



## 1. Application details

### 1.1. Permit application details

Permit application No.: 814/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: BHP Billiton Iron Ore Pty Ltd

### 1.3. Property details

Property: AML70/244  
Local Government Area: Shire Of East Pilbara  
Colloquial name: Orebody 25 minesite

### 1.4. Application

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

## 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 Association 18: low woodland; mulga ( <i>Acacia aneura</i> ), and Beard Vegetation Association 82: hummock grasslands, low tree steppe; snappy gum over <i>Triodia wiseana</i> , of which there is approximately 99.9% and 100% respectively remaining, and 2.3% and 9.1% respectively, in reserves (Shepherd et al., 2001).	The majority of the vegetation applied to clear consists of hard spinifex ( <i>Triodia basedowii</i> ) dominated steppe with a sparse to very sparse overstorey of emergent Eucalyptus or <i>Acacia rhodophloia</i> / <i>Acacia aneura</i> . There are also small areas of gully vegetation consisting of dense <i>Acacia citrinoviridis</i> over <i>Triodia pungens</i> , or a mixed overstorey over mixed <i>Triodia</i> species. No Rare or Priority flora or fauna species have been found within the areas applied to clear, and all the vegetation types to be cleared are well represented in the Pilbara Region (Ecologia, 1995, as cited in BHP, 2005).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The proposed clearing area is a total of approximately 7ha, for the extension of two existing overburden storage areas (OSA's), within the existing Orebody 25 minesite. The two proposed clearing areas are immediately adjacent to areas disturbed by existing mine roads and infrastructure.

## 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 vegetation types to be cleared are well represented in the Pilbara Region (BHP, 2005; GIS Database). The proposed clearing area is a total of approximately 7ha, for the extension of two existing overburden storage areas (OSA's), within the existing Orebody 25 minesite. The two proposed clearing areas are immediately adjacent to existing mine roads and infrastructure, and are unlikely to be of higher biodiversity than surrounding areas. The comparatively small areas of additional clearing within the existing minesite are unlikely to have any significant impact on biological diversity in the region (CALM, 2005c).

**Methodology** BHP Billiton Iron Ore Pty Ltd (2005); CALM Advice (2005c); GIS Database - Pre-European Vegetation - DA 01/01.

### (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**  
A survey of the Orebody 25 minesite and surrounding areas conducted by Ecologia in 1995 found no fauna species of conservation significance within the areas proposed to clear (BHP, 2005). However, three fauna species of conservation significance are considered likely to occur in the surrounding area: the Western Pebble-mound Mouse, *Pseudomys chapmani* (P4); Peregrine Falcon, *Falco peregrinus*; and the Desert Mouse,

*Pseudomys desertor*. The most suitable habitat for the Desert Mouse is considered to be the area immediately adjacent to Homestead Creek (Ecologia, 1995, as cited by BHP, 2005), which is approximately 500m to the south of the nearest of the two areas applied to clear, and is unlikely to be affected by the proposed clearing. The Western Pebble-mound Mouse is relatively widespread in the Pilbara and is well represented in areas outside the minesite. The Peregrine Falcon has been recorded in areas adjacent to the minesite, however this species is highly mobile, and is unlikely to be affected by the proposed clearing (Ecologia, 1995, as cited by BHP, 2005). Abandoned nests of the Lesser Stick-nest Rat, *Leporillus apicalis* (currently listed by CALM as Extinct, (CALM, 2005a)) were recorded from two caves within the Orebody 25 area in a survey conducted by Ecologia in 2004, however these nests were estimated to have been abandoned for several decades (BHP, 2005).

The area applied to clear is a total of approximately 7ha, for the extension of two existing overburden storage areas (OSA's), within the existing Orebody 25 minesite. The two proposed clearing areas are immediately adjacent to existing mine roads and infrastructure. The comparatively small areas of additional clearing within the minesite are unlikely to have any significant impact on fauna habitat in the region (CALM, 2005c).

**Methodology** BHP Billiton Iron Ore Pty Ltd (2005); CALM (2005a); CALM Advice (2005c).

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

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

CALM databases have no records of any populations of Declared Rare or Priority flora within a 10km radius of the areas applied to clear (GIS Database). The nearest known DRF is 6 populations of *Lepidium catapycnon* which occur fairly close together approximately 13-16km west/southwest of the area applied to clear (GIS Database).

The vegetation of the Orebody 25 minesite was classified by Ecologia (1995) into four major types, (and eleven sub-types), which broadly correspond to the major topographical features of the area. Four of the eleven vegetation sub-types occur in the application area: 1a. Hard spinifex (*Triodia basedowii*) dominated steppe with sparse to very sparse *Eucalyptus* emergents; 1b. Hard spinifex (*Triodia basedowii*) dominated steppe with open *Acacia rhodophloia*/*Acacia aneura* overstorey; 4a. Narrow gullies with dense *Acacia citrinoviridis* over *Triodia pungens*; 4b. Broad gullies with mixed overstorey over mixed *Triodia* species. The majority of the vegetation to be cleared is vegetation types 1a and 1b, with small areas of vegetation types 4a and 4b. No Rare or Priority flora species have been found within the areas applied to clear, and all the vegetation types to be cleared are well represented in the Pilbara Region (Ecologia, 1995, as cited in BHP, 2005). Two Priority Flora species have been recorded in surveys of the surrounding area. *Eremophila magnifica* was recorded in two previous surveys; by Ecologia in 1995, and by BHP Billiton in 2000 (BHP, 2005). *Eremophila magnifica* is now classified on the CALM Florabase database as 'not threatened', however two subspecies are listed as Priority Flora: *E. magnifica subsp magnifica* (P4) and *E. magnifica subsp velutina* (P3). The CALM Florabase database (CALM 2005b) has records for all three subspecies in the Pilbara region, from areas outside the minesite. *Triumfetta leptacantha* (P3) was recorded by BHP Billiton in 2000 from the area surrounding the Orebody 25 minesite, however subsequent searches by Ecologia in 2004, failed to relocate this species (BHP, 2005).

The comparatively small areas of additional clearing within the existing minesite are unlikely to have any significant impact on Rare or Priority flora in the region (CALM, 2005c).

**Methodology** BHP Billiton Iron Ore Pty Ltd (2005); CALM Advice (2005c); CALM (2005b); GIS Database - Declared Rare and Priority Flora List - CALM 01/07/05.

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significant ecological community.**

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

There are no known Threatened Ecological Communities within the area applied to clear. The nearest known Threatened Ecological Community is the Ethel Gorge aquifer stygobiont community which is located approximately 4.3km east/northeast of the eastern application area (the North OSA). Groundwater drawdown is listed as a threatening process for the Ethel Gorge stygofauna (CALM, 2002), however the proposed clearing is not expected to have any effect on groundwater levels.

**Methodology** CALM (2002); GIS Database - Threatened Ecological Communities - CALM 12/04/05.

**(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 IBRA Pilbara Bioregion and the Shire of East Pilbara. Shepherd et al. (2001) report that approximately 100% of the pre-European vegetation still exists in the IBRA Pilbara Bioregion, although no specific information is available for the Shire of East Pilbara. The vegetation in the application area is recorded as Beard Vegetation Association 18: low woodland; mulga (*Acacia aneura*), and Beard Vegetation Association 82:

hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*, of which there is approximately 99.9% and 100% respectively remaining, and 2.3% and 9.1% respectively, in reserves (Shepherd et al., 2001). The area proposed to clear does not represent a significant remnant of native vegetation.

	<b>Pre-European Area (ha)</b>	<b>Current extent (ha)</b>	<b>Remaining %*</b>	<b>Conservation status**</b>	<b>% in reserves /CALM-managed land</b>
IBRA Bioregion - Pilbara	17,944,694	17,944,694	~100%	Least concern	
Shire of East Pilbara	No information available				
Beard vegetation association - 18	24,675,970	24,659,110	99.9%	Least concern	2.3
Beard vegetation association - 82	2,920,910	2,920,910	~100%	Least concern	9.1

\* **Shepherd et al. (2001)**

\*\* **Department of Natural Resources and Environment (2002)**

**Methodology** GIS Database - Pre-European Vegetation - DA 01/01; Shepherd et al. (2001).

**(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 likely to be at variance to this Principle**

There are no watercourses or wetlands within the areas proposed to clear (GIS Database). Creeks in the surrounding area are dry for most of the year, only flowing briefly immediately following significant rainfall (BHP, 2005). The nearest creekline to the application area is Homestead Creek which is located approximately 500m to the south of the West OSA (at its nearest point) (GIS Database). The proposed clearing is unlikely to have any significant impact on Homestead Creek or any other watercourse.

**Methodology** GIS Database - Rivers 250K - GA.; GIS Database - Lakes, 1M - GA 01/06/00.

**(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 proposed clearing is for two small areas within an existing mine development, and is unlikely to cause significant land degradation. There are no recorded acid sulphate soils in the area and the clearing is unlikely to result in an increased risk of salinity (GIS Database). The soils within the Orebody 25 Mine area are mainly stony, shallow loams. Erosion and sediment control measures will be implemented as required (BHP, 2005).

**Methodology** BHP Billiton Iron Ore Pty Ltd (2005); GIS Database - Acid sulphate soil risk map, SCP - DOE 4/1/04; GIS Database - Salinity Risk LM 25m - DOLA 00.

**(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 at variance to this Principle**

There are no CALM Reserves in the vicinity of the application area. The nearest CALM managed land is the Karijini National Park, approximately 120km west/northwest of the application area (GIS Database).

**Methodology** GIS Database - CALM Managed Lands and Waters - CALM 1/07/05.

**(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 minesite is located within a Public Drinking Water Source Area - the Newman Water Reserve. There are no watercourses within the area applied to clear (GIS Database). Creeks in the surrounding area are dry for most of the year, only flowing briefly immediately following significant rainfall (BHP, 2005). Groundwater quality monitoring is conducted as part of the existing mine operations (BHP, 2005). The comparatively small area of additional clearing is unlikely to have any significant impact on surface or underground water quality.

**Methodology** BHP Billiton Iron Ore Pty Ltd (2005); GIS Database - Hydrography, Linear - DOE 1/02/04; GIS Database - Public Drinking Water Source Areas - DOE 09/08/05.

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

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

The proposed clearing is for two small areas, which are not associated with any permanent watercourse (GIS Database). The proposed clearing is not likely to cause or exacerbate the incidence or intensity of flooding.

**Methodology** GIS Database - Hydrography, Linear - DOE 1/02/04.

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

**Comments**

The current proposal to extend two existing Overburden Storage Areas, is an interim measure in advance of a major expansion (the 'Orebody 25 Extension Project') planned for the existing Orebody 25 minesite. BHP Billiton has referred the Orebody 25 Extension Project to the Environmental Protection Authority (EPA) for assessment under the *Environmental Protection Act (1986)*. The project is currently being formally assessed by the EPA in the form of an Environmental Protection Statement (EPS). The assessment is expected to be completed in early 2006 (BHP, 2005). The area under EPA assessment does not include the areas covered by this clearing application, and the EPA has no objection to the Clearing Permit being issued in advance of the EPA Assessment decision (EPA, 2005).

There is a Native Title Claim over the area under application by the Niyaparli people (GIS Database). However, the mining tenement has been granted, and the clearing is for a purpose consistent with the tenement type, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are several Aboriginal sites of significance within a 10 km radius of the application area. The proposed extension of the west OSA occurs partly within a Registered Indigenous Heritage Site - the Minduroo historical site (ID 17395) (GIS Database). 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.

BHP Billiton Iron Ore's Orebody 25 Mine AML70/244 has a current operating licence 4503 granted in accordance with the *Environmental Protection Act 1986*. The proposed clearing is not at variance to this licence, and no amendment to the licence will be required for the extension of OSA's (DoE, 2005).

BHP Billiton Iron Ore's Orebody 25 minesite AML70/244 has a current groundwater licence GWL65219(4) for the purpose of dust suppression, potable water supply, ore processing, public water supply purposes for Newman, granted in accordance with the *Rights in Water and Irrigation Act 1914*, and a pending groundwater licence GWL158381 for the purpose of dewatering, ore processing, and dust suppression. GWL158381 relates specifically to the Orebody 25 minesite and is likely to be issued in the near future, and this licence is applicable for the proposed extension of OSA's (DoE, 2005).

**Methodology** BHP Billiton Iron Ore Pty Ltd (2005); DoE Water Allocation/Licence Advice (2005); EPA Advice (2005); GIS Database - Aboriginal Sites of Significance - DIA 04/07/02; GIS Database - Environmental Impact Assessments - DOE 18/08/05; GIS Database - Native Title Claims - DLI 19/12/04.

**4. Assessor's recommendations**

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mineral Production	Mechanical Removal	7	Grant	Recommend that the application be granted as it is not at variance to any of the Clearing Principles.

**5. References**

BHP Billiton Iron Ore Pty Ltd (2005) Orebody 25 Mine - Interim Pit 1 Mining and Overburden Optimisation Proposal - Notice of Intent.

CALM (2002) A biodiversity audit of Western Australia's 53 Biogeographic Subregions in 2002.

CALM (2005a) Declared Threatened Fauna occurrence in CALM Regions (wild populations).

CALM (2005b) Florabase database.

CALM (2005c) Land clearing proposal advice. Advice to Programme Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia.

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.

Department of Environment (2005) Water Allocation/Licence Advice.

Keighery, BJ (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.