MALACHITE RESOURCES NL

ABN 86 075 613 268

MT RAMSAY , TASMANIA
EL 42/2002

FIRST ANNUAL EXPLORATION REPORT
FOR THE YEAR ENDED 22 AUGUST 2004

VOLUME 1 OF 1

Distribution:

1. Malachite Resources NL
2. BHP Billiton Minerals Pty Ltd
3. TasGold Limited
4. Mineral Resources Tasmania

Report No.: 04/04

Author: RMD Meares

Date: July 2004

TABLE OF CONTENTS

PAGE NO.

SUMMARY

1. INTRODUCTION 4

2. LOCATION, ACCESS AND TENEMENTS 4

3. REGIONAL GEOLOGY 5

4. PREVIOUS EXPLORATION 5

5. EXPLORATION WORK COMPLETED 6

5.1. INTRODUCTION 6

5.2. AIRBORNE EM SURVEY 6

6. FUTURE PROGRAM 7

7. EXPENDITURE 8

8. REFERENCES 8

Report filename: *EL422002_200407_01_report.pdf*

LIST OF FIGURES

		Scale
Figure 1	Mt Ramsay Project – EL 42/2002 Regional Geology Plan	1:200,000
Figure 2	Mt Ramsay Project – EL 42/2002 Geology Plan Showing EM Conductors	1:25,000

LIST OF APPENDICES

Appendix 1 Consultant Geophysicist's Report

1. INTRODUCTION

This First Annual Report summarises the results of exploration work completed on Exploration Licence (EL) 42/2002 – Mt Ramsay, during the year to 22 August 2004.

EL 42/2002 was originally granted to BHP Billiton Minerals Pty Ltd ("BHP Billiton") in August 2003. In June 2004, BHP Billiton farmed out an interest in EL 42/2002 in equal portions to Malachite Resources NL ("Malachite") and TasGold Limited ("TasGold"), with Malachite appointed as the Manager of the Mt Ramsay Joint Venture.

The immediate exploration targets on the tenement are two linear groups of electromagnetic ("EM") anomalies in geological settings analogous to those of the Renison Bell and Mt Bischoff carbonate replacement tin deposits.

Due to the change in corporate interests in the tenement, the only work conducted during the first year of the tenement has been office studies including compilation of geological information and past exploration data, as well as interpretation of the likely sources of the airborne EM anomalies.

2. LOCATION, ACCESS AND TENEMENTS

The Mt Ramsay Project is centred approximately 23 km north of the Renison Bell tin mine in western Tasmania (**Figure 1**). Access to the project area is from the Waratah-Luina road, turning off this road approximately 7 km SW of Waratah and driving a further 3 km south to Wombat Flat. From here an abandoned 4WD track extends from north to south through the Mt Ramsay tenement.

The project is located on uncommitted Crown land within the Meredith Range Regional Reserve (No. 2000/241), which was declared under the National Parks and Reserves Management Act (2002). The primary purpose of regional reserves is the utilization of any mineral resources they may contain. EL 42/2002 is located in the Ramsay River catchment, immediately east of Mt Ramsay (855m), the major topographic feature in the region. The terrain is generally steep and thickly forested, with some logging having taken place in selected areas.

The tenement covers an area of 24 sq km and was granted on 22 August 2003 for a period of five years until 22 August 2008. The minimum expenditure commitment during the first two years is $18,000.

BHP Billiton currently holds a 100% interest in EL 42/2002, and has entered into a farm-out agreement with Malachite Resources NL and TasGold Limited.

3. REGIONAL GEOLOGY

The project lies within the Dundas Element (formerly the Dundas Trough), comprising Proterozoic- to Cambrian-aged sequences of western Tasmania, located east of the Arthur Lineament (Seymour and Calver, 1995, and Bottrill et al., 1998). The regional setting of the Mt Ramsay area and the location of the major carbonate replacement tin deposits (Renison Bell, Mt Bischoff and Cleveland) are shown on **Figure 1**.

The Mt Ramsay region has been mapped by Brown (1986) and the most detailed published geological map is the 1:25,000 "Regional Geology of the Dundas – Mt Lindsay – Mt Ramsay Area" which accompanies Brown's report. The project geology included in **Figure 2** is taken from Brown's map.

At Mt Ramsay, two adjoining sequences lie to the east of the Devonian Meredith Granite. The western of these sequences, which is in contact with the Meredith Granite throughout the tenement, is the Cambrian Crimson Creek Formation which regionally consists of volcanoclastic siltstone and mudstone, minor carbonate lenses, and contains up to 25% of basaltic lava flows in the Mt Ramsay area. The eastern sequence comprises locally isoclinally folded sedimentary members of the Proterozoic Oonah Formation, regionally consisting of quartz sandstone, siltstone and mudstone, but with thinly bedded calcareous siltstone dominating in the Mt Ramsay area. The contact between the Crimson Creek Formation and the Oonah Formation sequences at Mt Ramsay has been mapped by Brown as a fault.

The Meredith Granite in the Mt Ramsay area consists of porphyritic medium grained to very coarse grained biotite granite/adamellite with phenocrysts of feldspar up to 25mm long (Brown, 1986). The granite intrudes the Crimson Creek Formation lithologies, and a broad metamorphic aureole extends for up to two kilometers east of the granite contact, affecting both the Crimson Creek Formation and Oonah Formation lithologies and resulting in conversion of the dominantly calcareous horizons to recrystallised carbonate and the mudstone and sandstone units to hornfels.

The Meredith Granite is considered to be the source of the tin at deposits around its northern margin (eg. Mt Bischoff and Cleveland), and the presence of the Mt Ramsay skarn occurrence at the granite's eastern contact within the tenement, approximately one kilometer west of the northern group of EM conductors (Figure 2), is confirmation of a granite-related mineralizing system at Mt Ramsay.

The youngest lithologies mapped at Mt Ramsay are flows of Tertiary-aged basalt which occur in the northeastern and northwestern corners of the tenement.

4. PREVIOUS EXPLORATION

A review of open file reports covering previous exploration at Mt Ramsay was conducted and confirmed that only minimal exploration had been undertaken on the area of EL 42/2002, principally at the Mt Ramsay skarn prospect. Drilling conducted in the early 1980's intersected anomalous values of tin, tungsten, copper, gold and bismuth in a sulphide-bearing skarn host rock.

There is no evidence of any previous exploration in the vicinity of the two groups of EM conductors.

5. EXPLORATION WORK COMPLETED

5.1. INTRODUCTION

During the first year of the tenement, work has comprised office studies including acquisition and compilation of available geological information and past exploration data, as well as acquisition and interpretation of the airborne EM data.

This work was initiated by BHP Billiton, and was taken over by Malachite on the latter's appointment as Manager of the Mt Ramsay Joint Venture. The important components of this program have been (1) familiarization with the geological setting of the area, (2) review of past exploration, (3) identification and interpretation of the EM conductors, (4) development of an ore deposit model, and (5) design of an appropriate exploration program to test the conductors with regard to the selected ore deposit model.

5.2. AIRBORNE EM SURVEY

As part of the Western Tasmania Regional Minerals Program, sections of western Tasmania were flown with helicopter-borne electromagnetics ("heli EM") in 2001/2002 by geophysical contractor GeoInstruments. The survey was flown on 200m spaced east-west lines using the Hummingbird five frequency EM system, with a nominal ground clearance for the towed bird of 30m. In addition, magnetics was flown in the same survey using a Geometrics G822A caesium vapour magnetometer.

This survey included the area of the Mt Ramsay tenement, and the gridded and located data was purchased from Mineral Resources Tasmania. Initially BHP Billiton conducted a preliminary interpretation of the datasets before farming the property out to Malachite and TasGold.

Mitre Geophysics Pty Ltd was engaged by Malachite to interpret the heli EM and magnetic datasets for Mt Ramsay and their report is included as **Appendix 1**. In summary, Mitre suggests that the sources of the conductors lie within 50m of the surface and could either be massive sulphide lenses or other bedrock sources (eg. graphitic rocks or conductive zones within a fault or an unconformity).

The northern group of conductors lies within the Crimson Creek Formation, which also hosts the Renison Bell tin deposit 23 km to the south. This group consists of a cluster of four conductors coincident with a cluster of linear magnetic anomalies.

The southern group of conductors is located approximately 2 km SSE of the northern group and lies within the Oonah Formation, which hosts the Mt Bischoff tin deposit 17 km to the north. This group consists of a cluster of three conductors. There are no coincident magnetic responses associated with this southern group of conductors.

Until recently, Renison Bell was the world's largest underground tin mine, with an estimated pre-mining resource of 26 million tonnes at 1.46% Sn, while Mt Bischoff, once one of the richest tin mines in the world, had an estimated pre-mining resource of 10.5 million tonnes at 1.1% Sn. The ore bodies at both Rension Bell and Mt Bischoff comprised cassiterite-bearing massive sulphide lenses that are electrically conductive, allowing detection by EM surveys.

6. FUTURE PROGRAM

Interpretation of the likely bedrock sources of the two groups of EM conductors at Mt Ramsay suggest that due to their strength and geological setting, they may be caused by stratabound massive sulphide lenses, which could potentially host carbonate replacement tin deposits such as Renison Bell and Mt Bischoff.

Accordingly, the program planned for the second year of the tenement will include an initial field reconnaissance program, to be followed by a drilling program, assuming the initial program confirms the massive sulphide potential of the conductors.

The reconnaissance program will be helicopter-supported and will consist of the following components:

- a series of ground EM traverses to (1) accurately locate the position of the conductors, and (2) provide information on the depth and dip of the conductors
- prospecting/mapping and rock chip sampling any outcrops in the area of each group of conductors, to identify the possible bedrock lithologies hosting the conductors
- a series of short soil sampling lines to evaluate the geochemical response of the conductors

The results of this program will guide the follow-up program, which given encouraging results in the initial reconnaissance program, will most likely include a number of short helicopter-supported diamond drill holes.

These programs will be conducted only after all the necessary approvals have been received, and environmental disturbance will be kept to the absolute minimum. Any areas disturbed will be rehabilitated. Only existing tracks and helipads will be used in the initial reconnaissance program, but new tracks and helipads/campsites/drill sites may need to be cleared for the proposed drilling program.

7. EXPENDITURE

Expenditure on EL 42/2002 for the eleven month period ending 22 July 2004 totals $14,569 as detailed below:

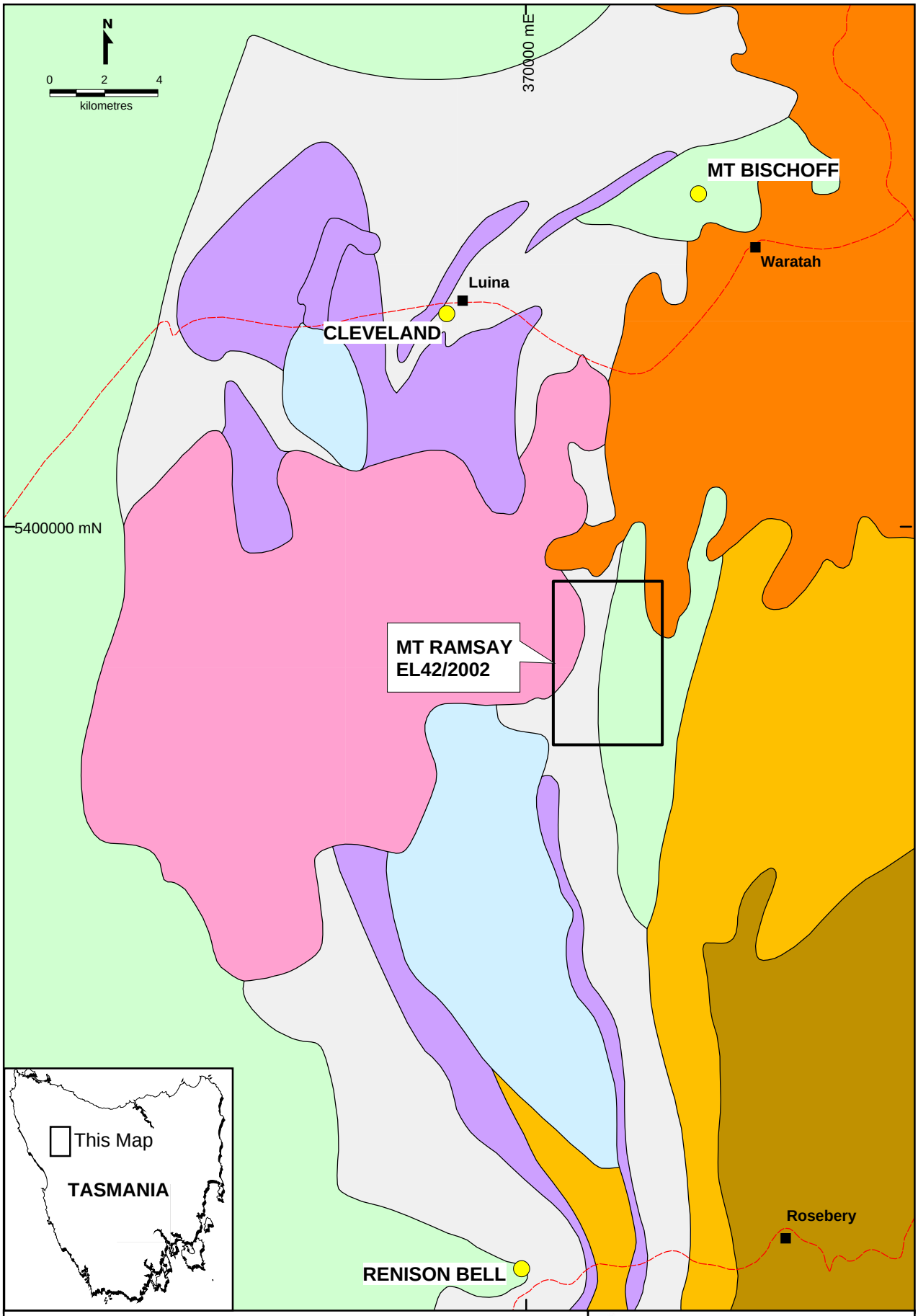
Expenditure Category	**$**
Salaries & wages	10,403
Consultants	1,900
Field supplies	19
Maps & technical literature	160
Travel & accommodation	762
Overhead (10%)	1,325
Total	**14,569**

8. REFERENCES

Bottrill, R.S., Brown, A. V., Calver, C. R., Corbett, K. D., Green, G. R., McClenaghan, M. P., Pemberton, J., Seymour, D. B. and Taheri, J., 1998. A summary of the economic geology and mineral potential of Late Proterozoic and Palaeozoic provinces in Tasmania. AGSO Journal of Geology and Geophysics, 17 (3), pp 123-143.

Brown, A. V., 1986. Geology of the Dundas-Mt Lindsay-Mt Youngbuck region. Tasmanian Geological Survey, Bulletin 62, 221 pp.

Seymour D. B. and Calver C. R., 1995. Explanatory notes for the time–space diagram and stratotectonic elements map of Tasmania. Tasmanian Geological Survey, Record 1995/1.



LEGEND

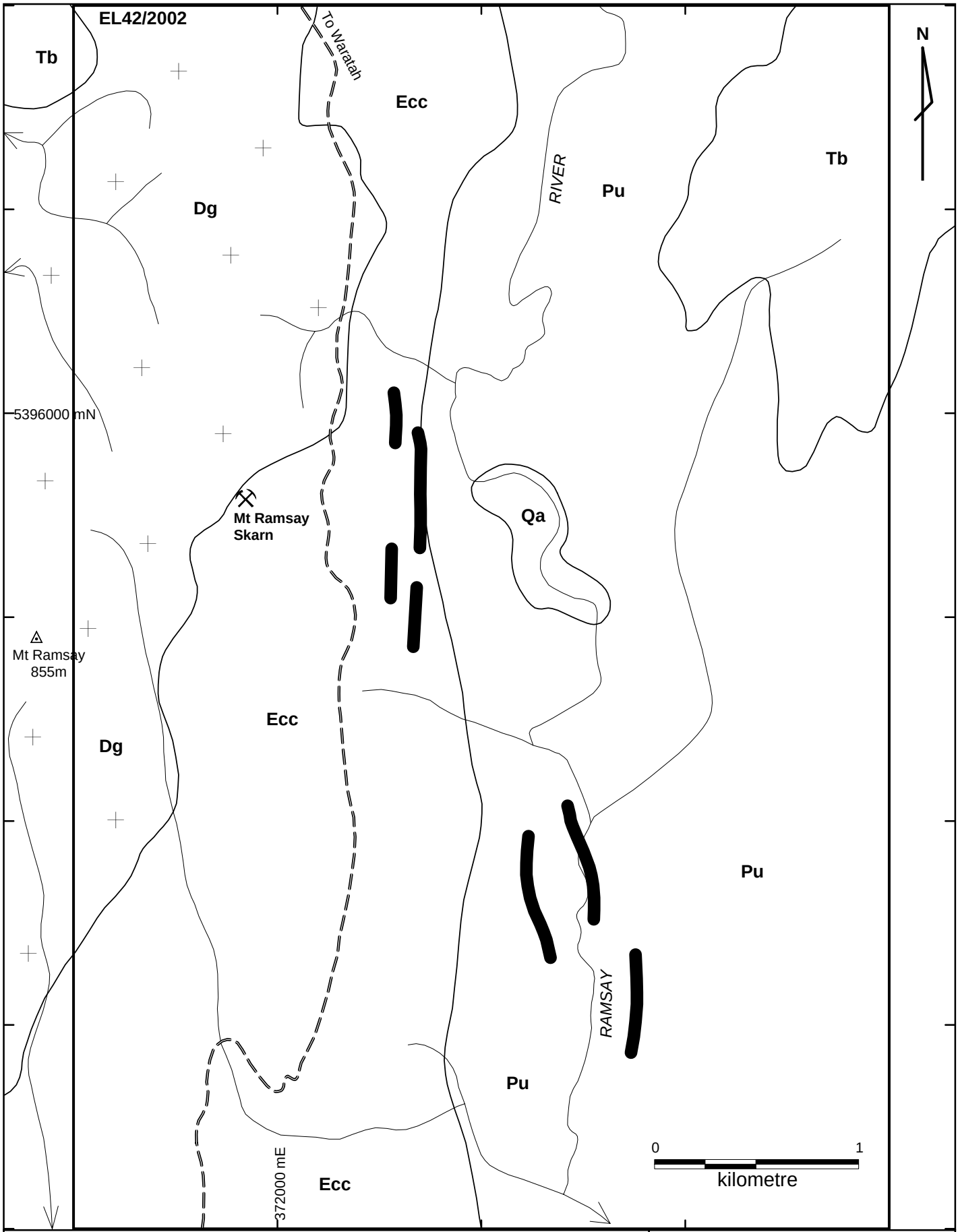
- Tertiary Basalt
- Meredith Granite
- Ordovician-Devonian Sediments
- Dundas Group, Flysch & Felsic Epiclastics
- Mount Read Volcanics
- Mafic/Ultramafic Volcanics & Intrusions
- Crimson Creek Formation
- Proterozoic Sediments including Oonah Formation
- Tenement boundary
- Highway
- Major Tin Mine
- Town

MALACHITE RESOURCES NL

MT RAMSAY PROJECT

REGIONAL GEOLOGY PLAN

Proj/Grid: AGD66/AMG55	Date: July 2004
Scale: 1:200,000	Figure 1



LEGEND

- Qa — Quaternary alluvium
- Tb — Tertiary basalt
- Dg — Devonian Meredith Granite
- Ecc — Eocambrian Crimson Creek Formation
- Pu — Proterozoic Oonah Formation
- EM conductors
- Geological boundary
- River, creek
- Track
- Working
- Tenement boundary

MALACHITE RESOURCES NL

MT RAMSAY PROJECT

GEOLOGY PLAN SHOWING EM CONDUCTORS

Proj/Grid: AGD66/AMG55	Date: July 2004
Scale: 1:25,000	Figure 2

Mitre Geophysics Pty Ltd

The Mt Ramsay HEM Anomalies, Western Tasmania

Malachite Resources has asked Mitre Geophysics to comment on a series of anomalies identified by Malachite's strategic partner BHPBilliton (BHPB) near Mt Ramsay on the eastern margin of the Meredith Granite. Figure 1 positions the responses on the regional geology and shows their location relative to the many diverse metalliferous deposits of western Tasmania.

Figure 2 locates the three original BHPB anomalies, plus responses I have identified from the composite flight line profiles*, on an image of apparent resistivity generated from a grid of the 880 Hz coplanar data. This image shows the resistive nature of the Meredith Granite to the central west and the conductive nature of the Tertiary basalts to the north east (due to gravels and sands within the flows). The southern group of responses define an isolated discrete conductor, but the northern group appear to be part of a more extensive trend. The same responses are shown in more detail in Figure 3 with geological boundaries from the 1:250,000 geology plus two examples from the profiles.

The northern responses lie within magnetic Cambrian sediments (Crimson Ck equivalents) and the southern group in non-magnetic Proterozoic sediments (Oonah equivalents), see Figure 4. Both lithologies contain carbonate sequences and the Crimson Ck Group hosts Renison. The two groups also differ geographically with the northern group on a steep slope and the southern group in a valley (Figure 5).

Both the north and south group of responses are complex and indicate multiple conductors within each group. Graphitic sequences or unusually conductive zones within a fault or unconformity are possible non-prospective sources, but at present the responses may equally be due to massive sulphides. Modelling would help quantify the conductors, but it can be assumed that the top of the sources will lie within 50m of the surface (and probably much less) and that they have been sufficiently accurately located to be readily found and better resolved with a light portable EM system such as the EM34.

In summary: a number of prospective HEM responses have been recorded over two different lithologies, both of which are potential hosts for massive sulphide mineralisation. A field trip is recommended to confirm the conductors on the ground, to look for possible sources and to take samples for geochemical analysis. Assuming no non-prospective sources are found, a program of ground EM and auger geochemistry would then be recommended to map the conductors prior to drill testing.

(*Supplied by MRT. Profiles covering 3.6km of strike length have been registered in the Powerpoint file, Mt_Ramsay.ppt, which contains a number of other expandable images.)

JR Bishop

25th January, 2004

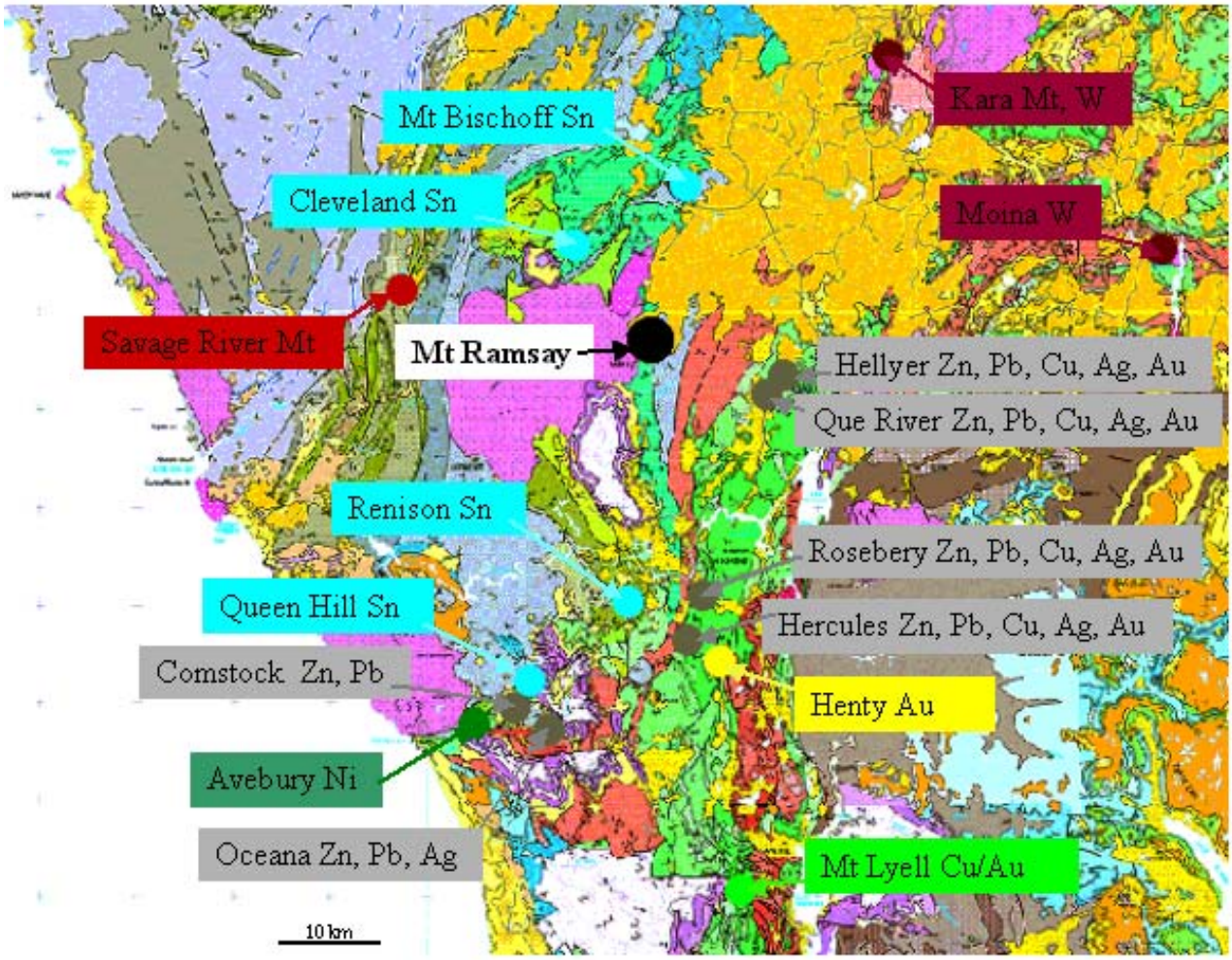


Figure 1. Location of the Mt Ramsay HEM anomalies plus the main western Tasmanian metalliferous deposits superimposed on the regional geology.

The Mt Ramsay prospect was originally defined by BHPBilliton with three anomalies:-

TAS10 - 372900E, 5396500N
TAS13 - 372700E, 5395150N
TAS12 - 373230E, 5393270N

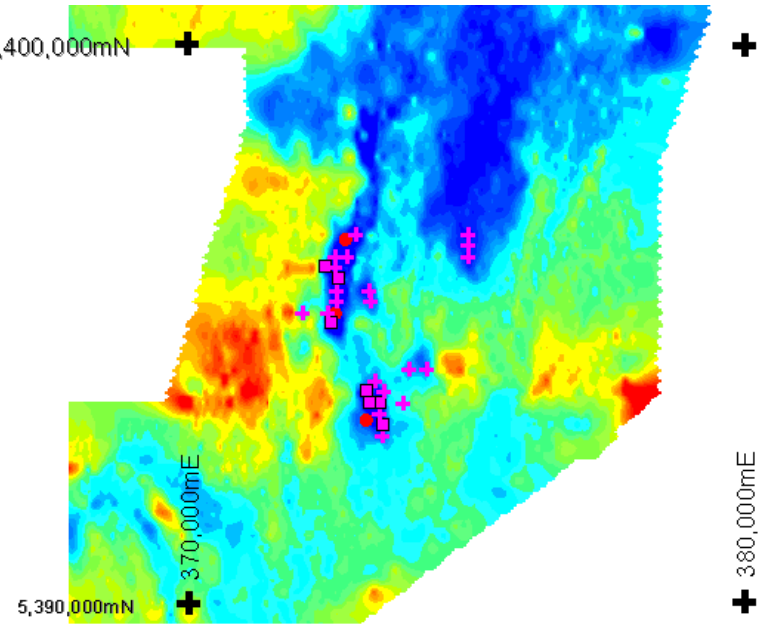


Figure 2. Original BHPB responses as red circles plus responses picked from the composite profiles shown as purple squares and crosses with the former indicating larger amplitudes, superimposed on apparent resistivity (red most resistive) generated from the coaxial 880 data. The responses lie on strike limited features to the east of the resistive Meredith Granite. The conductive area in the northeast quadrant is interpreted to be due to conductive gravels and sands within the Tertiary basalt.

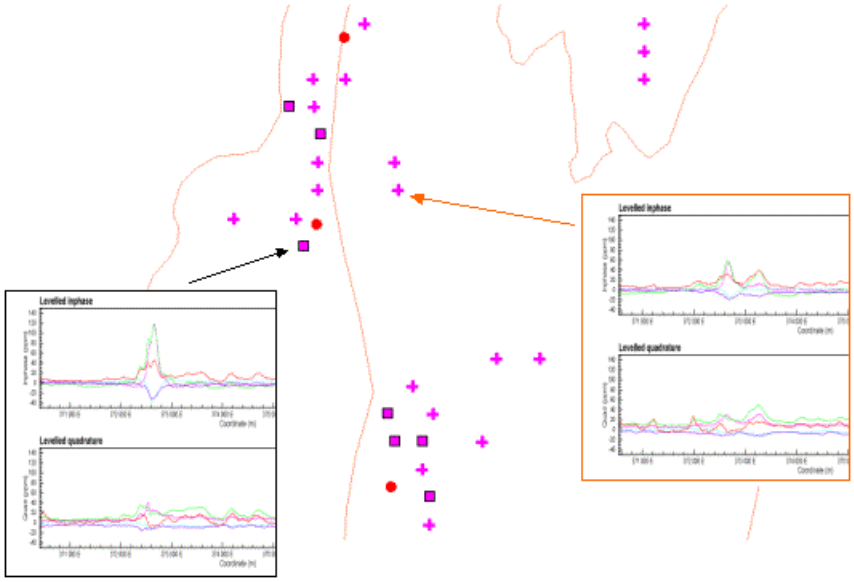


Figure 3. The responses in Figure 2 expanded and superimposed on 1:250,000 geological boundaries. An Two responses extracted from the composite flight line profiles have been included as examples. The southern group is hosted by Proterozoic sediments (Oonah equivalent) and the northern group predominantly by Cambrian sediments (Crimson Ck equivalent). The north-east group is within Tertiary basalt and is considered unprospective. The scale of the image can be taken from the north-south 200m spacing (ie the flight line spacing) of the responses within each group.

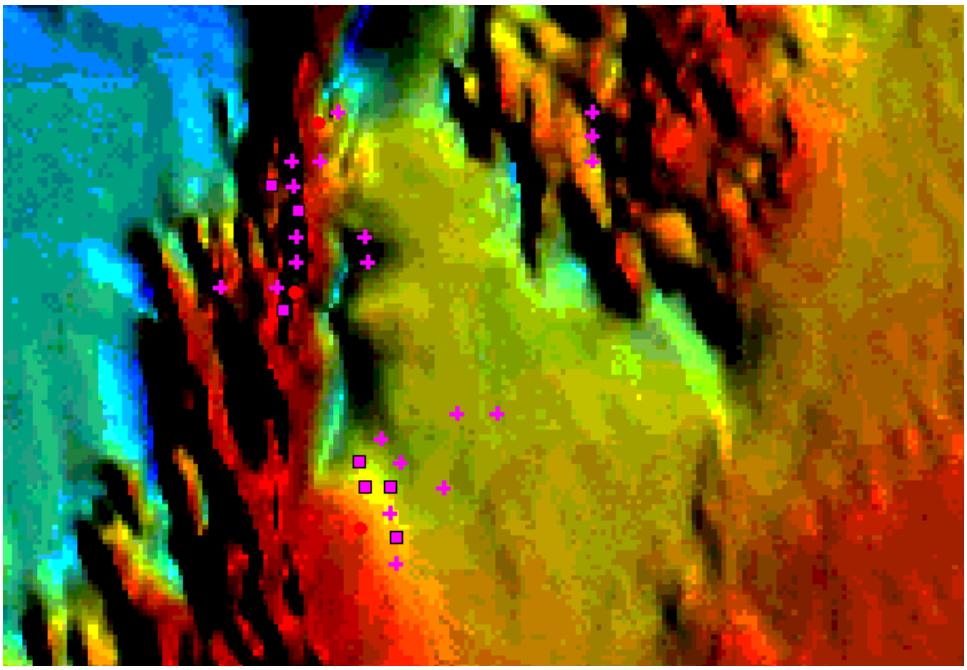


Figure 4. HEM responses superimposed on TMI with a NE illumination. The northern group overlie magnetic Cambrian sediments with the southern group over non-magnetic Proterozoic sediments.

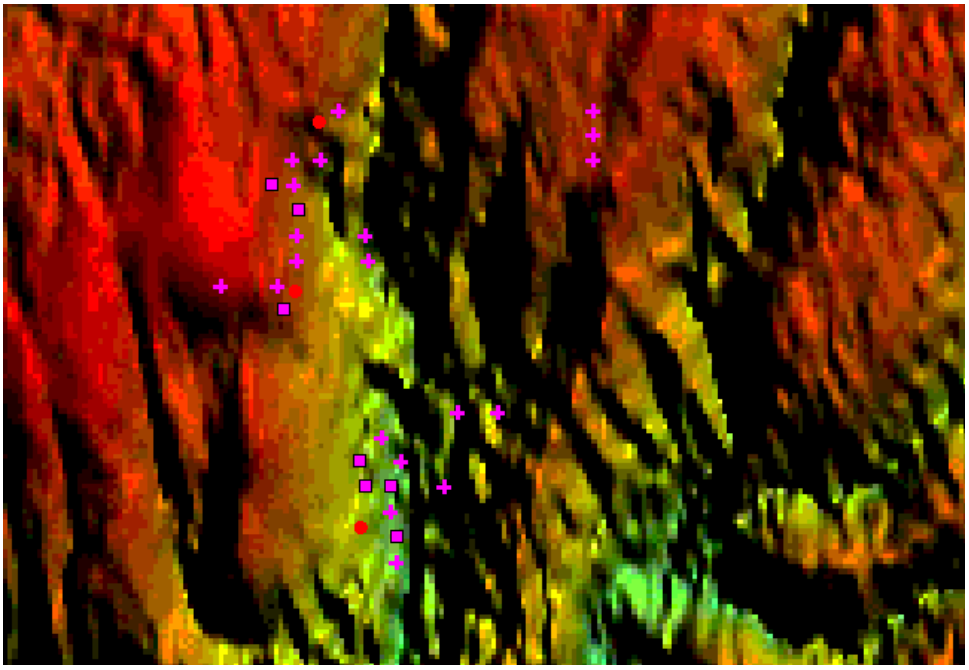


Figure 5. HEM responses superimposed on the DEM with a NE illumination. Topographic variation within the image is greater than 500m. The northern group mostly lie on a steep east-facing slope whereas the southern group lie close to the bottom of a valley.