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**EL19/2009  
NW TASMANIA  
RELINQUISHMENT REPORT  
JUNE 2013**

**Prepared for: Walkabout Resources Ltd.**

**Tim Callaghan, June 2013**

## **EXECUTIVE SUMMARY**

EL19/2009 is held by Walkabout Resources Pty Ltd, a wholly owned subsidiary of Nimrodel Resources Ltd.

Nimrodel were targeting Iron-oxide-copper-gold (IOCG) style mineralisation within the Arthur Metamorphic Complex (AMC). The AMC is highly magnetically anomalous and hosts significant iron oxide deposits as well as numerous occurrences of copper and gold mineralisation, not least of which is the Savage River Magnetite Mine, long Plains magnetite deposit and the Alpine copper-gold deposit.

Exploration work completed during 2011-2012 included processing and interpretation of Mineral Resources Tasmania open file aeromagnetic and radiometric data by consultant geophysicists Southern Geoscience (SGC). Five magnetic targets and six gold targets were generated by SGC. No targets were generated on EL19/2009. The EL covers relatively magnetically quiet rocks of the siliceous Keith Schist on the eastern margin of the Arthur Metamorphic Complex.

No exploration work was completed for the 2012 – 2013 period. The EL is to be relinquished to allow the company to concentrate on their African Projects.

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## **1 INTRODUCTION**

EL19/2009 is located in NW Tasmania, approximately 5-10km northeast of the Savage River Magnetite Mine (Figure 1). The EL is held by Walkabout Resources Pty Ltd, a wholly owned subsidiary of Nimrod Mining Ltd. This report covers the third year of tenure of the EL.

The EL is very remote with no vehicular access. Access to the EL is via the Savage River Pipeline Road extending southwards from Port Latta on the north coast of Tasmania. Grange do not allow access through the Savage River Mine site for OH&S reasons as the road runs through their northern open pit. The pipeline road is an all weather dirt road privately owned by Grange Resources Limited. An access agreement to use the pipeline road has been signed by Nimrod and Grange. The pipeline access agreement had not been finalized until April 2012 so site visits have not been possible.

The EL is located within an environmentally sensitive area known as the Tarkine Wilderness and is in the Savage River Recommended Area for Protection. All exploration works must be approved by the Mineral Exploration Working Group (MEWG) consisting of representatives from Mineral Resources Tasmania, Parks and Wildlife, the Environment Department and Forestry Tasmania.

The area receives a high annual rainfall and the topography is rugged and steeply incised. Access is difficult to most areas, requiring cut tracks. Vegetation consists of old growth rainforest ranging from large myrtle forests in the valleys to low horizontal and leatherwood dominated forest on ridge tops. Re-growth tea tree and eucalypt forest dominate areas previously damaged by fires.

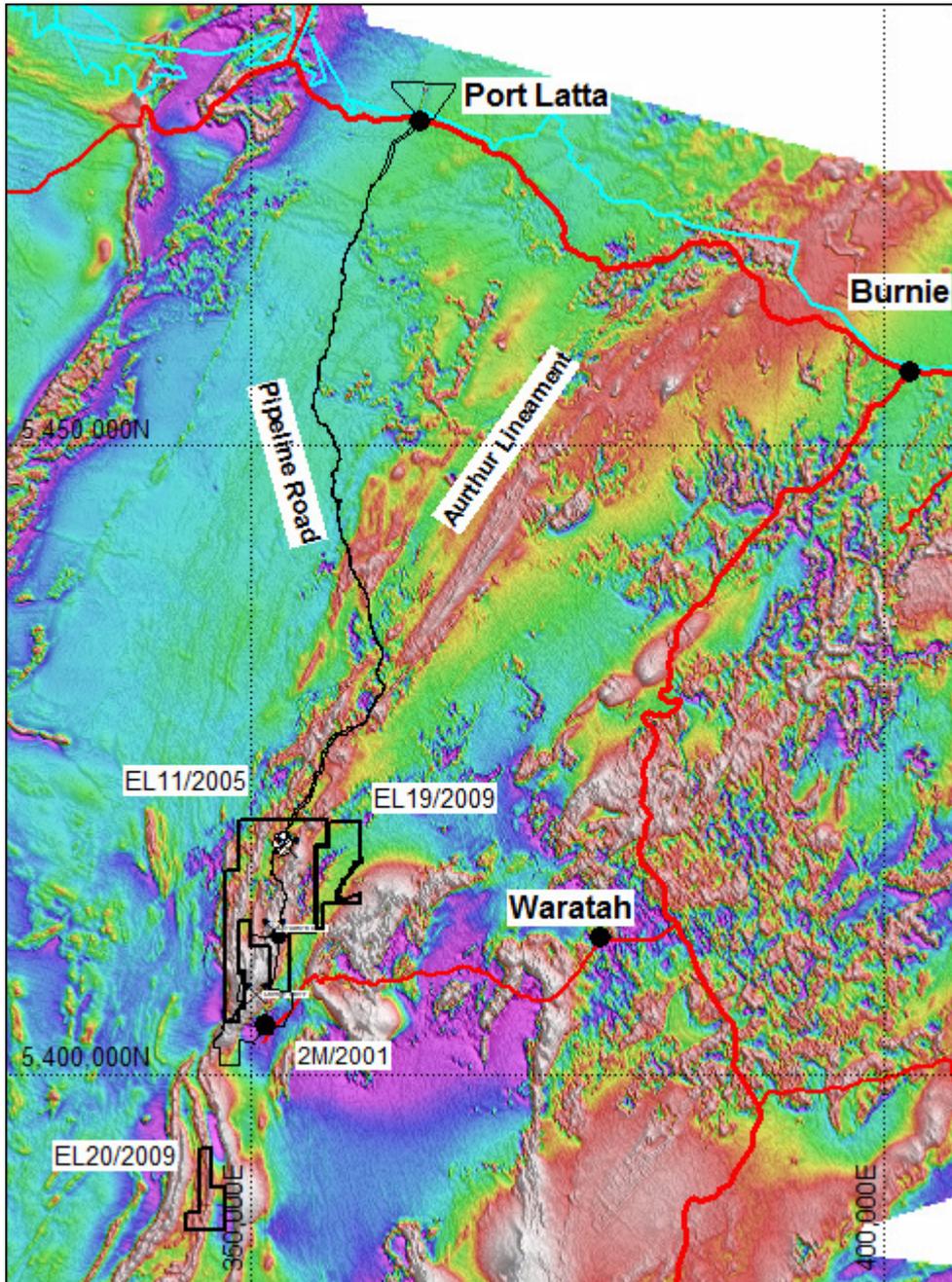


Figure 1. EL19/2009 Location Plan and TMI.

## 2 REGIONAL GEOLOGY

The NW Tasmanian Geology is separated from the geology of Western Tasmania by the 510Ma Arthur Lineament, a major NNE trending thrust lineament (Figure 2). Regionally the Arthur Lineament separates the northwestern Neoproterozoic Rocky Cape Group and Ahrberg Group from the low strain Oonah Formation to the southeast (Everard *et al*, 2007). The Lefroy Ridge Fault forms the western boundary to the lineament.

The Arthur Metamorphic Complex is a steep dipping, NE-SW striking structural lineament of metamorphosed Cambrian mafic volcanics, carbonates and sediments of the Ahrberg Group, the Bowry Formation and a high strain part of the Oonah Formation (Keith Schist). The lineament is associated with isoclinal folding and a strong penetrative cleavage generally striking NNE and dipping west (Turner and Bottrill, 1993). The Lineament is folded just south of the Savage River Mine during the later Devonian Deformation event.

Geology to the west of the lineament is complex and not completely resolved. From west to east approaching the lineament the geology comprises the quartzite and slates of the Rocky Cape Group, overlain by the Donaldson Group composed of micaceous quartzwacke and pelitic siltstone with minor chert and conglomerate near the base. The Savage Dolomite conformably overlies the Donaldson Group which is in turn overlain by the Bernafai Volcanics consisting of basaltic volcanoclastics, quartzite and phyllitic siltstone. These are overlain by the Corinna Dolomite and the Tunnel Race mafic volcanics.

East of the Lefroy Ridge Fault the geology is dominated by metasediments and amphibolites of the Arthur Metamorphic Complex (AMC). The amphibolites occur in the Lucy (magnetic), Nancy, (weakly magnetic) and the Bowry Formations (strongly magnetic). The Bowry Formation consists of chloritic, schistose mafic volcanics with interbedded dolomite and magnesite. The Bowry formation is strongly altered with associated banded magnetite-pyrite-silica, reaching maximum intensity at the Savage River Magnetite Mine just south of EL11/2005. The western margin of the AMC is dominated by the quartz-mica schist and phyllites of the Keith Schist which is gradational with the unmetamorphosed quartz-wacke turbidites of the Oonah Formation.

The lineament occupies a gravity divide between the Devonian Pieman and Meredith Granites. Cambrian deformation has produced steep west dipping thrust faults and a strong regional lineament visible in magnetic images.

Tertiary sediments comprise channel fill gravel, sand and clay in ridge top positions generally overlain by basalt. They have been sporadically explored for gold/tin placers with minor historic workings in the district. Gold from the sediments has redistributed into the Quaternary creeks, contaminating heavy mineral stream sediment exploration efforts.

The Lucy and Bowry Formations which contain tholeiitic basalt and volcanoclastics are prospective for gold, copper, magnetite and magnesite. An important style of iron-oxide-copper-gold mineralisation is hosted in the Alpine Deposit, located several kilometers south of the Pieman River. The enigmatic Savage River magnetite mine consists of sub vertical lenses of massive magnetite with varying amounts of pyrite and trace chalcopyrite. Other smaller deposits of the same style are located in the Bowry Formation including the Long Plains deposit to the south. Substantial

magnesite deposits are found at the Arthur River and are associated with the Savage River deposit to the north and south at Main Creek and Lyons River.

Silica flour has been the focus of exploration northeast of Corinna on the Tasmanian Advanced Minerals Leases within the Savage Dolomite. Minor epithermal gold is reported from within the Savage Dolomite, although most of the gold from the district appears to be associated with Tertiary alluvial deposits. Titan-Goldstream used a combination of #80mesh copper analyses and gold grain morphology as a means of discriminating between alluvial gold and bedrock gold anomalies with limited success.

<b>Table 1. Arthur Metamorphic Complex Mineral Resources</b>	
Savage River	371 Mt @ 31.9%Fe
Arthur River	29 Mt @ 42.8% Mg
Main Creek	42.8 Mt @ 42.4% Mg

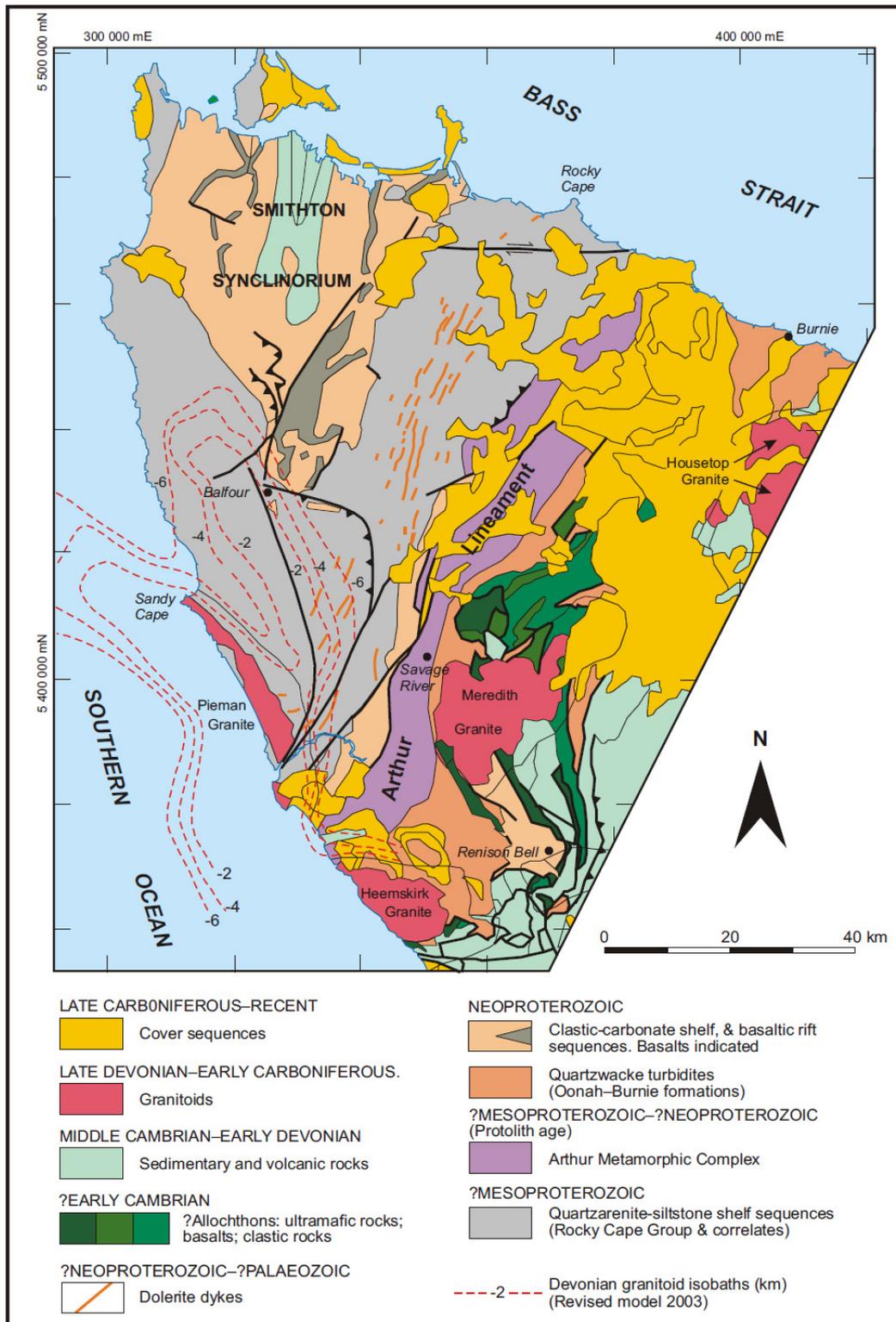


Figure 2. Regional Geology Northwest Tasmania (Everard *et al*, 2007).

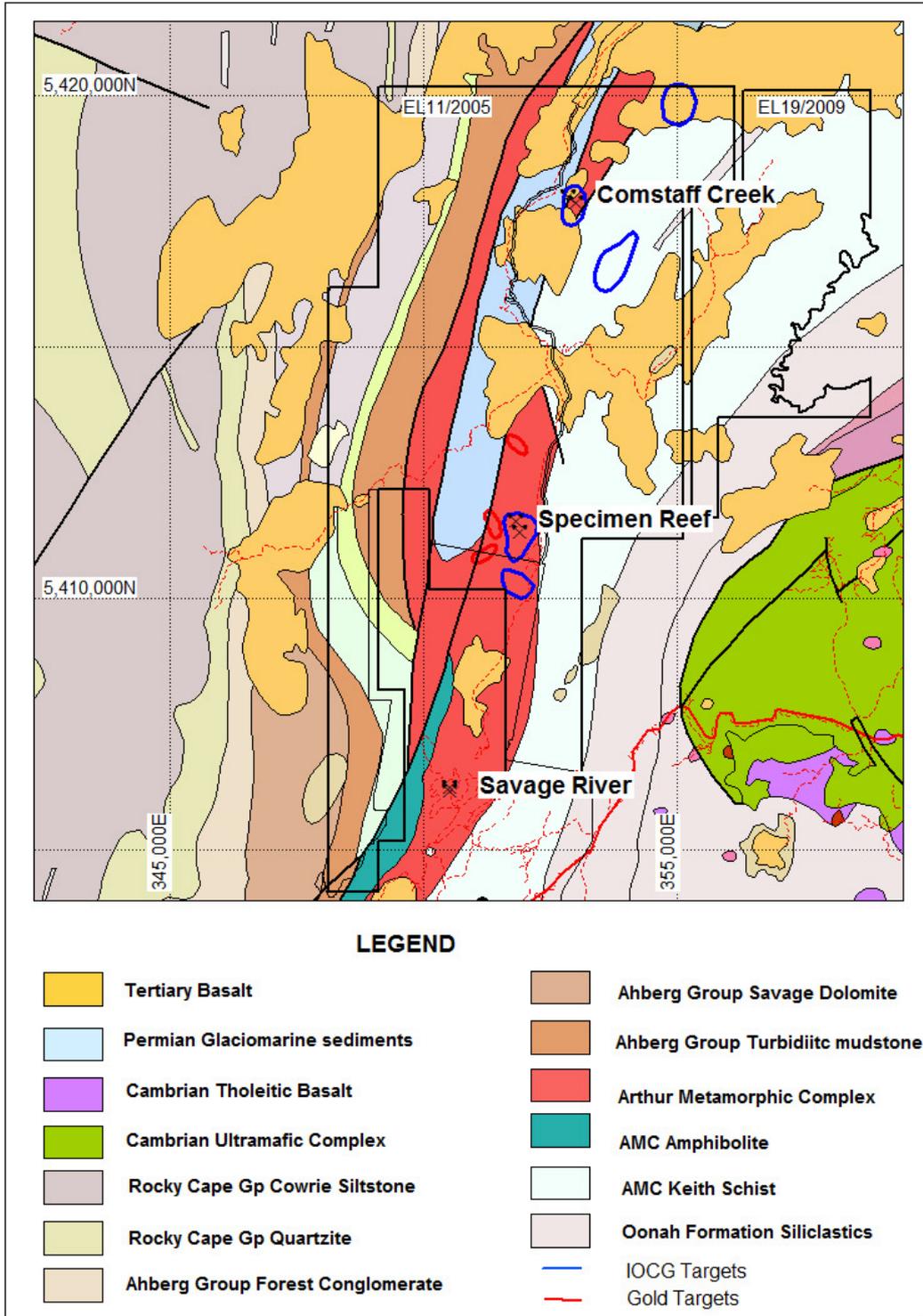


Figure 3. EL19/2009 Local Geology (modified from MRT 1:250 000 scale Map)

**3 WORK COMPLETED, JUNE 2012 – JUNE 2013**

No work was completed on the EL during the past year.

#### **4 DISCUSSION AND RECOMMENDATIONS**

Nimrodel are targeting the Iron-Oxide-Copper-Gold-(Uranium) spectrum of deposit styles. The Savage River Magnetite Mine fits into the spectrum of IOCG deposit styles supporting the exploration strategy. The magnetite-hematite-copper-gold Alpine Deposit hosted in the Bowry Formation south of the Pieman River lends further support to the exploration model.

EL19/2009 covers rocks of the Keith Schist on the western margin of the EL. No significant magnetic anomalies are associated with the EL. Some weak magnetism is associated with thin Tertiary basalt cover in the west of the EL.

In the previous report it was recommended that a literature search be completed to assess the level of mineralisation on the EL. There are no deposits recorded on the MRT database. This may be a function of no modern exploration. However given the siliciclastic host sequence and lack of magnetic features the EL does not appear to be overly prospective. If no modern exploration has occurred an EL wide stream sediment sampling program was recommended as a first pass assessment.

Nimrodel have decided to relinquish the EL to concentrate on their African projects.

## ADDITIONAL NOTES

### ***STATEMENT OF INDEPENDENCE***

Tim Callaghan has no material interest or entitlement in the securities or assets of Nimrodel Mining Ltd or any associated companies.

### ***LIMITATIONS AND CONSENT***

The report has been prepared for Nimrodel Mining Ltd using information provide by Nimrodel Mining and open file information available to the Author at the time of writing. The opinions stated herein are given in good faith and with the belief that the basic assumptions are factual and correct and the interpretations reasonable.

This report is not intended for the use as a public document nor, in whole or in part, in a public document without written consent to the form and context in which it appears.

**All coordinates in this report are recorded in AMG66 Zone 55**

## REFERENCES

- Bottrill, R and Taheri, JR, 2007. Petrology of the host rocks, including mineralisation and adjacent rock sequences, Savage River Mine. Tasmanian Geological Survey Record 2007/05.
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