



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5111/2
Permit Holder:	Reward Minerals Limited
Duration of Permit:	14 September 2012 – 14 September 2017

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 access tracks, helipad, laydown, camp site and three borrow pits.

2. Land on which clearing is to be done

Unallocated Crown land, TELFER 6762 (PIN 1011653)

Lot 333 on Deposited Plan 55302, GIBSON DESERT NORTH 0872

Unallocated Crown land, GIBSON DESERT SOUTH 0872 (PIN 1011672)

3. Area of Clearing

The Permit Holder must not clear more than 32.5 hectares of native vegetation within the area hatched yellow on attached Plan 5111/2a and Plan 5111/2b and Plan 5111/2c and Plan 5111/2d and Plan 5111/2e and Plan 5111/2f and Plan 5111/2g and Plan 5111/2h.

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. 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:

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

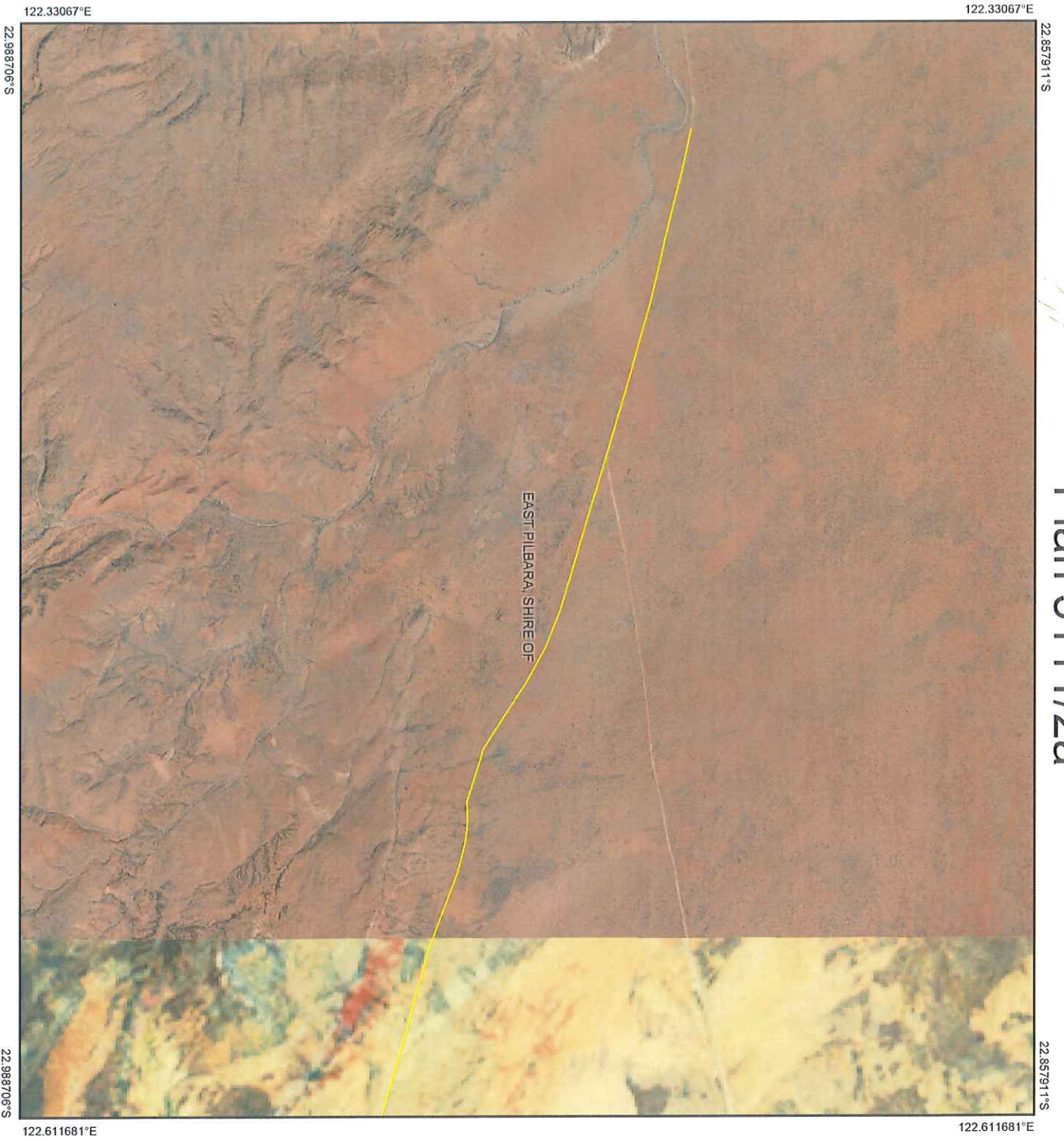
J Clarkson
A/SENIOR MANAGER
CLEARING REGULATION

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




14 January 2016

CPS 5111/2, 14 January 2016

Plan 5111/2a



Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority




1:50,000

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia

 Date 14/1/16

Jane Clarkson

Officer with delegated authority under Section 20 of the
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Plan 5111/2b



Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



0  2km

1:50,000

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia

 Date 14/1/16

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Plan 5111/2c

122.493244°E

22.915731°S

122.774255°E

22.915731°S



122.493244°E

23.038876°S

23.038876°S



Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority




1:50,000

(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia

 Date 14/1/16

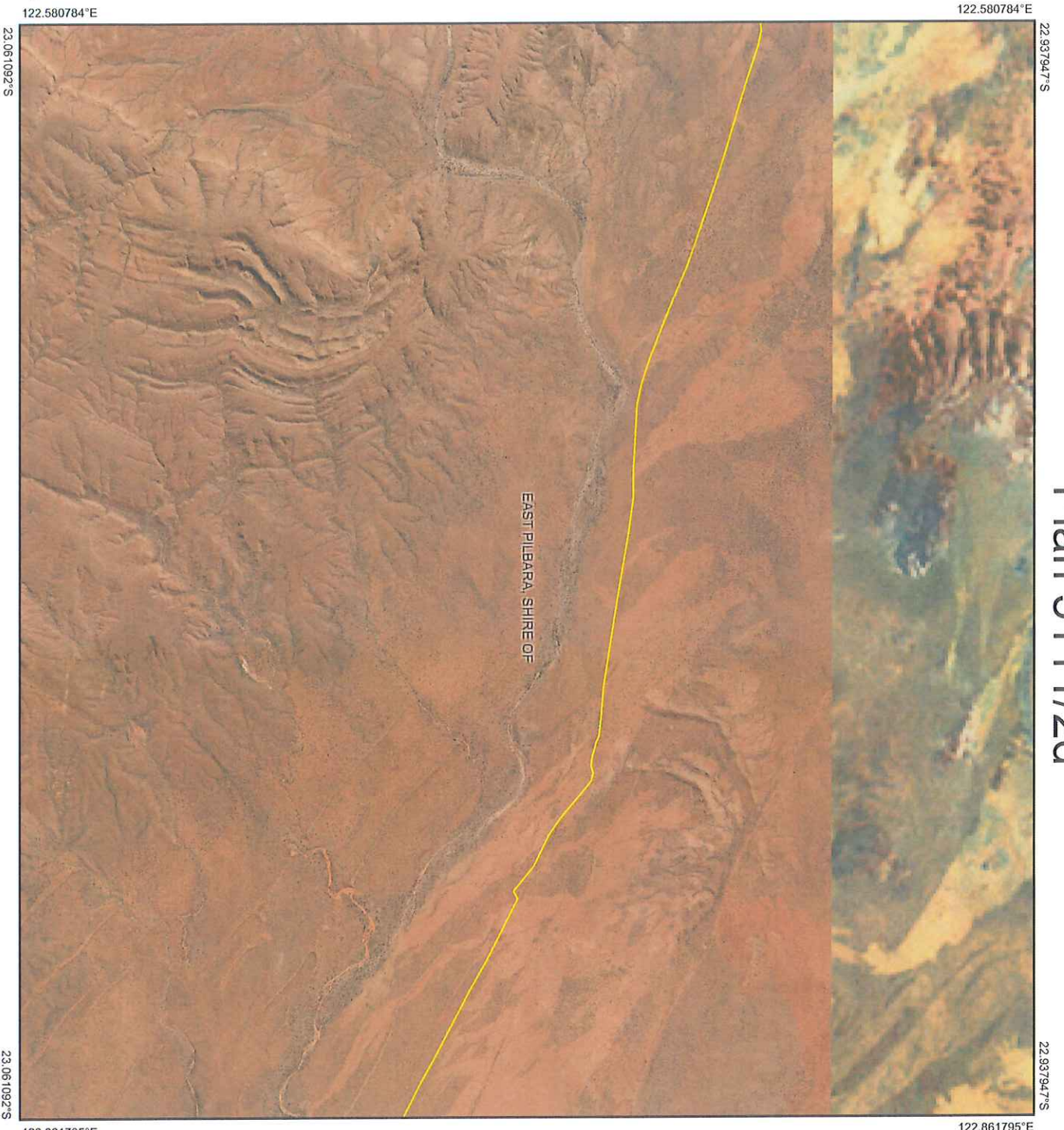
Jane Clarkson

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Environmental Protection Act 1986






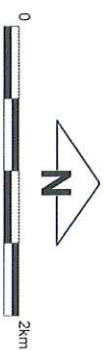
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Plan 5111/2d



Legend

-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



(Approximate when reproduced at A4)

GDA 94 (Lat/Long)
Geocentric Datum of Australia

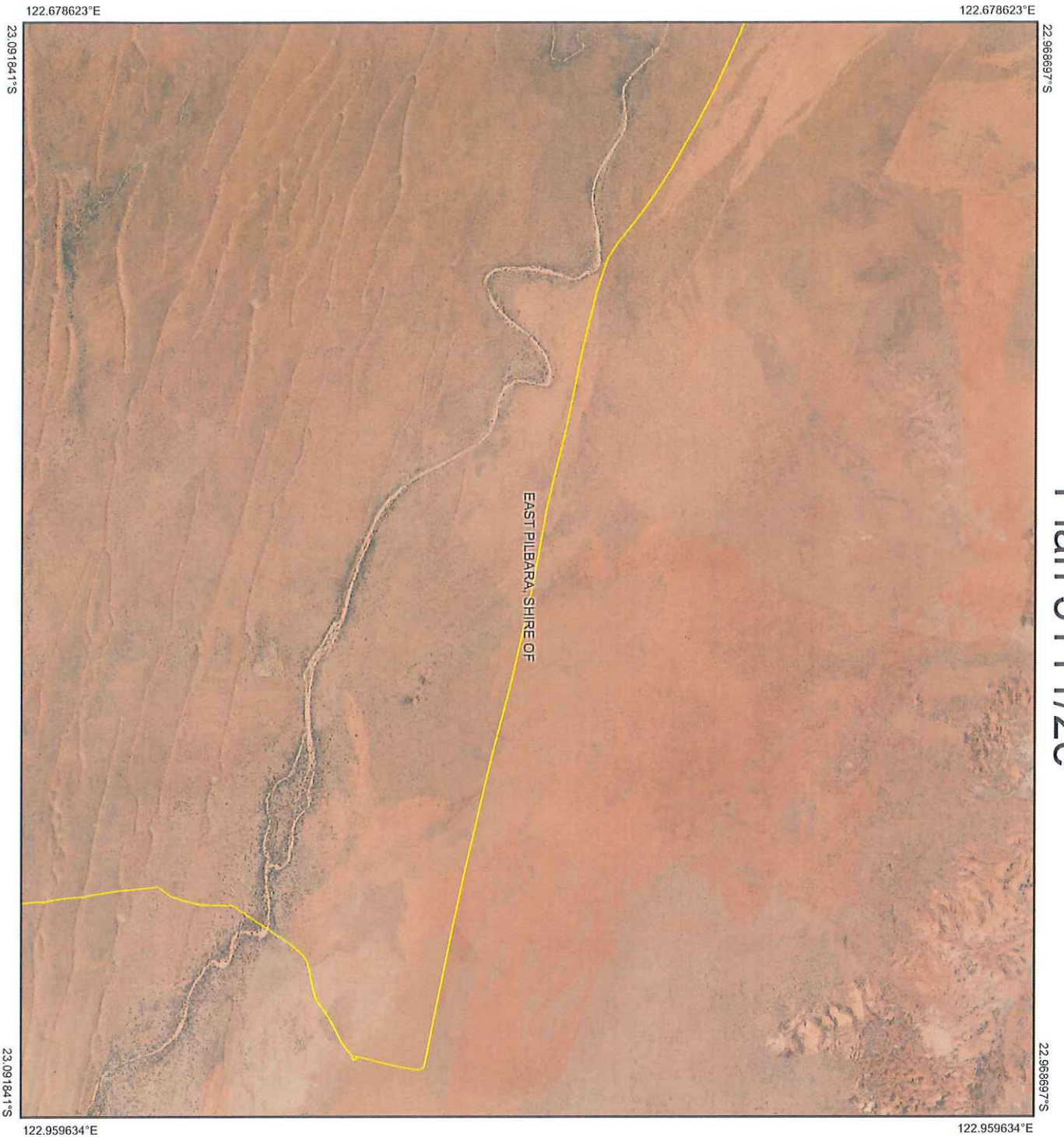
Jane Clarkson
Date *14/1/16*

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






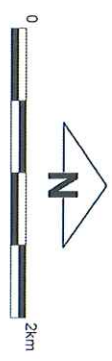
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Plan 5111/2e



Legend


-  Imagery
-  Clearing Instruments Activities
-  Local Government Authority



(Approximate when reproduced at A4)

GDA 94 (Lat/Long)

Geocentric Datum of Australia

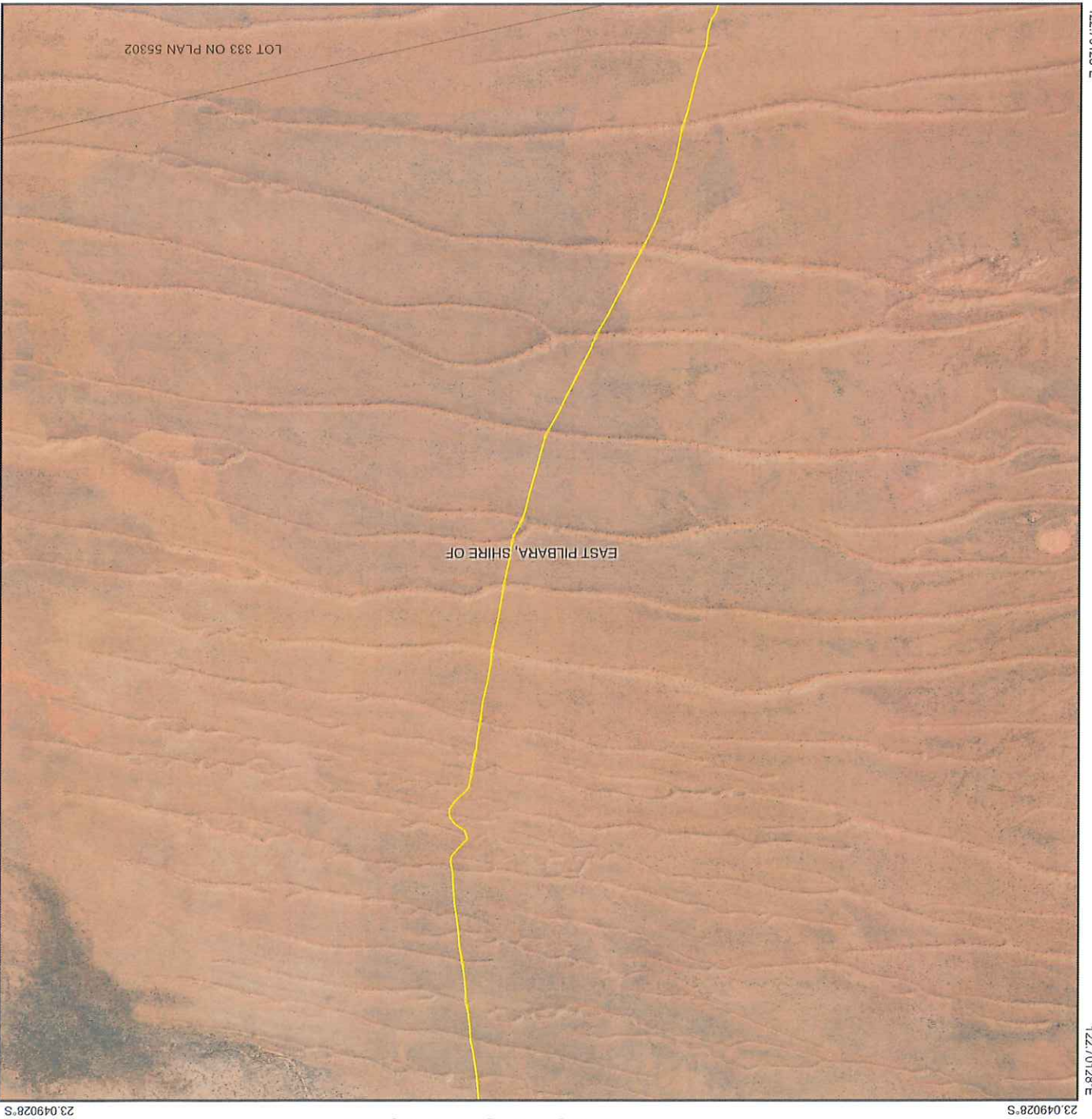
 Date 14/1/16

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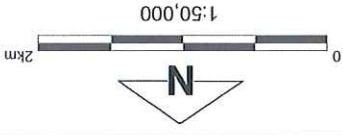
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Plan 5111/2f



Legend

-  Local Government Authority
-  Clearing Instruments Activities
-  Imagery



GDA 94 (Lat/Long)
Geocentric Datum of Australia 1994

Date *19/1/15*

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Jane Clarkson




Date *14/11/16*

Geocentric Datum of Australia 1994

GDA 94 (Lat/Long)
(Approximate when reproduced at A4)

1:50,000



-  Local Government Authority
-  Clearing Instruments Activities
-  Imagery

Legend

23.258241°S 122.683772°E



23.135096°S 122.683772°E

Plan 5111/2g

23.135096°S

122.964783°E

122.964783°E




122.683772°E

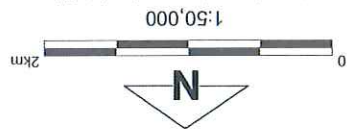
122.683772°E

Plan 5111/2h



Legend

-  Local Government Authority
-  Clearing Instruments Activities
-  Imagery



Geocentric Datum of Australia 1994
Date: *14/1/16*
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1. Application details

1.1. Permit application details

Permit application No.: 5111/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Reward Minerals Ltd

1.3. Property details

Property: UNALLOCATED CROWN LAND (TELFER 6762)
LOT 333 ON DEPOSITED PLAN 55302 (GIBSON DESERT NORTH 0872)
UNALLOCATED CROWN LAND (GIBSON DESERT SOUTH 0872)

Local Government Area: Shire of East Pilbara
Colloquial name: Lake Disappointment Potash Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
32.5		Mechanical Removal	Road construction or maintenance

1.5. Decision on application

Decision on Permit Application: Granted
Decision Date: 14 January 2016
Reasons for Decision: The clearing application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the *Environmental Protection Act 1986*, and has concluded that the proposed clearing is at variance to Principle (f), is not at variance to principles (e) and (h) and is not likely to be at variance to any of the remaining clearing principles.

Through the assessment it was identified that the clearing will impact on 0.09 hectares of riparian vegetation associated with Lake Disappointment. Lake Disappointment is a nationally important wetland (ANCA). The applicant has provided a Conservation Management Plan (CMP) to the Department of Parks and Wildlife (Parks and Wildlife) to manage the environmental impacts. Parks and Wildlife has advised DER that the CMP commitments are appropriate to manage any potential environmental impacts of the proposed activities.

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
Beard vegetation association 125: Bare areas; salt lakes;	The application is to amend Clearing Permit CPS 5111/1 to reflect the actual alignment that has been cleared for the project thus far and to allow the clearing of additional areas for extending the access track to the edge of Lake Disappointment, an additional laydown area and two additional borrow pits to facilitate the next stage of the Lake Disappointment Potash Project.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The description and condition of the vegetation under application was determined through aerial imagery and information provided in annual reports for CPS 5111/1.
Beard vegetation association 158: Hummock grasslands, shrub steppe; kanji over <i>Triodia basedowii</i> ;		To	In October 2012 and April to October 2013 Botanica Consulting undertook a Level 1 and Level 2 flora and vegetation survey of the Lake Disappointment Potash Project area. The following eleven vegetation communities were identified within the application area:
Beard vegetation association 134: Mosaic: Hummock grasslands, open low tree steppe; desert bloodwood and feathertop spinifex on sandhills / Hummock grasslands, shrub steppe; mixed shrubs over spinifex between sandhills;		Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	1. Low scrub of <i>Acacia ligulata</i> / <i>Grevillea juncifolia</i> subsp. <i>juncifolia</i> over mid-dense hummock grass of <i>Triodia basedowii</i>
Beard vegetation association 99: Hummock grasslands, shrub steppe; <i>Acacia coriacea</i> & hakea over hard spinifex, <i>Triodia basedowii</i> (Shepherd et al. 2001)			2. Open low woodland of <i>Corymbia opaca</i> over low scrub of <i>Acacia ligulata</i> / <i>Grevillea juncifolia</i> subsp. <i>juncifolia</i> and mid-dense hummock grass of <i>Triodia basedowii</i> on sand dunes
			3. Scrub of <i>Acacia cuthbertsonii</i> subsp. <i>cuthbertsonii</i> over low scrub of <i>Eremophila latrobei</i> subsp. <i>filiformis</i> and mid-dense hummock grass of <i>Triodia basedowii</i>
			4. Open low woodland of <i>Eucalyptus camaldulensis</i> over low scrub of <i>Acacia</i>

melleodora

5. Open low woodland of *Corymbia aspera*/*Corymbia opaca* over low scrub of *Acacia melleodora* and mid-dense hummock grass of *Triodia basedowii*/*Triodia pungens*

6. Open herbs of *Glossostigma diandrum*, *Lepidium pholidogynum* and *Stylidium desertorum*

7. Heath of *Tecticornia aff. calpytrata*/*Tecticornia halocnemoides*/*Tecticornia ?sp.* Sunshine Lake (K.A. Shepherd et al KS 867) (P3) on salt lake edge

8. Open low woodland of *Acacia aptaneura* over low scrub of *Acacia pachyacra* and mid-dense hummock grass of *Triodia basedowii*

9. Open low woodland of *Corymbia aspera* over low scrub of *Acacia bivenosa*/*Grevillea wickhamii* subsp. *aprica* and mid-dense hummock grass of *Triodia basedowii*

10. Open shrub mallee of *Eucalyptus kingsmillii* subsp. *kingsmillii* over low scrub of *Acacia bivenosa*/*Acacia maitlandii* and mid-dense hummock grass of *Triodia basedowii*

11. Scrub of *Acacia coriacea* over open low scrub of *Acacia melleodora* and dense hummock grass of *Triodia basedowii* (Botanica Consulting 2013)

3. Assessment of application against Clearing Principles

Comments

The permit holder has applied to:

- Alter the alignment of the clearing area to reflect the actual alignment that has been cleared for the widening of Talawana Track, construction of the Willjabu Track, campsite, borrow pit and associated access track;
- Include the purpose of a helipad that has already been cleared within Mining Lease L45/302;
- Extend the clearing area within Mining Lease M45/1227 by approximately 65 metres (0.12 hectares) to the edge of Lake Disappointment;
- Add a new area within Mining Lease M45/1227 for a 0.67 hectare sand borrow pit;
- Add a new area within Mining Lease M45/1227 for a 0.41 hectare calcrete borrow pit; and
- Add a new area within Mining Lease L45/302 at the top of the Willjabu Track for a new 0.14 hectare laydown area.

Annual reports provided by the permit holder indicate that to date 19.76 hectares of clearing has already been conducted under CPS 5111/1. No change to the clearing amount is required as part of this amendment due to the previous clearing works being substantially minimised. The area under application remains at 32.5 hectares.

A review of current environmental information reveals there are records of the following four fauna species of conservation significance in the local area (50 kilometre radius):

- rufous hare-wallaby (*Lagorchestes hirsutus*) (Endangered under the *Wildlife Conservation Act 1950* (WC Act) and Endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act))
- western pebble mound mouse (*Pseudomys chapmani*) (Priority 4)
- northern marsupial mole (*Notoryctes caurinus*) (Priority 4)
- brush-tailed mulgara (*Dasyercus blythi*) (Priority 4)

(Parks and Wildlife 2007-).

Great desert skink (*Liopholis kintorei*) (Vulnerable under WC Act and EPBC Act) and bilby (*Macrotis lagotis*) (Vulnerable under WC Act and EPBC Act) are also reported to occur in the area. Fauna surveys undertaken by the former Department of Environment and Conservation in conjunction with the traditional owners of the land are reported to have recorded the great desert skink, mulgara, marsupial mole and bilby within one to two kilometres of the proposed clearing area.

The rufous hare-wallaby (mala) record is from 1931 and this species is now limited to captive colonies and reintroduced populations (Johnson and Burbidge 2008). Therefore the clearing is unlikely to impact upon this species.

Western pebble mound mouse is found in areas of rocky, hummock grassland with little or no soil and an overstorey of *Acacia* (Ford and Johnson 2007). Animals live in small family groups in burrows below mounds of pebbles. While the clearing area may include suitable habitat for this species, given the relatively small amount

and linearity of the proposed clearing it is unlikely to significantly impact this species.

Great desert skink is a large burrowing lizard and there is a population of unknown size within the Rudal River National Park, which is located eight kilometres north of the northern extent of the clearing area. The great desert skink generally occurs on red sandplains and sand ridges (Cogger et al. 1993). Vegetation usually consists of hummock grassland (*Triodia basedowii*, *Triodia pungens* and *Triodia schinzii*), with some scattered shrubs and occasional trees (e.g. *Acacia* spp., *Eucalyptus* spp., *Hakea* spp., *Grevillea* spp. and *Allocasuarina decaysneana*) (Cogger et al. 1993). The clearing area may represent suitable habitat for this species. A targeted fauna search of the area approved under CPS 5111/1 and surrounding vegetation was conducted in October 2012 and targeted this species (Harewood 2012). The fauna search did not record any evidence of the great desert skink (Harewood 2012), therefore the vegetation proposed to be cleared is unlikely to represent significant habitat for this species.

Bilby occupies three major vegetation types; open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, and hummock grassland in plains and alluvial areas (Southgate 1990). The distribution of bilbies can be limited by the availability of suitable burrowing habitat, such as dunes where burrow excavation is easier (Moseby and O'Donnell 2003). The clearing area may represent suitable habitat for this species. A targeted fauna search of the area approved under CPS 5111/1 and surrounding vegetation was conducted in October 2012 and targeted this species (Harewood 2012). The fauna search did not record any evidence of bilby (Harewood 2012). Given this and considering the bilby's high mobility, large home range and the relatively small amount and linearity of the proposed clearing it is unlikely to significantly impact this species.

The mulgara was recently divided into two species – the crest-tailed mulgara, (*Dasycercus cristicauda*) and the brush-tailed mulgara, (*Dasycercus blythi*). Crest-tailed mulgara has been downgraded from rare or likely to become extinct to Priority 4 under the WC Act and Vulnerable under the EPBC Act and the brush-tailed mulgara is not listed under either WC Act or EPBC Act. Mulgara is a small carnivorous marsupial known from small, scattered populations in the deserts where it inhabits arid sandy regions that support spinifex grasslands (Parks and Wildlife no date). Mulgara maintains complicated, extensive burrows with multiple entrances (Woolley 1990). The clearing area may represent suitable habitat for this species. A targeted fauna search of the area approved under CPS 5111/1 and surrounding vegetation was conducted in October 2012 and targeted this species (Harewood 2012). The fauna search did not record any evidence of mulgara (Harewood 2012), therefore the vegetation proposed to be cleared is unlikely to represent significant habitat for this species.

Northern marsupial mole has been downgraded from rare or likely to become extinct to Priority 4, under the WC Act and is not listed under EPBC Act. This species inhabits sand dunes and adjacent swales of suitable deep, loose sand. Marsupial moles are most often recorded from dune habitats supporting various acacias and other shrubs, often in association with spinifex (Benshemesh 2004). Marsupial moles are not capable of travelling far across hard ground and continuity of suitable habitat is also likely to be important for the occurrence of marsupial moles in an area (Benshemesh 2004). Marsupial moles tunnel through the sand, usually within 20 to 100 centimetres of the surface, back-filling as they move along (Benshemesh 2004). After a marsupial mole has passed through the ground the sand-filled tunnels remain and are visible in cross-section (Benshemesh 2004). These underground tunnels appear common in suitable dune habitat, although the age of these tunnels vary and many may be several years old (Benshemesh 2004). The clearing area represents suitable habitat for this species. A targeted fauna search of the area approved under CPS 5111/1 and surrounding vegetation was conducted in October 2012 and targeted this species (Harewood 2012). The fauna search did not record the presence of any individual marsupial moles, however did identify evidence of their tunnels, of various ages, and in all three trenches surveyed (Harewood 2012). Harewood (2012) reported that, as the tunnels persist in the sand profile for many years, they may not be indicative of recent activity at that specific location and that surveys in the wider area suggest the marsupial mole is widespread and more common in areas of suitable habitat than previous records suggest. Given the relatively small amount and linearity of the proposed clearing, it is unlikely to significantly impact this species.

Given the above, the vegetation proposed to be cleared is unlikely to be significant habitat for native fauna and the proposed clearing is not likely to be at variance to Principle (a) and (b).

Through the assessment it was identified that the clearing will impact on 0.09 hectares of riparian vegetation associated with Lake Disappointment. Lake Disappointment (also referred to as the Savoury Creek system) is an ANCA wetland and recognised as a nationally important wetland in Western Australia (Environment Australia, 2001). In addition, several minor perennial watercourses have been mapped as intersecting with the clearing area. Considering that the application intersects Lake Disappointment, the clearing as proposed is likely to impact on vegetation that is associated with this wetland. Therefore the application is at variance to this principle.

The applicant has provided a Conservation Management Plan (CMP) to the Department of Parks and Wildlife (Parks and Wildlife) to manage the environmental impacts. Parks and Wildlife has advised DER that the CMP commitments are appropriate to manage any potential environmental impacts of the proposed activities.

A review of additional current environmental information reveals no new information. Therefore the reviewed assessment identified that the proposed clearing is at variance to Principle (f), is not at variance to principles (e) and (h) and is not likely to be at variance to any of the remaining clearing principles.

Methodology References:
Benshemesh (2004)
Cogger et al. (1993)
Ford and Johnson (2007)
Harewood (2012)
Johnson and Burbidge (2008)
Moseby and O'Donell (2003)
Parks and Wildlife (2007-)
Parks and Wildlife (no date)
Woolley (1990)

GIS Databases:
- SAC Bio Datasets December 2015

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

The permit holder has applied to:

- Alter the alignment of the clearing area to reflect the actual alignment that has been cleared for the widening of Talawana Track, construction of the Willjabu Track, campsite, borrow pit and associated access track;
- Include the purpose of a helipad that has already been cleared within Mining Lease L45/302;
- Extend the clearing area within Mining Lease M45/1227 by approximately 65 metres (0.12 hectares) to the edge of Lake Disappointment;
- Add a new area within Mining Lease M45/1227 for a 0.67 hectare sand borrow pit;
- Add a new area within Mining Lease M45/1227 for a 0.41 hectare calcrete borrow pit; and
- Add a new area within Mining Lease L45/302 at the top of the Willjabu Track for a new 0.14 hectare laydown area.

The clearing along the Talawana Track has been completed and the permit holder has advised no further clearing is required in this area.

The clearing area is within the Martu People's native title determination area. The Martu Native Title Holders' prescribed body corporate, the Western Desert Lands and Aboriginal Corporation (WDLAC) advised it has entered into an Indigenous Land Use Agreement (ILUA) with Reward Minerals Ltd for the Lake Disappointment Project (WDLAC 2015). The ILUA was registered with the National Native Title Tribunal in 2012 and includes and covers the areas for CPS 5111/1 and CPS 5111/2 (WDLAC 2015). WDLAC (2105) confirmed that heritage clearances have been undertaken and approved by Martu representatives for the areas of CPS 5111/1 and CPS 5111/2. These heritage clearances approved the broader area cleared outside of the area approved to be cleared under CPS 5111/1 (WDLAC 2015).

Application area falls within the Canning-Kimberley Groundwater Area covered by the *Rights in Water and Irrigation Act 1914*. The applicant holds current licences to take water from the Department of Water.

No submissions from the public have been received.

Administrative changes to the permit conditions have been made to bring the conditions in line with current Department of Environment Regulation practice.

A targeted fauna survey was undertaken by the permit holder as required under Condition 8 of Clearing Permit CPS 5111/1. No evidence of active burrows containing the conservation significant fauna species listed above were identified.

Methodology References:
WDLAC (2015).

GIS Databases:
- Native Title Claims
- RIWI Act, Groundwater areas

4. References

Benshemesh, J. (2004) Recovery Plan for Marsupial Moles *Notoryctes typhlops* and *N. caurinus*. 2005-2010. Northern Territory Department of Infrastructure, Planning and Environment, Alice Springs.

Botanica Consulting (2013) Annual report submitted for CPS 5111/1, Lake Disappointment Potash Project. November 2013.
Botanica Consulting. DER Ref: A1000848

Cogger, H.G., E.E. Cameron, R.A. Sadler & P. Egger (1993) The Action Plan for Australian Reptiles. [Online]. Canberra, ACT: Australian Nature Conservation Agency. Available from: <http://www.environment.gov.au/biodiversity/threatened/action/reptiles/index.html>.

Ford, F. and Johnson, C. (2007) Eroding abodes and vanished bridges: historical biogeography of the substrate specialist pebble-mound mice (*Pseudomys*). *Journal of Biogeography* 34: 514-523.

Harewood, G. (2012) Targeted fauna survey - Proposed access track, camp site and borrow pit, Lake Disappointment Potash Project, Reward Minerals Ltd. December 2012. DER Ref: A605200

Johnson, K.A. & A.A. Burbidge (2008) Rufous Hare-wallaby *Lagorchestes hirsutus* Gould, 1844. In: Van Dyck, S. & R. Strahan, eds. *The Mammals of Australia - Third Edition*. Reed New Holland.

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Moseby, K.E & E. O'Donnell (2003). Reintroduction of the greater bilby, *Macrotis lagotis* (Reid) (Marsupialia: Thylacomyidae), to northern South Australia: survival, ecology and notes on reintroduction protocols. *Wildlife Research*. 30:15-27.

Parks and Wildlife (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. URL: <http://naturemap.dpaw.wa.gov.au/>. Accessed 22 December 2015

Parks and Wildlife (no date) Fauna profile, Mulgara (*Dasyercus* sp.). Department of Parks and Wildlife, Western Australia. Available on the Internet at http://www.dpaw.wa.gov.au/images/documents/plants-animals/animals/animal_profiles/mulgara.pdf

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.

Southgate, R.I. (1990) Habitats and diet of the greater bilby *Macrotis lagotis* Reid (Marsupialia: Peramelidae). In: Seebeck, J.H., P.R. Brown, R.L. Wallis & C.M. Kemper, eds. *Bandicoots and Bilbies*. Page(s) 303-309. Surrey Beatty & Sons: Chipping Norton, NSW.

WDLAC (2015) Native title notification response for Clearing Permit Application CPS 5111/2. Email received 17 December 2015. Western Desert Lands and Aboriginal Corporation. DER Ref: A1023177

Woolley, P.A. (1990). Mulgaras, *Dasyercus cristicauda* (Marsupialia: Dasyuridae): their burrows and records of attempts to collect live animals between 1966 and 1979. *Australian Mammalogy*. 13:65-70.