



## 1. Application details

### 1.1. Permit application details

Permit application No.: 2554/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Luzenac Australia Pty Ltd

### 1.3. Property details

Property: Mining Lease 70/101  
Mining Lease 70/243  
Mining Lease 70/918  
Local Government Area: Shire Of Three Springs  
Colloquial name: Three Springs Talc Operation

### 1.4. Application

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

## 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 at 1:250,000 scale for the whole of Western Australia, and are a useful tool to examine the vegetation extent in a regional context. Two Beard vegetation associations are located within the area proposed to be cleared (GIS Database). These vegetation associations are:

- Beard Vegetation Association 352: Medium woodland; York Gum; and
- Beard vegetation association 694: Shrublands; scrub-heath on yellow sandplain *banksia-xyloamelum* alliance in the Geraldton Sandplain & Avon-Wheatbelt Regions.

A flora and vegetation survey of the application area was conducted by a botanist, Jennifer Borger, (hereafter referred to as Borger) during the months of February and May 2008. As a result of the flora and vegetation survey, there were six vegetation associations identified within the application areas (Borger, 2008). Each of the vegetation associations recorded occur in fragmented areas adjoining the Rio Tinto Pty Ltd Three Springs Talc Operation (Borger, 2008). The vegetation associations have been previously cleared for planting of pastoral species, the only native vegetation present within these areas occurs as sparse regrowth (Borger, 2008).

The following vegetation associations were found in the application area (Borger, 2008):

**Location A:** Open low chenopod shrublands with a few Acacia shrubs. Several alien species were also present in the ground cover. The dominant shrub species were *Maireana brevifolia*, *Atriplex prostrata*\*, *Salsola tragus* and *Enchylaena tomentosa* var. *tomentosa* with groundcover dominated by broad leaf weed species and juvenile *Ptilotus* spp. *Acacia acuminata* (jam) and *A. andrewsii*.

Location A was amended from 6.06 hectares in size to 17.8 hectares on the 5 August 2008. Rio Tinto Pty Ltd (2008) have submitted this additional information in regard to this area: The additional area to be cleared (11.74 hectares) is similar to that previously described for Area A. The area has been extensively cleared for agriculture and intermittently grazed in the past, with some re-growth. The only difference in vegetation species is the amended area contains a row of trees running through the area planted over a saline water pipeline. The trees were planted to prevent vehicles driving over the underground pipeline and to act as an indicator to saline water seepage from the pipeline. The tree species used in this planting included *Eucalyptus eremophila*, *E. platypus*, *E. camaldulensis*, *E. spathulata* and Acacia species.

**Location B:** Regrowth on previously cleared agricultural land with some areas that were planted around the original administration site. *Eucalyptus loxophleba* (York gum) are present with a few *Melaleuca viminea* shrubs. *Maireana brevifolia*, *Enchylaena tomentosa*, *Halosarcia pergranulata* subsp. *pergranulata* and *Atriplex vesicaria* are present as low shrubs with alien species such as *Echium plantagineum* (Paterson's curse)\*, *Avena* spp (likely to be *A. fatua* and *A. barbata* – Wild oats)\* *Mesembryanthemum nodiflorum* Slender ice plant)\* and *Arctotheca calendula* (Cape weed)\*. A *Hakea minima* was also present and possibly was planted. Small Ficus (fig) trees are planted on the edge of the old car park area.

**Location C:** Regrowth on cleared agricultural land on salmon gum/york gum soils. The main species present are annual grasses (alien) and broad leaf weeds. Native species: Bluebush (*Maireana brevifolia*), *Enchylaena*

*tomentose*, *Salsola tragus* (Roly/poly), *Ptilotus exaltatus* var. *villosus* (Tall mulla mulla), *P. polystachys* and *Keraudrinia hermannifolia* are present with a few shrubs – *Acacia anthochaera*, *A. colletioides* and *A. comans*. A small stand of salmon gum (*Eucalyptus salmonophloia*) and *Eucalyptus loxophleba* subsp. *supralaevis* (York gum) are present north of the Mill House. Neither of these species is considered rare. Two rows of Eucalyptus have been planted west of the mill. Species present include *Eucalyptus camaldulensis* (River red gum), *E. ebbanoensis* subsp. *lanceolata*. There is also another Eucalypt present which has no buds or fruit present and is likely to be an introduced species to the area. It does not fit the description of any rare or threatened Eucalyptus species in the local area. *Eremophila oldfieldii* subsp. *oldfieldii* have been planted within the Mill House site, along with some other introduced garden plants.

**Location D:** Regrowth on cleared agricultural land. Most ground cover comprises alien grasses and broad leaf weeds with scattered blue bush (*Maireana brevifolia*), *Enchylaena* sp. and *Atriplex vesicaria*. *Atriplex* and *Rhagodia drummondii* occur mainly at the old bore site on the eastern edge of the current dump, with *Eucalyptus camaldulensis* (River red gum) which were planted several years ago. There are also two rows of *E. camaldulensis* growing on the western side of the ramp. These were planted at the same time as the smaller *E. camaldulensis* growing around the bore. The *Ptilotus* cover is dominant in much of the pasture area. No threatened species or community was found.

**Location E:** Some rehabilitation work has been undertaken at the site in the last few years with moderate regrowth of Bluebush and *Atriplex vesicaria*. Two *Acacia* shrubs was present (*Acacia anthochaera* and *A. acuminata*) and one *Tamrix aphylla*\* (Athel pine). Other species present include *Halosarcia pergranulata* (samphire) and *Rhagodia preissii*, with a few weed species with ice plant (*Mesembryanthemum nodiflorum*\*) being dominant. *Eucalyptus loxophleba* subsp. *supralaevis* are present on the eastern side.

**Location F:** Area previously cleared for agriculture and intermittently grazed in recent years. Vegetation comprises a mixture of annual pasture species and weeds with some regrowth of Bluebush (*Maireana brevifolia*). *Rhagodia drummondii*, *Ptilotus polystachyus*, *Salsola tragus* subsp. *tragus* (Roly poly) and *Acacia colletioides*.

Note: \* denotes weed species.

**Clearing Description**

Luzenac Australia Pty Ltd (a subsidiary of Rio Tinto Pty Ltd) have applied to clear 60.35 hectares for the purpose of constructing a new beneficiation plant and expanding waste dumps and the open pit for ongoing maintenance (Rio Tinto Pty Ltd, 2008).

Clearing will comprise six separate areas, some of which are fragmented into smaller sub areas, and adjoin current mining operations at the Three Springs Talc Operation (Rio Tinto Pty Ltd, 2008). The six areas will be cleared for the following purposes:

Area A	Beneficiation plant and product stockpile
Area B	Pit expansion
Area C	Pit expansion and waste dump
Area D	Waste dump expansion
Area E	Waste dump expansion
Area F	Low grade stockpile expansion

**Vegetation Condition**

Degraded: Structure severley disturbed, regeneration to good condtion requies intensive management (Keighery 1994)

To

Good: Vegetation sturcture altered; obvious signs of disturbance (Keighery 1994)

**Comment**

The application areas comprise previously cleared agricultural land with sparse regrowth of native vegetation amongst pastoral weeds (Borger, 2008). Photos of the application areas submitted by Luzenac Australia Pty Ltd (2008) to the assessing officer, show that the majority of the six application areas are largely denuded with little to no vegetation remaining, the regrowth that is present is in early stages of growth and very sparse. Additionally, only area E and parts of area F are fully vegetated with both weeds and native vegetation present.

The close presence of mining operations to the application areas has also reduced the quality of vegetation within the application areas (Rio Tinto Pty Ltd, 2008).

**3. Assessment of application against clearing principles**

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

**Comments**

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

The application area is located within the Avon Wheatbelt P1 Subregion of the Avon Wheatbelt Bioregion of the Interim Biogeographic Regionalisation of Australia (IBRA) (GIS Database). Vegetation of the subregion comprises scrub heaths, rich in endemics, mixed eucalypts, *Allocasuarina hugeliana* and Jam-York Gum woodlands on Quaternary alluvials and eluvials (Beecham, 2001). None of the ecosystems at risk or wetlands of national significance in the subregion are found in the application areas (GIS Database; Beecham, 2001)

A flora and a fauna survey were undertaken in the application areas in the months of February and May of 2008; no significant fauna habitats, Declared Rare Flora (DRF) or Priority flora species were recorded in any of the application areas (Rio Tinto Pty Ltd, 2008; Borger, 2008).

It should be noted that the areas of native vegetation within the application areas have been historically cleared to establish farmland (Borger, 2008). As a result, the application areas are dominated by pastoral weeds with only small amounts of shrubs and trees existing as native regrowth (Borger, 2008). Additionally, of the six areas under application, four of them contain largely denuded land with little to no vegetation cover at all. Furthermore, most of the areas under application are in close proximity to current mining operations and have been disturbed. Photos of the application area submitted to the assessing officer from Rio Tinto Pty Ltd (2008) support the information above.

The vegetation within the application areas does represent an outstanding area of biodiversity in comparison to surrounding areas.

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

**Methodology** Beecham (2001).  
Borger (2008).  
Rio Tinto Pty Ltd (2008).  
GIS Database:  
- Interim Biogeographic Regionalisation of Australia  
- Interim Biogeographic Regionalisation of Australia (subregions)

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

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

An environmental officer from Rio Tinto Pty Ltd (2008) undertook an inspection of the application areas to determine if there were any specific fauna habitats present. As a result of the inspection, no significant habitats were identified, with the habitats recorded comprising of pastoral grasses with sparse shrubs and trees. Additionally, there were no tree hollows or mounds observed within the application areas (Rio Tinto Pty Ltd, 2008).

A search of the Department of Environment and Conservation's Threatened Fauna Database was undertaken by Rio Tinto Pty Ltd (2008). As a result of this search, the following species were found to potentially occur within the application areas: Brush tailed phascogale (*Phascogale tapoatafa ssp. (WAM M434)*), Malleefowl (*Leipoa ocellata*), Carnaby's Black Cockatoo (*Calyptorhynchus latirostris*), Western Spiny-tailed Skink (*Egernia stokesii badia*), Major Mitchell's Cockatoo (*Cacatua leadbeateri*) and Hooded Plover (*Charadrius rubricollis*).

Based on habitat preferences and known distributions the following species may potentially occur within the application areas: Carnaby's Black Cockatoo and Major Mitchells Cockatoo.

The Carnaby's Black Cockatoo (Schedule 1, fauna that is rare or likely to become extinct, *Wildlife Conservation (Specially Protected Fauna) Notice, 2008*) is endemic to south-west Western Australia, extending from the Murchison River to Esperance, and inland to Coroow, Kellerberrin and Lake Cronin (Department of Environment, Water, Heritage and the Arts (DEWHA), 2008). This species is noted as requiring eucalypt woodland (principally salmon gum or wandoo) for nesting (DEWHA, 2008). Given that there were no salmon gum or wandoo eucalypts identified in the application areas, it is unlikely that this species would be reliant on vegetation within the application areas for habitat (Borger, 2008).

The Major Mitchell's Cockatoo (Schedule 4, other specially protected fauna, *Wildlife Conservation (Specially Protected Fauna) Notice, 2008*), is found in arid and semi-arid woodlands dominated by Mulga (*Acacia aneura*), mallee and box eucalypts, cypress pine (*Callitris*, Belah or *Casuarina cristata*), where it feeds primarily on seeds, roots and fruits (Simpson & Day, 1996). Given that there are some scattered eucalypts present within the application areas, it is possible that the Major Mitchell's Cockatoo may utilise the application areas for foraging. However, it is unlikely that this species would be reliant on the application areas for habitat as there are no significant stands of eucalypt woodland areas. Furthermore, there were no hollows sighted in any of the eucalypts present within the application areas (Rio Tinto Pty Ltd, 2008).

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

**Methodology** Borger (2008).  
DEWHA (2008).  
Rio Tinto Pty Ltd (2008).  
Simpson & Day (1996).

**(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**

A flora and vegetation survey of the application areas was undertaken by Borger (2008) in the months of February and May of 2008. This involved a database search and an on ground survey to document and describe the presence of all flora species, vegetation associations and species of conservation significance in the application areas (Borger, 2008).

As a result of the database search there were nine Declared Rare Flora (DRF) and 36 Priority flora species known to occur around the application areas (Borger, 2008). Although there is a large number of conservation significant flora species which may occur near the application areas, during the subsequent ground survey there were no Declared Rare Flora (DRF) or Priority flora species recorded (Borger, 2008).

It should be noted that the majority of native vegetation within the application areas is sparse regrowth and is largely dominated by pastoral weeds, with some areas unvegetated (Borger, 2008). Based on this, it is unlikely the application areas constitutes significant habitat for conservation significant flora species.

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

**Methodology** Borger (2008).  
GIS Database:  
- Declared Rare and Priority Flora List.

**(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**

According to available databases there are no known Threatened Ecological Communities (TECS) within the application areas (GIS Database).

Rio Tinto Pty Ltd (2008) undertook a search of the Department of Environment and Conservation's Ecological Communities database. As a result of the search, there were no known TECs found within the application areas. The 'Vulnerable' ecological community – 'Plant assemblages of the Inering System' is within approximately 4 kilometres of the application areas. However, no vegetation assemblages of this system were found in the application areas during the flora survey by Borger (2008).

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

**Methodology** Borger (2008).  
Rio Tinto Pty Ltd (2008).  
GIS Database:  
- Threatened Ecological Communities - CALM

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

The application areas fall within the IBRA Avon Wheatbelt P1 subregion (GIS Database). There is approximately 18.6% of the pre-European vegetation remaining in this subregion (Shepherd et al, 2001a). Additionally, the application areas are located within the Three Springs Local Government Area, which has approximately 23.3% of pre-European vegetation remaining.

The vegetation of the application areas have been classified as Beard Vegetation Association 352 and 694, but predominantly comprises vegetation association 352 (GIS Database). There is approximately 23.8% of Beard vegetation association 352, and 4.0 % of Beard vegetation association 694 remaining respectively within the Avon Wheatbelt P1 subregion (Shepherd et al, 2001). However, it should be noted that native vegetation within the application area has been cleared since European settlement to establish farmland, hence the application areas no longer comprise native vegetation such as the vegetation associations described above. Native vegetation has been replaced with non-native pasture species, although some native shrubs and trees have returned to the area as regrowth (Borger, 2008).

The areas applied to clear do not represent significant remnants of native vegetation in an area that has been extensively cleared, and it is therefore considered that the proposed clearing is unlikely to be at variance to this principle.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves (and current %)
IBRA Bioregion – Avon Wheatbelt	9,517,117	1,468,711	~15.4	Vulnerable	6.3 (6.3)
IBRA Subregion – Avon Wheatbelt P1	6,524,183	1,212,882	~18.6	Vulnerable	1.6 (6.6)
Local Government – Three Springs	265,532	61,790	~23.3	Vulnerable	NA
<b>Beard veg assoc. – State</b>					
352	724,296	119,958	~16.6	Vulnerable	0.4 (2.3)
694	346,506	60,373	~17.4	Vulnerable	9.3 (52.1)
<b>Beard veg assoc. – Bioregion</b>					
352	630,606	88,954	~14.1	Vulnerable	0.2 (1.5)
694	173,902	6,394	~3.7	Endangered	1.1 (22.2)
<b>Beard veg assoc. – Subregion</b>					
352	292,719	69,781	~23.8	Vulnerable	0.3 (1.0)
694	79,423	3,164	~4.0	Endangered	1.1 (21.6)

\* Shepherd et al. (2001) updated 2005

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

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

**Methodology** Department of Natural Resources and Environment (2002).

Shepherd (2001) updated 2005.

GIS Database:

- Interim Biogeographic Regionalisation of Australia
- Pre-European Vegetation

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

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

There are no watercourses or wetland areas found within the application areas (GIS Database). There is a minor non-perennial drainage line located approximately 250 metres to the north of the application areas (GIS Database). Given the distance between the application areas and this watercourse, it is unlikely there will be any significant impacts to vegetation associated with watercourses or wetlands from the proposed clearing.

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

**Methodology** GIS Database:

- Geodata, Lakes
- Hydrography, Linear
- Rivers 250K - GA

**(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 application areas are affected by salinity, evident by the presence of Barley Grass and Saltbushes (Borger, 2004). Groundwater salinity levels are also high (14,000-35,000 milligrams of Total Dissolved Salts/Litre) (Rio Tinto Pty Ltd, 2008). An extensive belt of saline lakes exists approximately one kilometre west of the application areas. This belt is more than 3 kilometres wide and stretches approximately 20 kilometres in a north-south orientation.

The topography surrounding the application areas is one of low relief with local elevated hills, locally merging with undulating rises and depressions in the landscape (Rio Tinto Pty Ltd, 2008). Ephemeral streams and drainage lines surrounding the application areas drain into the numerous salt lakes and clay pans to the west of the application areas.

The application areas are located on a topographic rise in an area with an elevation of 275 metres and slope

gradually to farmland in the east and to the lakes to the west, with a respective elevation of 253 metres and 244 metres (GIS Database). This represents a regional slope gradient of around 1 – 1.5% (Rio Tinto Pty Ltd, 2008). Based on the topography present, it is likely that runoff would move towards the salt lakes to the west and farmland to the east in the form of sheet flows.

The application areas comprise skeletal soils and red brown sandy loams and gentle slopes ( $1^{\circ}$  -  $2^{\circ}$ ) with red sandy loams and cover clays (Rio Tinto Pty Ltd, 2008).

Rio Tinto Pty Ltd (2008) have stated that the project has been scheduled so that progressive clearing will occur. This means the application areas will only be cleared when infrastructure is ready to be implemented and therefore these areas will not be left open to erosional forces for long periods of time. Additionally, it should be noted that progressive rehabilitation during the life of the project will occur, which will also reduce the areas that are open to erosional forces at any given time (Rio Tinto Pty Ltd, 2008).

The Permit Holder has committed to stockpile all topsoil and vegetation cleared under this permit for use in rehabilitation. It is recommended that should the permit be granted, conditions be placed on the permit for the purposes of mitigating the potential for land degradation.

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

**Methodology** Borger (2004).  
Rio Tinto Pty Ltd (2008).  
GIS Databases:  
- Hydrography, linear (medium scale, 250k GA)  
- Topographic Contours, Statewide

**(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 closest conservation reserve to the application areas is the 'C' class Yarra Yarra Lakes Nature Reserve which is located approximately 8.5 kilometres to the south-west (GIS Database). The application areas do not intersect any drainage lines which flow into the Yarra Yarra Lakes Nature Reserve (GIS Database). Given the distance between the application areas and the Yarra Yarra Lakes Nature Reserve, it is unlikely the values of the conservation reserve will be compromised.

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

**Methodology** GIS Database:  
- CALM Managed Lands and Waters - CALM

**(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**  
There are no permanent watercourses or wetlands within the application areas (GIS Database).  
The application areas are not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).  
Geraldton the closest weather station to the application areas has an average annual rainfall of approximately 460 millimetres (BoM, 2008). Given the low average annual rainfall and average annual evaporation rate (2,400 millimetres), there is little surface water flow during normal seasonal rains (BoM, 2008; GIS Database). It is therefore unlikely that the proposed clearing will impact upon surface water quality onsite or offsite.  
Groundwater within the area under application is already hyper saline at between 14,000 – 35,000 milligrams per litre of Total Dissolved Salts (GIS Database). As a result, it is unlikely the proposed clearing will significantly impact on ground water quality within the application areas.  
Additionally, it should be noted that the majority of vegetation proposed to be cleared comprises perennial grasses and native shrubs which do not have deep root systems (Borger, 2008). Although eucalypts will be cleared as part of this proposal, there are no dense stands of vegetation which may potentially have a significant impact on groundwater quality or depth upon removal.

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

**Methodology** BoM (2008).  
Borger (2008).  
GIS Database:  
- Geodata, Lakes  
- Groundwater Salinity, Statewide  
- Hydrography, Linear  
- Public Drinking Water Source Areas (PDWSAs)

**(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**

There are no permanent watercourses or wetlands within the application areas (GIS Database).

The application areas are located on an undulating rise towards both a salt lake system to the west and farm land to the east (GIS Database). It is likely that during heavy rainfall periods runoff would move towards these two areas in the form of sheet flows (GIS Database).

The application areas experience a relatively low annual rainfall of approximately 460 millimetres, with most rainfall falling as a result of passing cold fronts between May and October each year (BoM, 2008). The application areas experience a high annual evaporation rate of approximately 2,400 millimetres (GIS Database). Based on this, it is likely that any water that collects and pools during heavy rainfall periods will evaporate quickly.

The application areas are situated within the Yarra Monger Catchment which covers an area of approximately 4,182,476 hectares (GIS Database). Given the small size of the proposed clearing (62.35 hectares) in relation to the size of the Yarra Monger Catchment (4,182,476 hectares); it is unlikely that the proposed clearing will significantly increase the incidence or intensity of flooding within the application areas (GIS Database).

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

**Methodology** BoM (2008).  
GIS Database:

- Evapotranspiration, Point Potential
- Hydrographic Catchments - Catchments.

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

**Comments**

There is one native title claim over the area under application (GIS Database). This claim (WC04/002) has been registered with the National Native Title Tribunal on behalf of the claimant group (GIS Database). 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*.

There are no registered Sites of Aboriginal Significance within the application areas (GIS Database). 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 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.

An application to amend the size of the application areas from 48.61 hectares to 60.35 hectares was submitted on the 5 August 2008 by Rio Tinto Pty Ltd (2008). The application to amend the size of the clearing permit application area was advertised for comment to submission groups on the 18 August 2008. The submission comment period lapsed on 7 September 2008, and no submissions were received during this time.

**Methodology** Rio Tinto Pty Ltd (2008).  
GIS Database:

- Native Title Claims
- Sites of Aboriginal Significance DIA

**4. Assessor's comments**

**Comment**

The proposal has been assessed against the Clearing Principles and the proposal is not likely to be at variance to Principles (a), (b), (c), (d), (e), (f), (g), (h), (i) and (j).

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of mitigating the potential for land degradation and permit reporting.

**5. References**

Beecham, B (2001) Avon Wheatbelt 1 (AW1 - Ancient Drainage subregion) Subregional description and biodiversity values, dated September 2001. In: "A biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002". Report published by the Department of Conservation and Land Management, Perth, Western Australia.

- Borger (2008) Beneficiation Plant Project Vegetation Survey for Luzenac Australia Pty Ltd, Three Springs Talc Operation, Western Australia.
- Bureau of Meteorology (BoM) (2008) Climate of Geraldton. URL: <http://www.bom.gov.au/weather/wa/geraldton/climate.shtml>
- 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.
- DEWHA (2008) Australian Threatened Species: Carnaby's Black-Cockatoo. URL: <http://www.environment.gov.au/biodiversity/threatened/publications/black-cockatoo.html>
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- Rio Tinto Pty Ltd (2008) Supporting information for clearing permit application CPS 2554/1. Unpublished Report dated 2008.
- Shepherd, D.P., Beeston, G.R. & Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Simpson K, & Day N (1996) Field Guide to the Birds of Australia. Penguin Books Australia Ltd. Victoria, Australia.

## 6. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government.
<b>CALM</b>	Department of Conservation and Land Management, Western Australia.
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia.
<b>DA</b>	Department of Agriculture, Western Australia.
<b>DEC</b>	Department of Environment and Conservation
<b>DEH</b>	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
<b>DEP</b>	Department of Environment Protection (now DoE), Western Australia.
<b>DIA</b>	Department of Indigenous Affairs
<b>DLI</b>	Department of Land Information, Western Australia.
<b>DoE</b>	Department of Environment, Western Australia.
<b>DoIR</b>	Department of Industry and Resources, Western Australia.
<b>DOLA</b>	Department of Land Administration, Western Australia.
<b>DoW</b>	Department of Water
<b>EP Act</b>	Environment Protection Act 1986, Western Australia.
<b>EPBC Act</b>	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
<b>GIS</b>	Geographical Information System.
<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>RIWI</b>	Rights in Water and Irrigation Act 1914, Western Australia.
<b>s.17</b>	Section 17 of the Environment Protection Act 1986, Western Australia.
<b>TECs</b>	Threatened Ecological Communities.

### 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.