



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7210/1

Permit type: Area Permit

1.2. Proponent details

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

1.3. Property details

Property: Mining Lease 77/989

Local Government Area: Shire of Ashburton

Colloquial name: Koolyanobbing Range F Deposit Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 6 October 2016

2. Background

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. One Beard vegetation association is located within the application area (GIS Database):

141: Medium woodland; York gum, salmon gum and gimlet

A Level 2 flora and vegetation survey was undertaken within the application area from August to September of 2013 by Woodman Environmental Consulting Pty Ltd (Woodman Environmental Consulting, 2014). One vegetation unit was recorded within the application area.

Unit 11: Low isolated trees and mallees of *Eucalyptus longissima*, *Banksia arborea* and *Brachychiton gregorii* over tall shrubland to open shrubland dominated by *Acacia* sp. Mt Jackson (B. Ryan 176) and *Allocasuarina eriochlamys* subsp. *eriochlamys* or *Allocasuarina acutivalvis* subsp. *acutivalvis* over mid open to sparse shrubland dominated by *Philotheca brucei* subsp. *brucei*, *Grevillea zygaloba*, *Eremophila clarkei*, *Scaevola spinescens* and *Leucopogon* sp. Clyde Hill (M.A Burgman 1207) over low sparse shrubland of mixed species including *Olearia humilis*, *Prostanthera althoferi* subsp. *althoferi*, *Hibbertia exasperata* and *Dianella revoluta* var. *divaricata* on red, red-brown or brown clay or clay-loam with ironstone stones, usually with banded ironstone outcropping, on the crests and slopes of ranges.

Clearing Description Koolyanobbing Range F Deposit Project.

Cliffs Asia Pacific Iron Ore Pty Ltd proposes to clear up to 0.64 hectares of native vegetation within a total boundary of the same size, for the purpose of mineral exploration. The project is located approximately 50 kilometres north-northeast of Southern Cross, in the Shire of Yilgarn.

Vegetation Condition Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

To:

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

Comment Vegetation condition was derived from a flora and vegetation survey conducted by Woodman Environmental Consulting (2014). A large portion (0.2 hectares) of the area applied to clear is considered to be relatively bare of vegetation due to recent exploration activities (Cliffs, 2016a).

The proposed clearing is to allow for additional geotechnical drilling for the proposed Koolyanobbing Range F deposit. Additional drilling is required for geotechnical safety studies and twinning of existing drill holes (Cliffs, 2016a; Cliffs, 2016b)

4. Assessment of application against Clearing Principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments **Proposal may be at variance to this Principle**

The application area is located within the Southern Cross subregion of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). At a broad scale, vegetation can be described as Eucalyptus woodlands rich in endemic eucalypts around chains of playa-lakes, *Borya constricta* with stands of *Acacia accuminata* and *Eucalyptus loxophleba* on mid-levels of granite basement outcrops with mallees and scrubheaths on the uplands (CALM, 2002).

The application area is located within the Koolyanobbing Range (GIS Database). The Koolyanobbing Range supports one of the two major concentrations of endemic or near endemic flora in Western Australia (DPaW, 2016a). The range contains a large number of specialist ironstone taxa listed as Priority flora and has been identified as a range comprising the highest level of biodiversity and landscape conservation value by the Government of Western Australia (DPaW, 2016a).

The Koolyanobbing Range provides critical habitat for a number of vegetation units that have extremely restricted distributions (DPaW, 2016a). A flora and vegetation survey undertaken by Woodman Environmental Consulting (2014) identified one vegetation association, unit 11, as described in the vegetation description above. The proposed clearing (0.64 hectares) will impact approximately 0.2% of unit 11 when compared against the known size of the unit within the Koolyanobbing Range (Cliffs, 2016a). Given the small local impact the clearing will have on the vegetation unit, it is unlikely that the proposed clearing will have a significant impact on the biodiversity of the area or result in a significant loss of fauna habitat.

The application area is located within a Priority 1 Ecological Community (PEC), the Koolyanobbing Range Complex (GIS database). The total area of the PEC as currently mapped is 2531 hectares (DPaW, 2016a). Advice from the Department of Parks and wildlife (DPaW) is that the small area of clearing proposed under this application (0.64 hectares) is unlikely to cause a significant impact to the PEC (DPaW, 2016b). However, the cumulative impact of previous and potential ground disturbing activities will contribute to the continued decline of the condition and extent of the PEC as the result of further loss of vegetation and habitat, weed introduction and spread, altered hydrology, habitat fragmentation, and soil degradation (DPaW, 2016a). Future mining proposals and clearing permit applications within the Koolyanobbing range should consider cumulative impacts to the PEC.

A flora and vegetation survey undertaken by Woodman Environmental Consulting (2014), identified five species of conservation significance within the application area:

- *Tetratheca erubescens* – Rare as listed by the Wildlife Conservation (Rare Flora) Notice 2015
- *Beyeria rostellata* – Priority 1 as listed by DPaW
- *Hibbertia lepidocalyx* subsp. *tuberculata* – Priority 3 as listed by DPaW
- *Stenanthemum newbeyi* – Priority 3 as listed by DPaW
- *Banksia arborea* – Priority 4 as listed by DPaW

No individuals of *Tetratheca erubescens* are to be directly impacted by the proposed clearing (Cliffs, 2016a; DPaW, 2016b). However, clearing falls within 50 metres of several individuals (Cliffs, 2016a; DPaW, 2016b). Drill holes 4, 5, and 6 occur adjacent to the largest concentration of *Tetratheca erubescens* throughout the Koolyanobbing Range, and this area appears to provide optimal habitat when looking at the density and health rating of individuals (DPaW, 2016b). Care should be taken when clearing near these individuals to reduce indirect impacts such as dust.

When considering the proposed clearing in isolation, impacts to the above priority flora species are unlikely to be significant. However, it is worth noting that the proponent has had several previous impacts on these four species and has the potential for further impacts due to other proposed clearing activities within the Koolyanobbing Range such as the D-South Deposit. The cumulative impacts of clearing in the Koolyanobbing Range have the potential to be significant to the conservation of the above flora species at the population level (DPaW, 2016b).

Several weed species have been recorded throughout the Koolyanobbing Range (Woodman Environmental Consulting, 2014). 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 may be at variance to this Principle.

methodology CALM (2002)
Cliffs (2016a)
DPaW (2016a)
DPaW (2016b)
Woodman Environmental Consulting (2014)

- GIS Database:
- IBRA Australia
 - Pre-European Vegetation
 - 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 may be at variance to this Principle

A vertebrate fauna assessment over part of the Koolyanobbing Range including the application area was undertaken by Biota in April and October of 2013 (Biota, 2014). A total of 106 vertebrate fauna from 45 families were recorded, including six mammals, 29 birds, nine reptiles and one amphibian family (Biota, 2014). The following fauna species of conservation significance were recorded in or near the application area:

- *Leipoa ocellata* (Malleefowl) – Schedule 3, Vulnerable (VU)
- *Merops ornatus* (Rainbow bee-eater) – Schedule 5, Migratory (IA)
- *Falco peregrinus* (Peregrine Falcon) – Schedule 7, Other specially protected fauna (OS)
- *Aganippe castellum* (Tree-stem Trapdoor Spider) – Priority 4 as listed by DPaW

The Rainbow Bee-eater is listed as a migratory species and is widely distributed throughout Australia (DPaW, 2016c). Given that the Rainbow Bee-eater has a large range and a large population that appears to be stable, significant impacts to this species as a result of the proposed clearing are considered unlikely.

The Peregrine Falcon is a wide ranging species and is not confined to a specific habitat (DEHP, 2016). Therefore they are unlikely to be reliant on the small scale of vegetation (0.64 hectares) within the application area (DPaW, 2016b).

The Malleefowl is a threatened species listed as a Matter of National of Environmental Significance (MNES) under the EPBC Act (DPaW, 2012). Biota (2014) did not find any active mounds within or in close proximity to the application area. However, several old mounds were recorded within close proximity to the application area (Biota, 2014) and it is known that Malleefowl return to reuse old mounds and build new ones (DPaW, 2016c). Therefore, it is possible that an active Malleefowl mound may be within or in close proximity to the application area when clearing occurs (DPaW, 2016b). Potential impacts to Malleefowl as a result of the proposed clearing may be minimised by the implementation of a Malleefowl management condition.

The Tree-stem Trapdoor Spider occurs mainly in bushland remnants within the regional area, including conservation estates. Advice from DPaW is that the proposed clearing is unlikely to significantly impact the Tree-stem Trapdoor Spider (DPaW, 2016b).

In addition to the species listed above, the survey recorded a potentially new species of Trapdoor Spider, *Idiosoma* sp. (Biota, 2014). The WA Museum is currently in the process of classifying this species (DPaW, 2016b). However DPaW still considers the records for this species to be that of *Idiosoma nigrum* and therefore a threatened species (DPaW, 2016b). This species was recorded from sites outside of the application area and from broad habitats at the local scale (DPaW, 2016b).

Biota (2014) identified three fauna species that were referred to as being “reliant on ironstone habitat regionally”:

- *Artamus minor* (Little Woodswallow)
- *Pachycephala inornata* (Gilbert’s Wristler)
- *Cyclodomorphus melanops* (Slender Blue-tongue)

DPaW has advised that these species are unlikely to be significantly impacted given their wide distribution and the small scale of clearing proposed (DPaW, 2016c).

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

Methodolgy
Biota (2014)
DEHP (2016)
DPaW (2012)
DPaW (2016b)
DPaW (2016c)

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

Comments Proposal not likely to be at variance to this Principle

The application area falls within 50m of several individuals of *Tetradlea erubescens* (Woodman Environmental Consulting, 2014). The proposed clearing will not directly impact these individuals however care should be taken to reduce indirect impacts such as dust (DPaW, 2016b).

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

Methodology DPaW (2016b)
Woodman Environmental Consulting (2014)

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

No Threatened Ecological Communities (TECs) are known to occur within the application area (GIS Database). A flora and vegetation survey of the application area did not identify the presence of any TECs (Woodman Environmental Consulting, 2014).

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

Methodology Woodman Environmental Consulting (2014)

GIS Database:
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

(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 Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 97.9% of pre-European vegetation remains (GIS Database; Government of Western Australia, 2014).

The vegetation within the application area has been mapped as Beard vegetation association 141 (GIS Database). Beard vegetation association 141 is well represented at both a state and bioregional level, as shown in the table below (Government of Western Australia, 2015). 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 - Coolgardie	12,912,204	12,648,491	97.96	Least Concern	~16.20
Beard vegetation associations - State					
141	1,158,760	960,758	82.91	Least Concern	~ 40.02
Beard vegetation associations - Bioregion					
141	883,085	858,525	97.22	Least Concern	~ 44.62

* Government of Western Australia (2015)

** 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 (2015)

GIS Database:
- IBRA Australia
- 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

According to available databases, there are no permanent or ephemeral watercourses or wetlands within the application area (GIS Database). The vegetation proposed to be cleared is not growing in association with any watercourses or wetlands (Cliffs, 2016a; GIS Database). The nearest significant water body is Lake Seabrook, located approximately 2 kilometres East of the application area (GIS Database).

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

Methodology Cliffs (2016a)

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 Koolyanobbing Range is similar to most Banded Ironstone Formations (BIF's) of the Yilgarn Craton which are characterised by a stony surface mantle which provides effective protection against soil erosion (Government of Western Australia, 2007). The disturbance or removal of this stony mantle may initiate soil erosion. However, given the poor soil coverage on BIF's there is likely to be a minimal amount of erodible material within the application area (Government of Western Australia, 2007).

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

Methodology Government of Western Australia (2007)

(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

According to available databases, the application area is not located within a conservation area or DPaW managed land (GIS Database). The nearest known conservation area is an un-named Class A nature reserve located approximately 13 kilometres west of the application area (GIS Database). Based on the distance between the application area and the nearest nature reserve, the proposed clearing is unlikely 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:
- 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

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The application area lies within the Goldfields Groundwater Area (GIS Database). Groundwater within the application area is saline, between 14,000 – 35,000 milligrams per litre of dissolved salts (GIS Database). Given the groundwater is already saline, the small amount of clearing proposed is unlikely to alter existing groundwater quality.

Given that there is low average rainfall (300 millimetres) in the Koolyanobbing area (BoM, 2016) and there are no watercourses within the application area, the proposed clearing is not likely to cause sedimentation or deteriorate the quality of surface water in nearby areas.

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

Methodology BoM (2016)

GIS Database:

- Groundwater Salinity, Satewide
- 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 application area receives an average annual rainfall of approximately 300 millimetres (BoM, 2016). Based on an average annual evaporation rate of 2600 – 2800 millimetres (BoM, 2016), any surface water resulting from rainfall events is likely to be relatively short lived.

The application area is located within the Swan Avon/Yilgarn River catchment area which covers 5,836,045 hectares (GIS Database). Given the size of the area to be cleared (0.64 hectares) in relation to the size of the catchment area, the proposed clearing is not likely to increase the incidence or intensity of flooding.

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

Methodology BoM (2016)

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, 2016). 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 Sites of Aboriginal Significance located in the area applied to clear (DAA, 2016). 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 22 August 2016 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology DAA (2016)

3. Assessor's recommendations

Comment / recommendation

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing may be at variance to Principles (a) and (b), is not likely to be at variance to Principles (c), (d), (g), (h), (i) and (j), and is not at variance to Principle (e) and (f).

4. References

- Biota (2014) Southern Koolyanobbing Range Vertebrate Fauna Survey. Report prepared for Cliffs Asia Pacific Iron Ore Pty Ltd, by Biota Environmental Sciences, February 2014.
- BoM (2016) Climate Statistics for Australian Locations, Koolyanobbing. Bureau of Meteorology. <http://www.bom.gov.au> (Accessed 8 September 2016).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia
- Cliffs (2016a) Yilgarn Operations, Koolyanobbing Range F deposit. Cliffs Asia Pacific Iron Ore Pty Ltd, Western Australia, August 2016.
- Cliffs (2016b) Additional Information Received in Relation to PoW 60092. Cliffs Asia Pacific Iron Ore Pty Ltd, Western Australia, September 2016.
- DAA (2016) Aboriginal Heritage Enquiry System. Department of Aboriginal Affairs. <http://maps.dia.wa.gov.au/AHIS2/> (Accessed 12 July 2016).
- DEHP (2016) Peregrine Falcon. Department of Heritage Protection Queensland. <https://www.ehp.qld.gov.au> (Accessed 12 July 2016)
- DPaW (2012) Fauna Profiles – Malleefowl. Department of Parks and Wildlife. <https://www.dpaw.wa.gov.au> (Accessed 12 July 2016)
- DPaW (2016a) Advice received in relation to Clearing Permit CPS 7076/1. Department of Parks and Wildlife, Western Australia, 10 June 2016.
- DPaW (2016b) Advice received in relation to Clearing Permit CPS 7210/1. Department of Parks and Wildlife, Western Australia, 9 September 2016.
- DPaW (2016c) Advice received in relation to Clearing Permit CPS 7076/1. Department of Parks and Wildlife, Western Australia, 1 July 2016.
- 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.
- Government of Western Australia (2007) Strategic Review of the Conservation and Resource Values of the Banded Iron Formations of the Yilgarn Craton. Department of Environment and Conservation and Department of Industry and Resources, Perth, Western Australia.
- Government of Western Australia (2015) 2015 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Department of Environment and Conservation, Western Australia, June 2015.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Woodman Environmental Consulting (2014) Southern Koolyanobbing Range, Flora and Vegetation Assessment. Report prepared for Cliffs Asia Pacific Iron Ore Pty Ltd, by Woodman Environmental Consulting, February 2014.

