



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 4397/2  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Robe River Ltd

### 1.3. Property details

Property: Iron Ore (Robe River) Agreement Act 1964, Mineral Lease 248SA (AML70/248)  
Local Government Area: Shire of Ashburton  
Colloquial name: Jimmawurrada and Mesa H Project

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 20 November 2014

## 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. Three Beard vegetation associations are located within the permit area (GIS Database):

**Beard vegetation association 82:** hummock grasslands, low tree steppe; Snappy Gum over *Triodia wiseana*;

**Beard vegetation association 603:** hummock grasslands, sparse shrub steppe, *Acacia bivenosa* over hard Spinifex; and

**Beard vegetation association 609:** mosaic: hummock grasslands, open low tree steppe; Bloodwood with sparse Kanji shrubs over soft Spinifex / hummock grasslands, open low tree steppe; Snappy Gum over *Triodia wiseana* on a lateritic crust.

Numerous flora surveys were conducted over the original permit area. These surveys were reviewed by Rio Tinto (2011) and the sections relevant to the original permit area were summarised in a report. Rio Tinto (2011) reports that the following vegetation communities were recorded within the original permit boundary:

##### CLAYEY PLAINS

###### CcCAoTwTe/h

*Corymbia candida* low woodland over *Cassia* aff. *oligophylla* (thinly sericeous) low shrubland over *Triodia wiseana*, *Triodia epactia* open hummock grassland with patches of herbland. This vegetation unit has high conservation significance.

##### MESA TOPS AND HILLS

###### AiTWTsr

*Acacia inaequilatera* scattered tall shrubs over *Triodia wiseana*, *Triodia* sp. Robe River open hummock to hummock grassland. This vegetation unit has high conservation significance and is equivalent to Pilbara PEC 22.

###### AptAaTw

*Acacia ptychophylla*, *Acacia ancistrocarpa* x open heath over *Triodia wiseana* hummock grassland.

###### ChAiAbTw

*Corymbia hamersleyana* scattered low trees over *Acacia inaequilatera* scattered tall shrubs over *Acacia bivenosa* scattered shrubs over *Triodia wiseana* hummock grassland.

###### EIAtenTwERIm

*Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia tenuissima* shrubland over *Triodia wiseana* hummock grassland and *Eriachne mucronata* scattered tussock grasses. This vegetation unit has high conservation significance and is equivalent to 'Triodia' sp. Robe River assemblages of mesas of the West Pilbara' PEC.

## MESAS, HILLS AND SLOPES

### AbTw

*Acacia bivenosa* open shrubland to open heath over *Triodia wiseana* hummock grassland.

## DRAINAGE

### ChAbGpTeCE

*Corymbia hamersleyana* low woodland over *Acacia bivenosa*, *Grevillea pyramidalis* high open shrubland over *Triodia epactia* hummock grassland and *Cenchrus* spp. open tussock grassland.

### EcEvMgCYPvCEc

*Eucalyptus camaldulensis*, *Eucalyptus victrix* open forest over *Melaleuca glomerata* tall open scrub over *Cyperus vaginatus* open sedgeland over *Cenchrus ciliaris* open tussock grassland.

## MINOR CREEKLINE / FLOWLINES

### ChAtuPITwTe

*Corymbia hamersleyana* low open woodland over *Acacia tumida* var. *pilbarensis*, *Petalostylis labicheoides* open scrub over *Triodia wiseana*, *Triodia epactia* hummock grassland.

### CcTw

*Corymbia candida* low woodland over *Triodia wiseana* open hummock grassland.

### ChAtuTwTe

*Corymbia hamersleyana* low open woodland over *Acacia tumida* var. *pilbarensis* tall open scrub over *Triodia wiseana*, *Triodia epactia* open hummock grassland.

### ChAsppGOGsppPLScTeTw

*Corymbia hamersleyana* scattered low trees to low open woodland over *Acacia* spp., *Gossypium robinsonii*, *Grevillea* spp., *Petalostylis labicheoides*, *Stylobasium spathulatum* tall shrubland over *Triodia epactia*, *Triodia wiseana* hummock grassland.

## MINOR DRAINAGE AREAS ON MESA TOPS AND EDGES

### ChAtuTw

*Corymbia hamersleyana* scattered low trees over *Acacia tumida* var. *pilbarensis* tall open scrub over *Triodia wiseana* open hummock grassland. This vegetation unit has high conservation significance and is equivalent to 'Triodia sp. Robe River assemblages of mesas of the West Pilbara' PEC.

## PLAINS

### AxTw/AxTe

Mosaic of *Acacia xiphophylla* low woodland to tall shrubland over *Triodia wiseana* open hummock grassland and *Acacia xiphophylla* low woodland to tall shrubland over *Triodia epactia* open hummock grassland. This vegetation unit has high conservation significance.

### AiAbTw

Mosaic of *Acacia xiphophylla* low woodland to tall shrubland over *Triodia wiseana* open hummock grassland and *Acacia xiphophylla* low woodland to tall shrubland over *Triodia epactia* open hummock grassland.

## PLAINS AND LOW RISES

### AxTwTe

*Acacia xiphophylla* tall open shrubland over *Triodia wiseana*, *Triodia epactia* very open hummock grassland.

### ChAaAiTw/ChAtuPTaTe

*Corymbia hamersleyana* scattered low trees over *Acacia ancistrocarpa*, *Acacia inaequilatera* scattered shrubs over *Triodia wiseana* hummock grassland / *Corymbia hamersleyana* scattered low trees over *Acacia tumida* closed heath over *Ptilotus astrolasius* low shrubland over *Triodia epactia* hummock grassland.

### ChAaTw

*Corymbia hamersleyana* scattered low trees over *Acacia ancistrocarpa* open shrubland to open heath over *Triodia wiseana* hummock grassland.

### ChAaTwTe

*Corymbia hamersleyana* scattered low trees over *Acacia ancistrocarpa* open shrubland to open heath over *Triodia wiseana*, *Triodia epactia* hummock grassland.

### ChAaTwTe/AsyAscTe

*Corymbia hamersleyana* scattered low trees over *Acacia ancistrocarpa* open shrubland to open heath over *Triodia wiseana*, *Triodia epactia* hummock grassland / *Acacia synchronicia*, *Acacia sclerosperma* subsp. *sclerosperma* tall shrubland to tall open scrub over *Cassia oligophylla* x *helmsii* low open shrubland over *Triodia epactia* very open hummock grassland.

### ChAiApyTe

*Corymbia hamersleyana* open woodland over *Acacia inaequilatera*, *Acacia pyrifolia* tall open shrubland over *Triodia epactia* hummock grassland.

### ChAiTw

*Corymbia hamersleyana* scattered low trees over *Acacia inaequilatera* scattered tall shrubs over mixed scattered

shrubs over *Triodia wiseana* open hummock grassland.

#### STONY HILLS AND BREAKAWAYS

##### EIAiAptTw

*Eucalyptus leucophloia* scattered low trees over *Acacia inaequilatera* scattered tall shrubs over *Acacia ptychophylla* low open shrubland over *Triodia wiseana* hummock grassland.

##### ERfTw

*Eremophila fraseri* open shrubland over *Triodia wiseana* hummock grassland.

#### STONY HILLS AND HIGH PLAINS

##### AiTWTspr

*Acacia inaequilatera* scattered shrubs over *Triodia wiseana*, *Triodia* sp. Robe River hummock grassland. This vegetation unit has high conservation significance and is equivalent to 'Triodia sp. Robe River assemblages of mesas of the West Pilbara' PEC.

##### ChAbTw

*Corymbia hamersleyana* scattered low trees over *Acacia bivenosa* scattered shrubs over *Triodia wiseana* hummock grassland or *Corymbia hamersleyana* scattered low trees over *Acacia bivenosa* open shrubland to open heath over *Triodia wiseana* hummock grassland.

##### ChAiTWtspr

*Corymbia hamersleyana* scattered low trees over *Acacia inaequilatera* open shrubland over *Triodia wiseana*, *Triodia* sp. Robe River hummock grassland. This vegetation unit has high conservation significance and is equivalent to Pilbara PEC 22.

##### EIAiAbTw

*Eucalyptus leucophloia* scattered low trees over *Acacia inaequilatera*, *Acacia bivenosa* scattered tall shrubs over *Triodia wiseana* hummock grassland.

#### STONY PLAINS

##### AatAbTw

*Acacia atkinsiana* tall open shrubland over *Acacia bivenosa* open shrubland over *Triodia wiseana* hummock grassland.

##### AiAaAbTw

*Acacia inaequilatera* scattered tall shrubs over *Acacia ancistrocarpa*, *Acacia bivenosa* open shrubland to shrubland over *Triodia wiseana* hummock grassland.

##### CcAaAbAsyTeTw

*Corymbia candida* scattered low trees over *Acacia ancistrocarpa*, *Acacia bivenosa*, *Acacia synchronicia* open shrubland over *Triodia epactia*, *Triodia wiseana* hummock grassland.

#### STONY PLAINS, HILLS AND RIDGES

##### ChAbTwTe

*Corymbia hamersleyana* low woodland over *Acacia bivenosa* shrubland over *Triodia epactia*, *Triodia wiseana* mid-dense hummock grassland or *Corymbia hamersleyana* scattered low trees to low woodland over *Acacia bivenosa* open shrubland over *Triodia wiseana*, *Triodia epactia* hummock grassland.

#### VALLEY FLOORS AND LOW PLAINS

##### AsclAsyTe

*Acacia sclerosperma*, *Acacia synchronicia* open shrubland over *Triodia epactia* hummock grassland.

##### AsyTeCEs

*Acacia synchronicia* tall open shrubland over *Triodia epactia* hummock grassland over *Cenchrus setiger* open tussock grassland.

Further flora surveys have been conducted over the original and additional areas with the latest conducted in July and October 2013. The following vegetation units have been mapped within the amended permit boundary (Rio Tinto, 2014):

#### VEGETATION OF LOW HILLS AND RISES

**AbTw:** *Acacia bivenosa* and *Acacia ptychophylla* scattered low shrubs over *Triodia wiseana* hummock grassland;

**AiAptTw:** *Acacia inaequilatera* scattered shrubs over *A. ptychophylla* low open shrubland over *Triodia wiseana* hummock grassland;

**ChAaAiTw/ChAtuTe:** *Corymbia hamersleyana* scattered low trees over *Acacia* sp. scattered shrubs over *Triodia wiseana* hummock grassland / *Corymbia hamersleyana* low open woodland over *Acacia tumida* tall closed scrub over *Triodia epactia* hummock grassland;

**ChAiTw:** *Corymbia hamersleyana* scattered low trees over *Acacia inaequilatera*, *Acacia ancistrocarpa* and *Acacia bivenosa* scattered shrubs over *Triodia wiseana* (and *Triodia epactia*) hummock grassland;

**EIIgWApTW:** *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* scattered low trees over

*Grevillea wickhamii* and *Acacia inaequilatera* scattered shrubs over *Acacia ptychophylla* scattered low shrubs over *Triodia wiseana* and *Triodia* sp. Robe River (M.E. Trudgen et al. MET 12367) hummock grassland;

#### VEGETATION OF PLAINS

**ChAiTe:** *Corymbia hamersleyana* scattered trees over *Acacia inaequilatera* scattered tall shrubs over *Triodia epactia* hummock grassland;

**ChAsyAbTe:** *Corymbia hamersleyana* scattered trees over *Acacia synchronicia*, *A. bivenosa* tall shrubland over *Triodia epactia* hummock grassland;

**CaAsAbTeCs:** *Corymbia hamersleyana* scattered trees over *Acacia synchronicia*, *A. bivenosa* tall shrubland over *Triodia epactia* hummock grassland;

**AxTe:** *Acacia xiphophylla* low open woodland over *Triodia epactia* open hummock grassland;

#### VEGETATION OF DRAINAGE

**EcEvTYdCYPv:** *Eucalyptus camaldulensis*, *E. victrix* scattered tall trees over *Typha domingensis*, *Cyperus vaginatus* very open sedgeland;

**EvApyAtrTe:** *Eucalyptus victrix* scattered low trees over *Acacia pyrifolia*, *A. trachycarpa* open shrubland over *Triodia epactia* open hummock grassland;

**ExAsclCYPvCEcTe:** *Eucalyptus xerothermica* open woodland over *Acacia sclerosperma* tall open scrub over *Cyperus vaginatus* very open sedgeland over *\*Cenchrus ciliaris* open tussock grassland over *Triodia epactia* very open hummock grassland;

**MgTI:** *Melaleuca glomerata* and *Acacia bivenosa* scattered shrubs over *Triodia longiceps* hummock grassland;

**Mosaic:** Mosaic of vegetation within a seasonally waterlogged plain;

#### CLEARED AND HEAVILY DISTURBED AREAS

**CD:** Completely Degraded.

<b>Clearing Description</b>	Jimlawurrada and Mesa H Project. Robe River Ltd proposes to clear up to 600 hectares of native vegetation within a boundary of 5,587 hectares for the purpose of mineral exploration. The project area is located approximately 115 kilometres east of Onslow within the Shire of Ashburton.
<b>Vegetation Condition</b>	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994);  to  Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).
<b>Comment</b>	The vegetation conditions were described using a scale based on Trudgen (1988) and have been converted to the corresponding conditions from the Keighery (1994) scale.  Clearing permit CPS 4397/1 was granted by the Department of Mines and Petroleum on 1 September 2011 and authorised the clearing of up to 196 hectares of native vegetation within an area totalling approximately 2,518 hectares. Robe River Ltd has applied to increase the amount of clearing authorised to 600 hectares and the permit boundary to 5,587 hectares. They have also applied to remove Conditions 2 and 3 from the permit and extend the duration of the clearing to 31 July 2020.

### 3. Assessment of application against clearing principles

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

<b>Comments</b>	<b>Proposal may be at variance to this Principle</b> The permit area is located within the Hamersley subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Hamersley subregion is described by CALM (2002) as being rich in <i>Acacia</i> , <i>Triodia</i> , <i>Ptilotus</i> and <i>Sida</i> species.  The permit boundary is within the buffer of the 'Subterranean invertebrate community of pisolitic hills in the Robe Valley' and 'Stygofaunal community of the Bungaroo Aquifer' Priority Ecological Communities (PECs) (GIS Database). As both of these are subterranean communities, the proposed clearing is not expected to impact these PECs. The flora survey of the original permit boundary identified two vegetation units (AiTwTspr and ChAiTwTspr) that were considered to represent the ' <i>Triodia</i> sp. Robe River assemblages of mesas of the West Pilbara' PEC (Biota Environmental Sciences, 2011). Conditions 2 and 3 were placed on CPS 4397/1 which restricted the clearing within these vegetation units. These areas were reassessed as part of the survey for the additional areas. As a result of the survey, these vegetation units were split into three units; one which contained <i>Triodia</i> sp. Robe River (EiIGwAptTw) and two which do not contain <i>Triodia</i> sp. Robe River (Rio Tinto, 2014). The EiIGwAptTw vegetation unit is not considered to represent the PEC as it does not contain the other key indicator species and is not representative of an inverted landscape (Rio Tinto, 2014). As this vegetation is
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not representative of a PEC, Robe River Ltd has requested that the conditions restricting clearing in these areas are removed from the permit.

The Mosaic vegetation unit comprises a number of vegetation units growing on a seasonally waterlogged plain (Rio Tinto, 2014). This vegetation has not been previously recorded in the local region and is considered to be unusual and have a limited distribution (Rio Tinto, 2014). It also supports habitat for the Priority 3 flora species *Eragrostis surreyana* (Rio Tinto, 2014). Impacts to this vegetation community may be minimised by a restricted clearing condition.

Flora surveys over the permit area have recorded a total of 284 native flora taxa from 51 families (Rio Tinto, 2014). No species of Threatened flora have been recorded within the permit boundary (Rio Tinto, 2014; GIS Database). The Priority flora species *Triodia* sp Robe River (Priority 3) and *Rhynchosia bungarensis* (Priority 4) were both previously recorded within the original permit boundary (Biota Environmental Sciences, 2011). In addition, the Priority flora species *Stylidium weeliwollii* (Priority 2) and *Eragrostis surreyana* (Priority 3) have been recorded within the additional area (Rio Tinto, 2014). *Triodia* sp. Robe River was recorded throughout the north of the permit area within vegetation unit EllGwAptTw (Rio Tinto, 2014). It is estimated that the population of this species within the permit area totals 20,000 individuals (Rio Tinto, 2014). This species is known from the West Pilbara and a regional study of the species estimates that there are over 60 million individuals (Astron, 2010). *Stylidium weeliwollii* was recorded from one location within the permit boundary (Rio Tinto, 2014). This species has been recorded from several locations within the Pilbara and Murchison bioregions (Western Australian Herbarium, 2014). *Rhynchosia bungarensis* was recorded at three locations within the permit boundary (Rio Tinto, 2014). This species was also recorded in surrounding areas outside the permit boundary. The Western Australian Herbarium (2014) has records of this species from several locations across the Pilbara bioregion. The proposed clearing is not expected to have a significant impact on these three Priority flora species. *Eragrostis surreyana* grows in seasonally wet areas on alluvial soils and was recorded primarily within the Mosaic vegetation unit (Rio Tinto, 2014). It is estimated that over 9,000 individuals are within the permit boundary (Rio Tinto, 2014). Potential impacts to this species may be minimised by a restricted clearing condition within the Mosaic vegetation unit.

A fauna survey of the greater Bungaroo area, which includes the permit boundary, recorded a total of 147 vertebrate fauna species, comprising 51 herpetofauna species, 73 bird species and 23 mammal species (including three introduced species) (Biota Environmental Sciences, 2010). The majority of the fauna habitats within the permit boundary are considered widespread in the region, however, the Mosaic and Soak areas are likely to provide refuge for fauna species in drier times (Rio Tinto, 2014). These two habitats may support a higher level of faunal diversity than surrounding areas.

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

**Methodology** Astron (2010)  
Rio Tinto (2014)  
Biota Environmental Sciences (2010)  
Biota Environmental Sciences (2011)  
CALM (2002)  
Western Australian Herbarium (2014)  
GIS Database:  
- IBRA WA (Regions - Subregions)  
- Threatened and Priority Flora  
- 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**

There have been six broad fauna habitats mapped over the the permit area (Rio Tinto, 2014):

- Low hills and hill slopes;
- Plains;
- Floodplains;
- Mosaic;
- Major drainage lines; and
- Soak.

The Mosaic habitat contains dense vegetation, large trees and the sandy soil is suitable for digging and burrowing species (Rio Tinto, 2014). Tree hollows and leaf litter also provide microhabitats that are not present in the other habitats (Rio Tinto, 2014). Given the available range of microhabitats, the Mosaic habitat is likely to be significant for local fauna in particular during drier parts of the year. The Mosaic fauna habitat corresponds to the Mosaic vegetation unit. Impacts to this habitat may be minimised by the implementation of a restricted clearing condition.

The Soak habitat contains a significant source of semi-permanent water within the permit boundary (Rio Tinto,

2014). Similar to the Mosaic habitat, it is likely to act as a refuge for fauna species in the drier months (Rio Tinto, 2014). This habitat contains dense vegetation, soft soils and leaf litter which provide microhabitats for a number of fauna species (Rio Tinto, 2014). Potential impacts to this habitat may be minimised by a restricted clearing condition. The other fauna habitats are considered to be widespread in the region (Rio Tinto, 2014).

The following five species of conservation significance have been recorded within the permit boundary; Australian Bustard (*Ardeotis australis* - Priority 4), *Notoscincus butleri* (Priority 4), Star Finch (*Neochima ruficauda subclarescens* - Priority 4), Western Pebble-mound Mouse (*Pseudomys chapmani* - Priority 4) and Rainbow Bee-eater (*Merops ornatus* - Migratory) (Rio Tinto, 2014). Habitat for these species is widespread outside the permit boundary and the proposed clearing is not expected to have a significant impact on habitats for any of these species.

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

**Methodology** Rio Tinto (2014)

**(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 permit boundary. Numerous flora surveys have been conducted within the permit area. No Threatened flora species have been recorded by flora surveys within the permit boundary (Rio Tinto, 2014)

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

**Methodology** Rio Tinto (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**

According to available databases there are no records of any Threatened Ecological Communities (TECs) within the permit boundary (GIS Database). None of the vegetation units mapped within the permit boundary have been identified as a TEC (Rio Tinto, 2014).

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

**Methodology** Rio Tinto (2014)  
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 lies within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99.6% of the pre-European vegetation remains (see table) (Government of Western Australia, 2013; GIS Database).

The vegetation of the application area has been broadly mapped as Beard vegetation associations 82, 603 and 609. These vegetation associations have not been extensively cleared as over 98% remains at both a State and bioregional level (see table) (Government of Western Australia, 2013). There has not been extensive clearing in the local region and the vegetation within the application area is not a remnant nor does it form part of any remnants within the local area (GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Land
IBRA Bioregion – Pilbara	17,808,657	17,733,583	~99.6	Least Concern	8.37
Beard veg assoc. – State					
82	2,565,901	2,553,217	~99.5	Least Concern	10.51
603	56,726	55,764	~98.3	Least Concern	0
609	74,186	72,765	~98.1	Least Concern	0
Beard veg assoc. – Bioregion					
82	2,563,583	2,550,898	~99.5	Least Concern	10.52
603	56,726	55,764	~98.3	Least Concern	0
609	74,186	72,765	~98.1	Least Concern	0

\* Government of Western Australia (2013)

\*\* 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 (2013)  
GIS Database:  
- IBRA WA (Regions - Sub Regions)  
- Pannawonica 1.4m Orthomosaic  
- 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**

There are several ephemeral watercourses that transect the permit boundary (GIS Database). The most significant watercourse is Bungaroo Creek which passes through the north-east of the permit boundary (GIS Database). A number of the vegetation units have been identified as being associated with minor creeks and drainage lines (Rio Tinto, 2011; 2014). Potential impacts to watercourses 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** Rio Tinto (2011)  
Rio Tinto (2014)  
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**

The permit area is comprised of the Boolgeeda, Newman, River, Robe and Urandy land systems (GIS Database). The River land system is highly susceptible to erosion if vegetation cover is removed (Van Vreeswyk et al., 2004). Within the permit boundary the River land system is associated with the Bungaroo Creek (GIS Database). Potential impacts from erosion may be minimised by the implementation of staged clearing and watercourse management conditions. The other land systems within the permit boundary are generally not prone to erosion (Van Vreeswyk et al., 2004).

The permit area is relatively flat so the proposed clearing is not expected to lead to an increase in runoff and water erosion (GIS Database).

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

**Methodology** Van Vreeswyk et al. (2004)  
GIS Database:  
- Hydrography, linear

- 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 proposed clearing is not located within any conservation areas or Department of Parks and Wildlife managed lands (GIS Database). The nearest conservation area is the Cane River Conservation Park located approximately 45 kilometres south-west of the permit boundary (GIS Database).

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**

There are no permanent watercourses within the permit area (GIS Database). Numerous ephemeral watercourses including Bungaroo Creek are within the permit area (GIS Database). Potential impacts to surface water quality may be minimised by the implementation of a watercourse management condition.

The permit area is not located within a Public Drinking Water Source Area (GIS Database). The groundwater within the permit area ranges from 500 to 1,000 milligrams per litre of total dissolved solids (GIS Database). Given the relative scale of the proposed clearing (600 hectares within a boundary of 5,587 hectares), it would not be expected that it would cause groundwater 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** GIS Database:  
- 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 275.8 millimetres and an average annual evaporation rate of 3,400 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2014; GIS Database). Whilst large rainfall events may result in the flooding of the area, the proposed clearing is spread over a large area (600 hectares within a boundary of 5,587 hectares) and 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 (2014)  
GIS Database  
- Hydrography, linear

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

**Comments**

There is one Native Title claim (WC1999/012) over the area under application (GIS Database). This claim has been filed at the Federal Court on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993*, and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process. Therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are numerous 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 Regulation, 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 was advertised by the Department of Mines and Petroleum on 22 September 2014, inviting submissions from the public. No submissions were received.

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

#### 4. References

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#### 5. Glossary

##### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DPaW and DER)
<b>DER</b>	Department of Environment Regulation, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DotE</b>	Department of the Environment, Australian Government
<b>DoW</b>	Department of Water, Western Australia
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>s.17</b>	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
<b>TEC</b>	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 *Wildlife Conservation Act 1950*, 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 DPaW according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorhynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.  
  
Rankings:  
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.