Department of Environment and Conservation

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 2384/1
**Permit type:** Area Permit

### 1.2. Proponent details

**Proponent's name:** **Numans Group Pty Ltd**

### 1.3. Property details

**Property:** LOT 44 ON PLAN 181724 (Lot No. 44 GREAT NORTHERN NEWMAN 6753)
**Local Government Area:** Shire Of East Pilbara
**Colloquial name:**

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|---|---|---|---|
| 11.7 | | Mechanical Removal | Building or Structure |

## 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 29:<br>Sparse low woodland; mulga, discontinuous in scattered groups (Shepherd et al. 2001; Hopkins et al. 2001).<br>The application area consists of hummock grasslands and River Gum woodland along whole southern boundary (EIS, 2008).<br>Weed species such as Cenchrus cilliaris (buffel grass) is abundant within the application area (EIS, 2008). | The proposal involves clearing approximately 11.7ha for the purpose of constructing a permanent mining camp. | Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) | The condition of the vegetation within the application area was assessed through aerial photography and the Vegetation Management Plan by VDM Environmental regarding the application area (2008). |

## 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 proposal is for the clearing of 11.7 hectares for the purpose of constructing a permanent mining camp. The area to be cleared consists of Beard vegetation association 29 of which there is approximately 100% of the Pre-European extent remaining (Shepherd et al., 2001). The vegetation on site has obvious signs of disturbance and the condition of the vegetation is classified as degraded (Keighery, 1994). The application area consists of hummock grasslandsand River Gum woodland along the southern boundary abuting the Fortescue River (EIS, 2008). Weed species Cenchrus ciliaris (buffel grass) is abundant in the application area (EIS, 2008).

There are a number of weeds (including buffel grass) common to the Pilbara region which could be introduced to the site and surrounding areas as a result of this proposal. Strategies to reduce the risk of introduction and spread of weeds should be undertaken. Stockpiling of topsoil in a position away from the Fortescue River will also require management for weeds until it is required for rehabilitation activities.

Given the high extent of vegetation remaining, the application area is unlikely to represent an area of higher biodiversity value when compared to representative vegetation in a local and regional context.

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

**Methodology**

EIS (2008)
Keighery (1994).
Shepherd et al. (2001)
GIS Database:
- DEFL, SAC Bio Dataset 270508
- TEC Database, SAC Bio Dataset 270508
- Newman 1.4m ORTHOMOSAIC

**(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**

Within the local area of Newman (40km radius), there were few sightings of priority fauna species. The fauna recorded include:
*Macroderma gigas (Ghost Bat; Priority 4);
*Ramphotyphlops ganei (Blind snake; Priority 1); and
*Pseudomys chapmani (Western Pebble - Mound Mouse; Priority 3).

The Ghost bat is likely to occur in the region, but as there are no known caves, abandoned mines or rocks containing deep cracks within the application areas, the likelihood of them roosting within the area is very low (AMO, 2007).

The Blind Snake has been given its priority status as very little is known about this species. It grows to about 30 cm in length and has been recorded from four localities in the Pilbara including Pannawonica and Newman (Sac Biodatasets 270508).

Western Pebble - Mounded Mouse is known for the characteristic pebble-mounds which it constructs over underground burrow systems. These mounds are most common on spurs and lower slopes of rocky hills (Sac Biodatasets 270508). The application area has a low relief and is not located on a spur or rocky hill.

Fauna habitats within the proposed area to be cleared are well represented elsewhere within the local and regional area. The area to be cleared does not represent a fauna corridor and therefore the clearing will not remove an ecological linkage that is necessary for the maintenance of fauna. None of the above mentioned fauna were sighted within the application area (EIS, 2008). It is noted in the vegetation management plan (2008) that ongoing management of the site will involve the relocation of hollow logs to the south of the site to ensure habitat is not lost during the clearing (VMP, 2008). Furthermore, fauna-friendly post and strand-wire should be used to where fencing is used to restrain cattle (VMP, 2008).

The majority of the vegetation in the Newman area (Sparse low woodland; mulga, discontinuous in scattered groups) is in excellent condition. Given the proposed clearing (11.7ha) consists of previously cleared and degraded vegetation (Keighery 1994) and the closest record of rare fauna was sighted 11km from the application area, it is unlikely that the proposed clearing will have any impact on habitat for fauna indigenous to Western Australia and therefore is not likely to be at variance to this principle.

**Methodology**

AMO (2007)
DEC (2007)
EIS (2008)
Keighery (1994)
VMP (2008)
GIS Database:
- Threatened Fauna, SAC Bio Dataset 270508
- Newman 1.4m ORTHOMOSAIC DLI04
- Topography

**(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**

Within the local area (40km radius), there are six recorded sightings of Lepidium catapycnon a rare flora species, approximately 5.5km west of the sight.

Lepidium catapycnon is a small shrub which prefers skeletal soils on hillsides (WA Herbarium, 2008). There are no known threatening processes, and status is better than once thought (DEC, 2002). The soils type of the application area consists of flat and gently sloping plains, with shallow earthy loams (Northcote et al., 1960-68). Although, the soils of the application area can be classified skeletal, there are no hilly reliefs within the area to provide a suitable habitat for L. catapycnon. Furthermore, the vegetation types differ markedly from the species records and the application area.

A site visit conducted by VDM Environmental found no DRF within the application area (EIS, 2008).

Given the closet record is over 10kms from the proposal area it is unlikely that the application is at variance to this principle.

**Methodology** DEC (2002)
EIS (2008)
Northcote (1960-68)
(WA Herbarium, 2008)
GIS Database:
- DEFL, SAC Bio Dataset 270508
- Newman 1.4m ORTHOMOSAIC - DLI04

**(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**
There is one known Threatened Ecological Community (TEC) which lies 10km north of the proposed clearing area. Ethal George is a aquifer stygobiont community, and is found within the Fortescue River underground water system. The area under application is located upstream of the TEC and is located south the Ophthalmia Dam. Given the TEC is located north of the dam it is unlikely that the fauna present within the TEC, will be affected by the proposed clearing. Furthermore, a site visit conducted by VDM Environmental (EIS, 2008) found no TEC's within the site boundaries.

Given the above, it is unlikely that the proposal is at variance to this principle.

**Methodology** GIS Database:

- TEC Database, SAC Bio Dataset (18/04/08)

**(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**

| Pre-European | | Current extent (ha) | Remaining (ha) | % (%) |
|---|---|---|---|---|
| IBRA Bioregions** | | | | |
| Gascoyne | | 18,075,252 | 18,075,252 | 100 |
| Subbioregion | | | | |
| Augusta | 9,669,567 | 9,669,567 | 100 | |
| Shire* | | | | |
| East Pilbara | 37,234,638 | 37,234,638 | 100 | |
| Beard Vegetation Complex** | | | | |
| 29 | | 3,802,476 | 3,802,476 | 100 |

* (Shepherd et al. 2006)
** (Shepherd et al. 2001)

Approximately 100% of the Pre-European vegetation remains in the IBRA Gascoyne bioregion, Augusta subbioregion, Shire of East Pilbara and Beard Vegetation Association 29, all within which this proposal is located (Shepherd et al., 2001).

Given the high vegetation representation within the local and regional area and the degraded vegetation condition (Keighery, 1994) of the application area, it is not considered to be a significant remnant of native vegetation within an extensively cleared area.

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

**Methodology** Shepherd et al. (2001)
Shepherd et al. (2006)
GIS Database:
- Interim Biogeographic Regionalisation of Australia
- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00
- 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**

The southern boundary of the application area is adjacent to the Fortescue River. There is a very low topographical relief from the application area into the Fortescue River. As the application has been previously cleared, with the majority of the vegetation left in a degraded condition, there would be a minimal increase of surface runoff. The length of the southern boundary is 120m, which is a small proportion of the entire area proposed to clear.

The vegetation management plan (2008) states that the increase in people visiting the permanent mining camp and consequently the Fortescue River, will promote the spread of weeds to the river. The plan proposes that to reduce further degradation of the river, vegetation management, in co-operation with DEC and the Shire of East Pilbara, should extend to the river foreshore. Furthermore, the proponent should integrate the floodplain rehabilitation to incorporate the section of river to be impinged on (VMP, 2008).

Given the close proximity of the application area to Fortescue River and that the proposal involves the removal of riparian vegetation, the application is at variance to this principle. If granted, a condition may be place on the permit to ensure that a buffer of 20m (DoW, 2005) area of ripirian vegetation be retained along the Fortescue River.

**Methodology**

DoW, 2005
VMP, 2008
GIS Database:
- Geodata Lakes
- Rivers
- Newman 1.4m ORTHOMOSIAC

**(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 topography of the proposed clearing is of low relief (520-530m AHD), and is situated on rocks of low permeability. The site is described as extensive flat and gently sloping plains, which sometimes have a surface cover of gravels and on which redbrown hardpan frequently outcrops. Chief soils are shallow earthy loams (Northcote et al. 1960-68).

As the surrounding area has a similiar level of topography it is likely that during earth works, soil erosion may occur. Clearing should therfore occur after the wet season to ensure sedimentary runoff is minimised. Additionally, trapping of eroded sediment should be implemented to prevent it from entering undisturbed catchments and revegetation of disturbed areas undergone to minimise erosion and runoff (VMP, 2008).

Rainfall and evapotranspiration rates for the local area (40km radius) are both 300mm, suggesting that there is a low risk of waterlogging within the proposed clearing area.

Given the above, the application may cause appreciable land degradation and therefore may be at variance to this principle.

**Methodology**

Northcote et al. (1960-68)
VMP (2008)
GIS Database:
- Topography, linear
- Rainfall - Mean annual
- Evapotranspiration rate

**(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 known conservation areas within a 40km radius of the application area. The application area has been previously cleared and the vegetation is of a degraded condition (Keighery 1994).

Given the distance from the closest conservation area and the degraded nature of the application area, the proposal in not at varaince with this principle.

**Methodology**

Keighery (1994)
GIS Database:
- CALM Managed Lands and Waters

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

The clearing of 11.7 hectares of vegetation is unlikely to have a significant impact on groundwater in the proposed clearing area given the average annual rainfall of the site is 300m, with most rainfall occurring over the summer months (BoM, 2008), and an evapotranspiration rate of 400mm per annum. Groundwater salinity is rated as 500 - 1000mg/L which is marginal.

Furthermore, the majority of existing vegetation is shallow rooted grass and shrub species and thus the proposed clearing is unlikely to have a significant impact on the level or quality of the groundwater table.

The application is adjacent to the Fortescue River, and involves the clearing of a 100m length of riparian vegetation. The removal of this vegetation may increase sediment flow and reduce the quality of water within the river. To minimise the amount of sediment and nutrients reaching the river, the vegetation management plan (2008) suggests to keep a 6 metre continuous dense groundcover to trap sediment; revegetate bank to create a buffer; and undertake earthwork during dry periods.

Given the above, the application may be at variance to this principle. If granted, conditions may be placed on the permit to retain a 20m buffer to the watercourse (DoW, 2005) and implement weed control in these areas.

**Methodology**

BoM (2008)
DoW (2005)
Northcote et al. (1960-68)
GIS Database:
- Hydrogeology, statewide
- Groundwater Salinity, Statewide
- Topographic Contours, Statewide
- Rivers

**(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 at variance to this Principle**

Given the scale of the site (11.7ha) the remaining vegetation throughout the local area and the hydrogeology, the site is unlikely to cause any flooding. As well as this the applied site and surrounding area is all 520m above sea level, there is no depression within the landscape to cause any intensity flooding, therefore not likely to be at variance with this principle.

**Methodology**

GIS Database:
- Topographic Contours, Statewide
- Hydrogeoplogy, Statewide

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

**Comments**

Planning approval has been received from the Shire of East Pilbara (DEC TRIM REF: DOC51197)

Numans have a licence to take water and a licence to construct or alter a well (CAW166079 and GWL166694) from the DoW.

There is one Native Title Claim, Nyiyaparli, over the area under application, as the property is privately owned the granting of the clearing permit is a secondary approval and does not constitute a future act under the Native Title Act 1993.

**Methodology**

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claim

## 4. Assessor's comments

**Comment**

The application has been assessed and is considered to be at variance to principle (f); may be at variance to principles (g), (i); not likely to be at variance to principles (a), (b), (c), (d); and is not at variance to principles (e), (h) and (j).

## 5. References

AMO, 2008. Ghost Bat, Australian Museum Online, site on 1/1/08 at http://www.austmus.gov.au/bats/records/bat14.htm.
BoM 2008. Bureau of Meteorology - Rainfall of Newman 2008. Sited on 27/05/2008 at http://www.bom.gov.au/climate/dwo/IDCJDW6096.latest.shtml

Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.
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DoW (2005). Department of Environment (2005) Water Quality Protection Note: Vegetation Buffers to Sensitive Water
EIS (2008). Environmental Impact Statement. Proposed Accommodation Development Lot 44, Great Eastern Highway, Newman. VDM Environmental. Issue No. 2 February 2008.
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
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.
VMP (2008). Vegetation Management Plan. Proposed Accommodation Development Lot 44, Great Eastern Highway, Newman. VDM Environmental. Issue No. 1 January 2008.

## 6. Glossary

| Term | Meaning |
|---|---|
| BCS | Biodiversity Coordination Section of DEC |
| CALM | Department of Conservation and Land Management (now BCS) |
| DAFWA | Department of Agriculture and Food |
| DEC | Department of Environment and Conservation |
| DEP | Department of Environmental Protection (now DEC) |
| DoE | Department of Environment |
| DoIR | Department of Industry and Resources |
| DRF | Declared Rare Flora |
| EPP | Environmental Protection Policy |
| GIS | Geographical Information System |
| ha | Hectare (10,000 square metres) |
| TEC | Threatened Ecological Community |
| WRC | Water and Rivers Commission (now DEC) |