

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 7658/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Chalice Gold Mines Limited

### 1.3. Property details

Property: Exploration Licences 69/2592  
Exploration Licences 69/2610  
Exploration Licences 69/3399  
Exploration Licences 69/3421

Local Government Area: Shire of Ngaanyatjaraku

Colloquial name: Latitude Hill Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
18.5		Mechanical Removal	Mineral Exploration and Access Tracks

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 17 August 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. Three Beard vegetation associations have been mapped over the application area (GIS Database):

**Beard vegetation association 18:** Low woodland; mulga (*Acacia aneura*);

**Beard vegetation association 19:** Low woodland; mulga between sandridges; and

**Beard vegetation association 236:** Hummock grasslands, shrub steppe; mulga and mallee (marble gum) over hard spinifex.

A Level 1 flora and vegetation surveys was conducted over the majority of the application area and included adjacent areas. The following vegetation types were identified (APM, 2017):

#### **Open Mallee Shrubland over *Triodia* Hummock Grassland**

*Eucalyptus gamophylla* and *E. oxymitra* characterised the upper layer of vegetation in this habitat, as well as some *Acacia* and *Hakea* species. The shrub layer comprised: *Eremophila latrobei*, *Ptilotus* spp., *Solanum lasiophyllum*. Grasses included: *Cymbopogon oblectus*, *Aristida* spp., *Eragrostis eriopoda* and dense stands of *Triodia basedowii*. No introduced flora were recorded, although *Sclerolaena* sp. showed invasive habit and may form mono-specific patches as a response to future disturbance.

#### **Mixed *Acacia* Woodland over *Triodia basedowii* Hummock Grassland**

The *Acacia* genus, as well as some *Hakea* spp. dominated the tree layer of this broad habitat. Further to this, some low-growing *Eucalyptus* sp. were recorded. The shrub layer was characterised by: *Eremophila latrobei*, *E. willsii*, *E. longifolia*, numerous *Acacia* shrubs, *Sida* spp., *Ptilotus* spp. and extensive areas covered by *Sclerolaena* sp. Characteristic grasses included: *Eragrostis eriopoda*, *Triodia basedowii* and *Aristida* spp.

#### **Dunal Shrubland Typified by *Aluta maisonneuvei* and *Triodia* Species**

Longitudinal sand dunes represented an assemblage of plant species found only on this dunal habitat on site. *Aluta maisonneuvei*, as well as numerous *Acacia* shrubs and *Hakea* species comprised the woody layer. The lower vegetation strata was typified by grasses such as: *Eragrostis eriopoda* and *Triodia* sp., as well as *Eremophila* sp. and *Alyogyne pinoniana*.

#### **Clearing Description**

Latitude Hill Project  
Chalice Gold Mines Limited proposes to clear up to 18.5 hectares of native vegetation within a total boundary of approximately 299 hectares, for the purpose of mineral exploration and access tracks. The project is located approximately 40 kilometres west of Pannawonica in the Shire of East Pilbara.

<b>Vegetation Condition</b>	Pristine: No obvious signs of disturbance (Keighery, 1994).  To:  Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).
<b>Comment</b>	The vegetation condition was derived from flora and vegetation surveys conducted by APM in 2017.

### 3. Assessment of application against clearing principles

#### Comments

The application area consists of six separate areas of varying size. Up to 18.5 hectares of native vegetation is proposed to be cleared within a total clearing permit boundary area of 299 hectares. The proposed clearing is required for mineral exploration and access tracks associated with the Latitude Hill Project.

The application areas falls within the Ranges of the Western Desert (GIS Database), which is an area listed on the Register of the National Estate (RNE). The RNE is a non-statutory archive but is still considered to be an Environmentally Sensitive Area (ESA) under the *Environmental Protection Act 1986*.

The application area occurs within the Central and Eastern subregion of the Great Victoria Desert IBRA bioregion (GIS Database). The Central and Eastern subregion is characterised by landforms which consist of salt lakes and major valley floors with lake derived dunes. Sand plains with extensive seif dunes running east west, occasional outcropping (breakaways) and quartzite hills provide minor relief. Vegetation is primarily a Tree steppe of *Eucalyptus gongylocarpa*, Mulga and *E. youngiana* over hummock grassland dominated by *Triodia basedowii* on the Aeolian sands. The *Acacia* dominates colluvial soils with *Eremophila* and *Santalum* spp., *halophytes* are confined to edges of salt lakes and saline drainage systems (CALM, 2002).

The majority of the vegetation proposed to be cleared is in a 'Pristine' (Keighery, 1994); however some areas range from 'Good' to 'Very Good' (Keighery, 1994) condition (APM, 2017). The vegetation within the application area consists of three vegetation types/communities; open Mallee shrubland over *Triodia* hummock grassland, mixed *Acacia* woodland over *Triodia basedowii* hummock grassland and dunal shrubland typified by *Aluta maisonneuvei* and *Triodia* species (APM, 2017). All three mapped Beard vegetation associations are well represented and retain over 99% of their original extent within the state and bioregion (Government of Western Australia, 2016).

No Threatened flora species, communities of conservation significance (i.e. Threatened Ecological Communities or Priority Ecological Communities) or fauna species of conservation significance are known within the local area (20 kilometre radius) (DBCA, 2017; GIS Database). This is likely due to a lack of sampling and survey work being undertaken within such a remote area of the state. One Priority 2 listed flora species has been recorded; *Teucrium grandiusculum* subsp. *grandiusculum*. This occurrence is the only record within the entire state (DPaW, 2017; Western Australia Herbarium, 1998- ). The species was found growing on a rocky slope in red sand and is also known to occur along watercourses (Western Australia Herbarium, 1998-).

During a Level 1 flora and vegetation survey conducted by Animal Plant Mineral Pty Ltd from 28 July to 01 August 2017, a number of Priority flora species were identified as having the potential to persist within the application area, however no Threatened or Priority listed flora species were recorded (APM, 2017). It must be noted that not all areas proposed to be cleared were surveyed, however there is a very low likelihood that conservation significant flora species would be present (Dr Mitch Ladyman 2017, pers. comms., 15 August). A level 1 fauna desktop and field assessment was undertaken in parallel to the flora survey and the sand dune habitat was identified as providing suitable habitat for the Great desert skink (*Liopholis kintorei* – VU), Bilby (*Macrotis lagotis* – VU), Sandhill Dunnart (*Sminthopsis psammophila* – EN) and Brush-tailed Mulgara (*Dasyercus blythi* – P4) (APM, 2017). No evidence of conservation significant fauna was identified during the field survey (APM, 2017).

It must be noted that there is little biological knowledge of the local area and region. Only limited fauna information is available for the Central and Eastern subregion due to a lack of fauna surveys being completed in the remote region (CALM 2002). Dune habitat in the region is also known to support populations of Southern Marsupial Mole (*Notoryctes typhlops* - P4) It is possible that the Southern Marsupial Mole may frequent or traverse the application area on occasion. The proponent has indicated that clearing for drill lines can, in most cases, avoid existing Mallee/Mulga shrub due to the low density of vegetation and no drilling/clearing is planned on any hills or sand dune areas (Chalice Gold, 2017). There are some areas where drilling/clearing may occur within the inter-dunal zone (Chalice Gold, 2017). This being considered, the proposed clearing of up to 18.5 ha of native vegetation is not likely to have any measurable impacts to local fauna species, including species of conservation significance. Similar habitats are vast and occur throughout the local area and region.

No Threatened or Priority Ecological Communities (TECs or PECs) are known from the local area and no communities were identified during the flora survey that were analogous to any TECs or PECs. No watercourse or wetlands are mapped within the application area (GIS Database) and the proposed clearing of up to 18.5 hectares with an arid environment is considered unlikely to have any measureable impacts on surface or groundwater quality, increase erosion risks or alter existing flooding regimes.

Given the likely pristine setting of the application area, introduced flora species (weeds) are unlikely to be present, or will be present at low levels. Clearing activities have the potential to spread existing weed species, and possibly introduce new species to the environment, which may negatively impact on the biodiversity of the local area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Due to the relatively small size of the proposed clearing and the large amount of remaining vegetation in the surrounding area, significant environmental impacts are unlikely to result from the proposed clearing. The proponent has committed to a number of clearing practise and rehabilitation measures to further reduce potential impacts.

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing is not at variance to Principle (e) and is not likely to be at variance with the remaining principles.

**Methodology** APM (2017)  
CALM (2002)  
Chalice Gold (2017)  
DPaW (2017)  
Government of Western Australia (2016)  
Keighery (1994)  
Western Australian Herbarium (1998-)

GIS Database:  
- DPaW Tenure  
- Hydrography, linear  
- IBRA Australia  
- Imagery  
- Pre-European Vegetation  
- Public Drinking Water Source Areas (PDWSAs)  
- Threatened and Priority Flora List  
- Threatened and Priority Ecological Communities Buffers  
- Threatened and Priority Ecological Communities Boundaries

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

##### **Comments**

There is one native title claim over the application area (WC2004/003 (DPLH, 2017)). This claim has been registered with the National Native Title Tribunal on behalf of the claimant groups. However, the mining tenements have 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*.

According to available databases, there are no registered Sites of Aboriginal Significance located in the vicinity of the application area; however the area has not been surveyed (DPLH, 2017). 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.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity Conservation and Attractions, 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 17 July 2017 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received.

**Methodology** DPLH (2017)

#### **4. References**

- APM (2017) Latitude Hill JV Project Biological Assessment. Report prepared for Chalice Gold Mines Ltd by Animal Plant Mineral Pty Ltd, August 2017.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management.
- Department of the Environment (2017) *Sminthopsis psammophila* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- DPaW (2017) NatureMap, Department of Parks and Wildlife (now Department of Biodiversity Conservation and Attractions) <<http://naturemap.dpaw.wa.gov.au>> Accessed August 2017.
- DPLH (2017) Aboriginal Heritage Inquiry System, Department of Planning, Lands and Heritage, Perth, Western Australia <<http://maps.daa.wa.gov.au>> Accessed August 2017.
- Government of Western Australia (2016) 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full

Report). Current as of October 2016. 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.

TSSC (2015a) Threatened Species Scientific Committee. *Commonwealth Listing Advice on Notoryctes typhlops (itjaritjari)*, Department of the Environment, Canberra.

TSSC (2015b) Threatened Species Scientific Committee. *Approved Conservation Advice for Sminthopsis psammophila (sandhill dunnart)*. Department of the Environment, Canberra,

Chalice Gold (2017) Latitude Hill Project Native Vegetation Clearing Permit Application, Supporting Information for CPS 7658/1. Memorandum prepared by Chalice Gold Mines Limited, Perth, Western Australia, June 2017.

Western Australian Herbarium (1998–) FloraBase—the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/>

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia (now DPLH)
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia (now DPIRD)
<b>DBCA</b>	Department of Biodiversity Conservation and Attractions, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
<b>DEE</b>	Department of the Environment and Energy, Australian Government
<b>DER</b>	Department of Environment Regulation, Western Australia (now DWER)
<b>DMIRS</b>	Department of Mines, Industry Regulation and Safety, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia (now DMIRS)
<b>DPIRD</b>	Department of Primary Industries and Regional Development, Western Australia
<b>DPLH</b>	Department of Planning, Lands and Heritage, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DoE</b>	Department of the Environment, Australian Government (now DEE)
<b>DoW</b>	Department of Water, Western Australia (now DWER)
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia (now DBCA)
<b>DSEWPac</b>	Department of Sustainability, Environment, Water, Population and Communities (now DEE)
<b>DWER</b>	Department of Water and Environmental Regulation, Western Australia
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

{DPaW (2017) 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.