Associates (2009) conducted a Level 1 fauna survey over the application area. A recommendation from this fauna survey was that a targeted Malleefowl survey be conducted over the application area (Keith Lindbeck and Associates, 2009).

Malleefowl (*Leipoa ocellata*) are listed as Schedule 1 - fauna that is rare or likely to become extinct, *Wildlife Conservation (Specially Protected Fauna) Notice, 2008*. Given their scarcity, vegetation which provides habitat for this species may be considered as significant.

A targeted Malleefowl search was conducted on 8 June 2009, over approximately 258 hectares within and surrounding the application area (Botanica Consulting, 2009). No Malleefowl sightings or nesting areas were identified within the application area (Botanica Consulting, 2009). Botanica Consulting (2009) have stated that 94% of the application area comprises of open eucalypt woodland which is not considered favourable habitat for Malleefowl.

Keith Lindbeck and Associates (2009) determined that the fauna habitats within the application area are well represented in the local and regional landscape. Clearing associated with this proposal will result in some habitat loss for fauna, including fauna of conservation significance, but no fauna species are likely to be specifically reliant on the vegetation of the application area (Keith Lindbeck and Associates, 2009).

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

Methodology Botanica Consulting (2009)
Keith Lindbeck and Associates (2009)

(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

A search of the Department of Environmental and Conservation's (DEC's) Rare and Priority Flora Database

revealed no records of Declared Rare Flora (DRF) in proximity to the application area (Botanica Consulting, 2008). The search revealed one Priority 1 Flora taxa (*Eremophila praecox*) that was recorded within 20 kilometres of the application area.

Botanica Consulting (2008) conducted a flora and vegetation survey over the application area. No DRF or Priority Flora were identified in the application area.

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

Methodology Botanica Consulting (2008)

(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

According to available databases there are no Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TECs are located approximately 300 kilometres to the north-west of the application area (GIS Database).

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

Methodology GIS Database:
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not at variance to this Principle

The application area is located within the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2009) report that approximately 100% of the pre-European vegetation still exists in the Murchison Bioregion. The vegetation in the application area is broadly mapped as Beard Vegetation Association 20: low woodland; mulga with *Allocasuarina cristata* & *Eucalyptus* sp. (GIS Database). According to Shepherd (2009) there is approximately 100% of this vegetation association remaining.

Although several large scale mining operations are located within a 50 kilometre radius of the application area (GIS Database), on a broader scale the Murchison bioregion has not been extensively cleared. Hence the application area is not considered to represent a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European Area (ha)*	Current Extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Murchison	28,120,587	28,120,586	~100	Least Concern	1.1
Beard Veg Assoc. – State					
20	1,295,103	1,295,103	~100	Least Concern	13.3
Beard Veg Assoc. – Bioregion					
20	1,174,259	1,174,259	~100	Least Concern	8.9

* Shepherd (2009)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Subregions)
- Kalgoorlie 50 cm Orthomosaic – Landgate 2006
- Pre-European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

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

There are no watercourses, wetlands or ephemeral drainage lines within the application area (GIS Database). None of the vegetation associations identified within the application area are associated with watercourses or wetlands (Botanica Consulting, 2008).

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

Methodology Botanica Consulting (2008)
GIS Database
- Hydrology, Linear

(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

There are no watercourses or wetlands within the application area (GIS Database), therefore, it is unlikely the area will be subject to water erosion.

The proposed clearing is for mining purposes and includes an open pit, waste rock stockpile and RoM pad (Barrick, 2009). Once the cleared areas are utilised for these purposes, most of the clearing will not be susceptible to wind erosion. However, the cleared areas will be particularly susceptible to erosion immediately after the native vegetation has been cleared and during the period that the cleared areas are left exposed, especially if large areas are cleared at the same time. Potential erosion impacts as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition to ensure large areas are not void of vegetative cover for extended periods.

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

Methodology Barrick (2009)
GIS Database:
- Hydrology, Linear

(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

There are no conservation areas within or in the vicinity of the application area. The nearest Department of Environmental and Conservation managed land is the Kurrawang Nature Reserve approximately 27 kilometres south-west of the application area (GIS Database). Given the distance between the proposed clearing and the nature reserve, it is unlikely the proposed clearing will impact on the environmental values of this nature reserve.

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

Methodology GIS Database:
- DEC Tenure

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

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

The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The area receives an average rainfall of approximately 300 millimetres per year (GIS Database) and experiences an evaporation rate of approximately 2800 millimetres per year (GIS database). Therefore, there is likely to be little surface water flow during normal seasonal rains. Sedimentation or turbidity of waterbodies is not likely as there are no permanent water bodies within the application area or its vicinity (GIS Database).

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

Methodology GIS Database:
- Evaporation Isopleths
- Hydrography, Linear
- Public Drinking Water Source Areas (PDWSAs)
- Rainfall, Mean Annual

(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 proposed clearing is unlikely to cause, or exacerbate, the incidence or intensity of flooding for the following reasons:

- Low annual rainfall of approximately 300 millimetres rainfall per year;
- High evaporation rates of approximately 2800 millimetres rainfall per year;
- Gently undulating topography; and
- Lack of standing waterbodies or watercourses (GIS Database)

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

Methodology GIS Database:
- Evaporation Isoleths
- Hydrography, Linear
- Rainfall, Mean Annual
- Topographic Contours, Statewide

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

Comments

There are two Native Title Claims (WC98/27 and WC10/14) over the area under application (GIS Database). These claims have been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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

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

Clearing permit CPS 3140/2 was granted by the Department of Mines and Petroleum (DMP) on 20 August 2009, and was valid from 19 September 2009 to 30 September 2011. The clearing permit authorised the clearing of up to 115.1 hectares of native vegetation. An application for an amendment to clearing permit CPS 3140/1 was submitted by Barrick to DMP on 13 May 2011. Barrick has applied to extend the duration of the permit for an additional two years. The amount of clearing and the clearing area boundary that was approved under clearing permit CPS 3140/1 will remain unchanged.

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

4. References

- Barrick (2009) Supporting Documentation for Clearing Permit Application CPS 3140/1.
- Botanica Consulting (2008) Flora and Vegetation Survey of the Cross Roads Area. Unpublished Report by Botanica Consulting for Barrick Kanowna, December 2008.
- Botanica Consulting (2009) Cross Roads Malleefowl Search. Unpublished Report by Botanica Consulting for Barrick Kanowna, June 2009.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Murchison 1 (MUR1 - East Murchison Subregion). Department of Conservation and Land Management, 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Keith Lindbeck and Associates (2009) Barrick Kanowna Crossroads Project Level 1 Fauna Survey. Unpublished Report by Keith Lindbeck and Associates for Barrick (Kanowna) Limited, January 2009.
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

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.