Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3981/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Cliffs Asia Pacific Iron Ore Pty Ltd**

1.3. Property details

Property: Mining Lease 77/607
Mining Lease 77/990
Local Government Area: Shire of Yilgarn
Colloquial name: Koolyanobbing ROM pad extension

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 2 December 2010

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 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): 141: Medium woodland; Yorkgum, salmon gum & gimlet. A flora and vegetation survey of the application area was conducted by Western Botanical in August 2010. The following two vegetation communities were identified within the application area (Western Botanical, 2010): 1. *Eucalyptus longicornis* Woodland; and 2. *Eucalyptus salubris* Woodland.	Cliffs Asia Pacific Iron Ore has applied to clear up to 10.94 hectares within an application area of 10.94 hectares (GIS Database). The application area is located approximately one kilometre east of Koolyanobbing (GIS Database). The proposed clearing is for the expansion of the existing Koolyanobbing run of mine (ROM) pad. The proposed work includes the repositioning of ore stockpiles and the ore handling plant.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994). to Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).	The vegetation condition was assessed by the assessing officer from information provided by Western Botanical (2010) and using aerial imagery.

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 vegetation survey of the application area identified two intact vegetation communities (Western Botanical, 2010). The application area is located adjacent to the existing ROM pad and as a result there were three weed species recorded (Western Botanical, 2010).

There have been no Threatened Ecological Communities recorded within the application area (Western Botanical, 2010). The application area falls within the buffer zone of the Priority Ecological Community (PEC) 'Koolyanobbing vegetation complexes (banded ironstone formation)' (GIS Database). As the application area is not located upon the Koolyanobbing banded ironstone formation, it is not likely that this PEC will be impacted by the proposed clearing.

The flora survey recorded a total of 33 native flora taxa within the application area (Western Botanical, 2010).

There were no Declared Rare or Priority Flora recorded during the survey. The flora survey recorded two individuals of the species *Acacia* aff. *intricata* (Western Botanical, 2010). This species has been previously recorded during an adjacent flora survey (Western Botanical, 2010). This species is not listed as conservation significant, but the Koolyanobbing population represents a minor range extension to the north of its current distribution (Western Botanical, 2010). Given the wide distribution of similar vegetation communities in the local area, it is expected that this species is represented outside the application area (Western Botanical, 2010).

No systematic fauna searches have been carried out over the application area. The fauna habitat present within the application area is common and widespread throughout the region (Cliffs Asia Pacific Iron Ore, 2010). Given, this and its location adjacent to an existing ROM pad, the application area is not likely to support a higher level of faunal diversity than surrounding areas.

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

Methodology Cliffs Asia Pacific Iron Ore (2010)
Western Botanical (2010)
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**
The application area has been described as being comprised wholly of the 'plains' fauna habitat type (Bamford Consulting Ecologists, 2007). A Level 1 survey of the Koolyanobbing area identified 16 conservation significant species that are likely to occur in the local area. Whilst they may occur within the application area, it is not likely to represent significant habitat for conservation significant fauna. The application areas location adjacent to an existing ROM pad is likely to act as a deterrent to some species inhabiting it.

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

Methodology Bamford Consutling Ecologists (2007)

(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 Declared Rare Flora (DRF) within the application area (GIS Database). A flora survey of the application area was conducted by Western Botanical on 4 and 16 August 2010. This flora survey did not record any DRF (Western Botanical, 2010).

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

Methodology Western Botanical (2010)
GIS Database:
- Declared Rare 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 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). A vegetation survey of the application area was conducted by Western Botanical on 4 and 16 August 2010. No vegetation communities were identified as being a TEC (Western Botanical, 2010).

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

Methodology Western Botanical (2010)
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 Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion which remains largely uncleared, with approximately 98.2% of the Pre-European vegetation remaining (see table) (GIS Database; Shepherd, 2007).

The application area has been mapped as Beard vegetation association 141: Medium woodland; Yorkgum, salmon gum & gimlet.

According to Shepherd (2007) over 80% of Beard vegetation association 141 remains at both a state and bioregional level. 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 – Coolgardie	12,912,204	12,707,619	~98.42	Least Concern	10.87
Beard veg assoc. – State					
141	1,158,760	953,806	~82.7	Least Concern	12
Beard veg assoc. – Bioregion					
141	883,085	859,070	~97.3	Least Concern	15.6

* Shepherd (2007)
** Department of Natural Resources and Environment (2002)

Options to select from: Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment 2002)

Presumed extinct	Probably no longer present in the bioregion
Endangered+	<10% of pre-European extent remains
Vulnerable+	10-30% of pre-European extent exists
Depleted+	>30% and up to 50% of pre-European extent exists
Least concern+	>50% pre-European extent exists and subject to little or no degradation over a majority of this area

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2007)
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 permanent or ephemeral watercourses within the application area (GIS Database). The nearest significant water body is Lake Deborah East, a non-perennial salt lake located approximately three kilometres west of the application area (GIS Database). The proposed clearing is unlikely to impact on Lake Deborah East.

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

Methodology 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 is located within the Southern Cross Soil-Landscape Zone (Tille, 2006). This zone is characterised by undulating plains and uplands (with some salt lake and low hills) on deeply weathered mantle, colluvium and alluvium over greenstone and granitic rocks of the Yilgarn Craton (Tille, 2006).

At a broad scale the surface soil pH of the application area is 5.5 – 6.0 and there is no known occurrence of acid sulphate soils (CSIRO, 2009). The application area is relatively flat throughout, and the clearing of native vegetation is not likely to lead to an increase in runoff causing erosion (GIS Database).

The average annual evaporation rate is approximately 9 times greater than the average annual rainfall, so it is unlikely the proposed clearing will result in increased groundwater recharge causing rising saline water tables (GIS Database).

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

Methodology CSIRO (2009)
Tille (2006)
GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual
- 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 lies within any conservation areas or DEC managed tenure (GIS Database). The nearest conservation reserve is an un-named nature reserve located approximately 10 kilometres west of the application area (GIS Database). Based on the distance between the application area and the nature reserve, the proposed clearing is not likely to impact on the environmental values of any conservation areas.

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). The nearest watercourse is the non-perennial salt lake, Lake Deborah East located approximately three kilometres west of the application area (GIS Database). The proposed clearing is not likely to have an impact on surface water quality within the local area.

The groundwater salinity within the application area is between 14,000 and 35,000 milligrams per litre of Total Dissolved Solids (TDS) (GIS Database). This is considered to be saline. The proposed clearing is not likely to cause salinity levels within the application area to alter.

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

Methodology GIS Database:
- Groundwater Salinity, Satewide
- 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 300 millimetres and an average annual evaporation rate of 2,600 - 2,800 millimetres there is likely to be little surface flow during normal seasonal rains (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 GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual

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

Comments

The clearing permit application was advertised on 27 September 2010 by the Department of Mines and Petroleum inviting submissions from the public. There was one submission received raising concerns over heritage issues, in particular the disturbance of Aboriginal Sites of Significance. 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.

There is one native title claim over the area under application (GIS Database). This claim (WC99/29) has been

registered with the National 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*.

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.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Federal

4. References

Bamford Consulting Ecologists (2007) Fauna Assessment of the Koolyanobbing Area. Unpublished report for Portman Iron Ore Ltd, dated December 2007.

Cliffs Asia Pacific Iron Ore (2010) Koolyanobbing ROM Extension - Purpose Clearing Permit Application. Supporting documentation for a clearing permit application, dated September 2010.

Commonwealth Scientific and Industrial Research Organisation (2009) Australian Soil Resource Information System. Available online at: http://www.asris.csiro.au/index_ie.html Accessed on 22 November 2010.

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.

Shepherd, D.P. (2007) 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.

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.

Western Botanical (2010) Koolyanobbing ROM Extension. Unpublished report for Cliffs Asia Pacific Iron Ore Pty Ltd, dated 1 September 2010.

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.