



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6819/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Empire Resources Ltd

1.3. Property details

Property: Mining Lease 27/156
Prospecting Licence 27/1729
Prospecting Licence 27/1922
Local Government Area: City of Kalgoorlie-Boulder.
Colloquial name: Penny's Find Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
50		Mechanical Removal	Mineral Production and Access Tracks

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 10 December 2015

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. Two Beard vegetation associations are located within the application area (GIS Database):

Beard vegetation association 125: Bare areas; salt lakes; and

Beard vegetation association 540: Succulent steppe with open low woodland; sheoak over saltbush

Six vegetation communities were identified within the application area and immediate surrounds during the Level 1 flora and vegetation survey (Botanica Consulting, 2015):

- Open low woodland of *Eucalyptus salubris*/ very open tree mallee of *Eucalyptus celastroides* over open scrub of *Dodonaea viscosa*/ *Eremophila scoparia* and low heath of *Atriplex vesicular*/ *Tecticornia disarticulata* on clay-loam plain;
- Heath of *Melaleuca lateriflora* and low heath of *Tecticornia indica* subsp. *bidens* on salt lake edge;
- Open scrub of *Pittosporum angustifolium* over open low scrub of *Dodonaea lobulata* and low heath of *Atriplex vesicular*/ *Cratystylis subspinescens*/ *Tecticornia disarticulata* in open floodplain;
- Low woodland of *Casuarina pauper* over open low scrub of *Acacia kalgoorliensis*/ *Eremophila scoparia* and low heath of *Atriplex vesicular*/ *Tecticornia indica* on quartz rocky plain/rise;
- Forest of *Eucalyptus lesouefii* over low scrub of *Senna artemisioides* subsp. *filifolia* and open dwarf scrub of *Olearia muellerii*/ *Scaevola spinescens* on greenstone hillslope; and
- Low woodland of *Eucalyptus lesouefii*/ Open tree mallee of *Eucalyptus griffithsii* over heath of *Acacia acuminata*/ *Acacia kalgoorliensis*/ *Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Eremophila parvifolia*/ *Scaevola spinescens* on ironstone hillslope.

Based on the Keighery vegetation health rating scale, two of the six vegetation communities were classed as 'very good'. The remaining four vegetation communities were rated as 'good'.

Clearing Description Penny's Find Project
Empire Resources Limited proposes to clear up to 50 hectares of native vegetation within a total boundary of approximately 51 hectares, for the purpose of mineral production. The project is located approximately 45 kilometres north-east of Kalgoorlie in the City of Kalgoorlie-Boulder.

Vegetation Condition Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).
To:
Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment The condition of the vegetation under application was determined via a flora and vegetation survey conducted by Botanica Consulting (2015).

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 Eastern Murchison subregion of the Murchison Interim Biogeographic Regionalisation for Australia bioregion (GIS Database). The subregion is characterised by its internal drainage, and extensive areas of elevated red desert sandplains with minimal dune development. The dominant vegetation is mulga woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and Halosarcia shrublands (CALM, 2002).

Within the application area and immediate surrounds, six broad vegetation communities represented by 25 Families, 48 Genera and 80 Taxa were recorded. None of the six vegetation communities were identified as being of increased significance (Botanica Consulting, 2015). No Threatened or Priority flora taxon were identified within the application area and four previous flora and vegetation surveys conducted in the surrounding area also failed to record any Threatened or Priority listed flora species (Botanica Consulting, 2015).

No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) are known within the application area (GIS Database) and none were recorded during the flora survey (Botanica Consulting, 2015). A small section of the application area occurs within a non-perennial wetland (Lake Penny). Lake Penny is a part of an extensive system of salt lakes associated with the occluded Paleo within the drainage system (Botanica Consulting, 2015) where fringing riparian vegetation is common. The total amount of riparian vegetation proposed to be cleared is approximately 0.5 hectares.

The majority of vertebrate and invertebrate fauna species known from the wider area are unlikely to occur within the application area. The habitat types present within the application area are common and widespread and extensive amounts of habitat (that is well connected) remains throughout the local area (Harewood, 2015).

Two introduced flora (weed) species have been recorded within the local area (*Medicago minima* and *Sonchus oleraceus*), neither of which are listed as a Declared Plant species (Botanica Consulting, 2015). However, weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. 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 (2015)
 - CALM (2002)
 - Harewood (2015)
 - GIS Database:
 - IBRA WA (Regions - Sub Regions)
 - Imagery
 - Pre-European vegetation
 - Threatened and Priority Ecological Communities Buffers
 - Threatened and Priority Ecological Communities Boundaries

(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 available information, the Hooded Plover (*Charadrius rubricollis*), a Priority 4 species recognised by the Department of Parks and Wildlife as being of conservation significance, is the only species of conservation significance recorded within 20 kilometres of the application area (DPaW, 2015).

A Level 2 fauna survey was conducted over the application area and a total of 12 native fauna species were either observed or identified as occurring within the application area (Harewood, 2015). No vertebrate species of conservation significance (threatened, priority or migratory) were recorded. Based on habitat preferences, previous survey results and available information on known distributions, it is considered unlikely that any vertebrate species of conservation significance frequent the application area, except possibly as transients/vagrants on very rare occasions (Harewood, 2015).

With respect to invertebrate fauna species, no relic habitats, geographic boundaries or landform changes, often associated with the presence of terrestrial invertebrates with restricted distributions (i.e. SREs) were identified as being present within the application area (Harewood, 2015).

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

- Methodology**
- DPaW (2015)
 - Harewood (2015)

(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 species of Threatened flora known to occur within the application area and there are no records of Threatened flora species occurring within 20 kilometres of the application area (GIS Database; DPaW, 2015). In addition to this, a flora and vegetation survey of the application area did not identify any Threatened flora species (Botanica Consulting, 2015).

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

Methodology DPaW (2015)
Botanica Consulting (2015)
GIS Database
- Threatened and Priority Flora List

(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 at variance to this Principle

According to available databases, there are no known Threatened Ecological Communities (TECs) within 50 kilometres of the application area (GIS Database) and no TECs were identified during the flora and vegetation survey of the application area (Botanica Consulting, 2015).

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

Methodology Botanica Consulting (2015)
GIS Database:
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Ecological Communities Boundaries

(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 occurs within the Murchison Interim Biogeographic Regionalisation of Australia bioregion, in which approximately 99.7% of the pre-European vegetation remains (see table below) (GIS Database; Government of Western Australia, 2014).

Two Beard vegetation associations have been mapped within the application area (GIS Database). As the below table illustrates, both are well represented, retaining at least 90% of pre-European vegetation within the state and bioregion (Government of Western Australia, 2014). Given the amount of vegetation remaining in the local area and bioregion, the vegetation proposed to be cleared is not considered to represent a remnant within an extensively cleared area.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion – Murchison	28,120,587	28,044,823	~ 99.7	Least Concern	~ 7.7
Beard veg assoc. - State					
125	3,485,787	3,146,498	~ 90.3	Least Concern	~ 9.0
540	202,424	200,159	~ 98.9	Least Concern	~ 27.9
Beard veg assoc. - Bioregion					
125	711,484	710,255	~ 99.8	Least Concern	~ 7.2
540	70,368	70,294	~ 99.9	Least Concern	~ 0.2

* Government of Western Australia (2014)

** 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 (2014)
GIS Database:
- IBRA WA (regions - subregions)
- 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 at variance to this Principle

Several minor non-perennial watercourses intersect the application area (GIS Database). A small section of the application area is also situated within a non-perennial lake (Lake Penny). Therefore, the vegetation growing on the lake shoreline "Heath of *Melaleuca lateriflora* and low heath of *Tecticornia indica* subsp. *bidenis* on salt lake edge" is considered to be growing in association with a wetland. The total amount of this vegetation type proposed to be cleared is approximately 0.5 hectares.

Lake Penny is a part of an extensive system of salt lakes associated with the occluded Paleo within the drainage system (Botanica Consulting, 2015) where fringing riparian vegetation is likely to be common. Potential impacts to riparian vegetation as a result of the proposed clearing may be minimised by the implementation of a watercourse management condition.

Based on the above, the proposed clearing is at variance to this principle.

Methodology Botanica Consulting (2015)
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 may be at variance to this Principle

Two land systems have been mapped within the application area; Carnegie and Yilgangi Land System (GIS Database). The Carnegie Land System has not been identified as an area prone to erosion. The saline alluvial plains and narrow drainage zones of the Yilgangi Land System have fragile soils and are susceptible to water erosion (Tille, 2006).

The proponent will implement ground disturbance procedures, which includes considerations for surface hydrology, silt mitigation and restricting clearing to dry conditions. Potential land degradation as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition, in conjunction with internal management procedures.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology Tille (2006)
GIS Database
- Landsystem Rangelands

(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 is not located within a conservation area (GIS Database). The closest nature reserve is located more than 50 kilometres from the application area. The Bullock Holes Timber Reserve is situated approximately 400 metres west of the application area. This reserve is vested with the Conservation Commission of Western Australia and managed by the Department of Parks and Wildlife. The timber reserve is unlikely to be adversely impacted by the proposed clearing.

Given that the local area is well vegetated, with large amounts of intact native vegetation remaining, the proposed clearing is unlikely to impact on the environmental values of adjacent or nearby conservation areas.

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

Methodology GIS Database:
- DPaW 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 several minor non-perennial watercourses that dissect the application area and a small section of the application area is also situated within a non-perennial lake (Lake Penny) (GIS Database). Drainage lines may flow after significant rainfall events and minor localised altered flow regimes and increased sedimentation may result from the proposed clearing activities. Potential impacts to surface water quality as a result of the proposed clearing may be minimised by the implementation of a watercourse management condition.

The application area has a groundwater salinity ranging from saline to hyper-saline (14,000 to >35,000 milligrams/Litre Total Dissolved solids) (GIS Database). The vegetation within the application area is extremely sparse and given the prevailing groundwater conditions, the proposed clearing is considered unlikely to result

in adverse impacts to the quality of groundwater.

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

Methodology GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)
- RIWI Act, Groundwater Areas

(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 East Murchison subregion has an arid climate, with a mean rainfall of approximately 200 millimetres, falling predominately in the winter months, with evaporation far exceeding rainfall (CALM, 2002; BoM, 2015). The application area is located within the Raeside-Ponton Catchment which has an area of approximately 11,596,574 hectares (GIS Database). This being considered, the proposed clearing of 50 hectares of sparse vegetation is unlikely to result in an increased potential for localised or catchment scale flooding.

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

Methodology BoM (2015)
CALM (2002)
GIS Database:
- Hydrographic Catchments – Catchments

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There are no native title claims over the application area (DAA, 2015). 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 Sites of Aboriginal Significance located in the area applied to clear (DAA, 2015). 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 Regulation, the Department of Parks and Wildlife 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 clearing permit application was advertised on 16 November 2015 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology DAA (2015)

4. References

- Botanica Consulting (2015) Level 1 Flora & Vegetation Survey, Penny's Find survey area – Draft 1. *Supporting Information for CPS 6819/1*. Botanica Consulting, Boulder, Western Australia.
- BoM (2015) Climate Statistics for Australian Locations. A Search for Climate Statistics, Australian Government Bureau of Meteorology. <<http://www.bom.gov.au>>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management.
- DAA (2015) Aboriginal Heritage Inquiry System, Department of Aboriginal Affairs, Perth, Western Australia <<http://maps.dia.wa.gov.au>>.
- 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.
- DPaW (2015) NatureMap, Department of Parks and Wildlife <<http://naturemap.dec.wa.gov.au>>.
- Government of Western Australia (2014) 2014 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2014. WA Department of Environment and Conservation, Perth.
- Harewood (2015) Penny's Find, Empire Resources Limited. *Supporting Information for CPS 6819/1*. Greg Harewood (Zoologist) Bunbury, 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.
- Tille, P. (2006) Soil-landscapes of Western Australia's Rangelands and Arid Interior. Technical Report 313. Department of Agriculture and Food, Western Australia. ISSN 1039-7205.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T	Threatened species: Specially protected under the <i>Wildlife Conservation Act 1950</i> , listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora). Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo <i>Calyptorhynchus latirostris</i> is specially protected under the <i>Wildlife Conservation Act 1950</i> as a threatened species with a ranking of Endangered. <u>Rankings:</u> CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild. EN: Endangered - considered to be facing a very high risk of extinction in the wild. VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
X	Presumed Extinct species: Specially protected under the Wildlife Conservation Act 1950, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
IA	Migratory birds protected under an international agreement: Specially protected under the Wildlife Conservation Act 1950, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice. Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
S	Other specially protected fauna: Specially protected under the Wildlife Conservation Act 1950, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
P1	Priority One - Poorly-known species: Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
P2	Priority Two - Poorly-known species: Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature

reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.

P3 Priority Three - Poorly-known species:

Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.

P4 Priority Four - Rare, Near Threatened and other species in need of monitoring:

- (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
- (b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
- (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

P5 Priority Five - Conservation Dependent species:

Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.