



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 7914/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Australian Nickel Investments Pty Ltd

### 1.3. Property details

Property: Mining Lease 36/127  
Mining Lease 36/180  
Mining Lease 36/349  
Mining Lease 36/371  
Mining Lease 36/659  
Local Government Area: Shire of Leonora  
Colloquial name: Cosmos Nickel Project

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application:  
Decision Date:

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** The vegetation of the application area is broadly mapped as the following Beard vegetation associations:  
**18:** Low woodland; mulga (*Acacia aneura*); and  
**39:** Shrublands; mulga scrub (GIS Database).

A Level 1 flora and vegetation survey was conducted over the application area and surrounding areas in 2011 by Mattiske Consulting (Western Areas, 2017). Four vegetation communities were identified within the application area (Mattiske, 2011):

A1: Low Woodland of *Acacia aneura* var. *aneura* [*Acacia aneura*] with *Acacia craspedocarpa* and *Acacia aneura* var. *macrocarpa* [*Acacia macraneura*], *Acacia aneura* var. *fulginea* [*Acacia fuscaeneura*] and *Santalum spicatum* over *Eremophila spectabilis*, *Monachather paradoxus* and *Eragrostis eriopoda* on red loams and sandy loams along drainage lines.

A2: Low Open Woodland of *Acacia aneura* var. *macrocarpa* [*Acacia macraneura*] and *Acacia aneura* var. *aneura* [*Acacia aneura*] over *Eremophila galeata*, *Eremophila spectabilis*, *Eremophila latrobei* subsp. *latrobei*, *Senna artemisioides* subsp. *helmsii* x *oligophylla* and *Eragrostis eriopoda* on sandy loam gravels, often covered by a stony mantle of quartz and dolerite.

A6: Low Woodland of *Acacia aneura* var. *aneura* [*Acacia aneura*], *Acacia aneura* var. *intermedia*, *Acacia aneura* var. *fulginea* [*Acacia fuscaeneura*] and *Acacia grasbyi* with occasional patches of *Eucalyptus kingsmillii* subsp. *kingsmillii* over *Triodia basedowii* grass, *Hakea lorea* subsp. *lorea*, *Duboisia hopwoodii* and *Senna artemisioides* subsp. *petiolaris* and *Eremophila oldfieldii* subsp. *angustifolia* over *Indigofera brevidens* and *Senna* species.

S7: Open Shrubland of *Eremophila galeata* and *Acacia tetragonophylla* with occasional emergent *Acacia aneura* var. *aneura* [*Acacia aneura*] over *Senna artemisioides* subsp. *helmsii* x *oligophylla* and *Solanum lasiophyllum*.

**Clearing Description** Cosmos Nickel Project.  
Australian Nickel Investments Pty Ltd proposes to clear up to 77 hectares of native vegetation within a boundary of approximately 917 hectares, for the purpose of mineral production and associated activities. The project is located approximately 33 kilometres north, north-west of Leinster, within the Shire of Leonora.

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

**Comment** The vegetation condition was derived from a vegetation survey conducted by Mattiske Consulting (2011).

### 3. Assessment of application against Clearing Principles

#### Comments

The proposed clearing of 77 hectares of native vegetation is to occur within a clearing permit boundary of approximately 917 hectares to support mineral production activities. Parts of the area applied to be cleared were assessed in 2011 during the approval process for the granted clearing permit CPS 4520/1, in 2016 for the granted clearing permit CPS 7305/1 and in 2017 for CPS 7478/1. The assessment of CPS 4520/1 and CPS 7305/1 found the proposed clearing to be not at variance to Principle (e) and not likely to be at variance with the remaining clearing principles. CPS 7478/1 found the proposed clearing to be not at variance to Principle (e), may be at variance to Principle (g), and not likely to be at variance with the remaining clearing principles.

The application area occurs within the Eastern Murchison (MUR1) subregion of the Murchison Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by its internal drainage, and extensive areas of elevated red desert sandplains with minimal dune development. Salt lake systems associated with the occluded Paleodrainage system. Broad plains of red-brown soils and breakaway complexes as well as red sandplains. Vegetation is dominated by Mulga Woodlands often rich in ephemerals; hummock grasslands, saltbush shrublands and *Halosarcia* shrublands (CALM, 2002).

A search of current available flora and fauna databases identified a number of conservation significant species within the local area (20 kilometre radius) (DPaW, 2018):

#### Fauna

- Rainbow Bee-eater (*Merops ornatus* – Migratory)
- Trapdoor spider (*Kwonkan moriartii* – P2)
- Brush-tailed Mulgara (*Dasyercus blythi* – P4)

#### Flora

- *Anacampseros* sp. Eremaean (F.Hort, J. Hort & J. Shanks) (P1)
- *Austroparmelina macrospora* (P3)
- *Gunniopsis propinqua* (P3)
- *Hybanthus floribundus* subsp. *chloroxanthus* (P3)
- *Eremophila pungens* (P4)
- *Grevillea inconspicua* (P4)
- *Hemigenia exilis* (P4)

The vegetation communities and habitat types mapped within the application area are common and widespread in the local area and region (Ninox, 2005). The soils mapped as occurring within the application area (Fa7) are described as greenstone hills and low ranges with some slate and basalt: dominant soils are shallow stony earthy loams on the steep slopes while overlying red-brown hardpan occur on the stony pediments (Northcote et al. 1960-68).

Preferred habitat for *Anacampseros* sp. Eremaean is not present, as this species prefers sand patches inside rocks, brown sandy clay, granite, depressions in rock outcrops, breakaways and flats (Western Australian Herbarium, 1998-). The remaining flora species listed above are either known from a number of IBRA regions, or prefer habitat types that are not prevalent within the application area (Western Australian Herbarium, 1998-). The conservation status of these species is unlikely to be impacted should they be present.

Of the flora and fauna species listed above, only *Grevillea inconspicua* has been recorded within 5 kilometres of the application area. The Trapdoor spider (*Kwonkan moriartii*) is the only fauna species recorded in the local area with a likely restricted range where impacts from clearing could be significant. However, this recorded occurrence is a relic collection from 1962. There have only been two individuals of this species recorded from the entire Eastern Murchison subregion, and collection data suggests that herbaceous graminoids and/or sparse hummock grassland is the preferred habitat (DPaW, 2018). During flora and fauna surveys of the application area, no flora or fauna species of conservation significance were recorded (Mattiske Consulting, 2011; Ninox, 2005; Western Areas Limited, 2017).

There are no Threatened Ecological Communities (TECs) mapped within the application area and no TECs were identified during the flora and vegetation survey (Mattiske Consulting, 2011; Western Areas Limited, 2017; GIS Database). The application area is situated within the buffer zone of a Priority 1 PEC; the 'Violet Range (Perseverance Greenstone) vegetation complexes (banded ironstone formation)'. This buffer has a mapped extent of over 19,000 hectares. The PEC itself has a known extent over 14,000 hectares. The proposed clearing of 77 hectares of native vegetation within the buffer of such an extensive PEC (where existing mining infrastructure and disturbance are already present) is unlikely to result in any measureable adverse impacts. Western Areas Limited (2017) have advised, based on information revealed in the desktop review it was considered unlikely that there would be any communities present that could be considered to be a part of the PEC given that the survey area is located almost 100% on colluvial sheet wash plains, sheet wash deposits and alluvial floodplains and is situated to the east of the Violet Range (Western Areas Limited, 2017). No areas of banded ironstone formation are mapped as occurring either within or adjacent to the survey area (Western Areas Limited, 2017)

Numerous minor non-perennial watercourses dissect the application area (GIS Database). There are many similar drainage lines scattered throughout the local area, which will likely only flow following a significant rain event. Vegetation that could be considered as growing in association with a watercourse (riparian vegetation), has been identified within the application area (Mattiske Consulting, 2011), however this type of vegetation represents a small fraction of the vegetation present within the application area. Potential impacts to vegetation growing in association with a watercourse may be managed by a watercourse management condition.

The mapped Beard vegetation associations (Beard vegetation associations 18 and 39) are well represented, with more than 97% of pre-European levels of native vegetation remaining within the State and Bioregion (Government of Western Australia, 2016; GIS Database).

Given the relatively small size of the proposed clearing in relation to the Permit boundary (77 hectares within a boundary of 917 hectares), the amount of existing disturbance in the vicinity and the large amount of remaining vegetation in the surrounding area, significant environmental impacts are unlikely to result from the proposed clearing.

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 was found to be not at variance to Principle (e), at variance to Principle (f), and not likely to be at variance with the remaining clearing principles.

**Methodology** CALM (2002)  
DPaW (2018)  
Government of Western Australia (2016)  
Mattiske Consulting (2011)  
Ninox (2005)  
Northcote et al. (1960-68)  
Western Areas Limited (2017)  
Western Australian Herbarium (1998-)

GIS Database:

- Clearing Regulations – Environmentally Sensitive Areas
- Clearing Regulations – Instruments
- DPaW Tenure
- Hydrography, Linear
- IBRA Australia
- Imagery
- Pre-European Vegetation
- Public Drinking Water Source Areas
- Soils, Statewide
- Threatened and Priority Flora
- Threatened and Priority Ecological Communities boundaries
- Threatened and Priority Ecological Communities buffered
- Threatened Fauna
- Western Australia Towns

## **Planning Instrument, Native Title, previous EPA decision or other matter.**

### **Comments**

There is one Native Title claim over the area under application (WC2011/007) (DPLH, 2018). This claim has been registered with the National 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 (DPLH, 2018). 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 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 amendment application was advertised on 15 January 2018 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

**Methodology** DPLH (2018)

## 4. References

- 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.
- DPaW (2018) NatureMap, Department of Parks and Wildlife <https://naturemap.dpaw.wa.gov.au/> (Accessed 5 February 2018).
- DPLH (2018) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 5 February 2018).
- Government of Western Australia (2016) 2016 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of June 2016. WA Department of Parks and Wildlife, 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.
- Mattiske (2011) Flora and Vegetation Survey of Proposed Evaporation Pond Extensions: Cosmic Nickel Project. Prepared for Xstrata Nickel Australasia Operations Pty Ltd, by Mattiske Consulting, April 2011.
- Ninox (2005) Vertebrate Fauna Habitat Assessment of the Proposed Expansion to the Cosmos Nickel Mine. Prepared for URS Australia Pty Ltd by Ninox Wildlife Consulting, May 2005.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Western Areas Limited (2017) Clearing Permit Application Supporting Document – Cosmos Nickel Complex. Prepared for Australian Nickel Investments Pty Ltd by Western Areas Limited, December 2017.
- Western Australian Herbarium (1998-) FloraBase – the Western Australian Flora. Department of Parks and Wildlife <https://florabase.dpaw.wa.gov.au> (Accessed 5 February 2018).

## 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 1950*.

**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 1950*.

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.