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Operator	Minemakers Australia Pty Ltd
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250,000 map sheet	Alroy and Frew River
100,000 map sheet	Wonarah and Joildung
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ABSTRACT

EL23767 is located approximately 260 km east of Tennant Creek on the Alroy and Frew River 1: 250,000 and the Wonarah and Joildung 1:100,000 map sheets in the Northern Territory. The tenement occurs within the central western part of the Georgina Basin where flat-lying, phosphate-bearing Cambrian sediments have been deposited. The lower part of this sequence, the Gum Ridge Formation, is considered prospective for phosphate mineralization overlying either carbonates or basalts of the Middle Cambrian. EL23767 was granted to Jacaranda Minerals Ltd (“JML”) and Minerals Australia Pty Ltd (“MAPL”) on 18th September 2012 for a period of six years and comprised 250 blocks. JML and MAPL are partners in the Jacaranda Alliance Joint Venture (“JAJV”). Subsequent to the reorganisation of the JAJV, on 12th September 2013 the transfer of EL23767 by JML to 100% ownership by Minerals Australia Pty Ltd was approved by the Department of Mines and Energy (D93511). A Deed for Exploration was executed with the Central Land Council in July 2012. Minerals Australia Pty Ltd entered into a sale agreement with Minemakers Australia in late 2013 and the tenement was approved for transfer to Minemakers Australia Pty Ltd on the 7th May 2014 (D93583). In October 2014, the western part of the tenement was relinquished, with 125 blocks retained. No work was conducted on EL23767 during the reporting year. A proposed scout RC drill program was scheduled to take place in conjunction with exploration and feasibility work to be conducted on Minemakers’ adjacent Wonarah tenements, however this work was postponed because of issues with the validation of the IHP processing technology proposed to be used to treat Wonarah rock phosphate. Validation of concept is required before Minemakers can proceed with its feasibility study at the Wonarah Phosphate Project. The work proposed for this reporting year has now been rescheduled for next year, subject to adequate progress with the processing technology.

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1. INTRODUCTION

This report describes exploration activities on EL23767. The tenement is part of Minemakers Australia Pty Ltd's (MAPL) Wonarah Phosphate Project, which has been actively explored and developed since 2008. EL23767 is peripheral to the known major phosphate mineralisation at Wonarah but, based on Minemakers' drilling on adjacent tenements, also has some potential to host significant phosphate mineralisation.

2. LOCATION

EL23767 is located approximately 260 km east of Tennant Creek in the Northern Territory (Figure 1). The tenement lies on the 1:250,000 Alroy SE5315 and Frew River SF5303 and the 1:100,000 Ranken 6258 and the Joildung 6157 map sheets.

Access to the project is via the Barkly Highway, the main paved freight link between Queensland and the Northern Territory. The nearest town is Camooweal in western Queensland, approximately 180 km to the east. Access within the tenement is via a network of dozed tracks suitable for 4WD only through other tenements within the Wonarah project.

3. TENURE AND TITLE HISTORY

Minemakers Australia Pty Ltd is the registered owner of 100% of EL23767. Minerals Australia Pty Ltd entered into a sale agreement with Minemakers Australia in late 2013 and the tenement was approved for transfer to Minemakers Australia Pty Ltd on the 7th May 2014 (D93583).

EL23767 was granted to Jacaranda Minerals Ltd ("JML") and Minerals Australia Pty Ltd ("MAPL") on 18th September 2012 for a period of six years. JML and MAPL are partners in the Jacaranda Alliance Joint Venture ("JAJV"). On 12th September 2013 transfer to 100% ownership by Minerals Australia Pty Ltd was approved by the Department of Mines and Energy (D93511). The EL as granted comprised an area of 250 blocks (757.87 sq km).

On 10 October, 2014, the tenement underwent a partial relinquishment of 125 blocks and now comprises 125 blocks as shown in Figure 1.

A Deed for Exploration is in place for this tenement but to date no heritage clearances for on-ground work have been completed.



Figure 1: Location of EL23767.

4. GEOLOGY

4.1 Deposit style and model

Minemakers Australia is seeking to develop a large sedimentary phosphate deposit within the Georgina Basin. The Georgina Basin is an extensive late Proterozoic to early Palaeozoic basin that extends from northwestern Queensland through much of the eastern Northern Territory area and which hosts several large sedimentary phosphate deposits. A map representing the regional geological setting is presented in Figure 2.

Sedimentary phosphate deposits are restricted in their occurrence globally. The model for phosphate deposition requires upwelling, cold phosphate-saturated water depositing phosphate onto the continental shelf where the required narrow pH range is locally present. Co-deposition with carbonate occurs at slightly higher pH values. Carbonate deposition becomes dominant at higher pH. Post-depositional reworking and replacement of carbonate facies by phosphatic mineralisation is probably an important factor in upgrading phosphorite grades to economic levels.

4.2 Regional Geology

The Wonarah phosphate project is situated in the central western Georgina Basin, a large late Proterozoic to early Palaeozoic basin that extends from northwestern Queensland through much of the eastern Northern Territory.

Basement rocks in this part of the Georgina Basin are comprised of granites of unknown age. They are possibly correlates of the Palaeo-Proterozoic rocks of the Tennant Creek region. Mesoproterozoic sediments and volcanics are overlain by the Early Cambrian Helen Springs Volcanics (formerly Peaker Piker Volcanics). A northeast-southwest trending basement high runs through the Wonarah project area.

Overlying Middle Cambrian sediments are divided into two basin-wide sequences. Sequence One deposited clastics, carbonates, organic shales and minor phosphorites during gradual transgression which was abruptly terminated by rapid regression. In the Wonarah region, basement highs are flanked by onlapping dolomitic rocks equivalent to the Thornton Limestone. An erosional unconformity is represented by the development of a karst surface.

Sequence Two deposited shallow clastics, carbonates, grainstones, peritidal phosphorites and phosphatic limestones in a transgressive tract system. At Wonarah dolostone, mudstone and phosphorite of the lower Middle Cambrian Upper Gum Ridge Formation overlie Sequence One rocks and basement highs. This formation contains major phosphorite mineralisation and is equivalent to the Beetle Creek Formation on the eastern Margin of the basin which hosts Phosphate Hill and Lady Annie-D-Tree phosphate deposits. The overlying Wonarah Beds are Middle Cambrian mudstone, siltstone and dolostones. Silcrete, ferricrete and calcrete regolith are extensively developed and large areas are covered by stabilised aeolian sand.

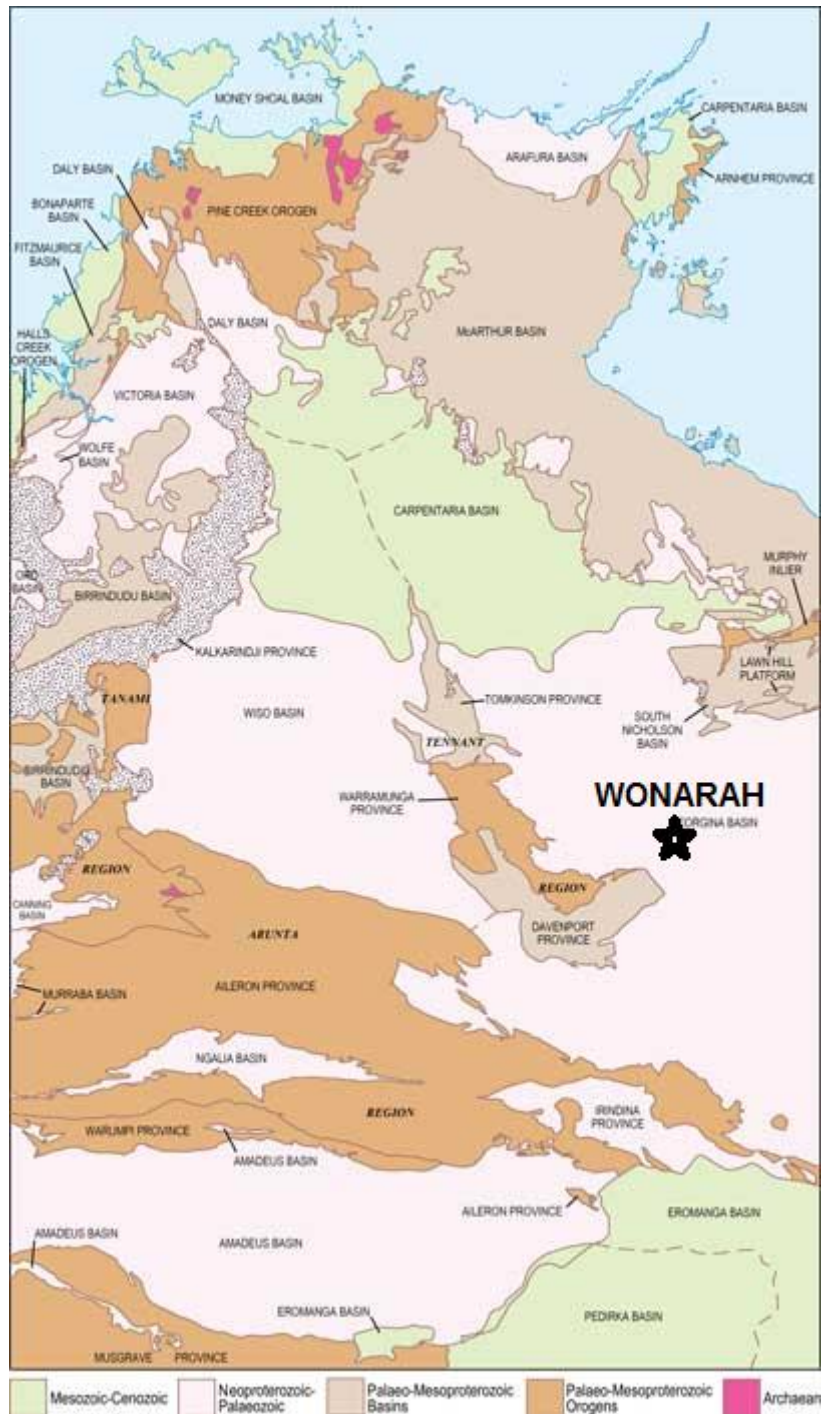


Figure 2: Regional geological setting (from the NTGS)

4.3 Local Geology

Basement in the Main Zone area is alkali feldspar granite of possible Palaeo-Proterozoic age. These are overlain by the Helen Springs Volcanics. The top of the basalt is extremely weathered and a ferruginous and manganiferous duricrust is developed locally. Where less weathered, the basalt is vesicular, amygdaloidal and irregularly porphyritic. Dolomitic rocks of the Thornton Limestone equivalent are present above the basalt at the southeastern extremity of the Main Zone. To the east and the south the carbonate rocks are developed extensively.

The overlying phosphate-bearing Upper Gum Ridge Formation is divided into five main units: a basal, indurated high grade phosphorite; muddy to sandy, clay-rich transitional sediments; a chert breccia phosphorites; a mudstone phosphorite; and a convolute mudstone.

The basal Transitional Phosphorite is a laterally discontinuous high grade indurated phosphorite up to 3m thick developed throughout the eastern and southern part of the Main Zone.

The Transition Sediments (TUN) are laterally continuous, 4-6m thick and comprised of clay-rich mudstone and siltstone with minor phosphorite, dolomite, sandstone and basal epiclastic.

The Chert Breccia Phosphorite forms a distinctive, laterally continuous horizon, 1-10 m thick, and comprised of yellow, grey or pink, variably friable or indurated, low to high grade phosphorite with abundant dark grey chert. Chert averages 50-60%.

The Mudstone Phosphorite is the main phosphate-bearing unit at Wonarah and is comprised of 1-10m of yellow and pink mudstone phosphorite with trace to minor dark grey chert. The mineralogy is dominated by (carbonate)-fluorapatite – $\text{Ca}_5(\text{PO}_4, \text{CO}_3)_3\text{F}$. The MPH is variably friable or indurated with the indurated phosphorite typically being high to very high grade (30-40% P_2O_5).

The Convolute Mudstone is a 1-10m thick unit of white, light grey and yellow clay-rich variably convolute mudstone with minor siltstone and fine sandstone interbeds. It generally contains minor (<10%) P_2O_5 .

The Wonarah Beds overlie the Convolute Mudstone and are comprised of mudstone and siltstone with minor chert, the Hangingwall Mudstone. The Wonarah Beds thicken towards the east and south away from the basement high that defines the western fringe of the Main Zone. Dolomitic units, the Hangingwall Dolostone, are present east and south of the Main Zone.

Regolith is extensively developed throughout the Main Zone with silcrete and ferricrete present in most holes. Low silcrete ridges are prominent features. Colluvial and alluvial deposits are common and extensive stabilised aeolian deposits cover much of the regolith. The phosphatic units thin and peter out towards the basement high which trends in a northeast-southwest direction towards Arruwurra. To the east and south the phosphatic units, although still present with grade and thickness, are too deep to be of economic interest at this time.

A stratigraphic column and schematic section are presented in Figure 3 and Figure 4 respectively.

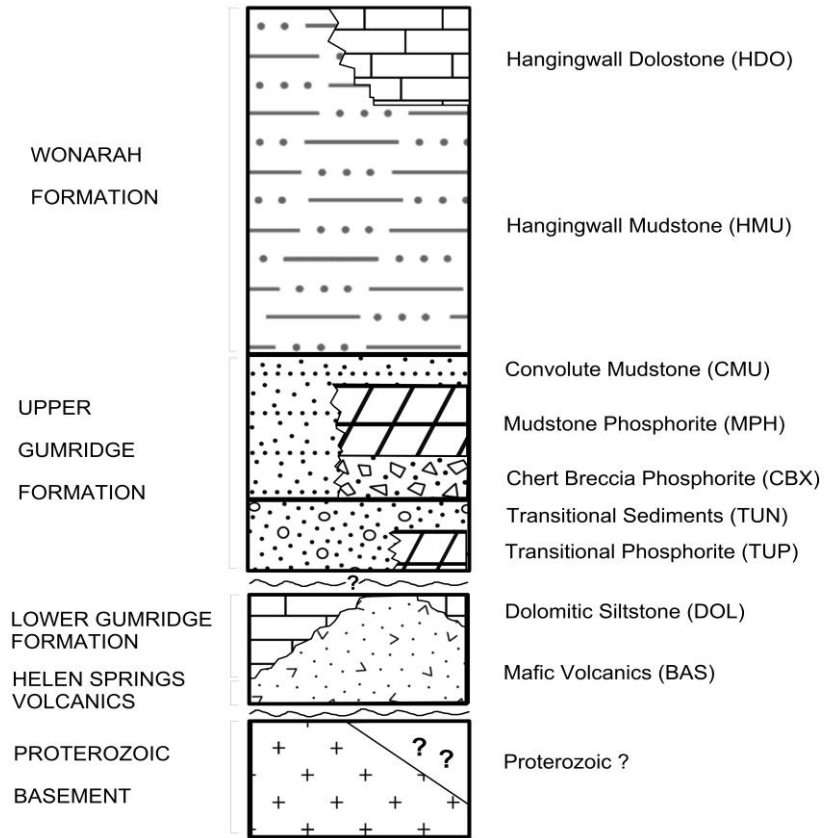


Figure 3: Regional Stratigraphic Column

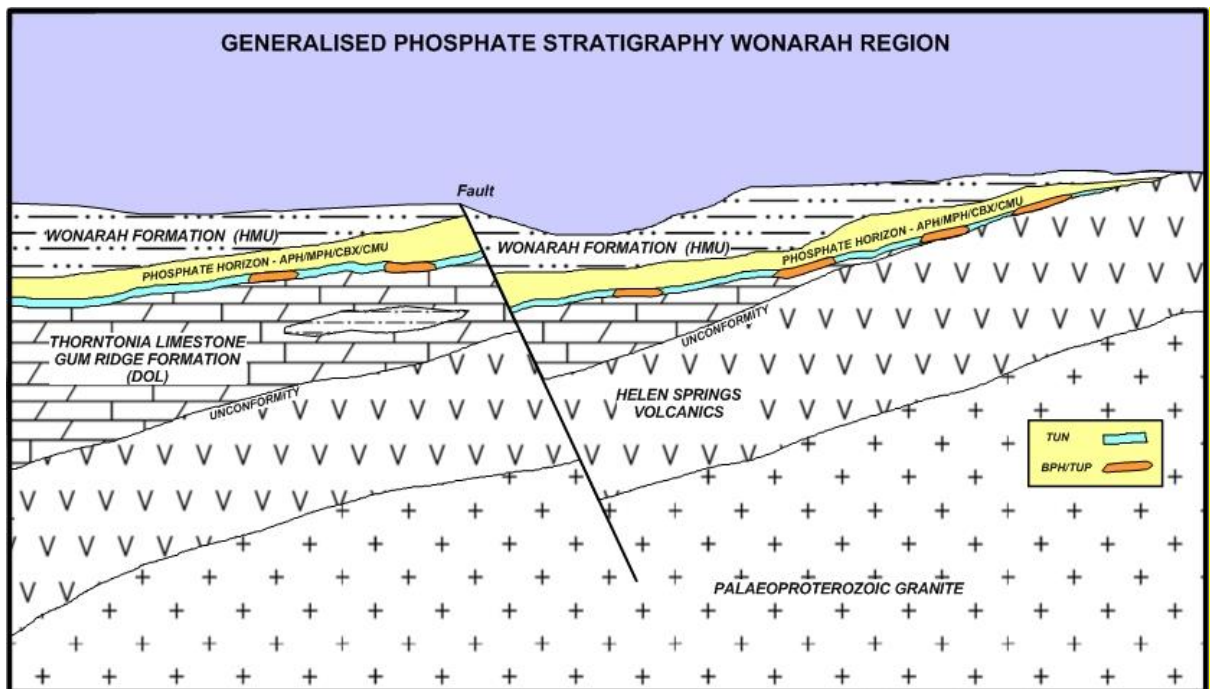


Figure 4: Schematic Regional Geology Section

5. REVIEW OF PREVIOUS WORK

In 2002, Conarco Minerals discovered anomalous lead (maximum of 750 ppb) and arsenic (150 ppm) in weathered Cambrian sediments and named this location “801”. Anomalous lead values were discovered in a literature search of previous drilling in the area and further anomalism was discovered coincident with the NTGS airborne geophysical survey (Collings and Fulton, 2014). Follow up core drilling comprising 5 holes in 2008 tested 3 anomalies. No mineralisation was identified and it was concluded that the lead anomalism was adequately explained by the magnetic susceptibility of the basement rocks.

In 2013, SRK Consulting (Jupp and Stuart-Smith, 2013), compiled a report of the geology and prospectivity of the tenement utilising:

- 1:250,000 scale scanned geological map sheets and digital geology;
- Magnetic datasets and image enhancements;
- Gravity datasets and image enhancements;
- Radiometric imagery and satellite imagery;
- Stratigraphic/petroleum well and mineral exploration drill holes;
- Cultural data;
- SRTM and DEM images;
- and Published Literature.

In 2014, Minemakers completed map generation, conceptual targeting, exploration program planning and reporting (Collings and Fulton, 2014).

6. WORK COMPLETED

No on-ground exploration was been completed on EL23767 during the reporting year. Minemakers originally intended to carry out a broad-spaced scout RC drill program to test for an extension of mineralisation found on adjacent tenements from drill campaigns in 2010 and 2012. The timing of this work was to be coordinated with proposed drilling and geotechnical work for a feasibility study on Minemakers’ nearby ML27244 and drilling on other Wonarah exploration tenements. However, delays in the full commissioning of an IHP demonstration plant in Florida, for which validation of concept is required before Minemakers will proceed with its feasibility study at the Wonarah Phosphate Project, caused postponement of all the proposed work on ML27244 and other tenements, including EL23767.

7. CONCLUSIONS AND RECOMMENDATIONS

During Year 4 of EL23767, work proposed to be carried out by Minemakers will include: broad-spaced scout RC drilling to determine how far, if at all, the significant phosphate mineralisation on adjacent tenements EL29840 and EL24607 extends into EL23767. The mineralisation on the latter two tenements was defined by broad-spaced drilling programs in 2010 and 2012 and Minemakers estimates that there is potential for a deposit of 0.5-1.0Bt of phosphate rock in this area, at similar grades to the Main Zone at Wonarah. Eight RC holes are planned to be drilled. This exploration is dependent on exploration programs proceeding on Minemakers’ other Wonarah tenements during the 2016 field season.

The timing of the exploration program will depend in large part on Minemakers exploration programs on its adjacent Wonarah tenements, dependent in turn on advancement of the IHP technology that is planned for beneficiation of phosphate rock at the Wonarah Project.

8. REFERENCES

Collings, P. and Fulton, R., 2014. Annual report for EL23767 for the period ending 17 September 2014. Minerals Australia Pty Ltd and Minemakers Australia Pty Ltd.

Jupp, B. and Stuart-Smith, P., 2013. SRK Australia Report HCKO007.