Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6637/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Redstone Resources Limited**

1.3. Property details

Property: Exploration Licence 69/2450
Local Government Area: Shire of Ngaanyatjarraku
Colloquial name: Tollu Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 13 August 2015

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The clearing permit application area has been broadly mapped as Beard vegetation association:
252: Hummock grasslands, shrub steppe; mulga and mallee over soft spinifex

A flora and vegetation desktop assessment conducted by Enviro Works in 2008 and 2012 (EW, 2008; 2012) over the application area described the vegetation of the area as the following:

Tussock grasslands (*Enneapogon* spp.; *Poaceae* species) with occasional emergent trees (*Acacia aneura*, *Casuarina pauper*, or *Hakea lorea*) interspersed with some isolated occurrences of mid-level shrubs including Acacia spp., *A. coriacea*, *A. tetragonophylla*, and *Senna artemisioides*.

Clearing Description

Tollu Project
Redstone Resources Limited proposes to clear up to 6.96 hectares of native vegetation within a total boundary of approximately 6.96 hectares, for the purpose of mineral exploration. The project is located approximately 130 kilometres east of Warburton, in the Shire of Ngaanyatjarraku.

Vegetation Condition

Very Good: Vegetation structure altered with obvious signs of disturbance (Keighery, 1994);

to

Degraded: Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management (Keighery, 1994).

Comment

Vegetation condition was determined by the assessing officer using the Keighery scale and information provided in the flora and fauna desktop assessments.

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 application area is located within the Great Victorian Desert Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). It consists of arid active sand-ridge desert with extensive dune fields of deep Quaternary aeolian sands overlying Permian strata of the Gunbarrel Basin (EV, 2008; 2012).

A flora and fauna desktop assessment was conducted by EnviroWorks Consulting Pty Ltd (EV) over the application area in 2008 and 2012 (EV, 2008; 2012). One Priority flora species *Eucalptus sparsa* (P3) was identified within the application area. The applicant has commited to avoiding priority flora species within the application area therefore the proposed clearing is unlikely to have an impact on this priority flora species.

No Threatened or Priority Ecological Communities, Threatened flora or vegetation associations of restricted distribution were identified within the application area (EV, 2008; 2012).

A total of seven introduced flora species have the potential to occur within the application area (EV, 2008; 2012). These included *Lycium ferocissimum* (African Boxthorn), *Solanum nigrum* (Blackberry nightshade), *Tribulus terrestris* (Caltrop), *Sonchus oleraceus.* (Common sowthistle), *Pennisetum clandestinum* (Kikuyu grass), *Bassia scoparia* (Kochia) and *Acetosa vesicaria.* (Ruby Dock). None of these introduced flora species are Declared Pest or listed as Weeds of National Significance (EV, 2008; 2012). Potential impacts on biological diversity from weeds may be minimised by the implementation of a weed management condition.

A fauna desktop assessment was conducted by EnviroWorks over the application area in 2008 and 2012 (EV, 2008; 2012). No significant fauna habitats were identiifed within the application area and it is considered unlikely that any conservation signficant fauna species recorded in database searches rely exclusively on fauna habitats present in the application area.

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

Methodology
EV (2008)
EV (2012)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Threatened and Priority Flora
- Threatened Fauna
- Threatened Ecological Sites Buffered

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments

Proposal is not likely to be at variance to this Principle

A fauna desktop assessment was conducted by EnviroWorks over the application area in 2008 and 2012 (EV, 2008; 2012). No significant fauna habitats were identiifed within the application area (EV, 2012).

The dominat fauna habitat within the application area was described as Tussock grasslands with occasional emergent trees interspersed with some isolated occurrences of mid level shrubs (EV, 2008). This fauna habitat was not considered to be unique and extended beyond the proposed application area therefore it is considered unlikely that the proposed clearing will comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia (GIS Database).

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

Methodology
EV (2008)
EV (2012)
GIS Database:
- Aerial Imagery
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation

(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

There are no records of Threatened Flora within the application area (GIS Database).

The flora and fauna desktop assessment conducted by EnviroWorks over the application area did not identify any species of Threatened Flora (EV, 2008; 2012).

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

Methodology
EV (2008)
EV (2012)
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

There are no Threatened Ecological Communities within the application area (GIS Database).

The flora and fauna desktop assessment conducted by EnviroWorks over the application area did not identify any Threatened Ecological Communities (EV, 2008; 2012).

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

Methodology

EV (2008)
EV (2012)
GIS Database:
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments

Proposal is not at variance to this Principle

The application area falls within the Great Victorian Desert Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99% of the Pre-European vegetation remains (see table) (GIS Database; Government of Western Australia, 2013).

The vegetation of the application area has been mapped as the following Beard vegetation associations (GIS Database):

252: Hummock grasslands, shrub steppe; mulga and mallee over soft spinifex

Approximately 100% of Beard vegetation association 252 remains at state and bioregion level (Government of Western Australia, 2013). Therefore, the area proposed to be cleared is unlikely to represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion - Great Victorian Desert	21,794,222.04	21,784,887.23	~99.96	Least Concern	8.47
Beard vegetation associations - State					
252	141, 311.10	141,311.10	~100	Least Concern	0
Beard vegetation associations - Bioregion					
252	109,254.04	109,254.04	~100	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)
- 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 likely to be at variance to this Principle

There are no permanent water bodies or watercourses within the application area (GIS Database).

No vegetation associated with a permanent watercourse or wetland was identified within the application area during the flora and fauna desktop assessment (EV, 2008; 2012).

There are several minor non-perennial drainage lines that intersect the application area (GIS Database).The surface flows of these drainage lines are likely to be dry most of the year therefore it is not expected the

proposed clearing will have a detrimental effect on native vegetation growing in, or in association with a watercourse or wetland (GIS Database).

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

Methodology EV (2008)
EV (2012)
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 soil type within the application area is described as outwash plains subjacent to ranges of basic igneous rocks; some low hills of basic rocks occur in the unit, occasional dunes: chief soils are deep cracking clays and earthy clays. (GIS Database).

The extent of clearing proposed is limited to relatively small areas therefore the likelihood of significant land degradation impacts resulting from the proposed clearing is low.

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

Methodology GIS Database:
- Rangeland Land System Mapping
- Soils, Statewide

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not likely to be at variance to this Principle**
The application area does not lie within any conservation areas (GIS Database).

The nearest conservation area is the Gibson Desert Nature Reserve which lies approximately 207 kilometres east of the application area (GIS Database). Given the distance between the application area and the Nature Reserve, the proposed clearing is not likely to impact the environmental values of this conservation area.

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**
The application area is not located within a Public Drinking Water Source Area (PDWSA) and there are no permanent water bodies or watercourses within the application area (GIS Database).

Groundwater salinity within the application area is between 3,000 and 15,000 milligrams/Litre Total Dissolved Solids (TDS) which is considered to be relatively saline (GIS Database). The proposed clearing is not likely to cause groundwater or surface water quality within the application area to alter significantly.

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**
The climate of the Great Victorian Desert region is is arid, with warm to extremely hot summers and mild to warm winters rainfall in this area occurs in the Summer and Winter months (BoM, 2015)

There are no permanent water bodies or watercourses within the proposed clearing area however there are several minor non-perennial drainage lines that intersect the application area (GIS Database). The surface flows of these drainage lines are likely to be dry most of the year therefore it is considered unlikely that the

proposed clearing will cause or exacerbate the incidence of flooding or localised waterlogging (GIS Database).

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

Methodology BoM (2015)
GIS Database:
- Hydrography, linear

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

Comments

There is one Native Title Claim (WC2004/003) over the application area (DAA, 2015). This claim has been filed at the federal court on behalf of the claimant group. 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 Aboriginal Site 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, the Department of Water, and the Department of Parks and Wildlife, 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 20 July 2015 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the application.

Methodology DAA (2015)
GIS Database:
- Aboriginal Sites Register System

4. References

BoM (2015) Bureau of Meteorology (WWW Document). Retrieved from http://www.bom.gov.au on 27 July 2015.

DAA (2015) Department of Aboriginal Affairs (WWW Search – Aboriginal Heritage Inquiry System). Retrieved from http://maps.dia.wa.gov.au/AHIS2/ on 27 July 2015.

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.

EV (2008) Redstone Resources - Flora and Fauna Desktop Study, January 2008. Report prepared by EnviroWorks Consulting Pty Ltd for Redstone Resources Limited, Western Australia.

EV (2012) Desktop Flora and Fauna Study of Tenement E69/2450, Redstone Resources, 2 October 2012. Report prepared by EnviroWorks Consulting Pty Ltd for Redstone Resources Limited, Western Australia.

Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.

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

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)
GIS	Geographical Information System

ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
s.17	Section 17 of *the Environment Protection Act 1986*, Western Australia
TEC	Threatened Ecological Community

Definitions:

{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 *Calyptorynchus 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.