Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4532/8
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Argyle Diamonds Limited**

1.3. Property details

Property: *Diamond (Argyle Diamond Mines Joint Venture) Agreement Act 1981*,
Mining Lease 259SA (AM 70/259)
Mining Lease 80/114
Miscellaneous Licence 80/1
Local Government Area: Shire of Wyndham-East Kimberley
Colloquial name: Argyle Diamond Mine

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
300		Mechanical Removal	Mineral Exploration, Mineral Production and Associated Activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 4 May 2017

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. The vegetation of the application area is broadly mapped as Beard vegetation associations:

65 - Grasslands, tall bunch grass savanna, sparse low tree, terminalia; mitchell grass (*Astrebla pectinata* and spp.);

126 - Bare areas; freshwater lakes;

808 - Grasslands, curly spinifex, low tree savanna; snappy gum over curly spinifex;

818 - Hummock grasslands, low tree steppe; Snappy Gum over *Triodia inutilis*;

819 - Grasslands, tall bunch grass savanna low tree; cabbage gum and silverleaved box over aristida and ribbon grass on sandy plains;

820 - Grasslands, high grass savanna sparse low tree; snappy gum (*Eucalyptus brevifofia*) over upland tall grass and curly spinifex on granite;

825 - Grasslands, high grass savanna woodland; cabbage gum and *Eucalyptus foelscheana* over upland tall grass and curly spinifex on basalt;

827 - Hummock grasslands, low tree steppe; terminalia over *Triodia wiseana* on limestone; and

833 - Grasslands, short bunch grass savanna sparse low tree; scattered Snappy Gum over arid short grass on plains (GIS Database).

Several flora surveys conducted by Mattiske (1998; 2002; 2003; 2004), have identified the following vegetation complexes within the application areas:

Mountain Complex
MC1 Kimberley Gum low tree steppe, Frosted Bloodwood steppe woodland. Bloodwood curly Spinifex tree savanna, Cotton tree low tree steppe, Celtis-Pouteria scrub. Halls Creek Gum low tree steppe, Mixed dwarf shrub steppe;

Hummock Grasslands

HG1 Hummock Grassland of *Triodia bitextura* and *Triodia bynoei* with emergent *Eucalyptus brevifolia*, *Corymbia confertiflora*, *Corymbia opaca*, *Eucalyptus pruinosa*, *Bauhinia cunninghamii* over *Acacia arygraea* and *Acacia hemignosta*;

HG2 Hummock Grassland of *Triodia bitextura* and *Triodia bynoei* with emergent *Corymbia confertiflora*, *Corymbia opaca*, *Eucalyptus brevifolia*, *Eucalyptus pruinosa*, *Bauhinia cunninghamii* and *Terminalia canescens*;

HG3 Hummock Grassland of *Triodia bitextura* and *Triodia bynoei* with emergent denser pockets of *Terminalia canescens* and *Cochlospermum fraseri*, with the occasional *Corymbia confertiflora* and *Eucalyptus brevifolia*;

Woodlands

Wl Low Open Woodland of *Terminalia canescens* with *Corymbia confertiflora*, *Eucalyptus brevifolia*, *Terminalia oblongata* subsp. *volucris* and *Eucalyptus pruinosa* over patches of *Triodia bitextura* and *Heteropogon contortus*;

W2 Low Open Woodland of *Melaleuca minutifolia* and *Eucalyptus pruinosa* over *Triodia bitextura*;

W3 Low Open Woodland of *Eucalyptus brevifolia* over pockets of *Acacia argyraea* and *Eriachne ciliata*;

W4 Open Woodland and Low Open Woodland of *Terminalia platyptera*, *Terminalia arostrata*, *Adansonia gregorii*, *Buchanania obovata* and *Bauhinia cunninghamii*;

W5 Mixture of Open Woodland and Low Open Woodland of *Adansonia gregorii*, *Buchanania obovata*, *Bauhinia cunninghamii* and *Eucalyptus brevifolia* over patches of *Typha domingensis*, *Heteropogon contortus*, *Cenchrus elymoides* and *Chloris truncata*;

W6 Low Open Woodland of *Melaleuca minutifolia* over patches of *Typha domingensis*;

W7 Low Open Woodland of *Bauhinia cunninghamii* and *Eucalyptus pruinosa* over mixed grasses and herbs;

W8 Low Woodland of *Cochlospermum fraseri*, *Eucalyptus brevifolia*, *Eucalyptus pruinosa* and *Corymbia opaca* over *Triodia bitextura* and *Cyperus cunninghamii* subsp, *cunninghamii*;

W9 Low Open Woodland of *Corymbia opaca*, *Eucalyptus brevifolia*, *Eucalyptus pruinosa* and *Cochlospermum fraseri* over *Ptilotus spicatus* subsp. *spicatus*, *Cleome viscosa* and *Phyllanthus maderaspatensis var.angustifolia*; and

Sedgelands
S1 Sedgelands of *Typha domingensis* with emergent *Adansonia gregorii*, *Melaleuca viridiflora* and *Lophostemon grandiflora* subsp. *riparius.*

A subsequent flora and vegetation survey of the application area was conducted by Mattiske (2006) in July 2006. This survey identified the following four vegetation communities within the application area:

1: Woodland of *Eucalyptus camaldulensis* var. *obtusa* and *Melaleuca leucadendra* with *Terminalia cunninghamii*, *Terminalia hadleyana* and over *Acacia holosericea, Buchanania obovata, Ficus coronulata* and *Cynodon dactylon* on sands in major drainage channels;
2: Open Woodland of *Bauhinia cunninghamii* with *Corymbia opaca* and *Hakea arborescens* over *Jatropha gossypifolia, Carissa spinarum, Chrysopogon fallax* and *Aristida holathera* on red clay loams;
3: Tall shrubland of *Acacia holosericea* and emergent *Eucalytpus pruinosa* over *Carissa spinarum* and *Triodia bitextura* on red clay loams;
4. Hummock grassland of *Triodia bitextura* with *Aristida latifolia, Enneapogon purpurascens, Sporoblous australasicus* and emergent *Corymbia aspera* and *Eucalyptus brevifolia* on red clay loam.

Clearing Description

Argyle Diamond Mine.
Argyle Diamonds Limited is proposing to clear up to 300 hectares of native vegetation within a boundary of approximately 6,653.85 hectares for the purposes of mineral exploration, infrastructure, operational maintenance and reworking of tailings material. The project is located approximately 200 kilometres south west of Kununurra within the Shire of Wyndham-East Kimberley.

Vegetation Condition

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

To

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

Clearing permit CPS 4532/1 was granted by the Department of Mines and Petroleum on 13 October 2011. The clearing permit authorised the clearing of 50 hectares of native vegetation within a total boundary of 1,900 hectares. CPS 4532/1 was amended on 2 August 2012 for the purpose of changing the annual reporting date from 31 July to 30 September each year. On 27 December 2012, CPS 4532/2 was amended for the purpose of increasing the permit boundary from approximately 1,900 hectares to 2,608 hectares and changing the purpose of the clearing to infrastructure and operational maintenance. CPS 4532/3 was amended on the 6 February 2014, to increase the permit boundary by 18.34 hectares to approximately 2,626 hectares. CPS 4532/4 was amended on the 24 December 2015, to increase the permit boundary from 2,626 hectares to 2,696 hectares. CPS 4532/5 was amended on 26 May 2016 to amend the purpose of clearing, amend the period in which clearing is authorised to allow for 15 hectares to be cleared each financial year, and increase the permit boundary. CPS 4532/6 was amended on 20 October 2016 for the purposes of increasing the permit boundary, increasing the permitted amount of clearing to 300 hectares, amending the purpose of clearing and amalgamating eight existing permits into one permit.

Argyle Diamonds Limited has applied to amend CPS 4532/7, for the purpose of increasing the permit boundary by 74.85 hectares.

3. Assessment of application against clearing principles

Comments

This amendment is to increase the permit boundary to allow for exploration and mining of alluvial diamond deposits adjacent to Limestone Creek. The permit boundary will increase by 74.85 hectares to approximately 6,653.85 hectares. The total authorised clearing area will remain at 300 hectares.

The amended application boundary does not intersect any additional vegetation communities to those present within the previous permit area (Argyle Diamonds, 2016; GIS Database).

No Threatened flora, Threatened Ecological Communities, Priority flora, Priority Ecological Communities or significant fauna have been identified within the amended boundary area (Argyle Diamonds, 2016; GIS Database).

The amended application boundary intersects numerous ephemeral drainage lines (GIS Database). The application areas lie entirely within the Ord River catchment, upstream of Lake Argyle which is a RAMSAR listed wetland located 1.5 kilometres north-east (GIS Database) of the minesite. These ephemeral drainage lines are common throughout the Ord River catchment and it is unlikely that the clearing of vegetation from these areas will have any significant environmental impacts in a local or regional context.

The proposed amendment is not likely to have any significant environmental impacts above those already assessed under Clearing Permit CPS 4532/1. Therefore, the assessment against the clearing principles has not changed and can be found in clearing permit decision reports CPS 4532/1, 4532/2, 4532/3, 4532/4, 4532/5, 4532/6 and 4532/7.

Methodology Argyle Diamonds (2016)

GIS Database:
- Threatened and Priority Fauna
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

There are no Native Title claims over the area under application (DAA, 2017). 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 several 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, the 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 amended application was advertised on 27 March 2017 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology DAA (2017)
GIS Database:
- Aboriginal Sites of Significance

4. References

Argyle Diamonds (2016) Supporting Documentation for Clearing Permit Amendment CPS 4532/6. Prepared by Argyle Diamond Mines Pty Ltd, March 2016.

DAA (2017) Aboriginal Heritage Inquiry System, Government of Western Australia, Department of Aboriginal Affairs, Perth, <http://maps.dia.wa.gov.au/AHIS2/> (Accessed 24 April 2017).

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

Mattiske (2004) Flora and Vegetation Survey, Expansion of Waste Dumps and Area Associated with Underground Expansion near Limestone Creek. Unpublished report prepared for Argyle Diamond Mines Pty Ltd, March 2004.

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
DotEE	Department of the Environment and Energy, 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 – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2015) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T **Threatened species:**
Published as Specially Protected under the *Wildlife Conservation Act 1950,* listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**
Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EN **Endangered species**
Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

VU **Vulnerable species**
Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EX **Presumed extinct species**
Species which have been adequately searched for and there is no reasonable doubt that the last individual has died. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora.

IA **Migratory birds protected under an international agreement**
Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 5 of the Wildlife Conservation (Specially Protected Fauna) Notice.

CD **Conservation dependent fauna**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

OS **Other specially protected fauna**
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the *Wildlife Conservation Act 1950,* in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

P **Priority species**
Species which are poorly known; or
Species that are adequately known, are rare but not threatened, and require regular monitoring. Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species:**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species:**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species:**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations 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 locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

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 are close to qualifying for Vulnerable, but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

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

(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.

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

(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.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

(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.

(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.

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