

Targeted Fauna Survey

Proposed Access Track, Camp Site and Borrow Pit

Lake Disappointment

Potash Project

Reward Minerals Ltd

DECEMBER 2012
Version 2

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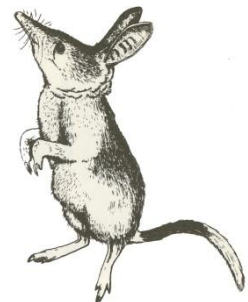


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The conclusions are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of preparing the report. Also it should be recognised that site conditions, can change with time.

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1. INTRODUCTION

The following report details the results of a targeted fauna survey of proposed clearing areas associated with Reward Minerals Ltd (Reward) Lake Disappointment Potash Project. Reward have been granted approval by the Department of Environment and Conservation (DEC) to clear up to 32.5 hectares of native vegetation within the approved areas as detailed in Permit 5111/1 Plans a-k.

The clearing is required for the construction of a 28km access track from the Talawana Track to Lake Disappointment, the upgrade of 48km of the existing Talawana Track from the Pargurr turnoff to the new access track turn off, the installation of an exploration base camp and a small borrow pit (Figure 1). It is understood that the width of clearing required to construct/upgrade the access track is a maximum of 5m.

2. SCOPE OF WORKS

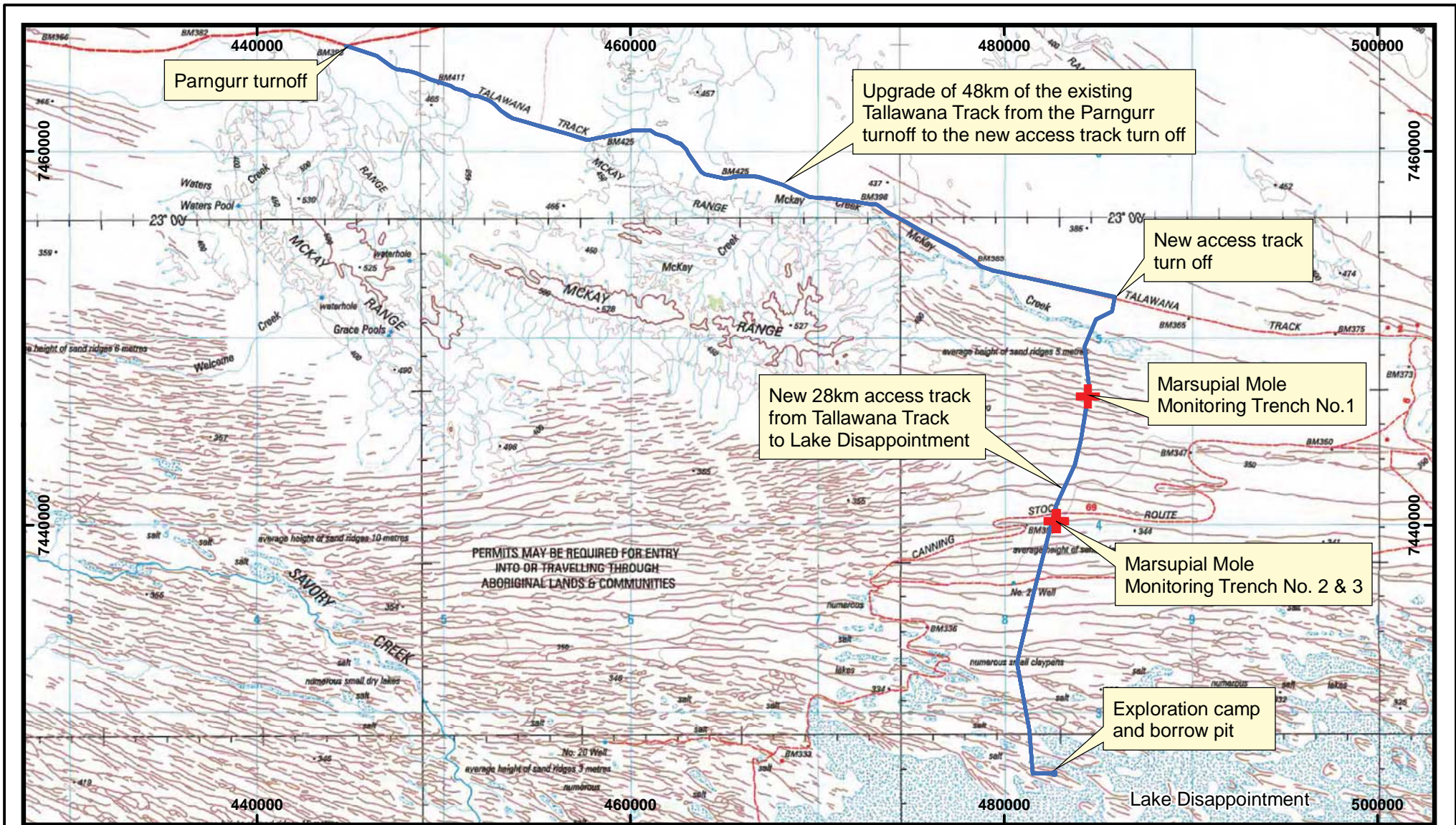
The scope of works is to carry out survey work to ensure compliance with conditions 5 (a), (b) and (c) of Clearing Permit Number 5111/1 issued to Reward Minerals Ltd by the DEC. The conditions state:

Condition 5 Fauna Management:

- (a) Prior to undertaking any clearing authorised under this permit, the Permit holder shall engage a *fauna specialist* to identify habitat suitable for:
- (i) Giant Desert Skink (*Liopholis kintorei*)
 - (ii) Mulgara (*Dasycercus cristicauda*)
 - (iii) Marsupial Mole (*Notoryctes caurinus*)
 - (iv) Bilby (*Macrotis lagotis*)
- (b) Prior to undertaking any clearing within 50 metres of fauna burrows identified in Condition 8(a) of this Permit, the areas shall be inspected by a fauna specialist for the presence of Giant Desert Skink (*Liopholis kintorei*), Mulgara (*Dasycercus cristicauda*), Marsupial Mole (*Notoryctes caurinus*) and Bilby (*Macrotis lagotis*).
- (c) Where fauna habitat is identified in relation to Condition 8(b) of this Permit, the Permit Holder shall ensure that no clearing occurs within 50 metres of the identified fauna burrows, unless approved by the CEO.

3. METHODS

The aim of the survey was to establish if any of the target species were present within or near the proposed clearing area by way of searching for each species characteristic burrows and other definitive signs of presence such as tunnels, diggings, tracks or scats.



Pargurr turnoff

Upgrade of 48km of the existing Talawana Track from the Pargurr turnoff to the new access track turn off

New access track turn off

New 28km access track from Talawana Track to Lake Disappointment

Marsupial Mole Monitoring Trench No. 1

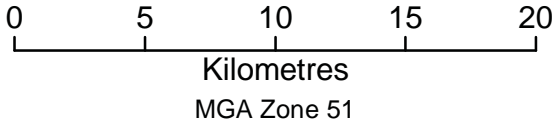
Marsupial Mole Monitoring Trench No. 2 & 3

Exploration camp and borrow pit

PERMITS MAY BE REQUIRED FOR ENTRY INTO OR TRAVELLING THROUGH ABORIGINAL LANDS & COMMUNITIES

Legend

- DEC Clearing Permit Area (CPS 5111/1)
- Marsupial Mole Monitoring Trench



DRAWN: G Harewood
 DATE : Dec 2012
 SCALE: 1:290,000

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Study Area

For the purpose of this assessment the entire proposed clearing area was considered to represent potential habitat for one or more of the targeted fauna species and therefore its entire length was surveyed at least once by way of a series of transects either on foot and/or on slow moving four wheel motorcycles.

The search for burrows, tracks, scats, diggings and other signs was in most instances carried out by a team of three four wheel motorcycles simultaneously following parallel transects along the proposed clearing area about ten to twenty five metres apart (depending on ground vegetation density) as guided by the central survey team who followed the proposed clearing centreline as displayed on a handheld GPS.

When any member survey team located evidence of fauna activity of interest it was examined by the supervising zoologist and a determination of its most likely origin made based on published accounts and the zoologists own experience with respect to the fauna species in question.

The proposed clearing areas from the Talawana Track south to Lake Disappointment were examined twice in this fashion (once in one direction and once on the return trip) while the upgrade of the existing Talawana Track from the Parngurr turnoff to the new access track turn off was examined once (from west to east). The combined total of all transects with the defined clearing area totalled about 340 km.

Marsupial moles do not construct burrows in the same fashion as the other targeted species but tunnel through lightly cemented sand and backfill as they go. Previous studies suggest they spend most of their time 20 to 60 centimetres beneath the surface and prefer dune crests and slopes (Van Dyck & Strahan 2008).

Evidence of marsupial moles utilising the clearing area was therefore searched for by way of digging a total of three trenches in two sand dunes within or near the proposed clearing area and followed procedures detailed by Benshemesh (2005). The location of trenches are shown in Figure 1, with coordinates provided below:

- Dune 1: Trench 1: 484483 mE, 7446909 mN (MGA Zone 51)
- Dune 2: Trench 2: 482761 mE, 7440232 mN (MGA Zone 51)
- Dune 2: Trench 3: 482829 mE, 7440229 mN (MGA Zone 51)

The trenches were located within the middle of the north facing slope of the dune in each instance. Trenches were excavated to be at least 100 cm long by 80cm deep and 30-40cm wide. The long axis of each trench was aligned east-west to maximise sunshine on the north face of the trench wall. The north facing trench wall was then inspected for marsupial mole tunnels after carefully rubbing the face of the trench to present a flat and smooth surface. Trenches were backfilled once the assessment was completed.

Survey work was carried out on the 16th to the 19th October 2012.

4. PERSONNEL

The following personnel were involved in the field survey work:

- Greg Harewood – Supervising Zoologist.
- Jim Williams – Environmental Consultant/Botanist.
- Andrew Shearer – Field Assistant.
- Arthur Simpson – Traditional Land Owner (Martu People).
- Butler (Landy) Simpson - Traditional Land Owner – (Martu People).

5. LIMITATIONS

The conclusions presented are based upon field data and the environmental monitoring and/or testing carried out over a limited period of time and are therefore merely indicative of the environmental condition of the site at the time of the field assessments. It should also be recognised that site conditions (including the presence and absence of certain fauna species) can change with time. No seasonal sampling has been carried out as part of this fauna assessment.

6. RESULTS

With respect to the Giant Desert Skink (*Liopholis kintorei*), Mulgara (*Dasyercus cristicauda*) and Bilby (*Macrotis lagotis*) no evidence of any of these species within the areas examined was located during the survey period. All burrows observed were attributed to other fauna species such as small skinks, dragons or varanids as based on their entrance size/shape/configuration or in some cases the sighting of the occupying animal and/or associated tracks.

Evidence of Marsupial Mole (*Notmyctes caurinus*) tunnels of various ages were found in all three of the trenches dug and confirms that dunes within the study area are in use by this species.

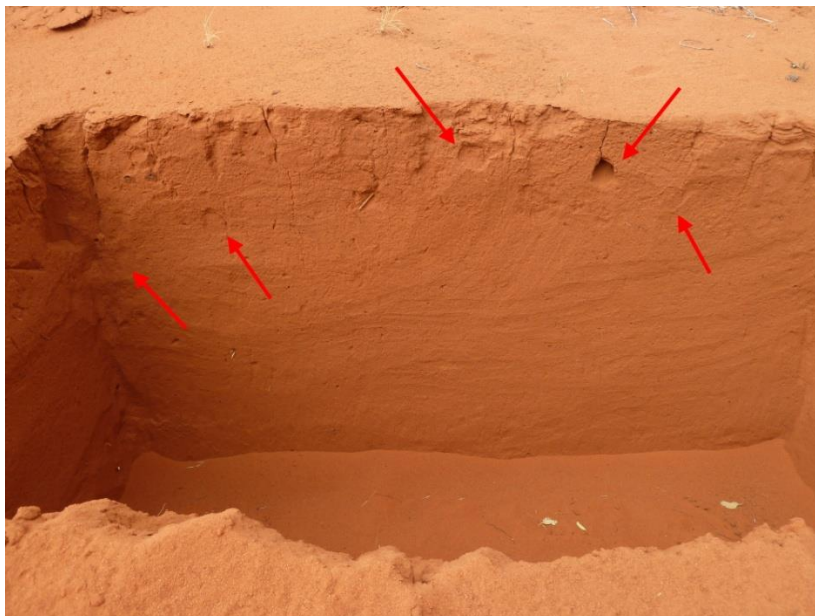


Plate 1: Trench 2 showing Marsupial Mole tunnels.

7. CONCLUSION

Given that no “burrows” (permanent or semi-permanent underground refuges) of any of the target species were located during the survey period re-positioning of proposed clearing areas so as to comply with Condition 8(c) is not considered warranted.

Evidence of Marsupial Moles being present in the area was found in the form of several backfilled tunnels (“moleholes”) in trenches dug at two locations. Based on previous surveys in the area (Benshemesh & Mann 2009) it is considered likely that most if not all of the sand dunes in the area are also in use to some degree by Marsupial Moles.

It is however understood that it is not the intent of the Condition 8(c) that areas containing moleholes should be avoided as the evidence found are not “burrows” in the sense that they do not represent permanent or semi-permanent underground refuges but are simply locations where marsupial moles have been (i.e. analogous to tracks of above ground animals). Also, moleholes persist in the sand profile for at least several years and thus accumulate over periods of many years and perhaps many decades (Benshemesh 2009) and therefore may not be indicative of any recent mole activity at that specific location. There is also no evidence to suggest that tunnels are re-used (Van Dyck & Strahan 2008).

It is therefore considered unlikely that any significant impact on the status of Marsupial Moles will occur as a consequence of the proposed clearing given its narrow linear footprint and therefore limited extent of impact at any one location.

Surveys in the wider area also suggest that marsupial moles are widespread and more common in areas of suitable habitat than previous records suggest (Benshemesh & Mann 2009). Benshemesh & Mann found underground signs of marsupial moles were common as indicated by the fact that they recorded at least some moleholes at all but two of their 26 trench sites. Molehole abundance was high and suggested that an average of about 80 km of recognisable moleholes per hectare occurs on the crests and slopes of the dunefields examined (Benshemesh & Mann 2009).

8. BIBLIOGRAPHY

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