



1. Application details

1.1. Permit application details

Permit application No.: 4796/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Bulletin Resources Limited

1.3. Property details

Property: Mining Lease 80/343
Mining Lease 80/359
Mining Lease 80/362
Mining Lease 80/503
Local Government Area: Shire of Halls Creek
Colloquial name: Lamboo Gold

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 1 March 2012

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. One Beard vegetation association has been mapped within the application area (GIS Database; Shepherd, 2009).

871: Mosaic: Grasslands, curly spinifex, low tree savanna; snappy gum over curly spinifex / Hummock grasslands, grass steppe; hard spinifex, *Triodia intermedia*.

A flora and vegetation survey over part of the application area conducted by Native Vegetation Solutions (2011) in May 2011. This survey identified the following two vegetation communities (Native Vegetation Solution, 2011):

- *Eucalyptus brevifolia* over *Acacia tumida* over *Triodia wiseana*; and
- Creek line vegetation.

Clearing Description Bulletin Resources Limited is proposing to clear up to 99.1 hectares of native vegetation within a broader boundary of approximately 502 hectares for the purpose of recommencing mineral production.

Vegetation and topsoil will be cleared and stockpiled.

Vegetation Condition Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994);

To

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

Comment The application area is located within the Central Kimberley region of Western Australia and is situated approximately 38 kilometres south west of Halls Creek.

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 proposed clearing is located approximately 38 kilometres south west of Halls Creek in the Hart subregion of the Central Kimberley Interim Biogeographical Regionalisation for Australia (IBRA) bioregion (GIS Database). At a broad scale this sub region can be described as hilly to mountainous country with parallel siliceous ranges of Proterozoic sedimentary rocks with skeletal sandy soils supporting *Triodia* spp. hummock grasses with scattered trees, and with earths on Proterozoic volcanics in valleys supporting ribbon grass (*Chrysopogon* spp.) with scattered trees (CALM, 2002). Open forests of river gum (*Eucalyptus camaldulensis*) and *Pandanus* spp. occur along drainage lines (CALM, 2002).

A flora and vegetation survey of the application area was conducted by Native Vegetation Solutions (2011) in May 2011. This survey identified 53 plant species from 39 genera and 20 families (Native Vegetation Solutions, 2011). The impact on the vegetation and its component flora will not affect the conservation values of either, or create fragmentation or patches of remnant vegetation (Native Vegetation Solutions, 2011).

According to available databases there are no Threatened Ecological Communities (TEC) or Priority Ecological Communities (PEC) within the application area (GIS Database).

According to available databases there are no Declared Rare Flora (DRF) or Priority Flora species within the application area (GIS Database). A flora and vegetation survey of the application area, conducted by Native Vegetation Solutions (2011), did not identify and DRF or Priority Flora species.

A flora and vegetation survey conducted by Native Vegetation Solutions (2011) identified three weed species, *Aerva javanica*, *Stylosanthes hamata* and *Vachellia farnesiana*, within and adjacent to the application area. Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. None of these species are listed as 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A fauna survey of the application area conducted by Keith Lindbeck and Associates (2011) identified two fauna habitat types within the application area which align with the vegetation communities identified by Native Vegetation Solutions (2011):

- *Eucalyptus brevifolia* over *Acacia tumida* over *Triodia wiseana*; and
- Creek line vegetation.

The fauna survey identified three mammal, one reptile, three frog and 17 bird species within the application area (Keith Lindbeck and Associates, 2011). On the basis of the survey conducted, Keith Lindbeck and Associates (2011) concluded that the application area does not contain habitat of high ecological significance for fauna, nor does it contain faunal assemblages that are ecologically significant.

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

Methodology

CALM (2002)
Keith Lindbeck and Associates (2011)
Native Vegetation Solutions (2011)
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 is not likely to be at variance to this Principle

A fauna survey of the application area was conducted by Keith Lindbeck and Associates (2011) in March 2011. This survey identified that two habitat types occur within the application area and these align with the vegetation communities defined by Native Vegetation Solutions (2011):

- *Eucalyptus brevifolia* over *Acacia tumida* over *Triodia wiseana*; and
- Creek line vegetation.

Based on a desktop survey and the reconnaissance survey, Keith Lindbeck and Associates (2011) identified a low potential for twelve conservation significant fauna species to occur within the application area and a moderate potential for the following two conservation significant fauna species to be present:

- Fork-tailed Swift (*Apus pacificus*) Migratory – this species is an aerial, insectivorous species flying from less

than 1 metre to at least 300 metres above ground and has only occasionally been observed landing. It is therefore considered unlikely that the proposed clearing will impact on the conservation of this species;

- Rainbow Bee-eater (*Merops ornatus*) Migratory – this species is usually found in open, cleared or lightly timbered areas which are often in close proximity to permanent water. There are no permanent water bodies within the application area and given the ability of this species to travel vast distances it is considered unlikely that the proposed clearing will impact on the conservation of this species.

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

Methodology Keith Lindbeck and Associates (2011)
Native Vegetation Solutions (2011)

(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 known records of Declared Rare Flora (DRF) within the application area (GIS Database). A flora and vegetation survey of the application area conducted by Native Vegetation Solutions (2011) did not record any DRF within the application area.

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

Methodology Native Vegetation Solutions (2011)
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 known Threatened Ecological Communities (TEC) within the application area (GIS Database). The nearest known TEC is located approximately 527 kilometres south west of the application area. At this distance there is little likelihood of any impact to the TEC as a result of the proposed clearing.

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

Methodology 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 is located within the Central Kimberley Interim Biogeographical Regionalisation for Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 100% of the pre-European vegetation remains in the Central Kimberley bioregion.

The vegetation within the application area has been broadly mapped as Beard vegetation association:

871: Mosaic: Grasslands, curly spinifex, low tree savanna; snappy gum over curly spinifex / Hummock grasslands, grass steppe; hard spinifex, *Triodia intermedia*.

According to Shepherd (2009) approximately 100% of Beard vegetation association 871 remains within the Central Kimberley bioregion (see table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Central Kimberley	7,675,477	7,675,289	~100	Least Concern	~4.43
Beard vegetation associations - State					
871	230,548	230,548	~100	Least Concern	~0.00
Beard vegetation associations - Bioregion					
871	230,415	230,415	~100	Least Concern	~0.00

* Shepherd (2009)
** Department of Natural Resources and Environment (2002)

The vegetation within the application area is not considered to be a remnant of native vegetation in an area that has been extensively cleared.

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- IBRA WA (regions – subregions)
- 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

According to available databases, there are no permanent wetlands or watercourses within the application area, however there are several non-perennial watercourses (GIS Database). The vegetation associated with these drainage lines is common and the proposed clearing is unlikely to impact on the conservation or create remnant or fragmentation or patches of remnant vegetation (Native Vegetation Solutions, 2011).

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

Methodology Native Vegetation Solutions (2011)
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 application area intersects one land system, Koongie land system (GIS Database). The Koongie land system is characterised by low laterite plateaux and scattered hills, reddish loamy gravelly soils, low open woodlands and spinifex (Payne, 2011). This land system generally has a low susceptibility to erosion, however there are units within this land system that have a moderate to high susceptibility (Payne, 2011). Potential erosion that may be caused by the proposed clearing may be minimised by the implementation of a staged clearing condition.

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

Methodology Payne (2011)
GIS Database:
- Rangeland Land System Mapping

(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 is not located within a conservation reserve (GIS Database). The nearest conservation reserve is Ord River Regeneration Reserve, located approximately 47 kilometres east of the application area (GIS Database). At this distance it is considered unlikely that the proposed clearing will impact on the environmental values of any conservation area.

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

The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is the Halls Creek Water Reserve, located approximately 34 kilometres north east of the application area (GIS Database). At this distance it is considered unlikely that the proposed clearing will impact on the quality of the Halls Creek Water Reserve.

The groundwater salinity within the application area is approximately 500 – 1,000 milligrams/Litre Total

Dissolved Solids (TDS) (GIS Database). Given the proposed clearing is for 99.1 hectares within the Halls Creek Groundwater Province (4,600,599 hectares), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

The application area experiences an average annual rainfall of approximately 566.1 millimetres while the average annual evaporation rate is approximately 3,200 millimetres (BoM, 2012; GIS Database). It is therefore considered unlikely that any surface water will be present for extended periods of time.

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

Methodology BoM (2012)
GIS Database:
- Evaporation Isoleths
- Groundwater Provinces
- Groundwater Salinity, Statwide
- Public Drinking Water Source Areas (PDWSA)

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

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

The application area experiences a dry hot tropical and sub-humid to semi-arid climate with summer rainfall (CALM, 2002). The annual average rainfall within the application area is approximately 566.1 millimetres while the average annual evaporation rate is approximately 3,200 millimetres (BoM, 2012; GIS Database). Any surface water resulting from rainfall events is therefore likely to be relatively short lived and unlikely to cause, or exacerbate, the incidence or intensity of flooding.

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

Methodology BoM (2012)
CALM (2002)
GIS Database:
- Evaporation Isoleths

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

Comments

There is one Native Title Claim (WC99/20) over the area under application (GIS Database). This claim has been registered with the Native Title Tribunal 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 no 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 and Conservation 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 on 16 January 2012 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received raising concern regarding lack of consultation addressing the environmental, native title and aboriginal heritage concerns. These issues have been addressed in the assessment of this application and a letter of response was sent to the submission party.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Registered with the NNTT

4. References

- BoM (2012) BoM Website - Climate Averages by Number, Averages for HALLS CREEK AERO.
www.bom.gov.au/climate/averages/tables.shtml (Accessed 9 February 2012).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management
- 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of

WA (Inc). Nedlands, Western Australia.

Keith Lindbeck and Associates (2011) Bulletin Resources Ltd Lamboo Gold Project Level 1 Fauna Survey. Unpublished report dated December 2011.

Native Vegetation Solutions (2011) Level 1 Flora and Vegetation Survey Bulletin Resources Halls Creek (M80/359, M80/362, M80/503 & E80/2601). Unpublished report dated October 2011.

Payne, A., and Schoknecht, N. (2011) Technical Bulletin No. 98 Land Systems of the Kimberley Region, Western Australia.

Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
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 – commonly known as the World Conservation Union
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:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

P1	Priority One - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2	Priority Two - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3	Priority Three - Poorly Known taxa: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
P4	Priority Four – Rare taxa: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
R	Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable): taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
X	Declared Rare Flora - Presumed Extinct taxa: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1** **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2** **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4** **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5** **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999*)

- EX** **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W)** **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN** **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU** **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD** **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

