

ENIGMA MINING LTD

EL28218 (EAST ARNHEM LAND)

ANNUAL REPORT

For the period 28/03/11 - 27/03/12

Datum

1:250 000 Sheet Name

1:100 000 Sheet Name

Tenement/s

EL 28218

Holder Manager Enigma Mining Ltd

N/A

Operator

Enigma Mining Ltd

Keywords

Historical exploration

Authors

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Approved

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Department of Resources - Minerals & Energy

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1. INTRODUCTION

Exploration Licence 28218, was granted to Enigma Mining Limited (Enigma) on 28 March 2011. Enigma is a wholly owned subsidiary of TNG Ltd. The licence is one of two East Arnhem Land tenements the company holds.

A literature review has been carried out on the area, but to date no field work has been undertaken. An initial meeting with the NLC to discuss access has taken place.

2. LOCATION AND ACCESS

EL 28218 is located approximately 150km ESE of Katherine via the Stuart and Roper Highways, and then on station tracks to the licence area (Figure 1). The licence falls in the south-western portion of the Urapunga (SD53-10) 1:250,000 mapsheet. It lies within the Goondooloo and Moroak Perpetual Pastoral Leases and is subject to native title.

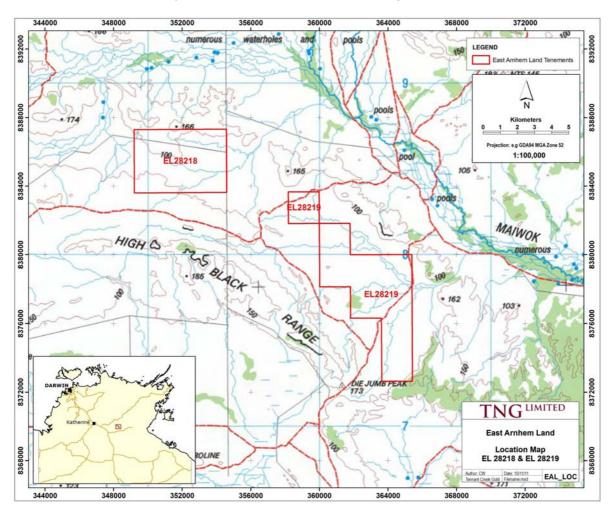


Figure 1: Location of EL23218.

3. NATIVE TITLE

An initial meeting to discuss access to the area was held with the NLC and Traditional Owners on the 9th February 2012.

4. TENURE

Exploration Licence 28218 covers an area of 19.94 km². It is 100% held by Enigma Mining Limited, a wholly owned subsidiary of TNG Limited. Tenure details for EL 28218 are summarised in Table 1.

Table 1: EL 28218 tenement details.

TITLE	PROJECT	AREA (blocks)	GRANT DATE	EXPIRY DATE
EL 28218	East Arnhem Land	6	28/03/2011	27/03/2017

5. REGIONAL GEOLOGY

Exploration Licence 28218 occurs within the central part of the McArthur Basin on the northern edge of the Urapunga Fault Zone. Depositional geometries and the deformation history of the McArthur Basin were influenced by the northerly structural trends inherited from the underlying basement. Subdivision of the province into shelf areas and fault zones reflects its sedimentary and deformational history (Figure 2; Abbott, et al., 2001).

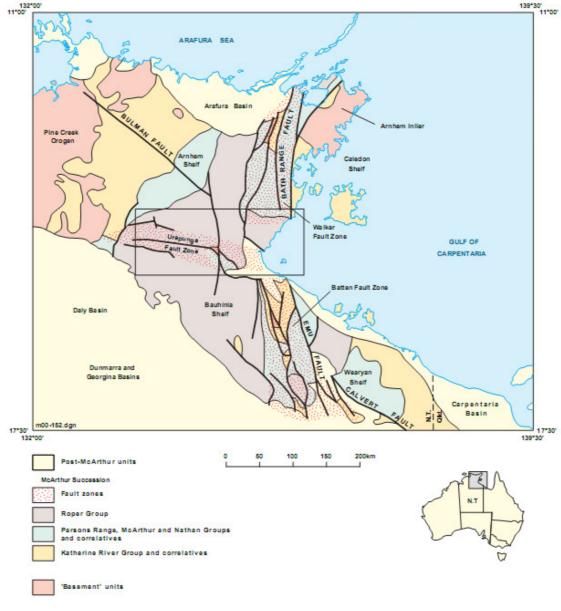


Figure 2: Regional tectonic setting of the Roper Region (from Abbott et al., 2001).

The Urapunga Fault Zone is situated over a reversely faulted basement high which separates the Bauhinia Shelf to the south, from the Arnhem Shelf to the north (Abbott, et al., 2001). A comparatively thin succession of McArthur Basin sediment accumulated in this area.

The local stratigraphy includes rocks of the Roper Group (Prk – Moroak Sandstone, Prv – Velkerri Formation, Pre – Bessie Creek Sandstone; Figure 3). The Roper Group is comprised of undivided quartz sandstones alternating with micaceous and glauconitic sandstones, siltstone and shales and the iron-rich Sherwin Formation which forms significant deposits in the Roper River area.

Dolerite sills (Pdd – Derim Derim Dolerite) intruded the Roper Group around 1300 Ma before the McArthur Basin was deformed.

Most of the tenement is covered by superficial sand, laterite and soils (Figure 3). Valleys of major drainages are aggrading and covered by extensive flats comprised of transported black soil. Regional lateritisation occurred in the early Tertiary after emergence of the Cretaceous sediments, followed by downwarping. The present day drainage, dominated by the Roper River, developed on this warped surface.

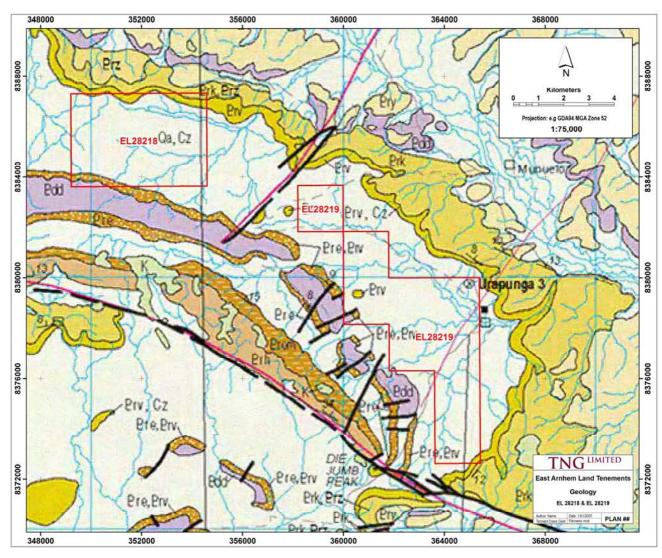


Figure 3: Regional geological setting of the EL28218.

6. PREVIOUS EXPLORATION

6.1 Ashton Mining Limited

Ashton Mining Limited (Ashton) held EL 2907 from 1981 through to 1987. Reconnaissance and stream sediment sampling was undertaken in 1982 (Ashton Mining, 1982). A total of 87 samples were taken within the tenement, though none fell within the boundaries of EL 28218 (Figure 4). A single chromite was identified from the sampling programme and this was found to be non-kimberlitic. No further exploration was undertaken (Ashton Mining, 1983).

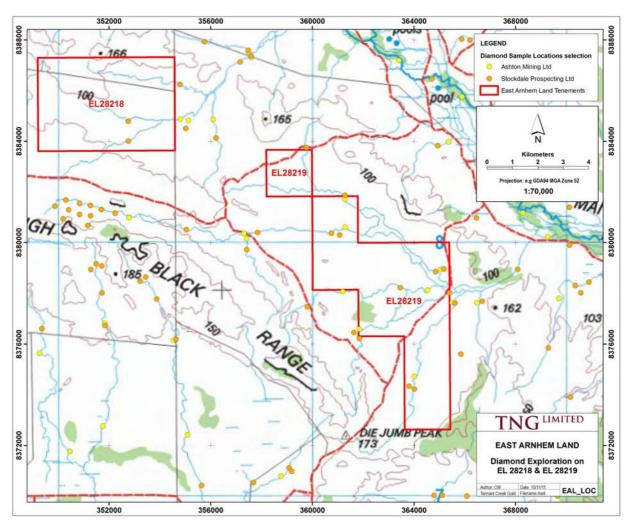


Figure 4: Diamond Exploration within EL 28218.

6.2 Stockdale Prospecting

Stockdale Prospecting held EL 6291, as part of the Roper River project area from 1988 to 1991. In 1989 regional reconnaissance and sampling was undertaken within the project area, including the eastern portion of EL 6291 (Figure 4; Podolsky, 1990).

185 stream sediment samples were taken within the eastern portion of EL 6291 in 1989. The remaining area (western) was sampled in 1990 when 58 stream sediment samples and two loam samples were collected (Podolsky, 1992). Of the 223 samples two fell within the boundaries of EL 28218 (Table 1). No positive kimberlitic indicators were returned in these samples.

Table 2: Diamond samples collected within EL 28218 and EL 28219.

Tenement EL 28218	
Sample Number	BD1229, BD1327

Exploration for base metals, targeting Cu, Pb, Zn and Au was carried out by Stockdale geochemical personnel in 1991. Samples collected during diamond exploration in 1989 and 1990 formed the basis for further geochemical exploration. Poseidon Exploration Ltd carried out fieldwork over EL 6291 under a JV agreement (Podolsky, 1992).

Several base metal (Pb/Zn) anomalies were delineated and fieldwork during 1991 was aimed at locating the source of the anomalies. One Cu/Pb/Zn anomaly (Anomaly V; Figure 5; Podolsky, 1991), and a single point free Au result (BD1327) occurring within EL 6291 were selected for follow-up fieldwork (Podolsky, 1992).

Anomaly V occurs in the area covered by EL 28218 and EL 28219.

BD1327 occurs within Quaternary alluvium. Purple-black shale is exposed at the sample site and a single fine gold grain equivalent to 33ppb Au was reported from laboratory work (Podolsky, 1991).

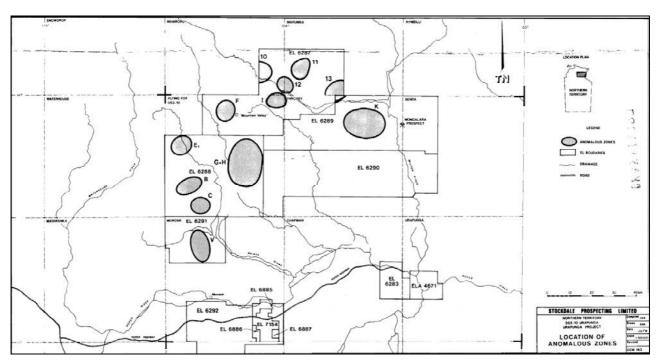


Figure 5: Location of anomalous zones within the Roper River Project Area (Podolsky, 1991).

Initially an additional 259 stream sediment samples were collected within EL 6291. Table 2 and Figure 6 outline the samples within EL28218. Appendices 1-5 show graphically the results of the main elements analysed.

Only four samples returned anomalous values and none of these fell within EL28218. Additional Phase 1 follow-up of Anomaly V (68 samples) showed a low background for Pb and Zn. Anomaly V was downgraded and EL 6291 was no longer considered prospective (Podolsky, 1992).

Table 3: Geochemical stream sediment samples collected within the boundaries of ELs 28218.

Tenement	EL 28218		
Sample Number	GH1858, GH1859, GH1861, GH1863, GH1864, GH1870		

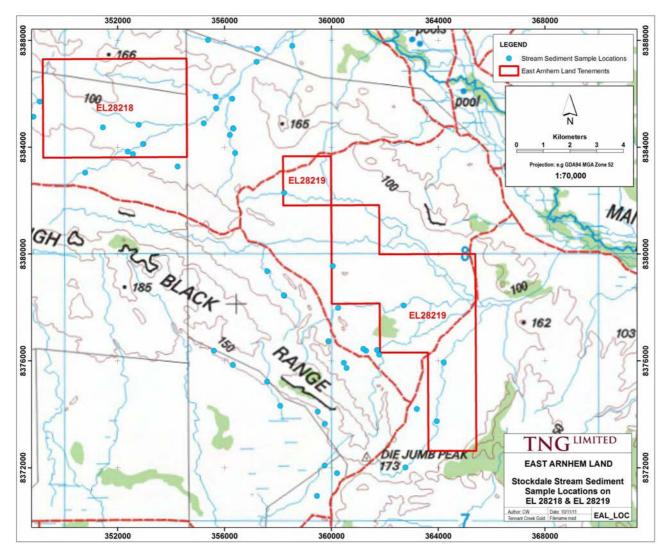


Figure 6: Stream sediment sample locations, Stockdale Prospecting, 1991.

6.3 CRA Exploration

CRA Exploration Pty Ltd held EL 8942 in 1995. Auger drilling, loam and soil sampling and geophysical review were done within the project area. No targets were identified or specific exploration carried out within the boundaries of TNG tenements.

6.4 Tianda Resources

EL 25692 consisted of 30 graticular blocks, covering a total of 99.69 square kilometres and was granted to Tianda Resources on the 5^{th} of September 2007 for a period of 6 years (Tianda Resources, 2009). The location of the tenement is shown in Figure 7. The relinquished areas form EL 28218 and EL 28219 granted to TNG in 2011.

During 2008 exploration of the tenement focussed on ground truthing radiometric anomalies in the north western and southern parts of the tenement. These were field checked and appear to be related to black soil areas forming in valleys between the sandstone outcrops and as such no further work was recommended (Tianda Resources, 2009). These areas were subsequently relinquished.

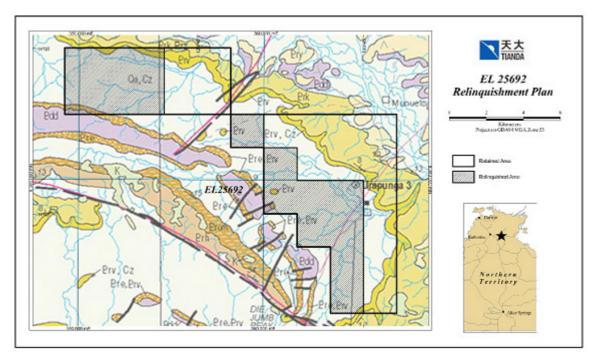


Figure 7: Location of EL25692, Tianda Resources Pty Ltd.

7. 2012 EXPLORATION

A reconnaissance trip to the field area was expected to take place in the middle of 2012, to carry out geological mapping and rock chip sampling. Subsequent to the Native Title meeting the NLC has advised that the traditional owners have not granted access. TNG is clarifying this with the NLC.

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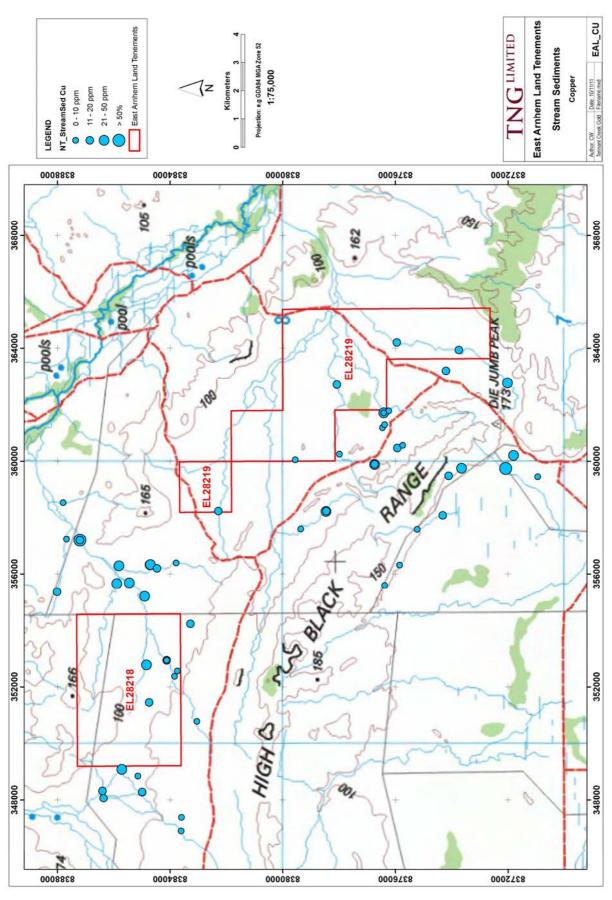
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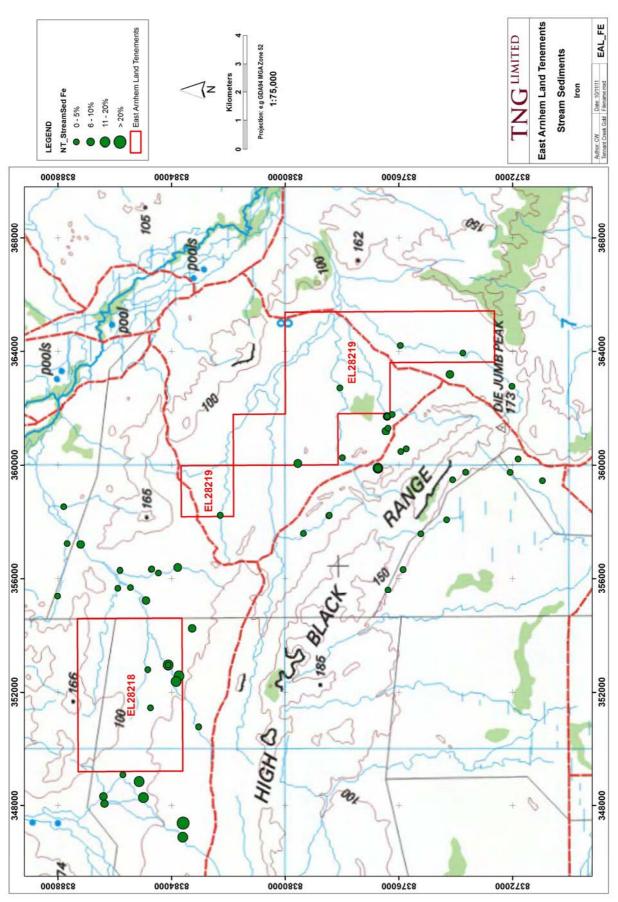
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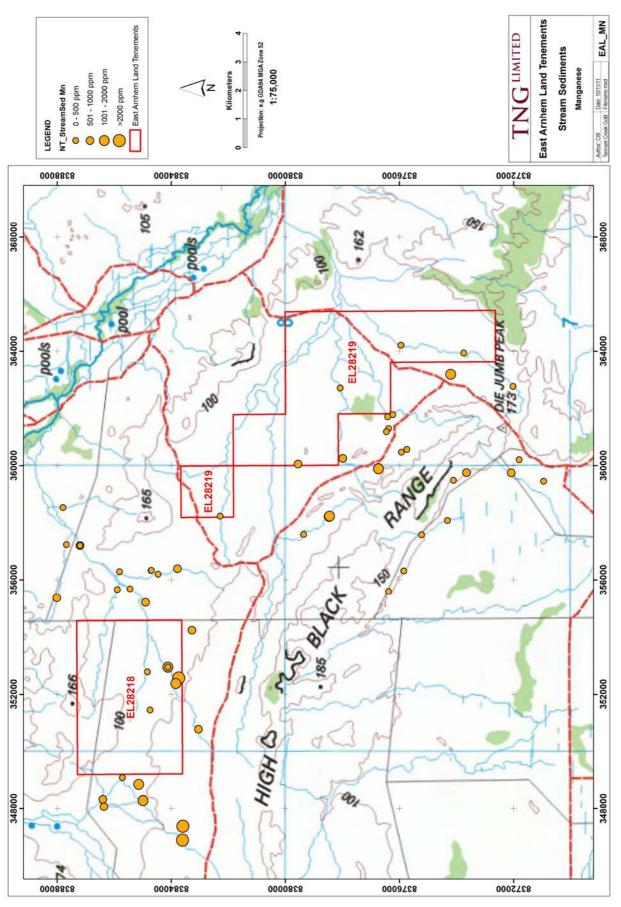
Appendix 1
Stockdale Prospecting, Stream Sediment Sampling, Copper results



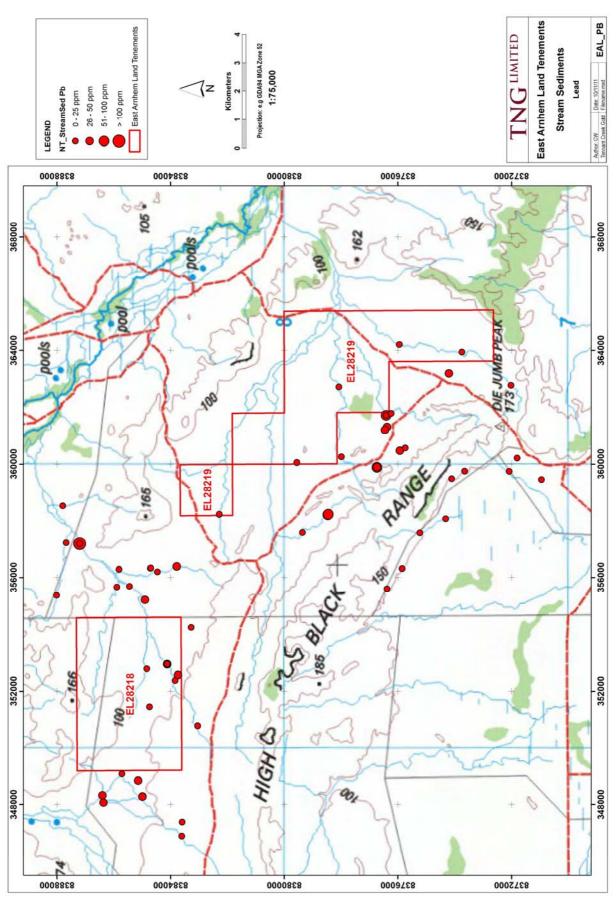
Appendix 2
Stockdale Prospecting, Stream Sediment Sampling, Iron results



Appendix 3
Stockdale Prospecting, Stream Sediment Sampling, Manganese results



Appendix 4
Stockdale Prospecting, Stream Sediment Sampling, Lead results



Appendix 5
Stockdale Prospecting, Stream Sediment Sampling, Zinc results

