Titleholder	Minemakers Australia Pty Ltd
Operator	Minemakers Australia Pty Ltd
Tenement	EL29352 (Barkly Highway West)
Report name	Annual and Final Report for EL29352 (Barkly) for the period 04 October 2012 to 22 March 2013
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Corporate author	Minemakers Australia Pty Ltd
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250,000 mapsheet	ALROY SE5315
100,000 mapsheet	DALMORE 6058 FAVENC 5958
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ABSTRACT

This report describes the short exploration life of tenement EL29352 where exploration was aimed at the discovery of economic phosphate deposits. The tenement is located 140 km east of Tennant Creek and lies on the 1:250,000 ALROY SE53-15 map sheet. It covers flat to undulating land on Dalmore Downs station with access via the Barkly Highway. Access within the tenement is virtually non-existent. The tenement covers 13 blocks (42.03 km²) and was granted on 4 October 2012 for a period of six years. Geologically, basement is comprised of folded meta-sediments of the Mesoproterozoic South Nicholson Group and these rocks are unconformably overlain by Lower Cambrian basalts of the Helen Springs Volcanics.The volcanics are unconformably overlain by dolomitic rocks of the lower Gum Ridge Formation. Based on the stratigraphy approximately 80 km to the east, at the large Wonarah phosphate deposit, the overlying Upper Gum Ridge Formation is the target for phosphate mineralisation. The Wonarah Formation overlies the Upper Gum Ridge Formation and consists of mudstone, siltstone and sandstone. Regolith is dominated by aeolian sand, travertine, claypans and ferruginous deposits. The tenement was acquired to replace ground that had been recently dropped due to failure to meet expenditure commitments. No exploration work took place during the current tenure. The tenement was relinquished as part of the rationalisation of a regional phosphate exploration joint venture with Geotech International.

CONTENTS

FIGURES

1. INTRODUCTION

This report describes activities during the first year of tenure for EL29352 which is part of Minemakers Australia Pty Ltd (MAPL) Barkly Project. MAPL is a wholly owned subsidiary of Minemakers Limited. Exploration is aimed at the discovery of economic phosphate deposits proximal to the Barkly Highway and close to the Alice Springs-Darwin rail link.

2. LOCATION

EL29352 is located approximately 140 km east of Tennant Creek in the Northern Territory (Figure 1). The tenement lies on the 1:250,000 ALROY SE53-15 and the 1:100,000 FAVENC 5958 and DALMORE 6058 map sheets. The tenement covers generally flat to undulating semi-desert scrub land falling within Perpetual Pastoral Lease 988 Dalmore Downs NT Portion 773. The project is subject to a Native Title Claim (Dalmore Downs Title Claim NTD 6030/01) through the Northern Land Council. Accommodation is provided by the Barkly Homestead located at the junction of the Barkly and Tablelands Highways.

Access within the tenement is limited because of vegetation and lack of tracks.

3. TENURE

EL29352 was granted on 4 October 2012 to Minemakers Australia Pty Ltd for a period of six years and covered 10 blocks (42.03 km²). The tenement is the subject of a joint venture between Geotech (20%) and Minemakers Australia Pty Ltd (80%) with Geotech being free-carried from expenditure contributions until a decision to mine.

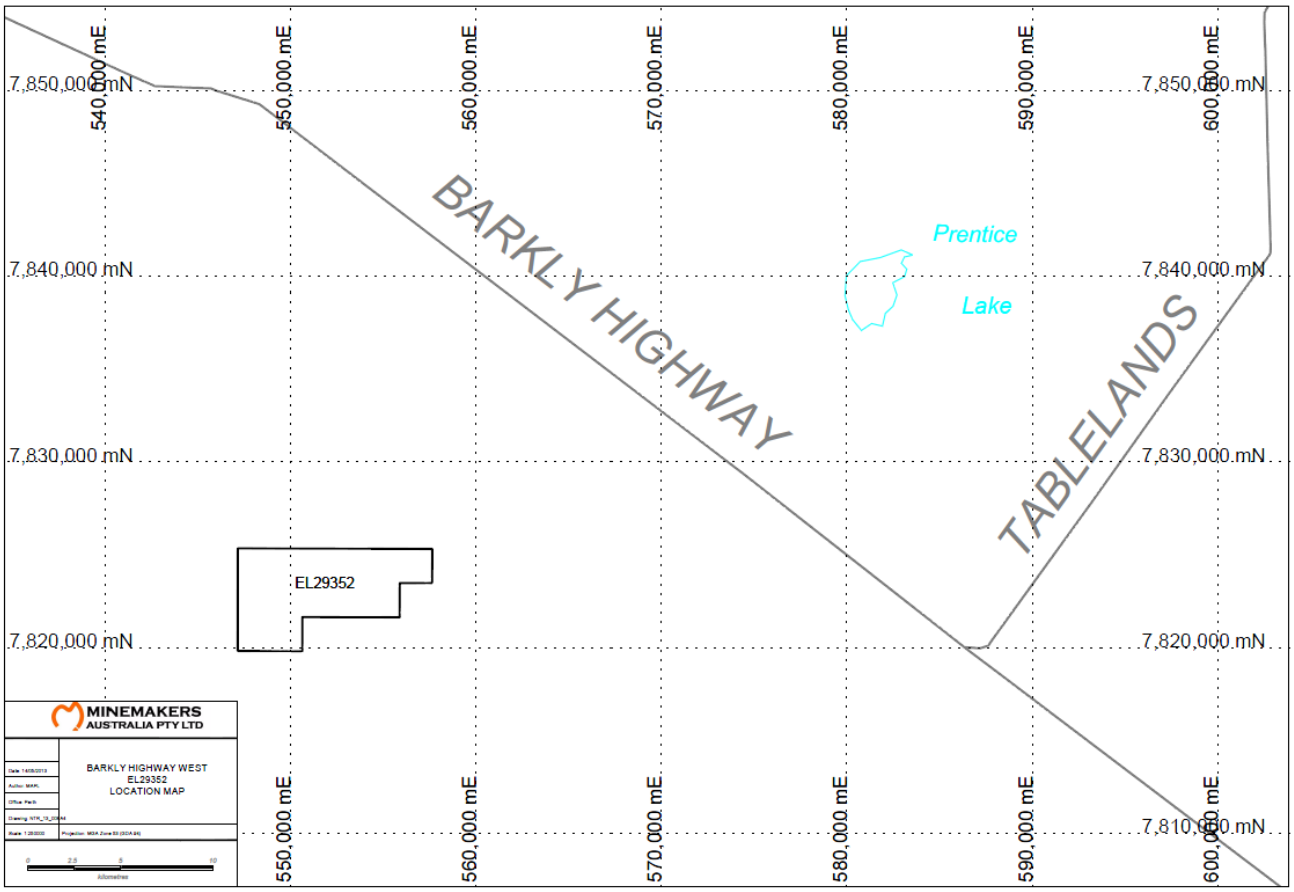

Figure 1: Location of EL29352.

4. GEOLOGY

The first edition of the ALROY 1:250,000 geological sheet was published by the Bureau of Mineral Resources in 1966 (Randal & Nicholls, 1966). The second edition was compiled by the Northern Territory Geological Survey and published in 2009 (Kruse PD & Maier RC, 2010) with explanatory notes (Kruse et al., 2010).

The Barkly Highway West prospect is located east of the Palaeoproterozoic Tennant Creek Inlier in the central Georgina Basin (Figures 2 & 3). It is approximately 80km to the west of Minemakers' Wonarah phosphate deposit.

Early Cambrian deposition is represented by the Helen Springs Volcanics that consist of amygdaloidal tholeiitic basalt and a basal sandstone unit. These rocks unconformably overlie folded rocks of the South Nicholson Basin (Kruse PD & Maier RC, 2010). Phosphatic rocks are associated with the Gum Ridge Formation which was deposited in shallow shelf epicontinental seas and subjected to episodic peritidal influence. Lithologies consist predominantly of tabular chertified rocks, derived from the silicification of bedded impure calcareous mudstone or marl. Occasional trilobites, brachiopods and sponge spicules occur in this formation.

The tenement is dominated by aeolian sand (Czs) reflected in northwest-trending longitudinal sand dunes readily identified in satellite imagery. Travertine (Czk) outcrops are common and claypans (Qp) have developed in low-lying areas. Minor ferruginous deposits are scattered throughout the tenement. The Wonarah Formation of the Lower Cambrian Barkly Group consists of dolomudstone and siltstone, chertified limestone, mudstone and grey massive limestone. This formation has been mapped to the east of the tenement and is assumed to shallowly underlie Cenozoic cover rocks in the tenement (Kruse PD & Maier RC, 2010).

The Gum Ridge Formation is the primary target for phosphorite mineralisation.

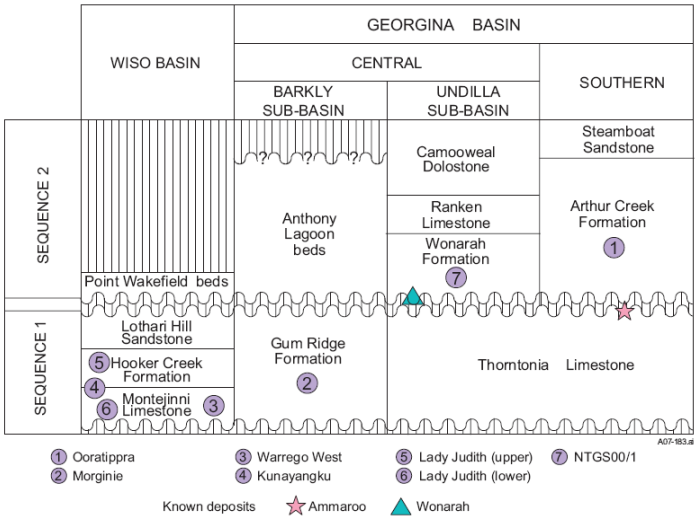

Figure 2. Stratigraphy and phosphate occurrences of the Georgina Basin (after Khan et al, 2007).

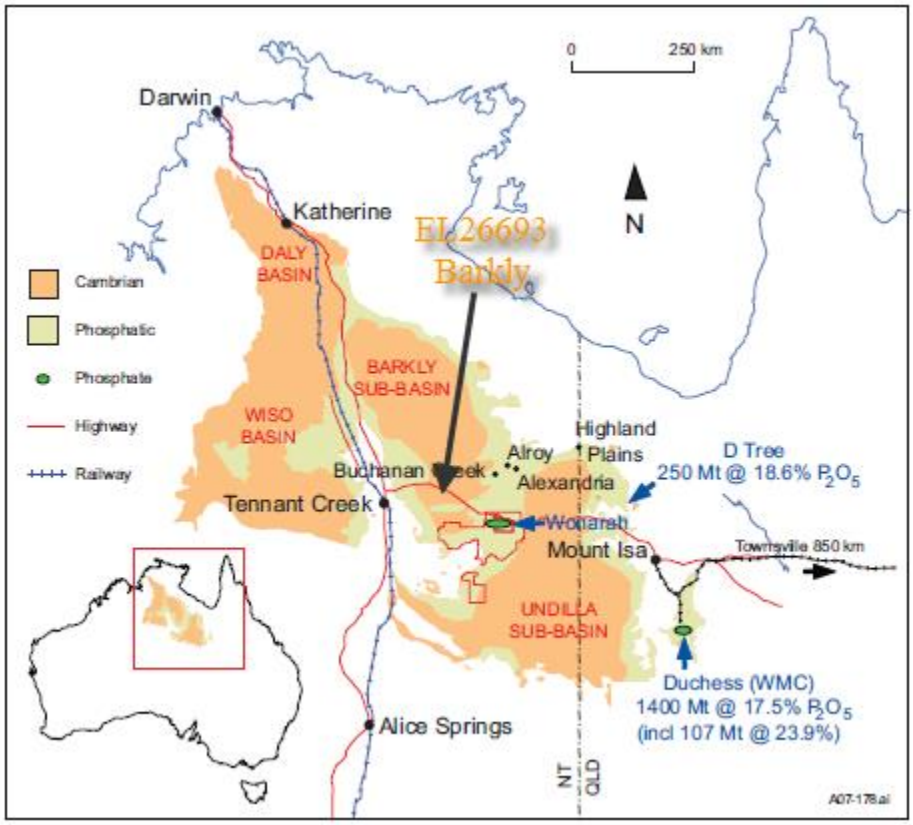

Figure 3. Location of EL29352 (formerly part of EL26693) in the Barkly Sub-Basin of the Georgina Basin (after Khan et al, 2007).

5. WORK COMPLETED AND DISCUSSION

No work was undertaken during the life of the tenement.

6. CONCLUSIONS AND RECOMMENDATIONS

The tenement was picked up to replace ground that had to be dropped from EL26693 because of a failure to meet minimum expenditure commitments. The tenement was part of a phosphate exploration joint venture between Minemakers Australia Pty Ltd and Geotech International Pty Ltd. The tenemented area was postulated to be adjacent to a basement high based on regional gravity and magnetics and therefore potentially a place of phosphate deposition during the Cambrian. The joint venture was dissolved in early 2013 on the basis that the tenements had low prospectivity for phosphate and that any phosphate present would be likely to be typical Georgina Basin phosphorite; very high silica content, very low reactivity and therefore unlikely to be able to sold as a beneficiated rock. The alternative development route of downstream processing of mined phosphate rock into a phosphoric acid or fertiliser product via the typical “wet” process is considered to be an even more difficult sell as the capital costs would be very high. Minemakers has decided to focus on the development of its Wonarah deposit and manufacture of superphosphoric acid using a proprietary, cheaper process and consequently is not interested in further greenfields phosphate exploration.

7. REFERENCES

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