



**Alfred River
Exploration Licence 17/2012**

Annual Report for the period 18/02/2013 to 18/02/2014

S Joughin
February 2014
Venture Minerals Ltd
288 Churchill St, Subiaco, WA 6008
PO Box 8234, East Subiaco, WA, 6008

Contents

| | |
|--|----------|
| 1 SUMMARY | 1 |
| 2 INTRODUCTION | 1 |
| 3 LOCATION AND ACCESS | 3 |
| 4 REGIONAL GEOLOGY | 3 |
| 5 EXPLORATION AND MINING HISTORY | 5 |
| 6 2013-2014 ANNIVERSARY YEAR EXPLORATION ACTIVITIES | 6 |
| 7 CONCLUSIONS AND RECOMMENDATIONS | 6 |
| 8 BIBLIOGRAPHY | 7 |

Figures

| | |
|-------------------------------|---|
| Figure 1: Location Plan | 2 |
| Figure 2: Interpreted Geology | 4 |

1 Summary

Exploration Licence 17/2012 is located in the tin-tungsten province of Western Tasmania. Review of historic exploration data has identified tin anomalism with associated tungsten in stream sediments. Previous explorers have not determined the tin source and derivation from a local hard-rock source or re-working from alluvial gravels are both options. Venture's exploration activities during the first year of tenure comprised digitisation, review and reinterpretation of historic exploration data, acquisition and assessment of Worldview 2 imagery, target prioritisation and planning of field work. EL17/2012 is on the periphery of the Big Wilson target within EL45/2010. Application to Mineral Resources Tasmania was made in December 2013 to consolidate Exploration Licences 17/2012 and 45/2010.

2 Introduction

Exploration Licence 17/2012 covers 7 km² of the Huskisson syncline sediments located 1.5 km from the closest surface granite contact and 2 km from the Big Wilson Sn-W-Fe skarn and veined greisen zone. The Meredith Granite is part of a suite of Devonian granites which is very important to tin-tungsten mineralization in Tasmania, and deposits associated with this suite include the world class Renison Bell tin mine (26 Mt at 1.46% Sn), Mount Bischoff (10.54 Mt at 1.1% Sn), Cleveland (12.4 Mt at 0.62% Sn, 0.25% Cu) and King Island (17 Mt at 0.85% WO₃). Cleveland and Mount Bischoff are situated around the northern margin of the Meredith Granite, and Renison Bell is associated with the smaller Pine Hill Granite c. 15 km to the southeast of the Meredith Granite.

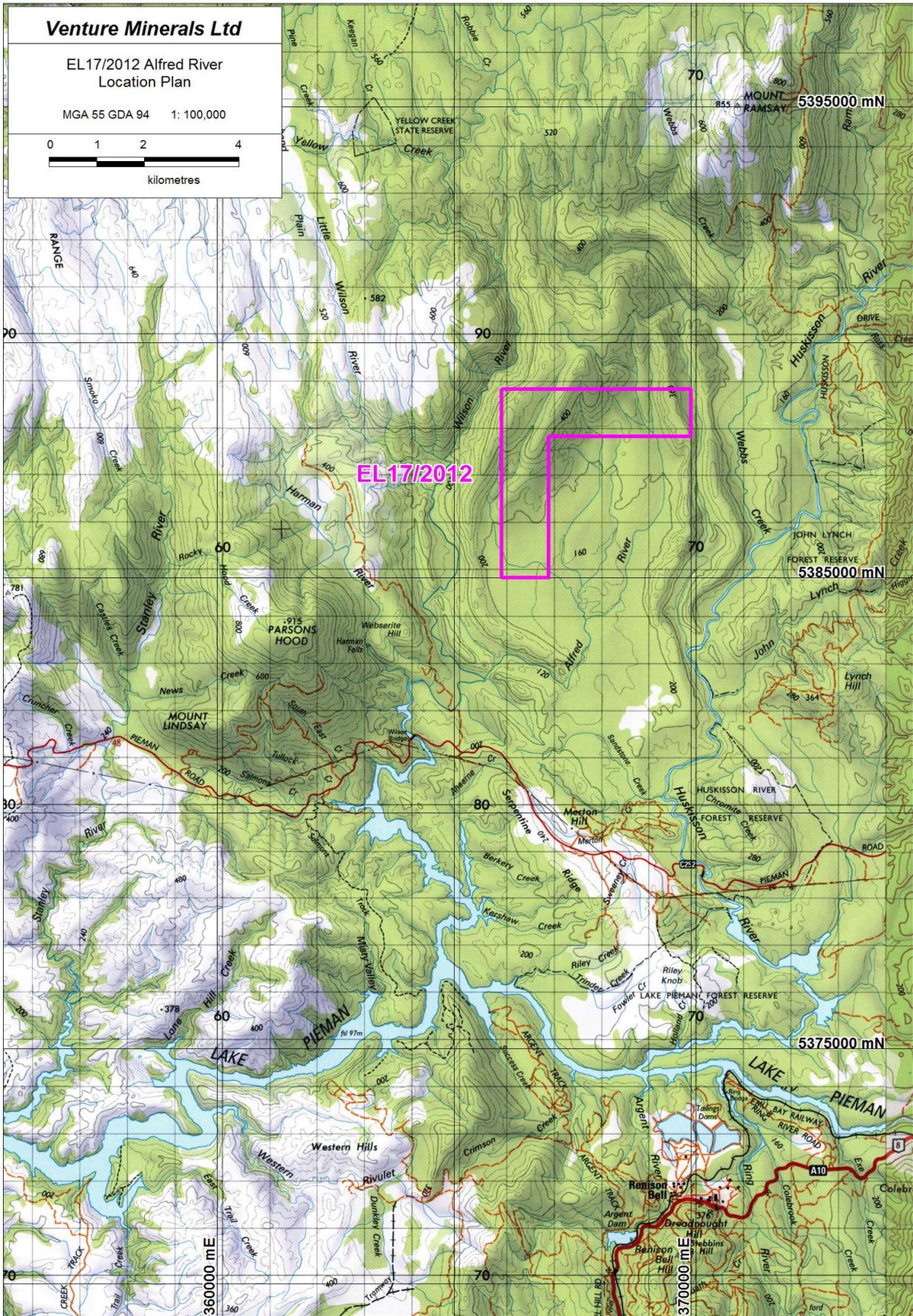


Figure 1: Location Plan

3 Location and Access

Exploration Licence 17/2012 covering c. 7 km² is centred 20 km to the SSE of Luina and 7.5 km north of Serpentine Ridge in western Tasmania. Topography in the area is strongly influenced by the stratigraphy and structure of the Huskisson Syncline. The centre of the Huskisson Syncline is formed of topographically recessive units which create a broad flat valley floor while the outer rim of the syncline comprises quartz-rich sediments which form steep ridges. Elevation within the licence ranges from 180 m above sea level on the valley floor to c. 540 m in the north western part of the licence on the outer north eastern ridge. Average annual rainfall is c. 1900 mm and vegetation is dominated by temperate rainforest, with patches wet eucalyptus forest and unconfirmed Huon Pine forest and scrub in the southern portion of EL17/2012.

Access into the Alfred River tenement is extremely difficult, vegetation is very thick and foot progress is slow and challenging. Previous exploration was assisted by helicopter support or conducted via extensive cut tracks which are now over grown. Approval for the construction of helipads in the Alfred River work area will be requested to facilitate the 2014-2015 reconnaissance fieldwork.

4 Regional Geology

Exploration Licence 17/2012 is entirely underlain by steeply dipping sedimentary rocks of the Ordovician to Devonian Eldon Gp. within the northern hinge of the Huskisson Syncline (Figure 2). Most of the licence is underlain by the Devonian Bell Shale which comprises light blue-grey mudstone-siltstone with minor sandy units and fossiliferous calcareous mudstone. Florence Quartzite is mapped on the eastern and western edges of EL17/2012 and comprises quartz sandstone with minor interbeds of fossiliferous siltstone; this unit is physically resistant and forms high relief ridges. Petrographic by Central Mineralogical Service (CMS) for Gold Fields Exploration of five rock chips from the area now partly covered by EL17/2012 identified siliceous sediments that had been metamorphosed to sericitic slate and calcareous units were partially replaced by dolomite. CMS noted that the sedimentary rocks were devoid of hydrothermal alteration and were unlikely to have been affected by contact metamorphism.

Gold Fields Exploration identified numerous glacial striae throughout the Alfred River Valley, and thick clay zones overlying the Bell Shale were identified by Gold Fields as potential glacial-lacustrine sediments or weathered basement. The valley is topographically very flat and broad but no significant Tertiary alluvial sediments have been mapped.

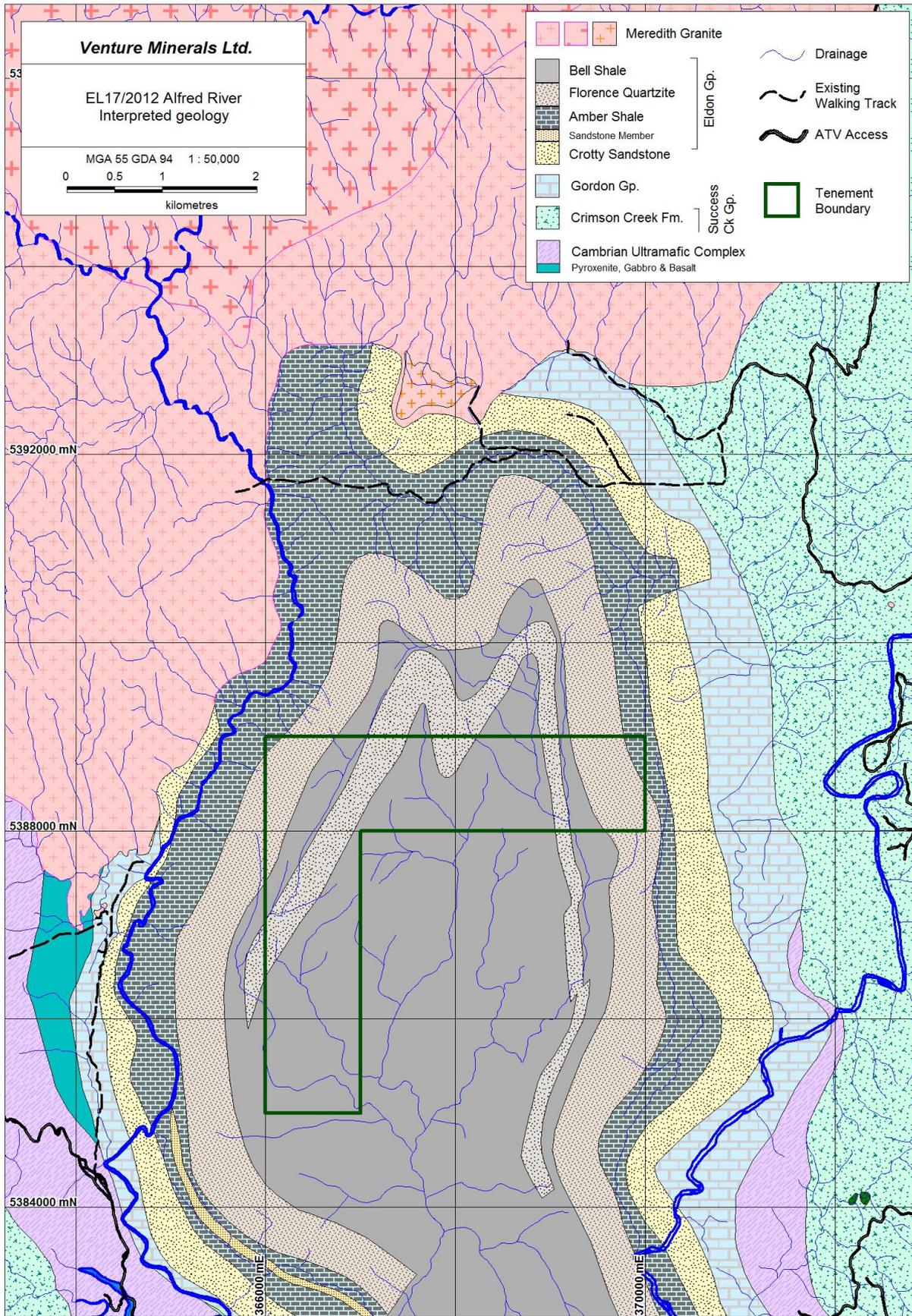


Figure 2: Interpreted Geology

5 Exploration and Mining History

The Alfred River Valley was an area of small scale alluvial mining and prospecting for tin, tungsten, gold and osmiridium in the early 1900's, but no known mining localities are positioned within EL17/2012.

Gold Fields Exploration carried out an airborne EM and magnetic survey and photogeological survey in Alfred River area in the late 1970s, then in the early 1980s conducted a reconnaissance stream sediment sampling and geological mapping program. Gold Fields' initial Alfred River stream sediment samples comprised bulk (i.e. not panned) fines collected by wet screening the samples in the field to <425µm, then drying and re-screening to <180µm before assay. The bulk <180µm stream sediment samples collected from the area now covered by EL17/2012 returned up to 190 ppm Zn, 20 ppm Sn and 20 ppm WO₃. Such Sn and W levels are not considered anomalous. However, Gold Fields later collected panned concentrates from the Alfred River area immediately south of what is now covered by EL17/2012 and these returned up to 2210 ppm Sn where bulk <180µm stream sediment samples had only returned 10-20ppm Sn and WO₃. Cassiterite was identified in the anomalous samples with multiple faces preserved suggesting limited transport and having a smoky dark amber-brown colour often associated with cassiterite produced from metasomatism.

Geological mapping identified carbonate units within the Bell Shale, highlighting the potential for metasomatism. However petrographic descriptions of rock chips from the Alfred River area suggested the Bell Shale sediments were not affected by contact metamorphism and Gold Fields considered that the cassiterite was unlikely to have come directly from a metasomatic deposit but more likely fine veining or reworking from proximal alluvial deposits. No further works were conducted by Gold Fields. Subsequent companies have held exploration leases over the EL18/2012 area but no significant exploration has been conducted since the works completed by Gold Fields Exploration.

6 2013-2014 Anniversary Year Exploration Activities

Activities during the 2013 anniversary year within EL17/2012 comprised of review, digitisation and reinterpretation of historic exploration data, acquisition and assessment of Worldview 2 imagery and planning of field work and target prioritisation.

Application to Mineral Resources Tasmania was made in December 2013 to consolidate exploration licences 17/2012 and 45/2010. EL17/2012 is on the periphery of the Big Wilson target within EL45/2010 and the consolidation of the licences has been requested.

7 Conclusions and Recommendations

Exploration by Gold Fields Exploration in the 1980s did not identify significant Sn or WO_3 anomalism in bulk $<180\mu\text{m}$ stream sediment samples from the area now covered by EL17/2012. However, Gold Fields subsequently panned up to 2210ppm Sn from streams immediately south of EL17/2012 where bulk $<180\mu\text{m}$ stream sediment samples had also returned uniformly low and non-anomalous Sn results. It is suspected that the lower limit of detection for Sn (c. 10-20ppm) by XRF was, and still is (c. 5ppm), too high to delineate useful low-level Sn geochemical patterns in bulk (un-panned) stream sediment fines. Panned concentrates may be a more robust method of identifying stream sediment Sn anomalism, although trap site selection and the samplers panning ability are significant issues in the interpretation of panned concentrate data. Aside from comments regarding freshness and colour of the cassiterite Gold Fields Exploration did not record any observations regarding the composition and mineralogy of the stream sediment samples from the Alfred River area.

The panned concentrate results suggest there could be a primary source for Sn within EL17/2012 but how to delineate primary from re-worked alluvial source in such an area remains a difficult problem. Venture Minerals proposes to conduct a helicopter supported stream sediment sampling program concurrently with geological mapping and prospecting for alteration within EL17/2012. An orientation programme to evaluate the Sn and WO_3 in $<180\mu\text{m}$ stream sediment samples downstream of known primary and alluvial Sn occurrences in the Mt Lindsay area is also recommended to investigate further whether primary anomalies can be distinguished readily from re-worked alluvial sources. It is recommended that samples be assayed for both total and acid soluble Sn, and the entire heavy mineral suite be examined. The aim of the geological mapping is to specifically identify carbonate horizons, check for the presence of alluvial gravels or lacustrine sediments, and search for mineralised veins and metasomatic alteration.

8 Bibliography

Brown, A. V., 1986. Geology of the Dundas – Mt Lindsay – Mt Youngbuck region. Tasmania Department of Mines. Geological Survey Bulletin 62.

Geological Survey of Tasmania, 1991. Corinna. Geological Atlas 1:50,000 Series. Tasmania Department of Resources and Energy, Division of Mines & Mineral Resources.

Cartwright, A.J., Exploration Licence 17/77, Wilson River Area Annual Report May 1983, Gold Fields Exploration Pty Ltd. Unpublished report for Tasmanian Department of Mines (MRT Report No. 83-2014).

Cartwright, A.J., Komyshan, P., Roberts, P.A., Exploration Licence 17/77, Wilson River Area Annual Report for 1983-1984, Gold Fields Exploration Pty Ltd. Unpublished report for Tasmanian Department of Mines (MRT Report No. 84-2281).

Gregory, R., Exploration Licence 9/86, Alfred River Area Annual Report, Timron Mining. Unpublished report for Tasmanian Department of Mines (MRT Report No. 87-2665).

Browne, C., Exploration Licence 9/86, Annual Report, Alfred River Area Western Tasmania 1987-88, Pioneer Resources N.L. Unpublished report for Tasmanian Department of Mines (MRT Report No. 88-2826).

Blanks, R. F., Exploration Licence 9/86, Alfred River Report, 1988-1989, Pioneer Resources N.L. Unpublished report for Tasmanian Department of Mines (MRT Report No. 89-2967).