TNG LIMITED

ENIGMA MINING LTD

MOUNT PEAKE PROJECT

ANNUAL REPORT

13/03/17 to 12/03/18

EL 30483

Tenement/s	EL 30483	**1:250 000 Sheet Name**	Barrow Creek (SF5306)
Holder	Enigma Mining Ltd	**1:100 000 Sheet Name**	Home of Bullion (5754)
Manager	N/A	**Datum**	GDA94-52
Operator	Enigma Mining Ltd		
Commodity	Base metals, Sn, W, Au		
Elements Analysed	N/A		
Keywords	Haul road, rail siding, environmental survey, biodiversity, Greater Bilby, Greater Desert Skink, Brush-tailed Mulgara		
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Report Date	May 2018		

Distribution	TNG Limited	(1)
	Department of Primary Industry and Resources	(1)

Executive Summary

Exploration Licence 30483 was granted to Enigma Mining Limited (Enigma) on the 13/03/2015. Enigma is a wholly owned subsidiary of TNG Ltd. The licence forms part of TNG's Mount Peake Project together with EL 27069, EL 27070, EL 27941, EL 29578 and EL 31389, along with ELR 29627 and MLA 28341, MLA 29855, MLA 29856 and MLA 30686. It is not part of the group reporting or expenditure project area due to its distance from the other licences.

The licence is located at the termination of the planned haul road and the rail siding facility for the proposed Mount Peake minesite.

Following submission of the Supplement to the EIS submitted in early 2017, the NTEPA determined that further work was required with particular focus on areas that had not been adequately surveyed for Greater Bilby, Great Desert Skink and Brush-tailed Mulgara.

Biodiversity study transects were completed across the Mount Peake project area including six within EL 30483. No sightings of the relevant species were encountered during the study, however the area within EL 30483 is considered appropriate habitat for the Great Bilby.

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1. INTRODUCTION

Exploration Licence 30483 was granted to Enigma Mining Limited (Enigma) on 13/03/2015. Enigma is a wholly owned subsidiary of TNG Ltd. The licence forms part of TNG's Mount Peake Project together with EL 27069, EL 27070, EL 27941, EL 29578 and EL 31389 along with ELR 29627 and MLA 28341, MLA 29855, MLA 29856 and MLA 30686 (Figure 1). It is not part of the group reporting or expenditure project area due to its distance from the other licences.

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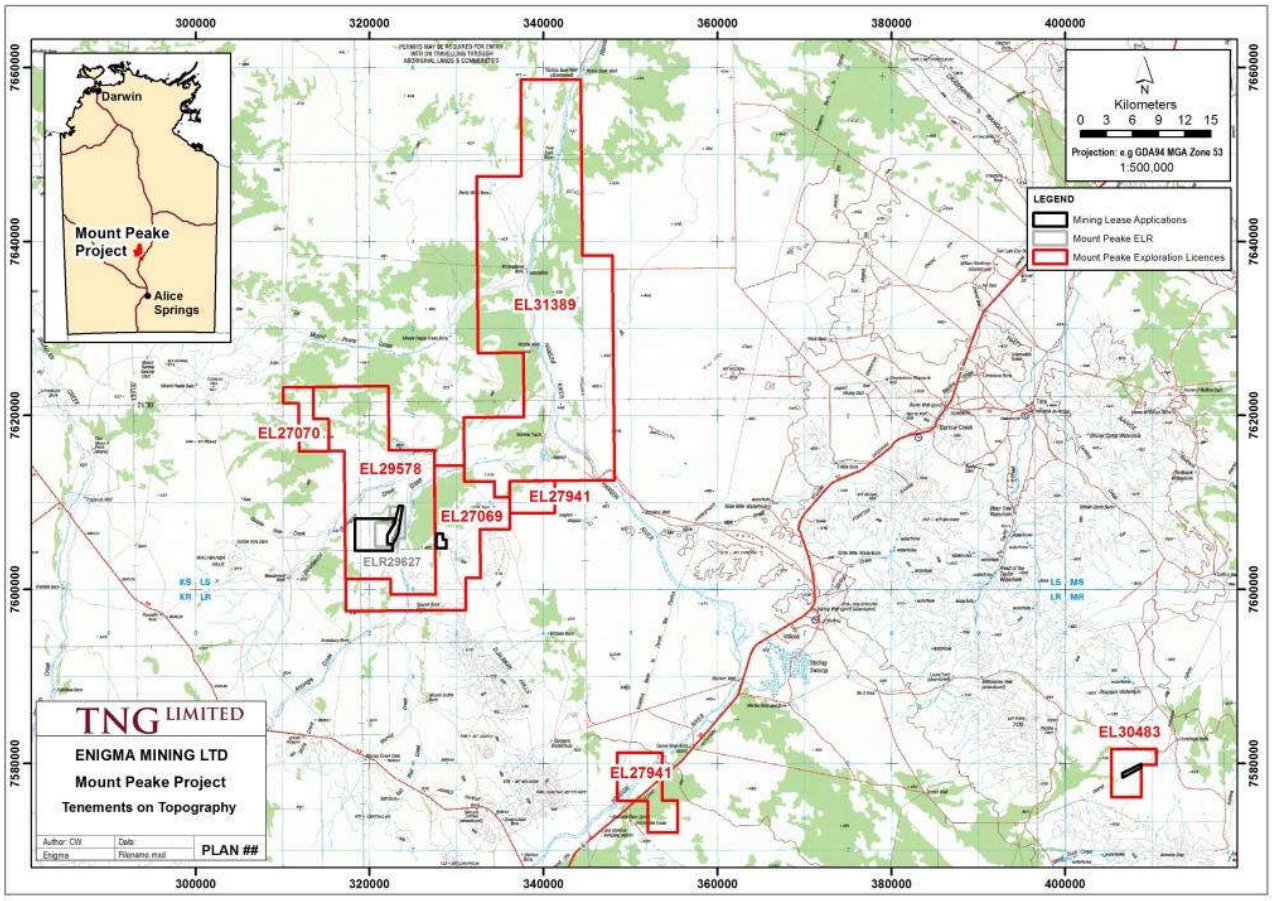

Figure 1: Location of Mount Peake project area and EL 30483.

2. LOCATION AND ACCESS

EL 30483, part of the Mount Peake project, is located approximately 200km north of Alice Springs. It covers the south-western portion of the Barrow Creek (SF53-06), 1:250,000 mapsheet and lies within the Stirling Perpetual Pastoral Lease. The licence is accessed from the Stuart Highway and then well maintained station tracks from the turnoff at Camel Soak Bore and past Tinfish Well. The Darwin to Adelaide railway runs through the licence area.

3. TENURE

Exploration Licence 30483 is part of the Mount Peake Project. It was granted to Enigma Mining Limited (Enigma), a wholly owned subsidiary of TNG Ltd on 13/03/2015. Licence details are shown in Table 1.

Table 1: EL 30483 tenement details.

TITLE	PROJECT	AREA (blocks)	GRANT DATE	EXPIRY DATE
EL 30483	Mount Peake	7	13/03/2015	12/03/2021

4. REGIONAL GEOLOGY

The Mount Peake project area lies within the Aileron Province (1860-1700Ma), which is defined as the Palaeoproterozoic crust in the Arunta Region that formed as part of the North Australian Craton (Scrimgeour, 2013). Neoproterozoic to Paleozoic rocks of the western edge of the Georgina Basin also occur in the area. The licence lies in the southern central portion of the BARROW CREEK (SF53-06) mapsheet (Figure 2 and 3).

The Aileron Province includes at least five depositional packages that were deposited in the interval 1860-1740Ma (Scrimgeour, 2003), and has been affected by multiple tectonic events (Scrimgeour, 2006). The outcropping Paleoproterozoic geology in the area includes a succession of metapsammitic and metapelitic rocks of the Lander Rock Formation (Plr), which have been variably metamorphosed from greenschist to granulite facies (Donnellan, 2008). Stratiform amphibolites and retrogressed amphibolites outcrop locally. The Lander Rock Formation is intruded by a series of early (ca 1820-1770Ma) and late (post-1770Ma) granites. The dominant tectonic and thermal event affecting the regions was the Stafford Event at 1805-1790Ma.

The Georgina Basin is a widespread Neoproterozoic to Paleozoic intracratonic basin that was initiated as part of the Centralian Superbasin (Donnellan, 2008). The dominant lithologies are dolostone, limestone, shales, sandstone and siltstone. These rocks unconformably overlie rocks of the Aileron Province in southeastern of the project area.

The licence area is almost fully covered by Quaternary alluvium, red earth soils and colluvium, with minimal outcrops of calcrete and probable Ledan Schist. Major faults associated with the Stirling and Ooralingie faults trend west-northwest through the licence.

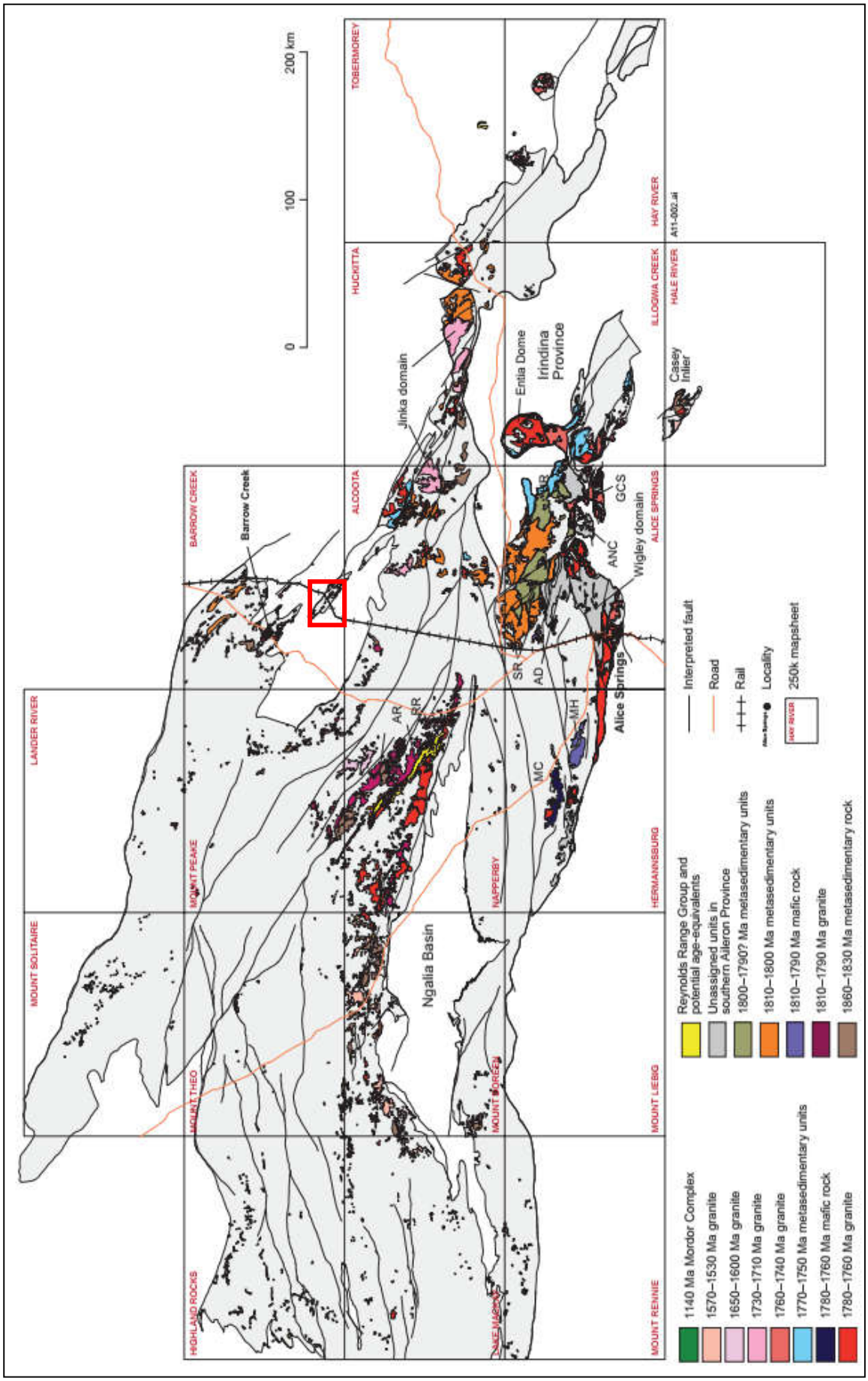

Figure 2: Regional geological setting of the Mount Peake project area. Location of EL 30483 indicated by the red square (Figure from Scrimgeour, 2013)

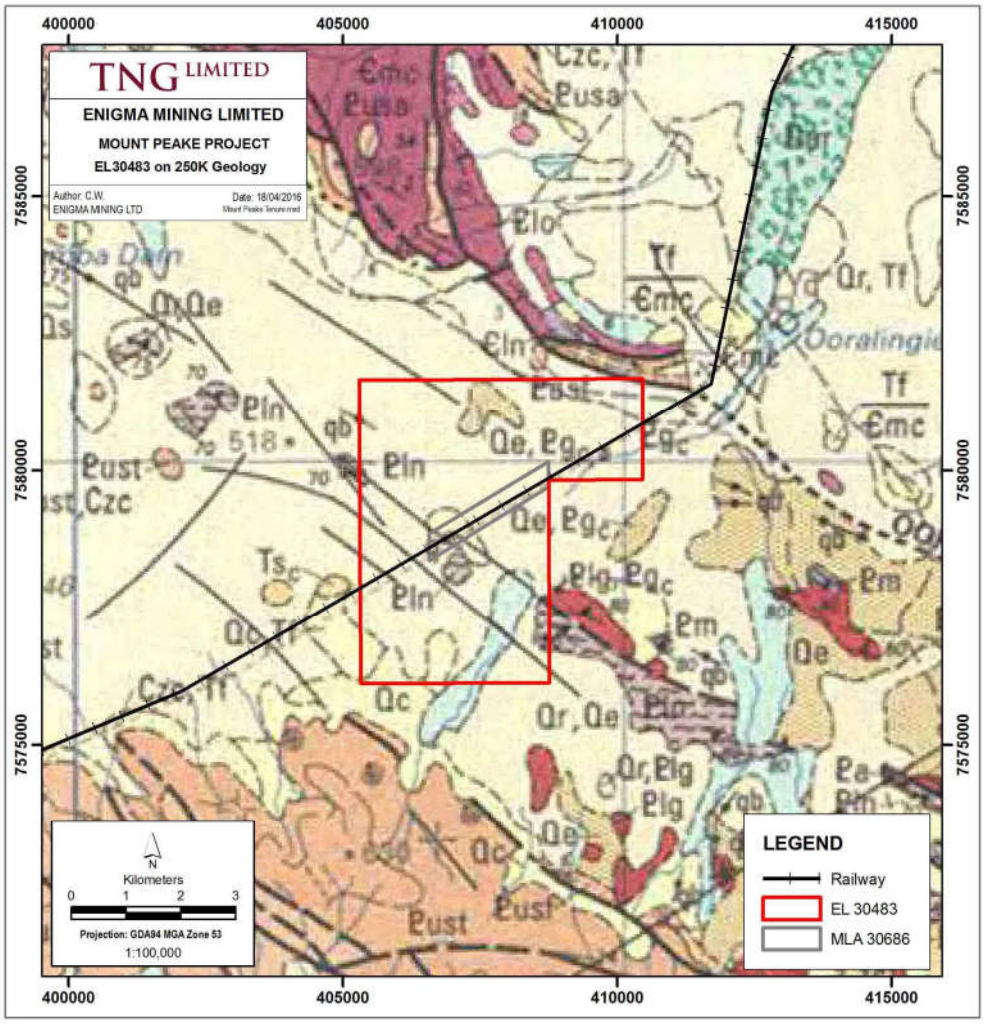

Figure 3: EL30483 on 250K BARROW CREEK (SF5306) Geology.

5. PREVIOUS EXPLORATION

Various companies have explored the area covered by EL 30483 back to the mid-1960's. Exploration has been conducted for base metals, uranium, tungsten, tin and diamonds (Figure 4). The majority of work has taken place to the northwest and southeast of the licence area. A detailed outline of exploration in the region is given in Menzies, 1994.

CRA Exploration undertook work across the area during the early 1980's (EL 1878 Millionaires Well; Fraser, 1980). An extensive helicopter assisted geochemical drainage programme was undertaken across the region. 83 samples were collected and each was analysed for Pb, Zn, Cu, Co, Cr, A, Au, U, Sn and W. Several isolated tungsten anomalies were reported but from the three samples within EL 30483 (Figure 4) no anomalous results were returned (Fraser, 1980).

CRA also conducted additional exploration across two large licence areas (EL 8016 Mount Gwynne and EL 8017 Mollie Bluff) from Mount Gwynne near the Stuart highway in the north through to Kunoth Knob, just near the Sandover Highway to the south (Menzies, 1994).

Additional analysis was undertaken on fractions of the gravel samples collected during the 1980 drainage sampling programme. Sample 212265 recorded a single chromite, but the two upstream samples 212262 and 212263 were negative and no further work was undertaken in the area (Menzies and Louwrens, 1995).

In the late 1990's Normandy/North Flinders Mines conducted exploration over an area (EL 9219) extending NW-SE covering EL 30483. An extensive vacuum drilling programme of 341 holes for 1908m was completed in Year Two of tenure (West, 1997). Composite samples from the bottom three metres of each hole were sampled for Au. Eighteen holes fall within the EL 30483 boundaries however all results returned 0ppb Au.

A 36 hole RAB/Aircore drilling programme was completed in 1998 in order to develop an understanding of the regolith, bedrock geology and baseline geochemistry in the area (Smith and Adrichem, 1998). The programme was conducted over three regions in the northern, central and southern parts of the licence. Holes WPRB0016-0026 fall within EL 9219 (Figure 4). No significant results were returned (Smith, 1999).

A comprehensive rock chip sampling programme (76 samples) was completed in conjunction with the above mentioned RAB drilling. Sampling was generally confined to the Ledan Schist, orthogneiss, amphibolite and associated veins (Smith and Adrichem, 1998). Of the six samples taken within EL 30483 one returned a result of 16ppb. There was no followup of this result.

After comprehensive surface sampling and shallow drilling programmes returned little in the way of significant results Normandy NFM surrendered the licence in October 2000 (Harrison and Walter, 2000).

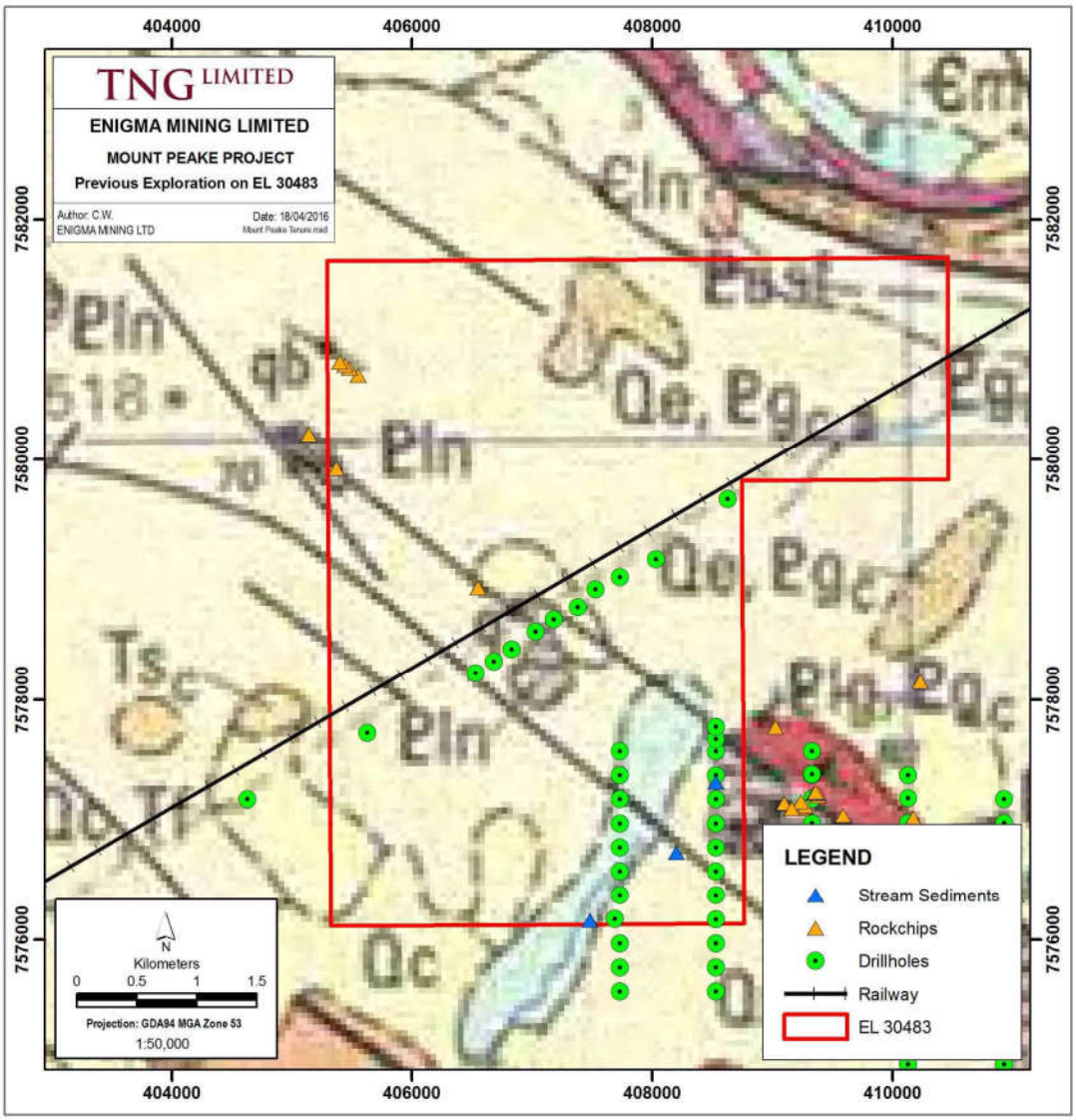

Figure 4: Previous exploration within EL 30483

6. EXPLORATION UNDERTAKEN 2017-2018

Following submission of the Supplement to the EIS submitted in early 2017, the NTEPA determined that further work was required with particular focus on areas that had not been adequately surveyed for Greater Bilby, Great Desert Skink and Brush-tailed Mulgara.

It was proposed that searching be undertaken over an agreed number of 1km transects placed strategically along the entire extent of the proposed project potential impact footprint where suitable Greater Bilby, Great Desert Skink and Brush-tailed Mulgara habitat occurs, a large area being covered by the extent of the Mount Peake tenure.

To increase coverage of the major habitat types and to improve survey efficiency, it was proposed that transects be tightly grouped into sets of six 1 km transects within suitable habitat. This approach provides a more intensive investigation of optimal habitat rather than a dilution of effort over optimal/suboptimal/poor habitat along the haul road route. As the haul road route occurred most frequently between 3 and 5km from established access tracks the grouping of transects also reduced the total lost time accessing habitats of interest along the site.

During September and October a total of 150 x 1 km transects were searched for signs of Greater Bilby, Brush-tailed Mulgara and Great Desert Skink (Figure 5). Six of these (~6,185m) were within EL 30348 (Figure 6). None of the above species were observed during the most recent survey.

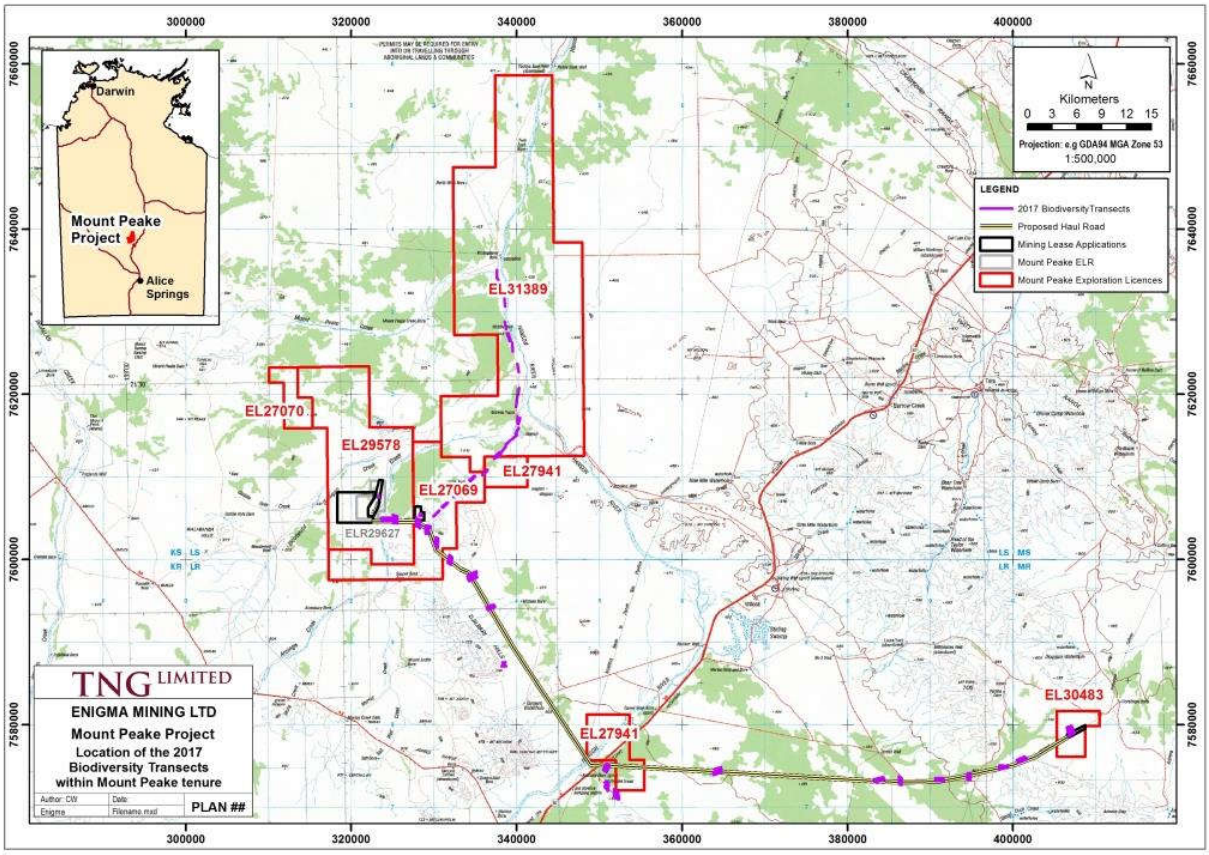

Figure 5: Location of 2017 Biodiversity Study Transects within the Mount Peake project area.

The Greater Bilby was not observed at any stage despite extensive targeted searches of areas of potentially suitable habitat. However, diggings were found 11 km from the proposed impact areas in initial surveys in April 2013. Confidence in these diggings being made by Greater Bilby was reasonably high. Therefore, the presence of Greater Bilby in the broader region including along the proposed haul road corridor through to EL 3483is considered possible.

The Brush-tailed Mulgara was not observed, but was considered likely to be present based on the observations of fresh active burrow diggings and scratchings by GHD zoologists with requisite experienced derived from recent nearby surveys of the Burt Plain area of the NT. Failure to detect a live animal at the burrow using a remote sensing camera may indicate relatively low abundance of the species at this site, but may also be explained by the species' known sensitivity to disturbance, and the likelihood that Brush tailed Mulgara have numerous burrow entrances that would be used preferentially in response to disturbance. The Brush-tailed Mulgara is considered potentially present in the Project area, but unlikely within EL 30483.

A single Great Desert Skink (Liopholis kintorei) was observed fleetingly on a cool and cloudy morning during the November 2016 survey, at the edge of an access track in open sandplain within spinifex (Triodia spp.) understorey. Subsequent searches of the area surrounding the sighting failed to detect any further signs of this species, such as communal burrow systems or latrines. It is anticipated that this species may occur in suitable habitat within or near to the Project area, but is unlikely within EL 30483.

The EIS addendum and associated Appendices including a Biodiversity Management Plan have not been included as part of this report, but can be access on the website link below.

https://ntepa.nt.gov.au/environmental-assessments/register/mount-peake-project

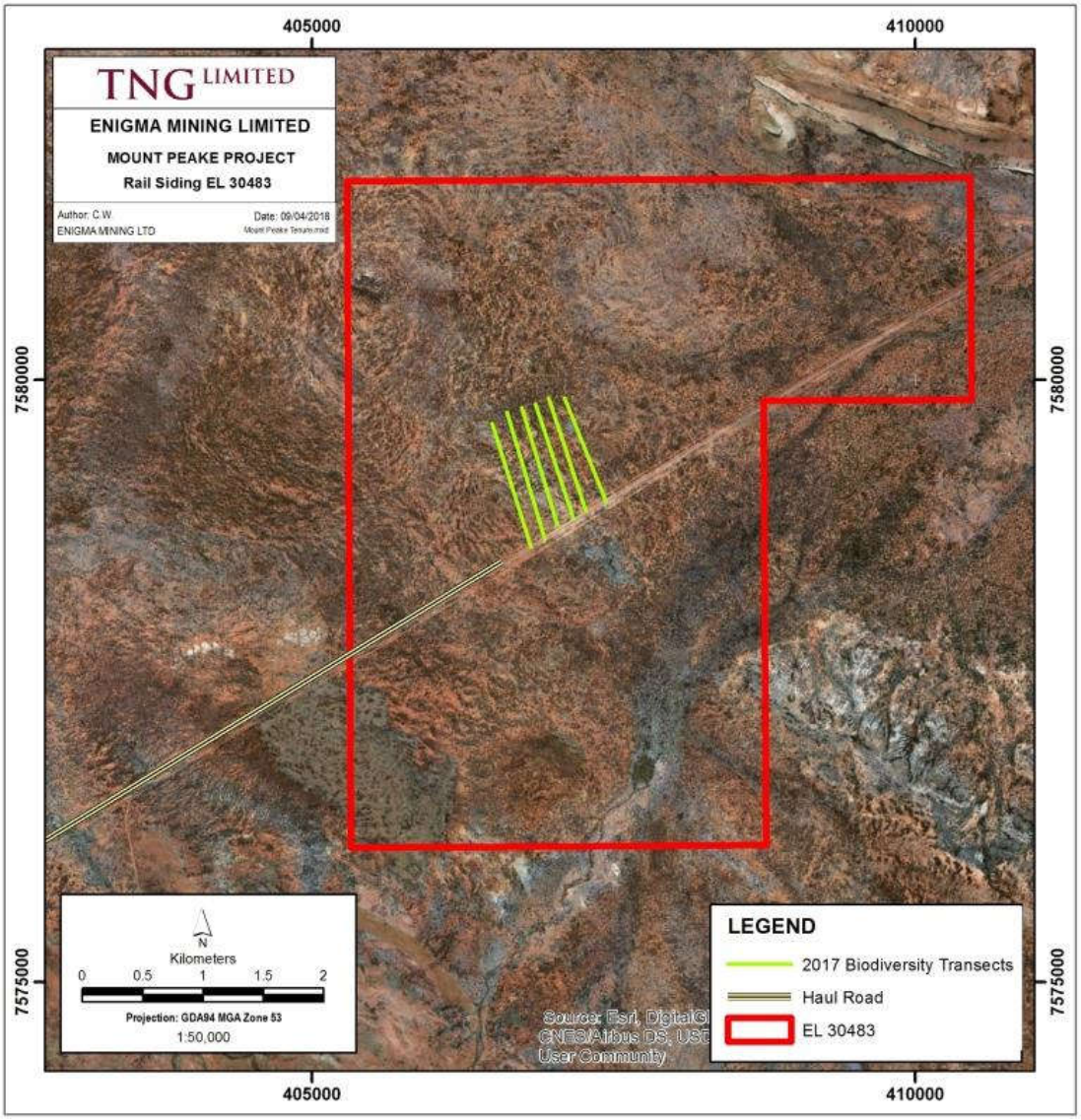

Figure 6: Biodiversity Study transects within EL 30483.

7. WORK PROGRAMME 2018-2019

Reconnaissance mapping and pXRF sampling will take place across the licence area in order to identify any areas of further exploration interest. Initial pXRF sampling will take place over any area likely to be affected by the construction of minesite associated infrastructure at the planned rail siding. Additional infrastructure planning will continue to take place.

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