EL28275

MARQUA

Northern Territory, Australia

Partial Surrender Report
for the period 30 March 2011 to 29 March 2013

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Commodity: Phosphate, Base Metals, Uranium
1:250,000 Maps: SF53-12, Tobermorey, SF53-16 Hay River
1:100,000 Maps: 6452 Toko, 6451 Adam
SUMMARY

The Marqua Project in the Northern Territory is located 400km east of Alice Springs and 300km southwest of Mount Isa (Figure 1). The area is highly prospective for minerals, with known occurrences of phosphate, base metals and uranium.

Rox Resources Limited now holds two Exploration Licences in the area EL28275 and EL28611. Under the NT Mining Act a 50% partial surrender of EL28275 is required on its second anniversary.

This report covers the relinquished portion of EL28275 from 30 March 2011 to 29 March 2013 the date the partial surrender was effected.

Previous exploration of the non-surrendered area of EL28275 has identified five phosphate prospects over a strike length of 30 km with outcrops grading up to 39.4% $\text{P}_2\text{O}_5$ along the phosphorus bearing Cambrian age Thorntonia Limestone. These prospects occur near the southern extent of the Georgina Basin, which is rapidly becoming Australia’s major hard-rock phosphate province.

After field mapping and prospecting, areas not considered prospective for phosphate or base metal mineralisation on EL28275 were surrendered. The surrender represents 50% of the original licence area.

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1. Tenement Details
1 INTRODUCTION

Rox Resources Limited’s ("Rox") Marqua Project consists of tenements EL28275 and EL28611. The tenement area now covers an area of approximately 667 km² that is prospective for phosphate, base metals and uranium.

This report summarises Rox’s exploration activities over the surrendered portion of EL28275 for the period 30 March 2011 to 29 March 2013.

2 LOCATION AND ACCESS

The Marqua project area is located approximately 500 km by road east of Alice Springs, and is southeast of the Marqua Station homestead with good road access 40 km off the Plenty Highway and a network of established minor roads and station tracks (Figure 1).
3 TENURE

EL28275 was granted to Rox Resources Limited on 30 March 2011 as shown below. Rox has surrendered 50% of the Tenement area as required under the NT Mining Act, as shown in Figure 2 below.

Table 1: Tenement Details

<table>
<thead>
<tr>
<th>Tenement</th>
<th>Registered Holder</th>
<th>Interest</th>
<th>Grant Date</th>
<th>Expiry Date</th>
<th>Area (sub-blocks)</th>
<th>Current Annual Rent (incl. GST)</th>
<th>Current Annual Minimum Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>EL 28275</td>
<td>Rox Resources Limited</td>
<td>100%</td>
<td>30 March 2011</td>
<td>29 March 2017</td>
<td>418</td>
<td>$4,598</td>
<td>$114,500</td>
</tr>
</tbody>
</table>

There are no Native Title Claims over the tenement area, which comprises the Marqua and Tobermorey pastoral stations. A meeting was convened for any interested Aboriginal parties on the tenements before exploration work commenced, but no parties attended. Previous heritage site locations were obtained by a search of the AAPA Register and were avoided during exploration.

Figure 2: EL28275 Partial Surrendered Area (shaded)
4 GEOLOGY

4.1 Regional Geology

The project area is part of the southern Georgina Basin, comprising Neoproterozoic to Cambro-Ordovician platform cover of sedimentary rocks (dominantly sandstone, shale, limestone, dolostone) overlying the Precambrian basement of the Northern Australian Craton. This Precambrian basement is exposed along major fault systems on the southern margin of the basin.

The Northern Territory Geological Survey (NTGS) has recognised the mineral potential of the southern Georgina Basin and recently prepared a comprehensive review of both government and private exploration undertaken, and has now developed applicable ore genesis models (Dunster et al., 2007).

Since the 1960’s, the basin has been considered prospective mainly for Mississippi Valley Type (MVT) lead-zinc mineralisation. More recently, however, the potential for other commodities in a variety of geological settings has been investigated, and the basin is now regarded as having potential for several styles of base-metal mineralisation.

The area is considered to have potential for Cambrian limestone hosted phosphate. Prospective units within the Georgina Basin include the Middle Cambrian Beetle Creek Formation of the eastern basin, its stratigraphic equivalent in the south, the Arthur Creek Formation, and the underlying Thorntonia Limestone which is recognised basin-wide. Prospective ground for phosphate rock within these Middle Cambrian units occurs along the basin margins and adjacent to basement highs within the basin interior.

4.2 Local Geology

The surrendered portion of EL28275 is located in the structurally complex south-eastern portion of the Georgina Basin, which is comprised of basement granitoids, Neoproterozoic tillites and arkosic sedimentary rocks, overlain by Cambrian and Cambro-Ordovician limestone, dolostone, shale and clastic sedimentary rocks of the Toko Syncline.

These units have been disrupted by multiple folding and faulting events. Faulting generally trends northwest and individual faults have been locally offset by later northeast trending faults. Part of the regionally significant Toomba Fault Zone lies in the tenement and segregates a structurally complex zone dominated by arkosic sediments to the southwest from limestone, dolostone and sandstone of the Toko Syncline to the northeast (Figure 3).
4.3 Geological Model For Phosphate

The processes responsible for the formation of high-grade marine phosphate rock deposits (known as phosphorite if it contains greater than 15% $P_2O_5$) are the subject of some uncertainty. It is recognized that regions favourable to large-scale phosphate deposition occur along ocean margins where deep upwelling currents rich in phosphate are trapped within relatively shallow lagoons and embayments.

The phosphate-rich waters lead to high levels of biological activity which results in the deposition of organic-rich sediments (black shales) within confined anoxic depositional centres. Phosphate liberated into interstitial and bottom waters, principally from the bacterial decay of organic matter, is believed to be responsible for the formation of phosphorites both by direct precipitation of phosphate minerals from solution and by replacement of siliceous and calcareous skeletal debris (forming coquinite phosphorites).

This process appears to occur near the water sediment interface at the transition between anoxic and oxic zones so that phosphorite deposits are typically laterally offset from black shale accumulations. Mechanical reworking of sediments may also play a significant role in the formation of some high-grade phosphorite deposits.
5 ROX ACTIVITIES

5.1 Exploration Potential Review

Rox undertook a thorough review of previous exploration work over EL28275 (Kimber, 2011). There has been virtually no exploration work undertaken over the relinquished portion of EL28275.

Elkedra Diamonds undertook limited rock chip and stream sediment sampling, RAB and RC drilling, primarily targeting diamond occurrences, although some examination of the manganese potential was also made. No significant results for Pb-Zn, U or P₂O₅ were reported from this work.

Rox’s geological mapping and prospecting have shown that the surrendered areas in the south of EL28275 are primarily underlain by unprospective Proterozoic Wonnadinna Dolomite and Grant Bluff Formation (both stratigraphically lower than the Thorntonia Limestone) capped by Mesozoic and Tertiary laterite. There are no uranium (Figure 4), potassium (Figure 5) or magnetic (Figure 6) features of interest.

Consequently these areas have been surrendered.

![Figure 4: Tenement and Surrendered area over Uranium Radiometrics](image-url)
Figure 5: Tenement and Surrendered area over Potassium Radiometrics

Figure 6: Tenement and Surrendered area over Reduced to Pole Magnetics
6 CONCLUSIONS AND RECOMMENDATIONS

The area of EL28275 retained is prospective for phosphate hosted by the Thorntonia Limestone. The areas surrendered are not.

7 REFERENCES
