WILLIAMSFORD EL 48/2011
ANNUAL and FINAL REPORT

FOR THE PERIOD ENDING 3rd JULY 2017

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Mineral Resources Tasmania, Hobart
MMG – Melbourne Group office

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1 SUMMARY

No field work was completed during the current period, the tenement is recommended for relinquishment,

2 INTRODUCTION

EL 48/2011 Williamsford conjoins with the western edge of the Rosebery Mine lease. The tenement is located just to the west of the of Rosebery township (Figure 1). Access to the project area is from the Murchison Highway via the Williamsford road and various tracks. EL48/2011 is coincident with state forest under management of Forestry Tasmania and administered under the Forestry Act (45 of 1998). EL 48/2011 is a 23.5 km^2 Exploration Licence the tenement was granted on the 3rd July August 2012 for a 5-year period.

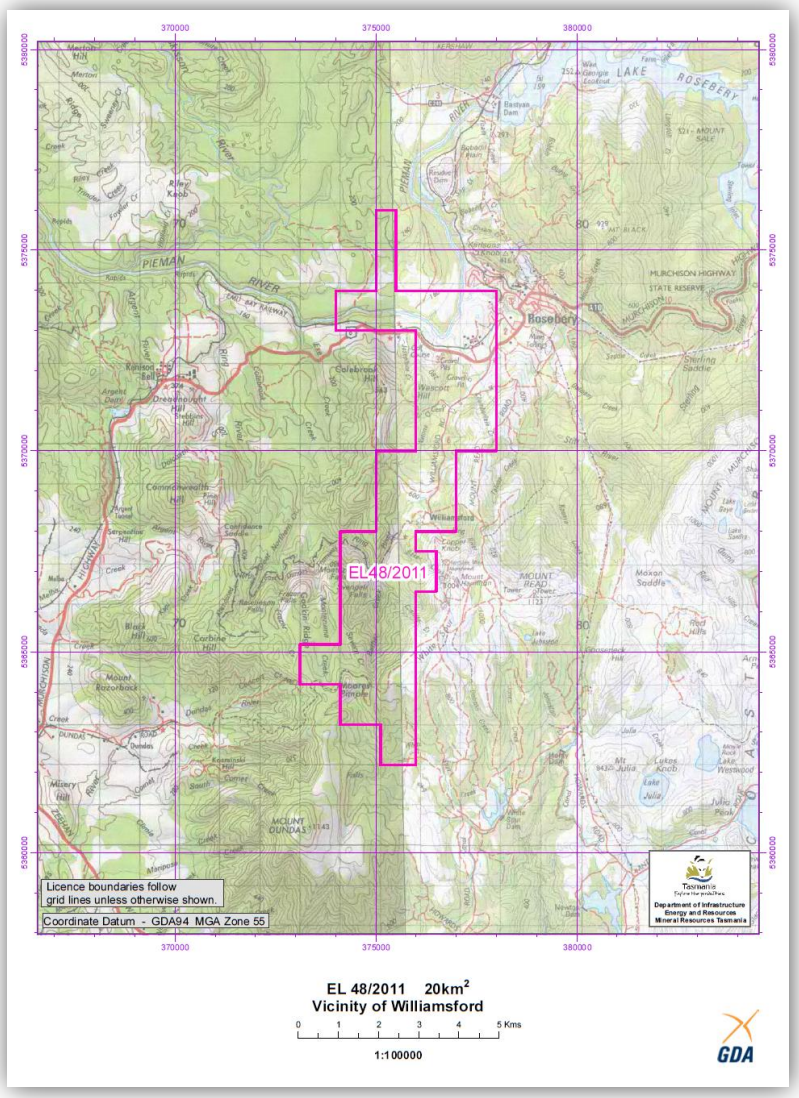

Figure 1: Location of EL 48/2011 Williamsford

3 GEOLOGY

The geology of EL 48/2011 is dominated by two major structures – the Rosebery Fault and Marionoak Fault. The intervening rocks – are referred to as the Rosebery Group. The ":Rosebery Group" west of the Rosebery fault includes rock packages that have previously been correlated with the White Spur Formation, the Owen Conglomerate, the neoproterozoic Cleveland-Waratah association are of uncertain affinities (e.g., the Salisbury Conglomerate, the Westcott Argillite and the Natone Volcanics) and although the area has been the subject of previous studies (Campana and King, 1963; Green, 1983; Lees, 1987, Corbett and Lees, 1987, Parfrey, 1993), little

work has been completed in recent years. In the western part of this area are a north-south trending, approximately 170m wide band of "Felsic Tuffs" which extend from the Pieman River, in the north and are truncated by the Rosebery Fault in the vicinity of the Jupiter Prospect, that were called the Natone Volcanics by Campana and King (1963). As described in the literature (Green, 1981; Lees, 1987, Parfrey, 1993) the Natone Volcanics are lithologically, and geochemically (Parfrey, 1993) similar to the White Spur Formation, and thus may be part of the MRV and hangingwall to the Rosebery ore position. However, more recently they have been included in the "Marine Owen Group" by Corbett (2004). Although the overall distribution of the Natone Volcanics is well defined their internal structure, contacts with enclosing units, provenance and potential correlations are poorly understood.

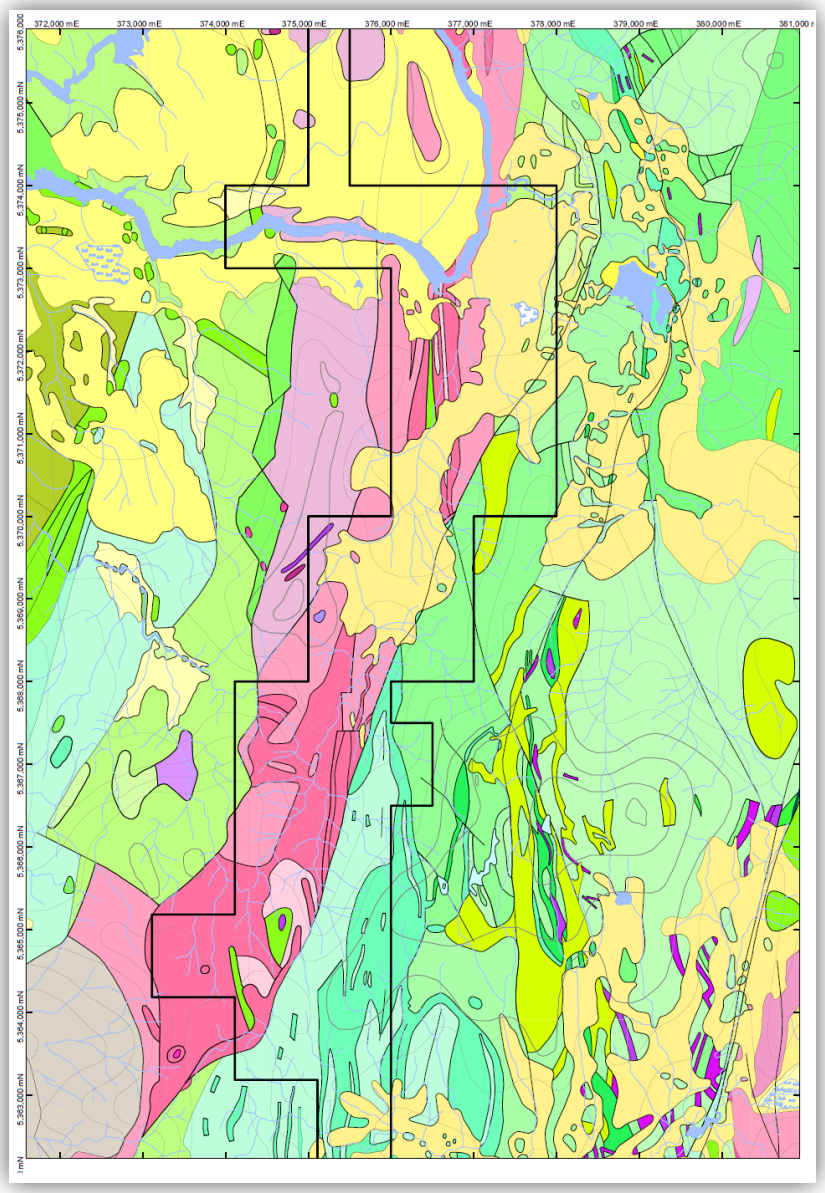

Figure 2: MRT 1:25K geology with EL 48/2011 – major pink units striking NNE, represent rocks west of the Rosebery Fault

4 WORK COMPLETED (YEAR 1-5)

4.1 YEAR 1:

Work completed during the first year of tenure has focussed on understanding the area around the Natone Volcanics. This area has been studied by two CODES Honours students who have been investigating:

1. the Natone Volcanics (Wayne Baker) in a study titled **Correlations and exploration significance of the Natone Volcanics, Rosebery Group, Western Tasmania**

2. The Rosebery group (Michael Febey) is a study titled **Stratigraphy, structure and correlations of the Rosebery Group west of the Rosebery Fault, Rosebery district, western Tasmania.**

These studies have not yet been received.

4.2 YEAR 2:

Diamond drilling
Drillhole WSP16 was targeting a Rosebery-Hercules style VMS deposit at the contact of the White Spur Formation and Central Volcanic Complex (Rosebery/Hercules footwall pumice breccias).

The drillhole was collared just outside the Williamsford EL in the very south of the tenement however, it was drilled towards the west, and therefore only 70m of the 857m drillhole is outside the Williamsford tenement. WSP16 targeted the mapped anticline to the west of WSP13 which had tested the related syncline. Drillhole WSP13 also intersected a ~20m package of host rocks which is one of the thickest intersections at the White Spur prospect. Mapping and drilling in the area suggested that the anticline should bring the CVC/WSF contact to a reasonable depth of 400-500m. Although bedding/cleavage relationships suggested WSP16 drilled very close to hinge of the anticline, a large disconformity was present at the CVC/WSF contact at 566.2m, potentially missing 100-200m of stratigraphy. Alteration of the CVC rocks was weak, dominated by pink albite-silica alteration. A more detailed summary log is provided below in Table 1.

Table 1: Summary Log WSP16

FROM	TO	DESCRIPTION
0.0m	285.7m	WSF – interbedded greywacke and lithicwacke turbidites of the upper White Spur Formation.
285.7m	438.4m	WSF – crystal rich mass flow unit with a 40m mudstone top. The mass flow is composed of 20-25% feldspar and 2-5% Quartz crystals. Clasts composition includes; mudstone clasts up to 100cm, porphyritic rhyolite clasts, white/grey siliceous clasts and abundant pumice.
438.4m	566.2m	WSF – lithic and pumice rich mass flow unit. Unit is topped by approximately 10m of mudstone that becomes a fine siltstone to 520m, gradually coarsening downhole. The mass flow does not develop a coarse clast dominant base due to a sharp contact at 566.2m. This contact is interpreted as a disconformity, possibly representing an erosional time gap.
566.2m	857.3m	CVC – overall this is a feldspar crystal rich pumice breccia with variable pink silica-albite alteration throughout. Compositionally, it is dominated by wispy tube pumice, feldspar crystals and occasional dark bands of fiamme pumice. The black shale and host rocks were missing above the CVC (presumably eroded off). From 608.6-611.7m are grey/buff coloured clasts up to 30cm which were subsequently confirmed by geochemistry to be of a basaltic composition. A rhyo-dacite porphyry intrusive is apparent form 629.6-635m; however, this is possibly an alteration effect as the lower contact is difficult to determine.

External University of Tasmania study:

A research thesis entitled "*Correlations and Exploration Significance of the Natone Volcanics, Rosebery Group, Western Tasmania*" was completed under the fulfilment of a Graduate Diploma by Wayne Baker of UTas (Appendix C). His data was gathered from logging and sampling of two drillholes along with minor outcrop mapping and sampling.

Key findings from the study were correlating the Natone Volcanics to the middle White Spur Formation, and a high precision U-Pb zircon date of 498.3 ± 0.8 Ma via CA-TIMS method.

A second study, also focused on the geology west of the Rosebery Fault was not completed by the student.

31 soil samples and 43 rock chips were collected from this tenement as part of a major grid based regional soil sampling program. Location of the samples are shown in Figure 3. All sample results will be reviewed in a regional context (where +800 rock and soil samples have been collected) in June.

4.3 YEAR 3:

31 soil samples and 43 rock chips were collected from this tenement as part of a major grid based regional soil sampling program. Location of the samples are shown in Figure 3. All sample results will be reviewed in a regional context (where +800 rock and soil samples have been collected) in June.

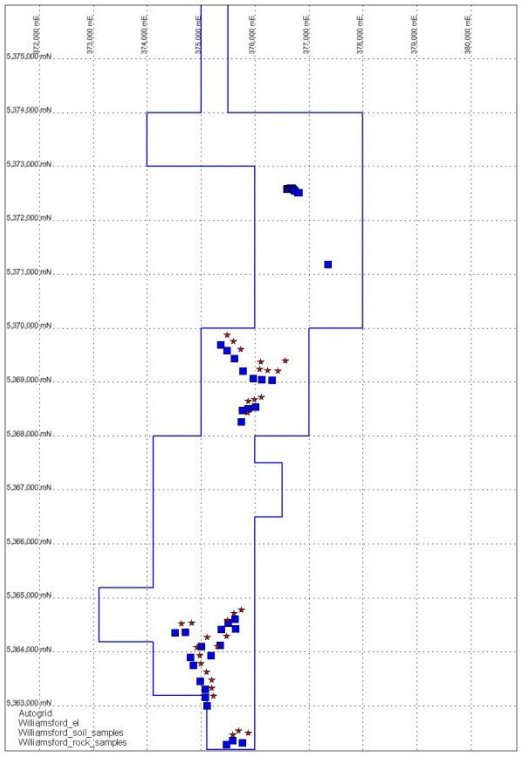

Figure 3: Location diagram for rock chips (blue squares) and soil samples (red stars) collected on the Williamsford tenement.

4.4 YEAR 4:

Approximately 14km of track cutting has been submitted for approval but is yet to commence as at 25th May 2016. Infill soil and rock sampling is planned at 100m by 400m as an initial infilling pass EW map grid between 5370400 and 5368000 North to South. An extensive review of historic data was undertaken during the period, in an attempt to synthesize and refine the large body of historic information and interpretations into a useful tool for targeting rationale.

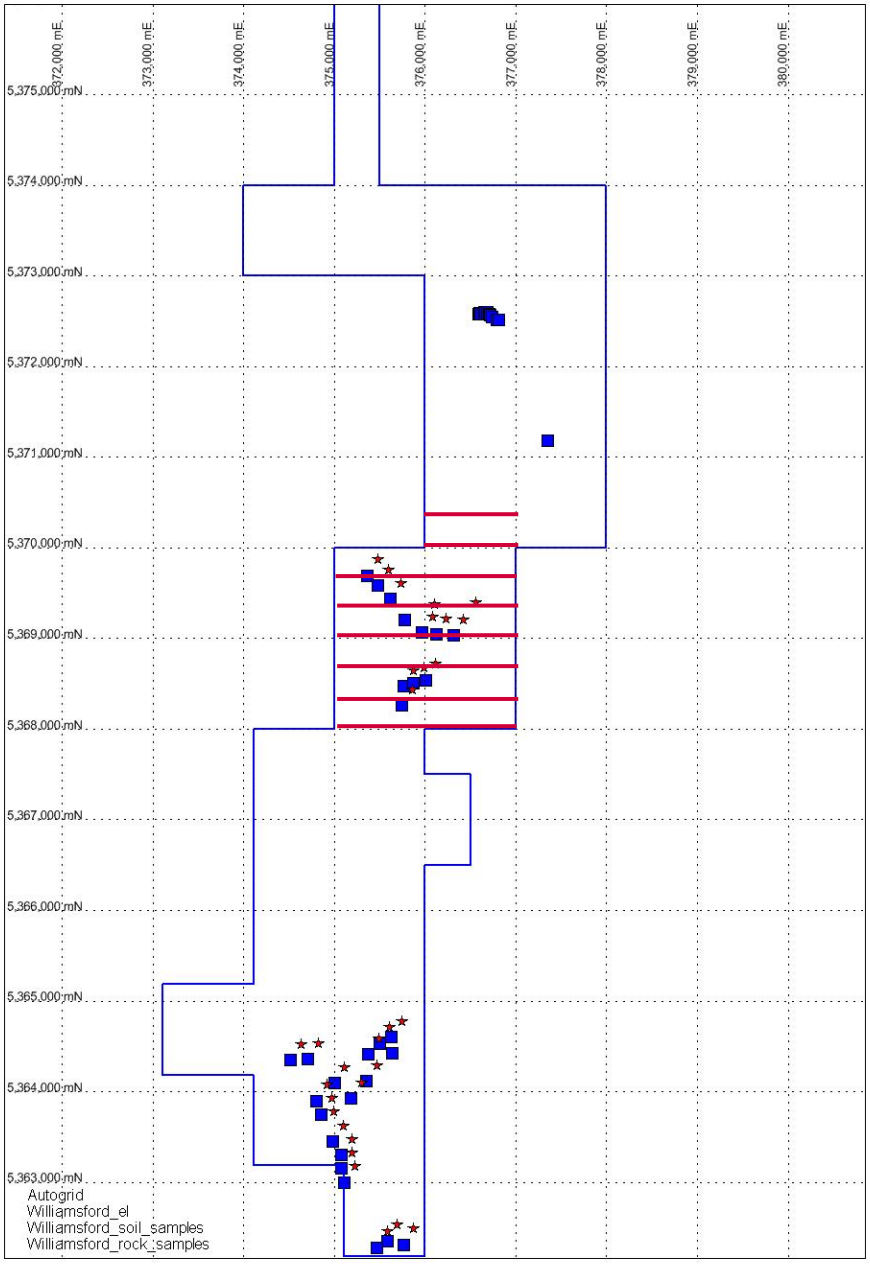

Figure 4: Location diagram for follow up Track cutting and sampling 2016/17 (red lines) over rock chips (blue squares) and soil samples (red stars) collected on the Williamsford tenement 2014 /15.

4.5 YEAR 5:

It was decided not to complete the track cutting and sampling and to relinquish the tenement.

5 CONCLUSIONS & RECOMMENDATIONS

It is recommended that the tenement be relinquished.

6 ENVIRONMENT & REHABILITATION

There were no environmental disturbances during the reporting period.

7 EXPENDITURE

	1008X-000016 Williamsford - EL48/2011 Current Year AUD
Personnel	3,717
Rental Fees	1,096
Administration Overheads	1,203
Total	**6,016**

8 REFERENCES

Baker, W., 2013. Correlations and exploration significance of the Natone Volcanics, Rosebery Group, Western Tasmania. Unpub. BSc (Grad Dip) thesis, University of Tasmania, Hobart, 62p.

Campana, B., and King, D., 1963. Palaeozoic tectonism, sedimentation and mineralisation in West Tasmania. J. Geol. Soc. Aust. 10, 1-54.

Corbett, K.D., 2004. Updating and revision of the 1:25 000 scale series geological maps covering the Mt Read Volcanics belt in western and northern Tasmania. Geological Survey of Tasmania. Records 2004/03, 10p

Green, G.R., 1983. The Geological setting and formation of the Rosebery Volcanic-hosted massive sulphide orebody, Tasmania. Unpub. PhD Thesis, University of Tasmania, Hobart.

Lees, T.C., 1987. Geology and mineralisation of the Rosebery-Hercules area, Tasmania. Unpub. MSc Thesis, University of Tasmania, Hobart, 164p.

Mortensen JK; Gemmell B; McNeill AW; Friedman RM (Unpublished) High-Precision U-Pb Zircon Chronostratigraphy of the Mount Read Volcanic Belt in western Tasmania, Australia: Implications for VHMS Deposit Formation. Economic Geology.

Parfrey, O., 1993. Mesoscopic and microscopic structural evolution in the Dundas Group at Rosebery, Western Tasmania. Unpub. BSc (Hons) thesis, University of Melbourne, Melbourne, 72p.