

ASX ANNOUNCEMENT 13 January 2015

# EXPLORATION ACTIVITIES TO CONTINUE AT MELTON COPPER PROJECT

#### **HIGHLIGHTS:**

- Airborne electromagnetic (EM) program to commence in mid January
- Approximately 300 line kilometres of Time Domain Electromagnetic (TDEM) (RepTEM) data to be acquired over Champion prospect and Melton Central target
- Magnetics to be acquired at the same time to cover gaps in existing data over the Melton Central target
- Moonta GeoTEM BHP 1998 survey unearthed which supports proposed survey acquisition

Marmota Energy Limited (ASX:MEU) has contracted the South Australian company, Geosolutions Pty Ltd, to undertake a helicopter TDEM survey over part of the Melton copper project on SA's Yorke Peninsula. The survey will specifically target the Champion prospect and Melton Central target areas on EL4648 (100% Marmota) and EL 5209 (75% Marmota, 25% Monax Mining Limited (ASX: MOX)) respectively.

The survey is planned to be undertaken on Monday 19 January 2015, but actual timing will be dependent on pilot availability given the potential for bushfire related work required around this time. Marmota has been actively communicating with landholders in the vicinity of the survey to inform them of the exploration activity to be undertaken.

The survey will use the RepTEM system<sup>1</sup> and be flown by a Eurocopter Squirrel BA helicopter. Lines will be acquired on 100 metre line spacing, given the likely size of the structures targeted, with the approximate program shown below:

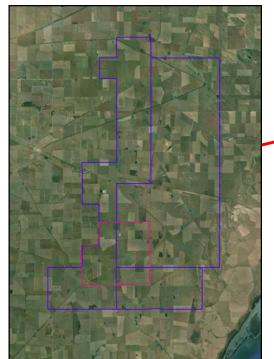




Figure 1 - Planned area of the TDEM survey, indicated by the outlined red box

<sup>&</sup>lt;sup>1</sup> REPTEM Time **D**omain **E**lectro**M**agnetic (TDEM) system measures the electrical conductivity of the ground below the sensor. The system induces a current into the ground and measures the electromagnetic response over time. As well as being used for finding and mapping conductive mineral deposits, the system is also designed to measure early time TDEM responses to enable accurate geological mapping.



Figure 2 – Heli TDEM survey in progress

The purpose of the proposed airborne TDEM survey is to provide further data to help define the optimal location and style of drilling required for the targets, ahead of an anticipated drilling program in March/April 2015. Results of the survey and the proposed further exploration activities will be advised to the market following an assessment of the survey data.

## **Background**

The airborne TDEM survey seeks to follow up exploration activity conducted over the three mineral exploration tenements held by the Company on the Yorke Peninsula, South Australia – EL 4648 (100% Marmota), EL 5122 (75% Marmota, 25% Monax) and EL 5209 (75% Marmota, 25% Monax).

In March 2014, Marmota conducted a drilling program on West Melton (EL 4648) in which 29 air core holes were drilled for a total of approximately 2,000 metres in and around the Champion prospect (see ASX announcements dated 12 March, 1 April and 7 May 2014). Grades of up to 2.92%Cu were achieved, with mineralisation encountered from just below surface and extending over large intervals of up to 73 metres. 19 of the 29 drill holes intercepted copper mineralisation greater than 0.1%, which is an economically mineable level of Cu. A number of the holes ended in copper mineralisation (see ASX announcement dated 7 May 2014).

These encouraging results led Marmota to undertake a review of the geophysical data to take into account the results of that drilling program. That review concluded:

Interpretation of the potential field geophysics has identified an exploration target (Melton Central) that has, on a preliminary inspection, similarities to the Rex Minerals Hillside IOCG deposit. The Melton Central target is composed of folded and faulted strata intruded by felsic-mafic bodies..........

Supergene copper mineralisation identified within the Champion Prospect (volumetric model of > 2 MT Cu ore) south west of the Melton Central target area, indicates that the strongly folded and faulted geology has excellent prospects for an extended area of supergene and possible primary copper mineralisation.

(Dr DT Miller report dated 18 June 2014 – independent geophysicist report)

Resulting from this review, it was recommended that Marmota acquire further magnetic data and then some electromagnetic data to further enhance the structures and discrete bodies to better define locations for the next drilling program.

### Moonta GeoTEM BHP 1998 survey

A GeoTEM survey<sup>2</sup> was conducted by BHP in 1998 which in part covered a large portion of what are now the Melton copper project tenements. This data has recently been obtained and reviewed by Marmota's independent geophysicist, Dr David T Miller. The survey in part covered the area on the map below:

<sup>&</sup>lt;sup>2</sup> GEOTEM is a proven time-domain EM system using a fixed wing aircraft for acquisition, which is designed for deeper exploration and efficient surveying of larger areas.

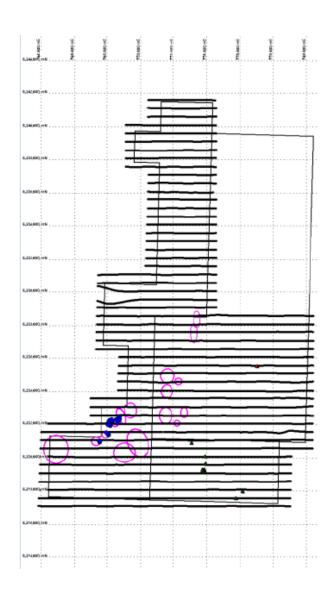


Figure 3: GeoTEM lines (thick black lines), Marmota's drill hole collars (blue dots), currently identified magnetic targets (magenta circles), Melton tenement boundaries (black lines)

The survey was flown at 500 metre line spacing running East – West with the receiver height at approximately 60 metres.

A review<sup>3</sup> of this data revealed a strong linear EM conductor is clearly visible in the early to medium time, but still visible in the late times (see Figure 4 below). This indicates that the EM response is potentially from a conductive source at a depth, rather than a surficial conductive feature. The old EM data is dominated by good responses from near surface features (eg shallow saline groundwater, clay pans), but does also show some compelling evidence of conductive responses from basement lithologies. This indicates the potential for possible conductive sulphide bodies that may host copper mineralisation. Also highlighted in the data, is an interpreted major structure that correlates well with NNW and NE trending linear magnetic features. Both are important structural orientations associated with copper deposits in this region. There are some localised EM responses associated with discrete magnetic targets already selected by Marmota as exploration targets.

<sup>&</sup>lt;sup>3</sup> Only the raw processed Z field (electromagnetic) data has been examined to assess EM responses and to make some observations. X and Y components were not examined.

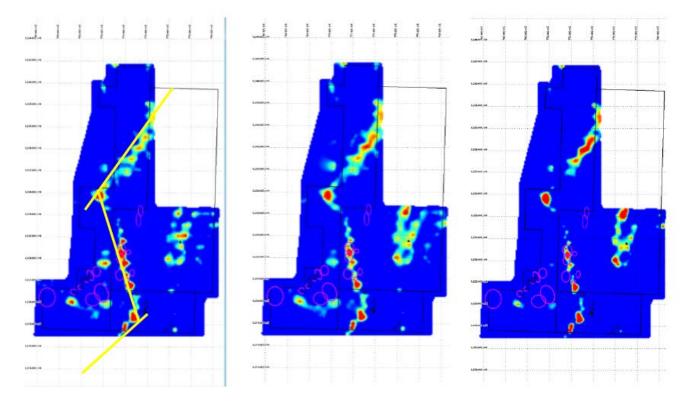


Figure 4 – Time slices Channel 4,6, 8 – NNW and NE structure evident (yellow lines). Note persistent EM response SW of Champion. The red areas are the stronger conductive responses. Magenta circles are Marmota's currently identified magnetic targets.

The regional BHP survey provides confidence that Marmota's new proposed detailed TDEM survey should identify electromagnetic responses from basement targets. This will assist Marmota in understanding the geology and structures beneath the surface that play a key role in localizing mineralization in this region and hence help define high priority targets for drilling.

# **Forward Program**

Once this new TDEM data is acquired and processed and then reviewed along with existing data and information, Marmota will determine the anomalies it considers the most prospective drill targets in the Melton Central target area and the Champion prospect area. Subject to this review, Marmota's current plan is to conduct a drilling program on some or all of the targets in March/April 2015.

#### **Competent Persons Statement**

The information in this release that relates to Exploration Results and Mineral Resources is based on information compiled by Dan Gray as Senior Project Geologist of Marmota Energy Limited who is a member of the Australasian Institute of Geoscientists. He has sufficient experience which is relevant to the styles of mineralisation and types of deposits under consideration and to the activities being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr. Gray consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### For Further Information Contact:

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