



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 4626/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Cameco Australia Pty Ltd

### 1.3. Property details

Property: Mining Lease 45/264  
Mining Lease 45/266  
Mining Lease 45/267  
Mining Lease 45/420  
Prospecting Licence 45/2632  
Prospecting Licence 45/2633  
Prospecting Licence 45/2634  
Prospecting Licence 45/2635  
Prospecting Licence 45/2636  
Prospecting Licence 45/2637  
Prospecting Licence 45/2638  
Prospecting Licence 45/2639  
Prospecting Licence 45/2640  
Prospecting Licence 45/2641  
Prospecting Licence 45/2642  
Prospecting Licence 45/2643  
Exploration Licence 45/1772  
Exploration Licence 45/1774  
Exploration Licence 45/1773

Local Government Area: Shire of East Pilbara  
Colloquial name: Kintyre Uranium Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
22		Mechanical Removal	Mineral Exploration, Associated Infrastructure and Gravel Pit

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 15 December 2011

## 2. Background

### 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. Two Beard vegetation associations have been mapped within the application area (GIS Database; Shepherd, 2009):

- 99: Hummock grasslands, shrub steppe; *Acacia coriacea* & hakea over hard spinifex, *Triodia basedowii*;
- 117: Hummock grasslands, grass steppe; soft spinifex

Bennett Environmental Consulting Pty Ltd undertook a flora survey between 25th June and 4th July 2007 and 27th April and 4th May 2010 of the Kintyre Lease. The following 34 vegetation units were recorded during the 2007 and 2010 surveys (Bennett Environmental Consulting, 2010):

#### Hillsides

- The northern hillsides, around the proposed exploration camp site were covered in *Triodia epactia* and *Triodia wiseana*;
- Open Heath dominated by *Acacia retivenea* over Hummock Grassland of *Triodia* species with quartzite and schistose rocks;
- Woodland of *Eucalyptus leucophloia* over Scattered Herbs of *Ptilotus calostachyus* and Scattered Grasses of

*Eriachne mucronata* or Hummock Grassland of *Triodia pungens*; and  
 - Low Open Shrubland of *Indigofera monophylla* and *Senna glutinosa* subsp. *glutinosa* over Open Herbs dominated by *Cleome viscosa* and *Boerhavia gardneri* over Grassland dominated by *Triodia pungens*.

**At the base of hills**

- Low Shrubland of *Eremophila tietkensisii*. This vegetation was open with the main cover consisting of small rocks;
- Open Shrubland of *Acacia wanyu* over Low Shrubland of *Eremophila tietkensisii* over Hummock Grassland of *Triodia pungens*;
- High Open Shrubland of *Acacia synchronicia* over Low Open Shrubland dominated by *Eremophila tietkensisii* over Grassland of *Triodia wiseana*; and
- Open Shrubland of *Acacia robeana* over Very Open Tussock Grassland of *Triodia angusta*.

**Sand dunes**

The sand dunes were all low, only rising slightly above the level of the plain. Typically they included a greater number of taxa than the rocky soils with *Triodia schinzii* typically the dominant grass usually in association with *Triodia basedowii*.

**Red sandy soils - Flat**

- *Acacia inaequilatera* dominant;
- *Acacia dictyophleba* dominant;
- *Acacia ancistrocarpa* dominant typically associated with *Acacia ligulata*, *Acacia dictyophleba* and *Acacia inaequilatera*;
- *Acacia ligulata* dominant;
- *Acacia melleodora* dominant;
- *Acacia eriopoda* over Open Shrubland of *Acacia wanyu* over Hummock Grassland of *Triodia basedowii*;
- *Senna taxa* dominant;
- *Grevillea taxa* dominant;
- *Hakea lorea* over *Triodia basedowii*; and
- Grassland of *Triodia basedowii*.

**Lower Slope Above Creek**

- Low Open Forest of *Acacia aneura* subsp. *macrocarpa*; and
- Low Open Woodland of *Eucalyptus odontocarpa*.

**Drainage lines**

- Hill sides;
- Scree at base of hills;
- Drainage lines at the base of hills;
- Red sandy soils – flat ground;

**Creek lines**

- Within the creeks themselves the vegetation was a High Open Woodland of *Eucalyptus camaldulensis* over Annual Tussock Grassland of several taxa including *Sorghum plumosum*; and
- On the floodplain above the banks the vegetation was Low Open Woodland of *Corymbia opaca* over Grassland dominated by *Cenchrus ciliaris* and *Sorghum plumosum*.

**Claypans**

- Scattered Shrubs of *Senna glutinosa* subsp. *glutinosa* over bare ground;
- Low Shrubland dominated by *Tephrosia brevidens* over Very Open Herbs dominated by *Heliotropium corymbosum* over Tussock Grassland dominated by *Chrysopogon fallax*.
- Open Grassland of *Xerochloa laniflora* and *Dactyloctenium radulans*;
- Tussock Grassland of *Cenchrus ciliaris*, *Aristida inaequilatera*, *Xerochloa laniflora* and *Eragrostis eriopoda*.
- Areas of nearly bare ground;
- Shrubland of *Eremophila forrestii* subsp. *forrestii* over Low Open Shrubland dominated by *Sclerolaena* species over Annual Tussock Grassland of *Aristida contorta*;
- Low Open Shrubland of *Senna artemisioides* subsp. *oligophylla* and *Senna artemisioides* subsp. *helmsii* over Tussock Grassland dominated by *Cenchrus ciliaris*; and
- Low Open Shrubland of *Sclerolaena* species.

**Clearing Description** The applicant has applied to clear up to 22 hecatres of native vegetation within a 12,560 hectare area for the purpose of mineral exploration (including infill drilling), associated infrastructure (access tracks) and a gravel pit. The application area is located 90 kilometres south of Telfer.

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

To

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

**Comment** The vegetation condition has been determined using information provided by Cameco (2009; 2011) and surveys conducted by Bennett Environmental Consulting (2007; 2011).

### 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 may be at variance to this Principle

The application area occurs within the Rudall (LSD1) subregion of the Little Sandy Desert Interim Biogeographic Regionalisation of Australia (IBRA) (GIS Database). This subregion is described as sparse shrub-steppe over *Triodia basedowii* on stony hills, with River Gum communities and bunch grasslands on alluvial deposits in and associated with ranges (CALM, 2002). There are extensive areas of tussock grass associated with footslopes and River Gum communities along drainage lines (CALM, 2002). Extensive *Triodia* hummock grasslands occur on hills and surrounding plains (CALM, 2002).

There are two exploration licences included in the application area which are located adjacent to the boundary of the Rudall River National Park (GIS Database). However, Cameco Australia Pty Ltd have identified that exploration activity upon these licences will be restricted to include less than 2 hectares of clearing. The Rudall River National Park is listed on the Register of the National Estate as an Environmentally Sensitive Area for its significance in maintaining on-going geomorphic and ecological processes within a tropical desert environment (Australian Heritage Database, 2011). In 1994, a small area of the Rudall River National Park was excised and the boundary changed to follow the geology and geomorphology of the Yandagooge Inlier rather than an arbitrary straight line (Cameco Australia Pty Ltd, 2009; 2011). The Kintyre area (including the area under application) was removed from the Rudall River National Park. This excised area remains on the Register of the National Estate.

The area under application has been subject to uranium exploration activities between 1986 - 1987 and 1995 - 1998 (Cameco Australia Pty Ltd, 2009; 2011). Evidence of disturbance exists in the form of access tracks and drill lines (Cameco Australia Pty Ltd, 2009; 2011). Biodiversity values of the proposed clearing area have been reduced as a result of this disturbance. Impacts associated with previous mineral exploration activities include vegetation and habitat loss, fauna displacement and localised fragmentation.

Hart Simpson and Associates Pty Ltd (1994a) undertook detailed vegetation mapping of the Kintyre lease area and identified 7 main vegetation landform units. Surveys undertaken by Bennett Environmental Consulting Pty Ltd in 2007 and 2010 identified 34 vegetation units. A total of 48 vascular plant families, 149 genera and 323 taxa (species, subspecies and varieties) were recorded during the survey. Poaceae (grass family), and Fabaceae were the dominant families with 32 and 16 genera and 60 and 59 taxa respectively (Bennett Environmental Consulting, 2007; 2010).

During the vegetation survey undertaken by Bennett Environmental Consulting (2007) one Priority Flora species *Comesperma pallidum* (Priority 3) was recorded. A desktop search of the Western Australian Herbarium database indicated an additional 29 Priority Flora species recorded for the local area (Bennett Environmental Consulting, 2010). It is therefore possible that clearing of native vegetation could impact upon Priority Flora species. The implementation of a Priority Flora management condition will minimise this risk.

Bennett Environmental Consulting (2010) identified five introduced weed species. These were *Cenchrus ciliaris*, *Cucumis melo* subsp. *agrestis*, *Citrullus lanatus*, *Aerva peruviana* and *Bidens bipinnata*. Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. The implementation of a weed management condition will minimise the risk of the spread of weeds to uninfested areas.

A review of fauna within the Kintyre area by Bamford Consulting Ecologists (2007) recorded 5 Amphibian, 30 Mammalian, 66 Reptilian and 92 Avian species including several species of conservation significance. A targeted survey conducted by Bamford Consulting Ecologists (2010) focusing upon conservation significant species identified an active Mulgara burrow and a Bilby, which was recorded using a motion sensing camera. The Bilby and Mulgara have similar habitat requirements, occurring on sandy-loam soils that support spinifex and acacia shrublands (Bamford Consulting Ecologists, 2010).

Given that the application area supports Priority Flora species and habitat for conservation significant fauna it is considered that the area may be likely to comprise a high level of biological diversity.

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

**Methodology** Australian Heritage Database (2011)  
Bamford Consulting Ecologists (2007)  
Bamford Consulting Ecologists (2010)  
Bennett Environmental Consulting (2007)  
Bennett Environmental Consulting (2010)  
CALM (2002)  
Cameco Australia Pty Ltd (2009)  
Cameco Australia Pty Ltd (2011)  
Hart, Simpson and Associates (1994a)  
GIS Database

- DEC Tenure
- Interim Biogeographic Regionalisation of Australia

**(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 may be at variance to this Principle**

In 2007, Bamford Consulting Ecologists carried out a review of the existing fauna information for the Kintyre area to provide an updated and revised list of conservation significant fauna species likely to be present. Fauna surveys were conducted over the application area involving methods such as; on foot traverses, inspections of locations, opportunistic observations, trapping and spotlighting (Bamford Consulting Ecologists, 2007).

Bamford Consulting Ecologists recorded 5 Amphibian, 30 Mammalian, 66 Reptilian and 92 Avian species during the fauna survey including several species of conservation significance such as the Grey Falcon, Australian Bustard, Rainbow Bee-eater and the Northern Quoll (Bamford Consulting Ecologists, 2007).

A further targeted survey was conducted by Bamford Consulting Ecologists (2010) which focused upon conservation significant species. These species included the Bilby, Northern Quoll, Mulgara, Rock-wallabies, Possums, Northern Marsupial Mole, Hare-wallabies, Giant Desert Skink, Bats and Short Range Endemic Invertebrates.

The results of the survey confirmed the presence of the Bilby within the Kintyre project area with one individual recorded on a motion sensing camera. The presence of a Mulgara species, most likely to be the Brush-tailed Mulgara, was also confirmed outside of the main project area (Bamford Consulting Ecologists, 2010). It was confirmed that several species including the Northern Quoll, Giant Desert Skink and Northern Marsupial Mole do not appear to be resident however suitable habitat for these species may occur in the region (Bamford Consulting Ecologists, 2010).

Bamford Consulting Ecologists (2007) identified that whilst the survey area is rich in fauna, the number of species recorded is not unusual based on previous surveys undertaken in the Pilbara and Great Sandy Desert. The landforms, vegetation and habitats within the survey area are well-represented regionally. Watercourses and rocky hills are considered the rarest habitats, however these occur extensively within the nearby Rudall River National Park (Bamford Consulting Ecologists, 2007; CALM, 2002; GIS Database). The survey area lacks the sort of mesic refugia, such as deep gorges or persistent waterholes that can be expected to support populations of short range endemic invertebrates (Bamford Consulting Ecologists, 2007).

Cameco Australia Pty Ltd have applied to clear 22 hectares of native vegetation within a 12,560 hectare area and as such the impact of the clearing over such a large area will be minimal. However, the identification of the Bilby and Mulgara within the application area is of particular importance. Bilby and Mulgara have similar habitat requirements, occurring on sandy-loam soils that support spinifex and acacia shrublands and as such are potentially widespread in the Kintyre region but are probably scarce due to the impacts of extensive recent fires and predation (Bamford Consulting Ecologists, 2010).

Mulgara (*Dasyercus cristicauda* and *D. blythi*) and Bilby (*Macrotis lagotis*) are ground-dwelling Threatened fauna with limited dispersal abilities which are more likely to be impacted on by the proposed exploration activities. The Great Desert Skink (*Liopholis kintorei*) also shares these habitat requirements and all these species live in underground burrows. Any core habitat, such as burrows, is considered significant and should be avoided.

The implementation of a fauna management condition will minimise any potential impacts upon these conservation significant fauna species.

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

**Methodology** Bamford Consulting Ecologists (2007)  
 Bamford Consulting Ecologists (2010)  
 CALM (2002)  
 GIS Database  
 - DEC Tenure  
 - Pre-European Vegetation

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

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

There are no records of Declared Rare Flora within 20 kilometres of the application area (GIS Database). A survey conducted by Bennett Environmental Consulting (2010) did not identify any Declared Rare Flora.

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

**Methodology** Bennett Environmental Consulting (2010)  
 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**  
 A search of available databases reveals that there are no Threatened Ecological Communities (TEC's) within the application area (GIS Database) or located within 200 kilometres of the application area.  
 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 falls within the IBRA Little Sandy Desert Bioregion (GIS Database). Shepherd (2009) reports that approximately 100% of the pre-European vegetation still exists in this Bioregion.

The vegetation in the application area is recorded as Beard vegetation associations  
 99: Hummock grasslands, shrub steppe; *Acacia coriacea* & hakea over hard spinifex, *Triodia basedowii*; and  
 117: Hummock grasslands, grass steppe; soft spinifex (GIS Database; Shepherd, 2009).

Approximately 100% of Beard vegetation associations 99 and 117 remain within the Little Sandy Desert Bioregion (see table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Little Sandy Desert	11,090,276	11,090,276	~100.0	Least Concern	~4.6
Beard veg assoc. – State					
99	529,692	529,692	~100.0	Least Concern	~27.0
117	919,161	871,010	~94.8	Least Concern	~13.2
Beard veg assoc. – Bioregion					
99	526,655	526,655	~100.0	Least Concern	~27.0
117	287,251	287,251	~100.0	Least Concern	~36.2

\* Shepherd (2009)

\*\* Department of Natural Resources and Environment (2002)

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

**Methodology** Department of Natural Resources and Environment (2002)  
 Shepherd (2009)  
 GIS Database  
 - Pre-European Vegetation  
 - Interim Biogeographic Regionalisation for Australia

**(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 GIS datasets, there are no known permanent watercourses or water bodies within the application area (GIS Database).

The south branch of the Yandagooge Creek is located within the application area along with numerous

ephemeral drainage lines (GIS Database). Based on vegetation mapping conducted by Hart, Simpson and Associates Pty Ltd (1994a) and confirmed by Bennett Environmental Consulting (2007, 2010) riparian vegetation is present within and surrounding this creek (GIS Database; Cameco Australia Pty Ltd, 2009, 2011). Bennett Environmental Consulting (2007, 2010) identified numerous vegetation communities which are indicative of riparian vegetation.

Cameco Australia Pty Ltd have applied to clear 22 hectares of native vegetation within a 12,560 hectare area and as such the impact of the clearing over such a large area will be minimal. The vegetation types which are growing in association with watercourses are widespread and common in the region and there are unlikely to be any significant environmental impacts from the clearing upon watercourses or wetlands.

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

**Methodology** Bennett Environmental Consulting (2007)  
Bennett Environmental Consulting (2010)  
Cameco Australia Pty Ltd (2009, 2011)  
Hart, Simpson and Associates Pty Ltd (1994a)  
GIS Database  
- Hydrography - Linear

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

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

The proposed clearing area lies within a broad valley bounded by the Broadhurst Range to the east and the Throssell Range to the west (Corporate Environmental Consultancy Pty Ltd, 2007). The south branch of the Yandagooge Creek meanders through the application area (Corporate Environmental Consultancy Pty Ltd, 2007).

Dames & Moore (1997) conducted a soil survey of the Kintyre area in 1996 and mapped the following seven soil types:

1. Red, deep sand on flat plains;
2. Rock fragments in sandy loam matrix, on stony hills and scree slopes;
3. Red sandy loam and silty sand on claypan areas and old drainage lines;
4. Red sand, aeolian, in scattered patches and minor dunes;
5. Red loose sand, alluvial, levee banks and marginal to major drainage lines;
6. Loose sand with gravel bars and lenses in active drainage lines; and
7. Rock outcrops, minor colluvium.

Given the size of the application area (12,600 hectares) it is likely that all these soil types would be represented within the application area. There is a moderate risk of wind and water erosion associated with several of these soil types however Cameco Australia Pty Ltd have applied to clear 22 hectares of native vegetation within a 12,560 hectare area and as such the impact of the clearing over such a large area will be minimal.

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

**Methodology** Cameco Australia Pty Ltd (2009)  
Corporate Environmental Consultancy Pty Ltd (2007)  
Dames & Moore (1997)

**(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 Kintyre resource area was formally part of the Rudall River National Park (A34607) which was proclaimed in 1977. However, in 1994 the boundary of the Rudall River National Park was changed to follow the geology and geomorphology of the Yandagooge Inlier rather than an arbitrary straight line. The area excised from the Rudall River National Park included the Kintyre resource area (Cameco Australia Pty Ltd, 2009; 2011). The application area borders the Rudall River National Park boundary on its southern and eastern boundaries (GIS Database).

Despite being excised from the Rudall River National Park, the Kintyre area remains listed on the Register of National Estate (GIS Database). The Rudall River National Park was placed on the Register when it was initially proclaimed in 1977, however the excised portion of the National Park has never been removed from the Register (Cameco Australia Pty Ltd, 2009; 2011).

The Rudall River National Park is a significant transition zone for flora and fauna between the Great sandy Desert to the north, the Little Sandy Desert to the south and the semi-arid Pilbara to the west (Australian Heritage Database, 2011). It is on the Register of the National Estate for its significance in maintaining on-going

geomorphic and ecological processes within a tropical desert environment (Australian Heritage Database, 2011).

The National Park is rich in biodiversity, containing more than 400 flora species, including riparian woodlands which are not well represented elsewhere (Australian Heritage Database, 2011). The area acts as refugium habitat for numerous rare species of flora and fauna of the Great Sandy Desert, contains 90% of the total bird fauna of the Great Sandy Desert, contains Lake Dora which periodically acts as an important waterbird habitat, and contains an important population of the rare Bilby (*Macrotis lagotis*) on the eastern side of Lake Dora (Australian Heritage Database, 2011). In addition to this, Rudall River National Park contains 6 of the 9 frog species found in the Great Sandy Desert, and has a diverse and varied reptile fauna (Australian Heritage Database, 2011).

Cameco Australia Pty Ltd have applied to clear 22 hectares of native vegetation within a 12,560 hectare area and as such the impact of the clearing over such a large area is unlikely to have any negative environmental impacts upon the adjacent National Park.

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

**Methodology** Australian Heritage Database (2011)  
Cameco Australia Pty Ltd (2009)  
Cameco Australia Pty Ltd (2011)  
GIS Database  
- DEC Tenure  
- Register of National Estate

**(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**

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The south branch of the Yandagooge Creek is located within the application area along with numerous ephemeral drainage lines (GIS Database). The groundwater salinity within the application area is approximately 1,000 - 3,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database).

Cameco Australia Pty Ltd have applied to clear 22 hectares of native vegetation within a 12,560 hectare area and as such the impact of the clearing over such a large area is unlikely to have any significant impact upon the quality of surface or underground water.

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

**Methodology** GIS Database  
- Groundwater Salinity  
- Potential Groundwater Dependent Ecosystems  
- Public Drinking Water Source Area

**(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 Rudall subregion experiences an arid climate with hot summers and warm dry winters (CALM, 2002).

The average annual evaporation rate (3800 millimetres) far exceeds average annual rainfall (300 millimetres) and it is therefore unlikely that there would be significant surface water flow during normal seasonal rains (GIS Database).

The application area is located within the Sandy Desert - Lake Dora catchment area of the Sandy Desert basin (GIS Database). Given the size of the area to be cleared (22 hectares) in relation to the size of the catchment area (29,276,949 hectares) (GIS Database), the proposed clearing is not likely to increase the potential for flooding on a local or catchment scale.

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

**Methodology** CALM (2002)  
GIS Database:  
- Rainfall, Mean Annual  
- Evaporation Isopleths  
- Hydrographic Catchments - Catchments

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

### Comments

There is one native title claim (WC96/078) over the area under application. 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 is one known Aboriginal site of significance within the application area (ID\_11786) (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 application was advertised on 10 October 2011 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received in relation to the application regarding Priority Flora. Issues relating to Priority Flora have been addressed under the assessment of the clearing principles.

**Methodology** GIS Database  
- Aboriginal Sites of Significance  
- Native Title Claims

## 4. References

- Australian Heritage Database (2011) Rudall River National Park (1978 boundary), Rudall River via Telfer, WA <http://www.heritage.gov.au/cgi-bin/ahpi/record.pl?RNE10054> (Accessed 7 December 2011)
- Bamford Consulting Ecologists (2007) Kintyre Project Area. Fauna observations from site visit, October 2007. Prepared for Canning Resources Pty Ltd. Unpublished report dated November 2007
- Bamford Consulting Ecologists (2010) Targeted Fauna Survey for the Kintyre Uranium Mine Project, October 2010. Prepared for Cameco Australia Pty Ltd.
- Bennett Environmental Consulting (2007) Flora and Vegetation Kintyre Leases. Prepared for Canning Resources. Unpublished report dated August 2007
- Bennett Environmental Consulting (2007) Flora and Vegetation Kintyre Lease. Prepared for Cameco Australia, Kintyre Project. Unpublished report dated July 2010.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Little Sandy Desert 1 (LSD1 - Rudall subregion)
- Cameco Australia Pty Ltd (2009) Kintyre Project - Native Vegetation Clearing Permit (Infrastructure) Supplementary Information. Unpublished Report dated March 2009
- Cameco Australia Pty Ltd (2011) Kintyre Project - Native Vegetation Clearing Permit Application. September 2011.
- Corporate Environmental Consultancy Pty Ltd (2007) Canning Resources Pty Ltd - Application for Clearing Associated with Kintyre Evaluation Study: East Pilbara, Western Australia. Submitted under Environmental Protection (Clearing of Native Vegetation) Regulations 2004. Prepared April 2007. Attadale, Western Australia
- Dames & Moore (1997) Baseline Soils Survey. Kintyre Project. Report prepared for Canning Resources
- 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.
- Hart, Simpson and Associates Pty Ltd (1994a) Kintyre Project. Fauna Studies, 1986 - 1992. Prepared for Canning Resources Pty Ltd, October 1994
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, 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.