



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 4502/1
Permit Holder:	Polaris Metals Pty Ltd
Duration of Permit:	31 October 2011 – 31 October 2016

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I – CLEARING AUTHORISED

1. Purpose for which clearing may be done

Clearing for the purpose of gravel extraction.

2. Land on which clearing is to be done

LOT 90 ON PLAN 217896 (CROWN RESERVE 44102) (BOORABBIN 6429)
LOT 90 ON PLAN 217897 (CROWN RESERVE 44102) (WALLAROO 6429)
LOT 90 ON PLAN 217898 (CROWN RESERVE 44102) (BOORABBIN 6429)
LOT 90 ON PLAN 217899 (CROWN RESERVE 44102) (BOORABBIN 6429)
LOT 90 ON PLAN 217899 (CROWN RESERVE 44102) (WALLAROO 6429)
LOT 90 ON PLAN 217900 (CROWN RESERVE 44102) (BOORABBIN 6429)
LOT 90 ON PLAN 217901 (CROWN RESERVE 44102) (WALLAROO 6429)
LOT 90 ON PLAN 217902 (CROWN RESERVE 44102) (WALLAROO 6429)

3. Area of Clearing

The Permit Holder must not clear more than 15 hectares of native vegetation within the area hatched yellow on attached Plan 4502/1.

4. Application

This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. Type of clearing authorised

This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the power to clear native vegetation for those activities under the *Land Administration Act 1997* or any other written law.

6. Compliance with Assessment Sequence and Management Procedures

Prior to clearing any native vegetation under conditions 1, 2 and 3 of this Permit, the Permit Holder must comply with the Assessment Sequence and the Management Procedures set out in Part II of this Permit.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

7. Avoid, minimise etc clearing

In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:

- (a) avoid the clearing of native vegetation;
- (b) minimise the amount of native vegetation to be cleared; and
- (c) reduce the impact of clearing on any environmental value.

8. Weed control

When undertaking any clearing or other activity pursuant to this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of weeds:

- (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

9. Fauna management

(a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* for the presence of *Leipoa ocellata* (Malleefowl) mounds.

(b) Where *Leipoa ocellata* (Malleefowl) mounds are identified in relation to condition 9(a) of this Permit, the Permit Holder shall ensure that no clearing occurs within 50 metres of the identified *Leipoa ocellata* (Malleefowl) mounds, unless approved by the CEO.

10. Flora management

(a) Prior to undertaking any clearing authorised under this Permit, the Permit Holder shall engage a *botanist* to inspect that area for the presence of rare flora listed in the *Wildlife Conservation (Rare Flora) Notice 2010(2)* and *priority flora*.

(b) Where rare flora or *priority flora* are identified in relation to condition 10(a) of this Permit, the Permit Holder shall ensure that:

- (i) no clearing occurs within 50 metres of identified rare flora, unless approved by the CEO; and
- (ii) no clearing of identified *priority flora* occurs and no clearing occurs within 10 metres of identified *priority flora*, unless approved by the CEO.

11. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

(a) retain the vegetative material and topsoil removed by clearing authorised under this Permit and stockpile the vegetative material and topsoil in an area that has already been cleared.

(b) within 12 months following completion of gravel extraction, *revegetate* and *rehabilitate* the area(s) that are no longer required for the purpose for which they were cleared under this Permit by:

- (i) re-shaping the surface of the land so that it is consistent with the surrounding 5 metres of uncleared land; and
- (ii) ripping the pit floor and contour batters within the extraction site; and
- (iii) laying the vegetative material and topsoil retained under condition 11(a) on the cleared area(s).

(c) within 24 months of laying the vegetative material and topsoil on the cleared area in accordance with condition 11(b) of this Permit:

- (i) engage an *environmental specialist* to determine the species composition, structure and density of the area *revegetated* and *rehabilitated*; and
 - (ii) where, in the opinion of an *environmental specialist*, the composition structure and density determined under condition 11(c)(i) of this Permit will not result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, *revegetate* the area by deliberately *planting* and/or *direct seeding* native vegetation that will result in a similar species composition, structure and density of native vegetation to pre-clearing vegetation types in that area and ensuring only *local provenance* seeds and propagating material are used.
- (d) Where additional *planting* or *direct seeding* of native vegetation is undertaken in accordance with condition 11(c)(ii) of this permit, the Permit Holder shall repeat condition 11(c)(i) and 11(c)(ii) within 24 months of undertaking the additional *planting* or *direct seeding* of native vegetation.
- (e) Where a determination by an *environmental specialist* that the composition, structure and density within areas *revegetated* and *rehabilitated* will result in a similar species composition, structure and density to that of pre-clearing vegetation types in that area, as determined in condition 11(c)(i) and (ii) of this permit, that determination shall be submitted for the CEO's consideration. If the CEO does not agree with the determination made under condition 11(c)(ii), the CEO may require the Permit Holder to undertake additional *planting* and *direct seeding* in accordance with the requirements under condition 11(c)(ii).

PART III - RECORD KEEPING AND REPORTING

12. Records must be kept

The Permit Holder must maintain the following records for activities done pursuant to this Permit:

- (a) In relation to the clearing of native vegetation authorised under this Permit:
 - (i) the species composition, structure and density of the cleared area;
 - (ii) the location where the clearing occurred, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings;
 - (iii) the date that the area was cleared; and
 - (iv) the size of the area cleared (in hectares)
- (b) In relation to fauna management pursuant to condition 9 of this Permit, the location of each *Leipoa ocellata* (**Malleefowl**) mound recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees.
- (c) In relation to flora management pursuant to condition 10 of this Permit:
 - (i) the location of each rare and priority flora species, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) the species name of each rare and priority flora species identified; and
 - (iii) a copy of the botanists flora survey report.
- (d) In relation to the *revegetation* and *rehabilitation* of areas pursuant to condition 11 of this Permit:
 - (i) the location of any areas *revegetated* and *rehabilitated*, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees;
 - (ii) a description of the *revegetation* and *rehabilitation* activities undertaken;
 - (iii) the size of the area *revegetated* and *rehabilitated* (in hectares);
 - (iv) the species composition, structure and density of *revegetation* and *rehabilitation*, and
 - (v) a copy of the environmental specialist's report.

13. Reporting

- (a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
- (i) of records required under condition 12 of this Permit; and
 - (ii) concerning activities done by the Permit Holder under this Permit between 1 January and 31 December of the preceding year.
- (b) Prior to 31 July 2016, the Permit Holder must provide to the CEO a written report of records required under condition 12 of this Permit where these records have not already been provided under condition 13(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

botanist means a person with specific training and/or experience in the ecology and taxonomy of Western Australian flora;

direct seeding means a method of re-establishing vegetation through the establishment of a seed bed and the introduction of seeds of the desired plant species;

environmental specialist means a person who is engaged by the Permit Holder for the purpose of providing environmental advice, who holds a tertiary qualification in environmental science or equivalent, and has experience relevant to the type of environmental advice that an environmental specialist is required to provide under this Permit;

fauna specialist means a person with training and specific work experience in fauna identification or faunal assemblage surveys of Western Australian fauna;

fill means material used to increase the ground level, or fill a hollow;

local provenance means native vegetation seeds and propagating material from natural sources within 50 kilometres of the area cleared.

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation;

planting means the re-establishment of vegetation by creating favourable soil conditions and planting seedlings of the desired species;

priority flora means those plant taxa described as priority flora classes 1, 2, 3 or 4 in the *Department's Declared Rare and Priority Flora List for Western Australia* (as amended);

regenerate/ed/ion means re-establishment of vegetation from in situ seed banks and propagating material (such as lignotubers, bulbs, rhizomes) contained either within the topsoil or seed-bearing mulch;

rehabilitate/ed/ion means actively managing an area containing native vegetation in order to improve the ecological function of that area;

revegetate/ed/ion means the re-establishment of a cover of *local provenance* native vegetation in an area using methods such as natural *regeneration*, *direct seeding* and/or *planting*, so that the species composition, structure and density is similar to pre-clearing vegetation types in that area;

weed/s means a species listed in Appendix 3 of the "Environmental Weed Strategy" published by the Department of Conservation and Land Management (1999), and plants declared under section 37 of the Agriculture and Related Resources Protection Act 1976.



Kelly Faulkner
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

6 October 2011

Plan 4502/1



LEGEND

- Road Centrelines
 - Clearing Instruments
 - Areas Approved to Clear
 - Cadastre for labelling
- Western Australia Landsat
Mosaic 25m - AGO 2006



Scale 1:400000

(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Date 6/10/06

K Faulkner
Officer with delegated authority under Section 20 of the Environmental Protection Act 1986

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 4502/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Polaris Metals Pty Ltd

1.3. Property details

Property:
 LOT 90 ON PLAN 217902 (WALLAROO 6429)
 LOT 90 ON PLAN 217901 (WALLAROO 6429)
 LOT 90 ON PLAN 217900 (BOORABBIN 6429)
 LOT 90 ON PLAN 217899 (BOORABBIN 6429)
 LOT 90 ON PLAN 217898 (BOORABBIN 6429)
 LOT 90 ON PLAN 217899 (WALLAROO 6429)
 LOT 90 ON PLAN 217897 (WALLAROO 6429)
 LOT 90 ON PLAN 217897 (WALLAROO 6429)
 LOT 90 ON PLAN 217896 (BOORABBIN 6429)

Local Government Area: Shire of Coolgardie

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
15		Mechanical Removal	Gravel extraction

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 6 October 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
The mapped Beard vegetation association 128 is described as Bare areas; rock outcrops (Shepherd 2009).	The application is to clear up to 15 hectares of native vegetation within Crown Reserve 44102, Boorabbin and Wallaroo for the purpose of borrow pits for gravel extraction.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The condition of the vegetation was determined through aerial imagery (Boorabbin 1.4m Orthomosaic - Landgate 2003, Mount Walter 50cm Orthomosaic - Landgate 2006 and Nearanging 50cm Orthomosaic - Landgate 2006).
Mapped Beard vegetation association 141 is described as Medium woodland; York gum, salmon gum & gimlet (Shepherd 2009)..			
Mapped Beard vegetation association 142 is described as Medium woodland; York gum & salmon gum (Shepherd 2009)..			
Mapped Beard vegetation association 435 is described as Shrublands; Acacia neurophylla, A. beauverdiana & A. resinomarginea thicket (Shepherd 2009)..			
Mapped Beard vegetation association 437 is described as Shrublands; Mixed acacia thicket on sandplain (Shepherd 2009)..			
Mapped Beard vegetation association 511 is described as Medium woodland; salmon gum & morel (Shepherd 2009).			
Mapped Beard vegetation association 522 is described as Medium woodland; redwood (Eucalyptus transcontinentalis) & merrit (E. floctoniae) (Shepherd 2009)..			
Mapped Beard vegetation association 1148 is described as Shrublands; scrub-heath in the Coolgardie Region			

(Shepherd 2009)..

Mapped Beard vegetation association 1413 is described as Shrublands; acacia, casuarina & melaleuca thicket (Shepherd 2009).

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 is to clear up to 15 hectares of native vegetation, within Crown Reserve 44102. This reserve is a long linear land parcel which consists of the following lots; Lot 90 on Deposited Plan 217896, Lot 90 on Deposited Plan 217898, Lot 90 on Deposited Plan 217899, Lot 90 on Deposited Plan 217900, Boorabbin, and Lot 90 on Deposited Plan 217897, Lot 90 on Deposited Plan 217899, Lot 90 on Deposited Plan 217901, and Lot 90 on Deposited Plan 217902, Wallaroo. The proposed clearing is for the purpose of borrow pits for gravel extraction. The extracted gravel will be used to maintain Mount Walton access road which is located within Reserve 44102.

A majority of the vegetation under application appears to be in very good (Keighery 1994) condition and consists of medium woodland of York gum and Salmon gum with rock outcrops. The clearing will initially occur in the existing gravel pits which will be extended. Once the resources have been depleted new pits will be sourced within the application area.

There are 36 priority and 2 declared rare flora species (DRF) recorded within the local area (40 kilometre radius). All of these species are found on the same soil and vegetation types as the application area. Priority flora species *Astartea* sp. Bungalbin hill (P3) and *Acacia desertorum* var. *nudipes* (P1) are both recorded in the application area and *Sowerbaea multicaulis* (P4) is recorded less than 100m away. The two DRF species are also recorded on the same mapped vegetation and soil types as the application area. Therefore the vegetation under application may support flora species of conservation significance.

There are 5 records of conservation significant fauna within the local area (40km radius). 3 records of *Falco Peregrinus* (Peregrine Falcon) and one of *Leipoa ocellata* (Malleefowl) are recorded 10km from the application area. The local area is approximately 90% vegetated, with the majority of vegetation remaining in Unallocated Crown Land. The local area is well vegetated, with approximately 90% native vegetation remaining including large areas of unallocated crown land. These areas are likely to be providing fauna habitat of greater local significance than the vegetation under application.

Given the above, the application may comprise of a high level of biological diversity and therefore the clearing may be at variance to this principle.

A Flora management condition will minimise and mitigate the impacts to flora species within the proposed clearing area.

Methodology

References:

DEC (2007)

Keighery (1994)

GIS Database:

- Pre European Vegetation

- SAC Biodatasets - accessed September 2011

- Boorabbin 1.4m Orthomosaic - Landgate 2003

- Mount Walter 50cm Orthomosaic - Landgate 2006

- Nearanging 50cm Orthomosaic - Landgate 2006

(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

There were 5 records of conservation significant fauna within the local area (40km radius). 3 records of the Peregrine Falcon and one of the malleefowl is recorded 10km from the application area (DEC 2007).

The Malleefowl is an endangered species and is protected under Western Australia's Wildlife Conservation Act 1950 as well as the Environment Protection and Biodiversity Conservation Act 1999. Malleefowl build distinctive nests that comprise a large mound of soil covering a central core of leaf litter, on average spanning more than five metres and up to one metre high. Breeding malleefowl tend to be sedentary, as they nest and roost in the same area year after year, and will only take to flight as a last resort (Burbidge, 2004) therefore are vulnerable to disturbance.

The local area is well vegetated, with approximately 90% native vegetation remaining including large areas of unallocated crown land. These areas are likely to be providing fauna habitat of greater local significance than the vegetation under application. However, due to the potential nesting habitat for the Malleefowl within the

application area the clearing may be at variance to this Principle.

A fauna management condition will mitigate and minimise the impacts the Malleefowl and their nests.

- Methodology** References
 DEC (2007)
 GIS Databases:
 - SAC Bio Datasets - accessed September 2011
 - Boorabbin 1.4m Orthomosaic - Landgate 2003
 - Mount Walter 50cm Orthomosaic - Landgate 2006
 - Nearanging 50cm Orthomosaic - Landgate 2006

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

Comments **Proposal may be at variance to this Principle**
 A search of DEC databases identified two species of Declared Rare Flora (DRF) recorded within the local area (40km radius); *Eremophila virens* and *Gastrolobium graniticum*.

Eremophila virens, known as Champion eremophila is mainly found over a geographic range of 55km in the Mukinbudin, Warralakin and Bonnie Rock areas. A disjunct population in the Boorabbin area gives it a total range of 210km. It grows in light brown sandy loam over granite in rocky situations, in thicket or scrub with acacias and sheoaks. Flowering occurs August to October, occasionally November (Brown et al 1998).

Gastrolobium graniticum, known as Granite poison is recorded 6km from the area under application. It is restricted to the Kalgoorlie and Coolgardie districts of the Eastern Goldfields region. It forms small thickets in sandy or sandy loam soils near granite rocks (Brown et al 1998).

Given the suitability of habitat for the DRF mentioned above, it is possible that DRF may occur within the application area. Considering the above, the proposed clearing may be at variance with this principle.

A Flora management condition will minimise and mitigate the impacts to flora species within the proposed clearing area.

- Methodology** References:
 Brown et al (1998)
 GIS Databases:
 - Pre-European vegetation
 - SAC Biodatasets - September 11
 - Soils, Statewide - September 11

(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**
 There are no known records of threatened ecological communities (TEC) within the local area (40 km radius). Therefore the proposed clearing is not likely to be at variance to this principle.

- Methodology** GIS Databases
 - SAC Biodatasets - accessed September 2011

(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 vegetation under application has been identified as Beard vegetation complexes 128, 141, 142, 435, 437, 511, 522, 1148 and 1413. All complexes have over 90 per cent of their pre-European extent remaining within the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (Shepherd 2009). The local area has approximately 90 per cent of native vegetation remaining.

The application area may contain a high level of biodiversity, and may contain conservation significant flora and therefore may be significant as a remnant. However, as the local area retains approximately 90% native vegetation the area is not considered to be extensively cleared. Therefore, the clearing as proposed is not likely to be at variance to this principle.

	Pre-European (ha)	Current Extent (ha)	Remaining (%)	Extent in DEC Managed Lands (%)
IBRA Bioregion*				
Coolgardie	12 912 204	12 707 872	98.4	15.7
Shire*				

Shire of Coolgardie	3 029 748	3 029 748	100	13.68
Beard Vegetation Association in Bioregion* 128	186 494	185 795	99.6	16.4
Beard Vegetation Association in Bioregion* 141	883 085	859 069	97.3	43.9
Beard Vegetation Association in Bioregion* 142	115 834	115 820	99.9	4.7
Beard Vegetation Association in Bioregion* 435	738 211	730 226	98.9	26.3
Beard Vegetation Association in Bioregion* 437	312 853	312 853	100	18.9
Beard Vegetation Association in Bioregion* 511	464 423	435 793	93.8	19.3
Beard Vegetation Association in Bioregion* 522	50,867	19,595	38.5	5.6
Beard Vegetation Association in Bioregion* 1148	254 931	252 082	98.8	17.3
Beard Vegetation Association in Bioregion* 1413	1 061 212	1 041 677	98.1	18.5

* Shepherd 2009

Methodology References:
Commonwealth of Australia (2001)
Shepherd (2009)

GIS Database:
- Local Government Authorities
- Pre European Vegetation
- SAC Biodatasets - accessed September 2011
- Boorabbin 1.4m Orthomosaic - Landgate 2003
- Mount Walter 50cm Orthomosaic - Landgate 2006
- Nearanging 50cm Orthomosaic - Landgate 2006).

(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 is one minor - non-perennial water course that crosses the application area.

The applicant has advised that existing and future gravel pits will not be located within watercourses. Therefore, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Database:
- Hydrogeology, 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 property under application is mapped as soil type AC1, Mx41, Mx41, Mx43 and SV2 . Most soils consist of granitic rock outcrops (Northcote 1960-68).

The proposed clearing has a low risk of wind erosion due to the high gravel content.

The applicant has advised that , where practical, clearing will be undertaken with either a raised blade or scrub rake to minimise soil disturbance (Polaris Metals Pty Ltd, 2011).

Given the low risk of wind erosion and applicants commitment to reduce soil disturbance the proposed clearing is not likely to be at variance to this clearing principle.

Methodology References:
Northcote (1960-1968)
Polaris Metals Pty Ltd (2011)
GIS database:
- Hydrography, linear
- 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 may be at variance to this Principle**
Boorabbin National Park is on the Register of National Estate and is located 250m from the southern end of the application area, it is the only conservation area within 10 kilometres of the application area.

The proposed 'Jaurdi' Conservation Park is adjacent to the clearing area, the area was a pastoral lease that was surrendered in 1989 and is currently held as unallocated crown land.

The proposed clearing may indirectly impact on the environmental values of the near by conservation reserve through the spread or introduction of weed species. The consequences associated with the spread of exotic species into areas reserved for conservation, include significant degradation of the reserve and the potential local extinction of species.

Given the indirect impact through the spread of weeds it is considered likely that the clearing as proposed may impact on the environmental values of nearby conservation areas. Therefore, the clearing as proposed may be at variance to this Principle. Weed management will mitigate any impacts to surrounding conservation areas from the proposed clearing.

Methodology GIS Databases:
- DEC Tenure

(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 is only one minor watercourse that intersects the application area and therefore the proposed clearing is not likely to impact on the quality of surface water in any nearby watercourse or wetland.

The northern section of the application area has a groundwater salinity of 7000-14000, and the central and southern section has a groundwater salinity of 14000-35000, with a small section with the ground water salinity above 35000.

The proposed clearing is not likely to cause deterioration in the quality of surface or underground water and therefore the proposed clearing is not likely to be at variance to principle (i).

Methodology GIS Database:
- Hydrography, linear
- Groundwater salinity, statewide

(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 high sand and gravel content of the soil will allow rainfall to infiltrate quickly. Therefore, the clearing as proposed is not likely to cause, or exacerbate, the incidence or intensity of flooding and is not likely to be at variance to this principle.

Methodology GIS Database:
- Hydrography linear

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

Comments
The application is to clear up to 15 hectares of native vegetation, within Crown Reserve 44102 - Lot 90 on Deposited Plan 217896, Lot 90 on Deposited Plan 217898, Lot 90 on Deposited Plan 217899, Lot 90 on Deposited Plan 217900, Boorabbin, and Lot 90 on Deposited Plan 217897, Lot 90 on Deposited Plan 217899, Lot 90 on Deposited Plan 217901, and Lot 90 on Deposited Plan 217902, Wallaroo for the purpose of borrow pits for gravel.

The application is to establish borrow pits for gravel, which will be used for the maintenance of an access road to the Carina iron ore mine, which is related to Ministerial Statement 852

The area under application falls within the Goldfields groundwater area which is an area proclaimed under the Rights in Water and Irrigation Act 1914.

Reserve 44102 is vested with the Department of Treasury and Finance (DTF) - Building Management and Works (DTF). The DTF has entered into a road use agreement with Polaris Metals Pty Ltd (Polaris0, for Polaris to use and maintain the road as access to the Carina iron ore min. DTF has provided a letter of authority which

states they allow Polaris to excavate suitable materials from Reserve 44102 subject to Polaris Metals obtaining all approvals or licences (DTF 2011).

Methodology The property is zoned 'Rural/Mining' under the Town Planning Scheme.
References
DTF (2011)

GIS Databases:

- RIWI Act, Groundwater Areas -
- Town Planning Scheme Zones
- Cadastre

4. References

- Brown A., Thomson-Dans C. and Marchant N. (1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.
- Burbidge, A. (2004) Threatened Animals of Western Australia, Department of Conservation and Land Management, Perth, Western Australia.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DTF (2011) Mt Walton Access road - excavation of borrow pits to obtain materials to be used for road maintenance. Department of Treasury and Finance. DEC ref: A413480
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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.
- Polaris Metals Pty Ltd (2011) Purpose clearing permit application – PMPL-ENV-REP-000004. DEC ref: A413480
- 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.
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed 09/09/2011).

5. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)