



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

| | |
|-------------------------------|-------------------------------------|
| Purpose Permit number: | CPS 5763/1 |
| Permit Holder: | Silver Lake Resources Limited |
| Duration of Permit: | 26 December 2013 – 26 December 2018 |

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 mineral exploration, mineral drilling and pasture.

2. Land on which clearing is to be done

Mining Lease M74/13
Mining Lease M74/53

3. Area of Clearing

The Permit Holder must not clear more than 6.1 hectares of native vegetation within the combined areas hatched yellow on attached Plan 5763/1a and Plan 5763/1b.

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.

PART II – MANAGEMENT CONDITIONS

5. Dieback and weed control

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

- clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
- shall only move soils in *dry conditions*;
- ensure that no *dieback* or *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
- restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

6. Retain vegetative material and topsoil, revegetation and rehabilitation

The Permit Holder shall:

- In relation to the area shaded yellow on attached Plan 5763/1a, 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) At an optimal time within 12 months following completion of mineral exploration and drilling, *revegetate* and *rehabilitate* areas not required for future scheduled and approved development, by:
- (i) ripping the ground on the contour to remove soil compaction; and
 - (ii) laying the vegetative material and topsoil retained under condition 6(a) on the cleared area(s).

DEFINITIONS

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

dieback means the effect of *Phytophthora* species on native vegetation;

dry conditions means when soils (not dust) do not freely adhere to rubber tyres, tracks, vehicle chassis or wheel arches;

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

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;

weed/s means any plant -

- (a) that is a declared pest under section 22 of the Biosecurity and Agriculture Management Act 2007; or
- (b) published in the former Department of Environment and Conservation Regional Weed Assessments, regardless of ranking; or
- (c) not indigenous to the area concerned.



M Warnock
MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

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

26 November 2013

Plan 5763/1a



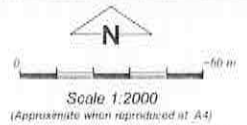
LEGEND

Cleared Areas

- Areas Approved to Clear
- Ravensthorpe Nickel Mar 2011 Mosaic

Ravensthorpe 1.4m Orthomosaic - Landgate 2002

Mining Tenements



Geocentric Datum Australia 1994
 Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

M. Warnock Date 26/11/13
 M Warnock

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.

* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.

Plan 5763/1b



LEGEND

Cleared Areas

- Areas Approved to Clear
- Ravensthorpe Nickel Mine 2011 Mosaic

Mining Tenements



Scale 1:5000
(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.

M Warnock Date 26/11/13

M Warnock

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.



Government of Western Australia
Department of Environment Regulation

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* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5763/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Silver Lake Resources Limited

1.3. Property details

Property: M74/53
M74/13
Local Government Area: Shire of Ravensthorpe
Colloquial name:

1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 0.2 | | Mechanical Removal | Mineral Exploration |
| 6 | | Mechanical Removal | Grazing & Pasture |

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 26 November 2013

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 vegetation under application has been mapped as Beard vegetation associations (Shepherd et al, 2001): 47 (M53): Shrublands; tallerack mallee-heath. 516 (M13): Shrublands; mallee scrub, black marloc. 352 (M13): Medium woodland; York gum. | The clearing consists of 6.2 hectares of native vegetation within mining leases M74/53 and M74/13, Ravensthorpe, for the purposes of mineral exploration (M53) and agriculture (M13). | Completely Degraded; No longer intact; completely/almost completely without native species (Keighery 1994) To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994) | The condition of the vegetation under application was determined via a flora survey of the M53 application area and aerial imagery (Ravensthorpe Nickel Mar 2011 Mosaic). |

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 amended application is to clear up to 6.2 hectares of native vegetation within mining leases M74/53 and M74/13, Ravensthorpe.

The application area within M53 consists of 0.2 hectares of vegetation adjacent to previously cleared exploration lines in an excellent (Keighery, 1994) condition (Outback Ecology, 2013). The purpose of clearing within this area is mineral exploration.

The application area within M13 consists of 6 hectares of regrowth vegetation in a degraded to completely degraded condition. The purpose of the application is to return the area to agricultural uses.

The local area (10 kilometre radius) surrounding the application area is highly vegetated retaining approximately 80 percent pre-European vegetation. The region south of Ravensthorpe, encompassing the application area, is recognised as a peak area of biodiversity in the south-west of Western Australia (Outback Ecology, 2013).

A flora and fauna assessment within and surrounding the application area of M53 did not reveal the presence of rare flora, vegetation consistent with a threatened ecological community or evidence of conservation significant fauna utilising the area (Outback Ecology, 2013). Two priority 4 flora taxa were recorded across the application area however, the identity of one of these needs to be confirmed when specimens are in flower (Outback Ecology, 2013). Priority 4 taxa are defined as species that are either near threatened or in need of special attention if current circumstances change, therefore the removal of the identified individuals is unlikely to impact upon the conservation status of these species.

Given the degraded to completely degraded (Keighery, 1994) condition of the vegetation within M13 and as it has historically been heavily grazed and used for pasture, it is not likely to contain rare or priority flora species recorded within the local area (10 kilometre radius).

Given the mapped vegetation type, highly vegetated local area and close proximity to disturbance, the application is not likely to contain significant habitat for endemic fauna.

Given the above, the application is not likely to be at variance to this clearing principle.

Methodology

References:

Outback Ecology (2013)

GIS Datasets:

- SacBiodataSets - accessed October 2013
- NLWRA current extent of native vegetation

(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

Eight fauna species listed as rare or likely to become extinct under the Wildlife Conservation Act 1950 have been recorded within 20 kilometres of the application area. These include *Calyptorhynchus latirostris* (Carnaby's cockatoo), *Dasyornis longirostris* (Western Bristlebird), *Leipoa ocellata* (Malleefowl), and *Phascogale calura* (Red-tailed Phascogale) (DPaW, 2007-).

A fauna survey of the application area within M53 did not record either direct or secondary observations of conservation significant fauna. Given the limited amount of clearing in the area, predominantly along pre-disturbed exploration lines, these areas are not likely to constitute significant indigenous fauna habitat.

The local area surrounding both application areas is highly vegetated retaining approximately 80 percent of pre-European vegetation extent. The portion of the application area within M13 falls adjacent to a mining operation which is likely to significantly impact on the significance of the site for indigenous fauna. The application area within M13 has historically been cleared for agriculture and is in a degraded to completely degraded (Keighery, 1994) condition.

Given the mapped vegetation types, extent of vegetation in the local area and position within the landscape the application areas are not likely to form significant habitat for indigenous fauna.

Given the above, the application is not likely to be at variance to this principle.

Methodology

References:

DPaW (2007-)

GIS Datasets:

- Albany townsite January 2011 mosaic
- SacBiodataSets - accessed October 2013
- NLWRA current extent of native 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

A flora survey within and surrounding the M53 application area did not reveal the presence of rare flora (Outback Ecology, 2013). The survey was not conducted in the peak flowering period for annual species, however rare annual flora species have not been recorded in the local area (10 kilometre radius).

Six rare flora species have been recorded within the local area of M13. The habitat preferences for five of these taxa are poorly known. The preferred habitat for the sixth species is slopes and ridges and it is not likely to be present within the application area (Western Australian Herbarium, 1998 - ; Brown et.al., 1996).

Given the degraded to completely degraded (Keighery, 1994) condition of the vegetation within M13 and as it has historically been heavily grazed and used for pasture, it is not likely to contain the rare flora species recorded within the local area.

Given the above the application is not likely to be at variance to this clearing principle.

Methodology Reference:
Outback Ecology (2013)
Brown et. al (1996)
West Australian Herberium (1998-)

GIS Databases:
- SAC Biodatasets - accessed October 2013

(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 flora survey within and surrounding the application area within M53 did not reveal vegetation consistent with a threatened ecological community (TEC) (Outback Ecology, 2013).

The closest TEC to the application area within M13 is recorded approximately 70 kilometres away.

Given this, the application is not likely to be at variance to this principle.

Methodology Reference:
Outback Ecology (2013)

GIS Databases:
- SAC Biodatasets - accessed October 2013

(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 area under application is located within the Esperance plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion. This IBRA bioregion has approximately 52 percent of its pre-European vegetation extent remaining (Government of Western Australia, 2013).

The vegetation under application is mapped as Beard vegetation association's 47, 352 and 516 of which there is approximately 35, 28 and 69 percent pre-European extent remaining within the Esperance plains bioregion respectively (Government of Western Australia, 2013).

The area under application is located within the Shire of Ravensthorpe, within which there is approximately 38 percent of pre-European extent remaining (Government of Western Australia, 2013).

The local area (10 kilometre radius) retains approximately 80 percent vegetation remaining.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 percent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001).

Although Beard vegetation association 352 is now below this level within the Esperance plains bioregion, as the application area within these vegetation type is in a completely degraded to degraded (Keighery, 1994) condition, it is not likely to be representative of this vegetation community.

Given the above, the proposed clearing is not likely to be at variance to this principle.

| | (ha) | (ha) | (%) | (%) |
|---|-----------|-----------|-----|-----|
| IBRA Bioregion | | | | |
| Esperance Plain | 2,899,940 | 1,508,057 | 52 | 54 |
| Shire | | | | |
| Shire of Ravensthorpe | 431,370 | 166,839 | 38 | 24 |
| Beard Vegetation Association in Bioregion | | | | |
| 47 (M53) | 959,935 | 340,852 | 35 | 51 |
| 352 (M13) | 22,816 | 6,611 | 28 | 0.3 |
| 516 (M13) | 318,746 | 220,173 | 69 | 41 |

Methodology References:
 Commonwealth of Australia (2001)
 *Government of Western Australia (2013)

GIS Databases:
 - SacBiodataSets - accessed October 2013
 - NLWRA current extent of native 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 at variance to this Principle

A minor non-perennial watercourse has been mapped within each application area. Given this, the application is at variance to this clearing principle.

Given the minor nature of the identified watercourses and their position within the landscape, the environmental impact of clearing vegetation within the watercourses is likely to be minimal.

Methodology GIS Datasets:
 - Hydrography linear
 - Ravensthorpe 1.4m orthomosaic - landgate 2002

(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 local area (10 kilometre radius) surrounding the application area is highly vegetated retaining approximately 80 percent pre-European native vegetation. Given this, the proposed clearing is not likely to cause land degradation in the form of primary or secondary salinity.

Given the limited amount of clearing within M53, along predominantly pre-disturbed exploration lines, this portion of the application area is not likely to lead to appreciable wind or water erosion.

The majority of the application area within M13 has historically been cleared for agriculture and is in a degraded to completely degraded (Keighery, 1994) condition. Given this the application is not likely to lead to an appreciable increase in wind or water erosion.

Given this, the application is not likely to be at variance to this principle.

Methodology GIS Datasets:
 - Ravensthorpe 1.4m orthomosaic - landgate 2002
 - Hydrography linear
 - Topographic contours

(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 falls greater than three kilometres from either application area. Given this the proposed clearing is not likely to increase the spread of weeds and dieback into nature reserves.

The local area (10 kilometre radius) surrounding the application area is highly vegetated retaining approximately 80 percent pre-European native vegetation. Given the extent of native vegetation in the local area, the vegetation under application is not likely to effect the dispersal of indigenous fauna and flora between local nature reserves.

Given the above, the application is not likely to be at variance to this principle.

Methodology GIS Datasets:
- NLWRA Current extent of native vegetation
- 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

The local area (10 kilometre radius) surrounding the application area is highly vegetated retaining approximately 80 percent pre-European native vegetation. Given this, the proposed clearing is not likely to cause a significant increase in salinisation or eutrophication of underground water.

A minor non-perennial watercourse has been mapped within each application area. Given the minor nature of these watercourses and the limited clearing proposed, clearing the vegetation under application is not likely to cause deterioration in the quality of surface water.

Given the above, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
- Groundwater Salinity Statewide
- Topographic Contours, Statewide
- Hydrography linear

(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 at variance to this Principle

A minor non-perennial watercourse has been mapped within each application area. Given the minor nature of these watercourses and the limited clearing proposed, clearing the vegetation under application is not likely to cause or exacerbate the incidence or intensity of flooding.

Given this, the application is not at variance to this clearing principle.

Methodology GIS Datasets:
- Hydrography linear
- Topographic Contours, Statewide

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

Comments

The original application contained a portion of remnant vegetation which may have supported rare and or priority flora. In a letter dated 14 November 2013 the applicant was notified of these potential issues and has subsequently removed this area from the application.

The applicant has been asked by the landowner to return the portion of the application area within M13 for use as agriculture.

The application area falls within the agricultural region defined by EPA position statement number 2 in which clearing for agricultural purposes is not supported (EPA, 2000). Although the purpose of clearing within M13 is for agriculture, the land has historically been used for this purpose.

No submissions have been received in relation to this application.

No aboriginal sites of significance are mapped within the application area.

A native title notification letter was sent to the native title claimants and representative body for the area. A response was received on 18 November 2013 requesting that a heritage survey be carried out and Aboriginal monitors be present at all times during the proposed works (South West Aboriginal Land and Sea Council, 2013).

Methodology References:
EPA (2000)
South West Aboriginal Land and Sea Council (2013)

4. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and

Land Management, Western Australia.

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DPaW (2007 -) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: <http://naturemap.dec.wa.gov.au/>. Accessed August 2013.
- Government of Western Australia. (2013). 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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.
- Outback Ecology (2013) Information supplied in support of clearing permit application CPS 5763/1, Ravensthorpe, Silver Lakes Resources (DER Ref: A672466).
- 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.
- South West Aboriginal Land and Sea Council (2013), Letter in reply to native title notification for CPS 5763/1. 31 October 2013. (DER Ref: A695787).
- Western Australian Herbarium (1998-) FloraBase - The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed September 2013).