



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4633/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Northwest Quarries Pty Ltd

1.3. Property details

Property: Mining Lease 45/258
General Purpose Lease 45/48
General Purpose Lease 45/47
General Purpose Lease 45/55

Local Government Area: Town of Port Hedland

Colloquial name: Pippingarra Quarry

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 23 August 2012

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context. The following Beard vegetation association has been mapped within the application area (GIS Database):

93: Hummock grasslands, shrub steppe; kanji over soft spinifex.

A Level 1 flora and vegetation survey of the application area was conducted by Ecoscape on 7 and 8 July 2011. There were eight vegetation communities recorded within the application area (Ecoscape, 2011):

1. *Acacia tumida* var. *pilbarensis* and *Acacia ancistrocarpa* tall open shrubland over *Triodia* sp. 1 hummock grassland;
2. *Acacia ancistrocarpa* open shrubland over *Acacia stellaticeps* low open shrubland over *Triodia epactia* hummock grassland;
3. *Acacia ancistrocarpa* shrubland over *Acacia stellaticeps* low open shrubland over *Poaceae* sp. tussock grassland;
4. *Corymbia hamersleyana* scattered low trees over *Acacia ancistrocarpa*, *Acacia tumida* var. *pilbarensis*, *Acacia bivenosa* open shrubland over *Indigofera monophylla* scattered low shrubs over *Triodia* sp. 1 and *Triodia epactia* hummock grassland and *Aristida holathera* tussock grassland;
5. *Acacia inaequilatera* and *Acacia sphaerostachya* scattered shrubs over *Bonmia media* scattered low shrubs over *Triodia* sp. 1 hummock grassland;
6. *Acacia ancistrocarpa* shrubland over *Triodia* sp. 1 mid-dense hummock grassland;
7. *Acacia ancistrocarpa*, *Acacia stellaticeps* and *Tephrosia* sp. Bungaroo Creek scattered low shrubs over *Triodia* sp. 1 hummock grassland and *Goodenia* sp. scattered herbs; and
8. *Acacia bivenosa*, *Acacia tumida* var. *pilbarensis* shrubland over *Indigofera monophylla* scattered low shrubs over *Triodia* sp. 1 hummock grassland.

Clearing Description Northwest Quarries Pty Ltd has applied to clear 47.18 hectares within an application area of 47.18 hectares (GIS Database). The application area is located approximately 30 kilometres south of Port Hedland (GIS Database).

The proposed clearing is for the Pippingarra Quarry Project. The project will include a quarry site, borrow pit area, accommodation camp, explosives magazine, workshop and vehicle inspection area.

Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994); to Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).
Comment	The vegetation condition was determined by the assessing officer based on information provided by Bamford Consulting Ecologists (2011), Ecoscape (2011) and available aerial imagery. The application area has experienced fire within the last two years and shows some evidence of degradation by livestock (Bamford Consulting Ecologists, 2011).

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 flora and vegetation survey of the application area identified eight different vegetation communities (Ecoscape, 2011). None of these vegetation communities are considered to represent a Threatened or Priority Ecological Community (Ecoscape, 2011; GIS Database). The Level 1 flora survey recorded a total of 39 flora species from 15 families and 25 genera (Ecoscape, 2011). Based on the number recorded, the application area does not appear to possess a high level of floristic diversity. There was one Priority Flora species, <i>Heliotropium muticum</i> (Priority 1) recorded during the flora survey, however, it was recorded from outside the application area (Ecoscape, 2011). A database search identified 221 vertebrate fauna species that could potentially occur within the application area (Bamford Consulting Ecologists, 2011). Of the 221 potential species, 56 were observed during the field survey (Bamford Consulting Ecologists, 2011). There were three fauna species of conservation significant species recorded during the survey, however, only two were within the application area (Bamford Consulting Ecologists, 2011). Given that the habitat within the application area has suffered some previous disturbances and fragmentation, it is not expected to contain a level of faunal diversity as high as other adjoining less disturbed areas. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
Methodology	Bamford Consulting Ecologists (2011) Ecoscape (2011) GIS Database: - 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 Bamford Consulting Ecologists (2011) undertook a Level 1 fauna survey of the application area on 7 and 8 July 2011. This survey identified two broad fauna habitat types. Previously disturbed areas generally consisted of undefined soils of waste material from previous mining activities with vegetation of mixed Acacia shrubs and some <i>Triodia</i> spp (Bamford Consulting Ecologists, 2011). Areas that have not been previously disturbed consisted of mixed Acacia shrubland over <i>Triodia</i> spp. with scattered <i>Corymbia</i> spp. (Bamford Consulting Ecologists, 2011). These were on soils of coarse sand over loam, mixed with quartz stones originating from small quartz extrusions (Bamford Consulting Ecologists, 2011). Apart from the old waste dumps there is very little geographical relief across the application area (Bamford Consulting Ecologists, 2011; GIS Database). The survey recorded three species of conservation significance (Bamford Consulting Ecologists, 2011): - Northern Quoll (<i>Dasyurus hallucatus</i> – Schedule 1; Endangered) - Australian Bustard (<i>Ardeotis australis</i> – Priority 4) - Rainbow Bee-eater (<i>Merops ornatus</i> – Migratory under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>). Both the Australian Bustard and the Rainbow Bee-eater are mobile species that have a wide distribution across the state. The application area is not likely to represent significant habitat for these two species. The presence of the Northern Quoll was detected by scats at latrine sites (Bamford Consulting Ecologists, 2011). The latrine sites were located on a granite outcrop that is situated less than 100 metres east of the application area. Given its proximity to the granite outcrop, the application area would be utilised as foraging habitat for Northern Quolls. In April 2012 Bamford Consulting Ecologists (2012) undertook a second survey of the greater Pippingarra area to help determine the wider distribution of Northern Quolls in the local area. Evidence of Northern Quolls was found throughout rocky hills immediately south and north-east of the application area (Bamford Consulting Ecologists, 2012). Whilst they were not visited during the survey, there are also hills further east (approximately four kilometres) that are likely to support Northern Quolls as they appear to have the same geology as the hills where the species was recorded (Bamford Consulting Ecologists, 2012). Given
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the Northern Quoll is present at a number of rocky hills in the local area, the proposed clearing will only impact a small amount of the foraging habitat in the local area (Bamford Consulting Ecologists, 2012). The application area lies west of all the regional denning habitat, so the proposed clearing is not likely to affect the dispersal of the species (Bamford Consulting Ecologists, 2012).

The regional Northern Quoll survey also recorded a few Mulgara burrows in spinifex sandplains east of the application area (Bamford Consulting Ecologists, 2012). Similar habitat within the application area has been searched, however, no Mulgara burrows were recorded.

The project was referred to the Department of Sustainability, Environment, Water, Population and Communities due to its potential impacts on Northern Quoll habitat. The project was deemed not to be a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999*.

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

Methodology Bamford Consulting Ecologists (2011)
Bamford Consulting Ecologists (2012)
GIS Database:
- Topographic Contours, Statewide

(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 available databases, there are no records of Threatened Flora within the application area (GIS Database). The flora survey of the application area did not record the presence of any Threatened Flora (Ecoscape, 2011).

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

Methodology Ecoscape (2011)
GIS Database:
- Threatened and Priority Flora

(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 records of Threatened Ecological Communities (TECs) within the application area (GIS Database). The vegetation survey did not identify any TECs within the application area (Ecoscape, 2011).

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

Methodology Ecoscape (2011)
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 falls within the Pilbara Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99.9% of the pre-European vegetation remains (see table) (GIS Database, Government of Western Australia, 2011).

The vegetation of the application area has been mapped as the following Beard vegetation association (GIS Database):

93: Hummock grasslands, shrub steppe; kanji over soft spinifex;

Approximately 100% of this Beard vegetation association remains at both a state and bioregional level (Government of Western Australia, 2011). Therefore the area proposed to be cleared does not represent a significant remnant of native vegetation within 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 – Pilbara	17,804,193	17,785,000	~99.9	Least Concern	6.3
Beard veg assoc. – State					
93	3,044,300	3,040,640	~99.9	Least Concern	0.4
Beard veg assoc. – Bioregion					
93	3,042,114	3,038,471	~99.9	Least Concern	0.4

* Government of Western Australia (2011)

** 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)
Government of Western Australia (2011)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- 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 at variance to this Principle**
There are no watercourses or wetlands within the application area (GIS Database). The vegetation survey did not identify any vegetation as being associated with a watercourse or wetland (Ecoscape, 2011).

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

Methodology Ecoscape (2011)
GIS Database:
- Hydrography, 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**
The application area has been mapped as comprising the Boolaloo and Macroy land systems (GIS Database). The Boolaloo land system is generally not prone to erosion and the Macroy land system has a low to very low erosion hazard (Van Vreeswyk et al., 2004). The application area is relatively flat so there is not likely to be significant erosion caused by increased runoff (GIS Database). At a broad scale the surface soil of the application area ranges from 5.5 to 6.0 and there is a low probability of the formation of acid sulphate soils (CSIRO, 2009).

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

Methodology CSIRO (2009)
Van Vreeswyk et al. (2004)
GIS Database:
- Rangeland Land System Mapping
- Topographic Contours, Statewide

(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 application area does not lie within any conservation areas or DEC managed lands (GIS Database). The nearest conservation area is the Mungaroon Range Nature Reserve located approximately 105 kilometres south-west of the application area (GIS Database). At this distance the proposed clearing is not likely to have any impact on this conservation area.

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). There are no watercourses or wetlands within the application area (GIS Database). Surface water within the application area is likely to occur as sheet flow following heavy rains. With an annual evaporation rate over ten times the average annual rainfall any surface water is likely to evaporate quickly (BoM, 2012; GIS Database).

The groundwater within the application area is between 500 – 1,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be brackish water. It would not be expected that the proposed clearing would cause salinity levels within the application or surrounding area to alter.

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

Methodology BoM (2012)
GIS Database:
- Evaporation Isopleths
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

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

With an average annual rainfall of 315.5 millimetres and an average annual evaporation rate between 3,400 and 3,600 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2012; GIS Database). Whilst large rainfall events may result in the flooding of the area, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding.

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

Methodology BoM (2012)
GIS Database:
- Evaporation Isopleths

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

Comments

There are two native title claims over the area under application (GIS Database). These claims (WC09/3 and WC 99/8) have been registered with the Native Title Tribunal on behalf of the claimant group (GIS Database). However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

According to available databases, 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.

The project was referred to the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) on 11 July 2012. On 7 August 2012 DSEWPaC determined that the project was not a controlled action under the *Environment Protection and Biodiversity Conservation Act 1999*.

The clearing permit application was advertised on 17 October 2011 by the Department of Mines and Petroleum inviting submissions from the public. There was one submission received stating no objections to the proposed clearing.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Registered with the NNTT

4. References

- Bamford Consulting Ecologists (2011) Assessment of Fauna and Flora Values at Pippingarra, Port Hedland WA. Unpublished report for Northwest Quarries Pty Ltd, dated 31 July 2011.
Bamford Consulting Ecologists (2012) Regional Survey for the Northern Quoll *Dasyurus hallucatus* around North West

- Quarries' Pippingarra Quarry. Unpublished report for Northwest Quarries Pty Ltd, dated 14 May 2012.
- BoM (2012) Bureau of Meteorology Website - Climate statistics for Australian locations, Averages for Port Hedland Airport. Available online at: http://www.bom.gov.au/climate/averages/tables/cw_004032.shtml Accessed on 7 March 2012.
- CSIRO (2009) Australian Soil Resource Information System. Available online at: http://www.asris.csiro.au/index_ie.html Accessed on 7 March 2012.
- 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.
- Ecoscape (2011) Pippingarra Quarry Vascular Flora and Vegetation Survey. Unpublished report for Bamford Consulting Ecologists, dated August 2011.
- Government of Western Australia (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) Technical Bulletin - An Inventory and Condition Survey of the Pilbara Region, Western Australia, No. 92. Department of Agriculture, Government of Western Australia, Perth, Western Australia.

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.

