



**MATSA**

R E S O U R C E S

LIMITED

ABN 48 106 732 487

**ASX Announcement**

**22 December 2014**

## **First High Power EM Results Symons Hill Fraser Range**

### **Highlights**

- *High powered fixed loop EM (HPFLEM) commenced in December 2014 with 3 loops (10%) of the Priority 1 survey area, completed.*
- *Survey defines a late-channel conductor which closely corresponds with the VA15 VTEM target adjacent to highly anomalous near surface Ni values up to 1.2%Ni at SHG02.*
- *Interpretation of the newly defined conductor at VA15 is currently underway to improve and refine this target for drilling.*
- *A second potentially significant late-channel conductor has been discovered which extends beyond the eastern edge of the current survey block. Further surveys will be undertaken in the New Year, to map and evaluate this target.*

### **CORPORATE SUMMARY**

#### **Executive Chairman**

Paul Poli

#### **Director**

Frank Sibbel

#### **Director & Company Secretary**

Andrew Chapman

#### **Shares on Issue**

144.15 million

#### **Unlisted Options**

14.85 million @ \$0.25 - \$0.43

#### **Top 20 shareholders**

Hold 50.36%

#### **Share Price on 22 December 2014**

17 cents

#### **Market Capitalisation**

\$24.51 million

Matsa is pleased to report on progress of the large scale, high powered fixed loop electromagnetic (HPFLEM) survey which is now underway at Symons Hill. Heavy rain and thunderstorm activity in the area during November delayed the commencement of survey activities to early December.

The survey is being carried out as part of a research and development (R&D) project to develop/optimize HPFLEM techniques to explore for "Nova-Bollinger" style massive nickel-copper sulphide bedrock targets/conductors to a depth of more than 700m below surface.

## Preliminary HPFLEM Survey Results

The immediate focus of initial surveying has been to repeat coverage over the VA15 VTEM target where earlier EM surveys in 2012 and 2013 returned ambiguous results. Planned diamond drilling on this target was deferred in order to resurvey the target and potentially redesign drilling based on the final HPFLEM survey results.

Results have been received for 3 out of 97 planned survey loops of which 43 are designated priority 1 (SHP1\_1, SHP1\_2 and SHP1\_3) as shown in Figure 1.

A preliminary interpretation of results by Southern Geoscience Consultants (SGC) on acquired data for loops SHP1\_1 and SHP1\_2 has:

- Identified a new conductor (moderate conductance 250-500S) which closely corresponds with and better defines the original VA 15 VTEM target; and
- Identified a new conductor which is partly defined by surveying of Loop SHP1\_2 (Figure 2).

Executive Chairman Paul Poli said ***"Matsa is encouraged that these results are demonstrating early success of the new technology incorporated into this high powered EM system. I look forward to seeing further results as they continue to unfold in the New Year."***

## HPFLEM Survey

As previously announced, the survey has been designed to test three successive, prioritised areas, commencing immediately on the highest priority target areas. Priorities have been assigned based on a number of targeting criteria (gravity, magnetic signatures, structural locations, strong Ni/geochemical anomalism) as well as a judgment as to the extent to which exploration to date has been hampered by conductive transported (palaeochannel) cover and/or deep conductive weathering. Information about the HPFLEM survey and other surveys carried out is provided in Appendix 1 and a location map of ground EM surveys carried out to date is provided in Appendix 2.

## Discussion of Results

**VA15:** Gridded data for late channel HPFLEM data for loops SHP1\_1 and SHP1\_2 are compared with original helicopter borne VTEM data in Figure 2. It can be seen that the main NNW-SSE conductive trend on SHP1\_1 data correlates with the VA15 VTEM target. The same trend is also evident in observed data for SHP1\_2 data although the results are inverted (blue colour rather than magenta) given EM coupling from the opposite direction. A preliminary combined model based on the acquired data from both loops indicates a subvertical to steep east-dipping moderately conductive body (250-500S) at a vertical depth of around 300m. This is a similar amplitude to anomaly VA11 where drilling intersected disseminated copper sulphides at the modeled depth of the target conductor.

A second late channel conductor has also been identified. This conductor (magenta colour in the SE corner of Figure 2C) has only been partially defined at this stage. Additional HPFLEM surveying in this eastern/SE area is to be completed.

## Experimental Component

Matsa's geophysical consultant (Russell Mortimer - SGC) and survey contract company (Outer Rim Exploration - ORE) were tasked with designing an optimised survey to "see" deeper than previous survey capacity. The technology being applied includes an innovative and experimental component, whilst using the best available technologies/methods. The experimental component is intended to:

- Provide a suitable platform/active HPFLEM programme to allow CSIRO/RMIT to test and potentially commercialise new EM sensor developments.
- Enable modifications/optimisation of EM transmitter and waveform design to enable routine, high power (150A) to be transmitted thereby increasing the effective depth of investigation.

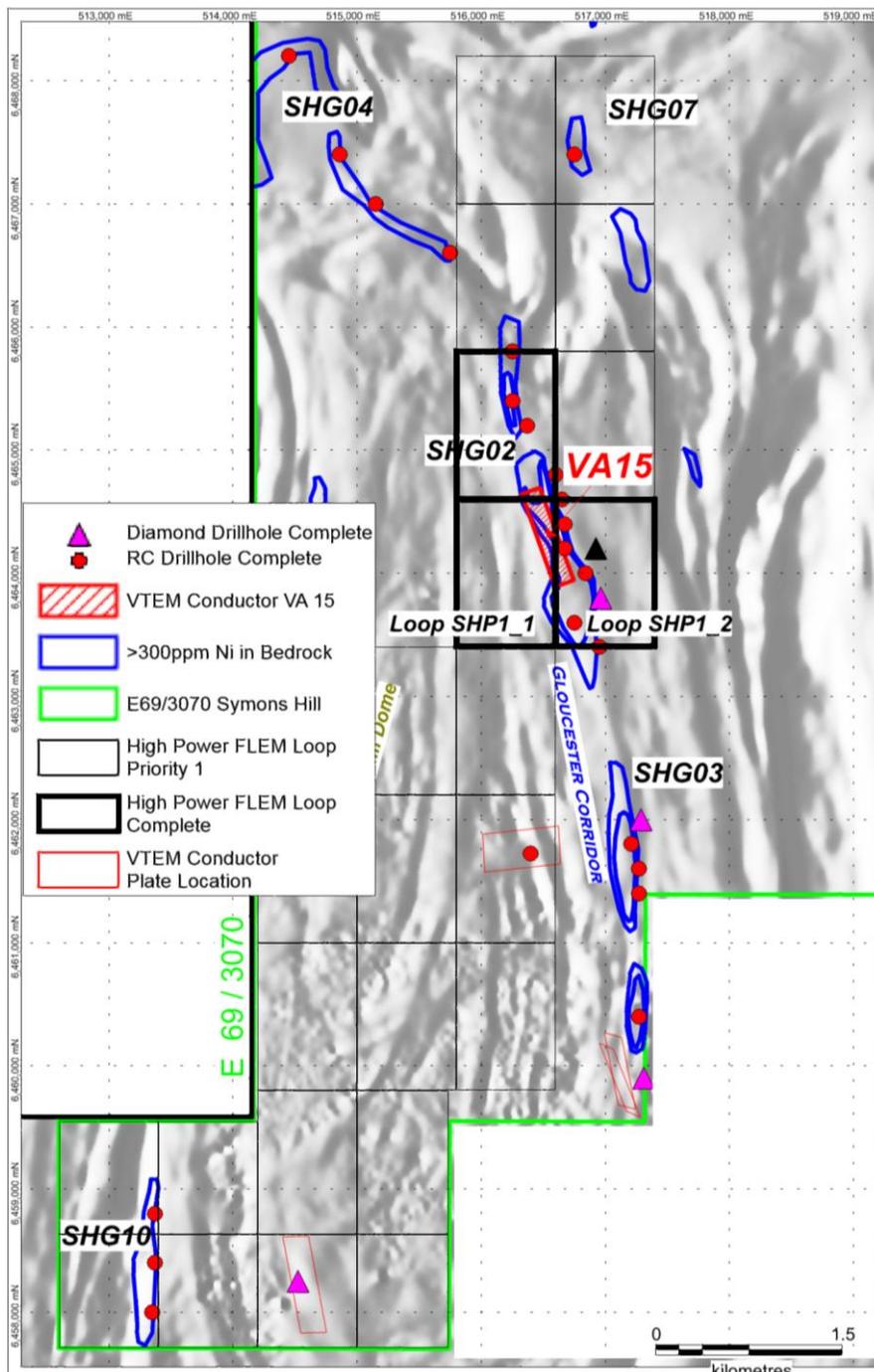


Figure 1: EM Survey Location on aeromagnetic image



## Appendix 1: Matsa Resources Limited Symons Hill Project JORC 2012 Table 1

### Section 1: Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections).

Criteria	JORC Code explanation	Commentary
<b>Location of data points</b>	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• EM survey loops and receiver data points are laid out using handheld GPS units to an accuracy of 3-5m</li> <li>• Topographic control 2-5m accuracy using published maps or Shuttle Radar data is considered to be sufficient for modelling of EM survey results.</li> </ul>
<b>Data spacing and distribution</b>	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• Loops are laid out as rectangles measuring approximately 1200x800m in a NS and EW direction.</li> <li>• Receiver data is acquired at 50m intervals along lines spaced at 150m</li> <li>• Survey lines are typically run parallel to the short electrode direction</li> </ul>
<b>Orientation of data in relation to geological structure</b>	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>• The Transmitter loops and survey lines are carried out NS and EW.</li> <li>• Geological strike is highly variable but dominated by a NNE “grain” which means that in most cases EM data is acquired at a high angle to geological strike.</li> </ul>

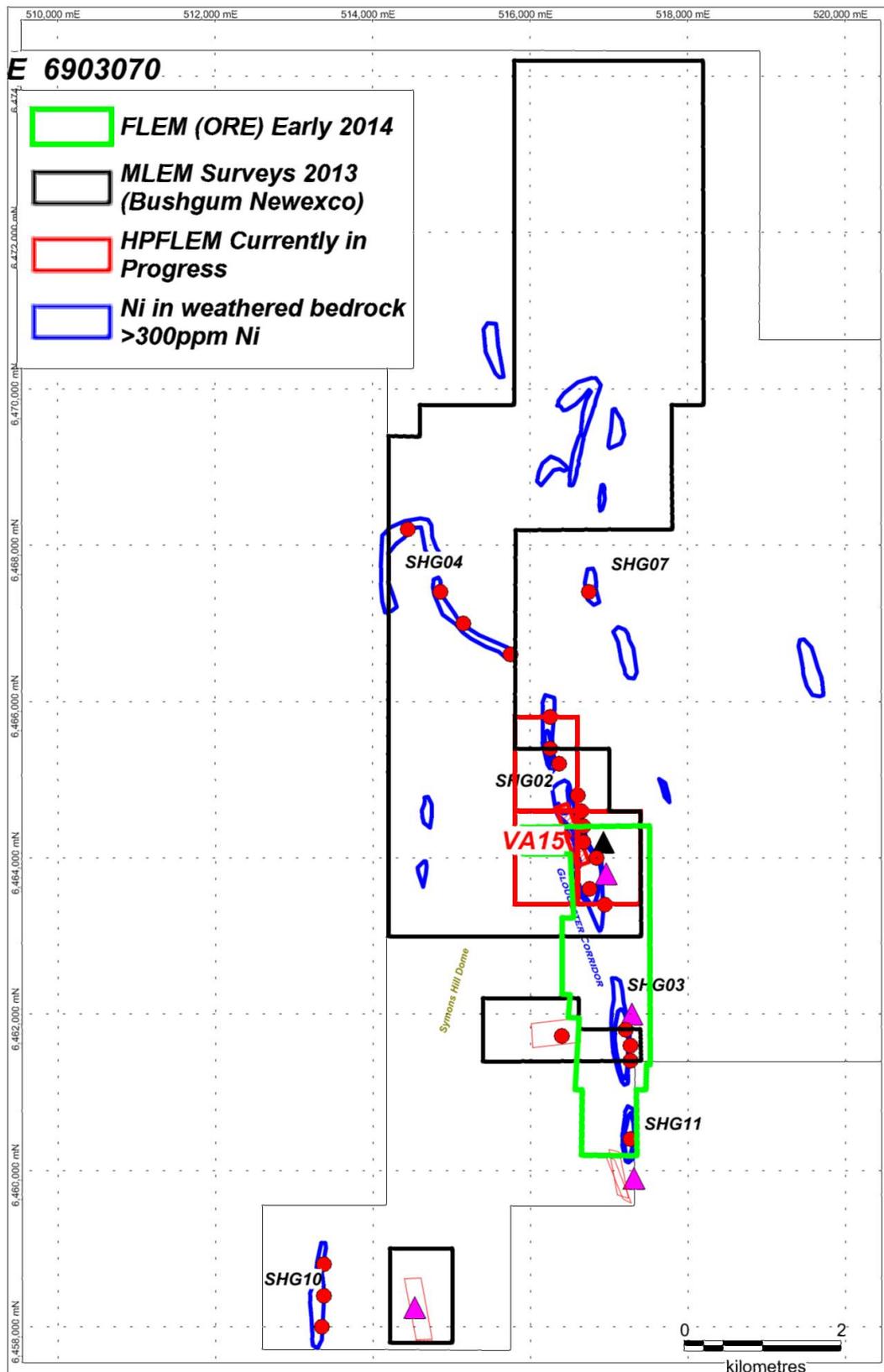
## Section 2: Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section).

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>EL69/3070 which is owned 100% by Matsa Resources Ltd.</li> <li>Located on Vacant Crown Land</li> <li>The License intersects the buffer zones of the Fraser Range and Southern Hills PEC's Exploration to be managed in accordance with a Conservation Management Plan.</li> <li>The project is located within Native Title Claim by the Ngadju people.</li> <li>A heritage agreement has been signed and exploration is carried out within the terms of that agreement.</li> <li>At the time of writing the licence is granted for a 5 year period expiring on 6<sup>th</sup> March 2018</li> </ul>
<b>Exploration done by other parties</b>	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>Prior work carried out by GSWA in the form of wide spaced helicopter based soil sampling and acquisition of 400m line spacing magnetic and radiometric data.</li> <li>In the late 90s, Gold Partners NL has carried out few wide-spaced aircore drilling on one line along the southeast portion of the tenement. No anomalous assay results have been reported.</li> </ul>
<b>Geology</b>	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The target is Nova style Ni Cu mineralization hosted in high grade mafic granulites of the Fraser Complex.</li> <li>Recent results also support potential for magmatic copper only mineralisation in Felsic granulites</li> </ul>
<b>Diagrams</b>	<ul style="list-style-type: none"> <li>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</li> </ul>	<ul style="list-style-type: none"> <li>Suitable summary plans have been included in the body of the report.</li> </ul>
<b>Balanced reporting</b>	<ul style="list-style-type: none"> <li>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</li> </ul>	<ul style="list-style-type: none"> <li>Not required at this stage</li> </ul>

Criteria	JORC Code explanation	Commentary
<p><b>Other substantive exploration data</b></p>	<ul style="list-style-type: none"> <li>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</li> </ul>	<ul style="list-style-type: none"> <li>Airborne VTEM (combined magnetic and electromagnetic) carried out in December 2012 by Geotech Airborne Pty Limited. A total of 6 priority targets and 15 second order targets identified and reported on by Southern Geoscience Consultants Ltd. VTEM survey carried out over entire tenement on 200m lines.</li> <li>Prior to December 2012, Comprehensive geochemical survey carried out by Matsa Resources comprising 614 samples mostly at 400m centres on a staggered grid identified targets SH01 to SH05. Infill at 200m x 200m completed over targets SH01 to SH05 in May 2013 for a total of 638 samples.</li> <li>Ground EM 2013, (See Location Plan below) carried out by Bushgum Holdings Pty Ltd, under supervision by Newexco consultants, consisting of both moving-loop (MLEM) and fixed-loop (FLEM) surveys. Data acquisition was achieved using a SMARTem24 8-channel geophysical receiver manufactured by ElectroMagnetic Imaging Technology (EMIT), Bartington 3-component magnetic field sensor (up to 1Hz frequency response) and a Zonge ZT-30 Loop Driver transmitter to power the loop with up to 30A. The MLEM and FLEM surveys are both 400m wide. In the MLEM, the survey lines are spaced 400m apart with receiving stations every 100m inside the loop along an E-W direction. In the FLEM, the receiving stations are 50m apart across 1 km traverse in an E-W direction.</li> <li>Fixed Loop TEM Surveys carried out in February March 2014 by Outer Rim, (See Location Plan below) SURVEY PARAMETERS Configuration : Fixed Loop, Station Spacing : 50 m; Receiver : SMARTem24, Frequency : 2.0833, Component Z,X,Y, Rx Coil : Fluxgate, Rx Area : 10000m<sup>2</sup> turn-m; Transmitter : Crone-Ext, Tx Moment : Unknown turn-m, Tx Current : 20 A Turn Off : 0.5 ms Survey Location Plan Attached FLTEM loop sizes ranged from 300x500m to 400x600m, single loop turn. Multiple E-W survey lines were utilised (3) per line at 150m line spacing in order to adequately resolve potential bedrock conductors. All FLTEM surveying was completed with</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>50m station spacing.</p> <ul style="list-style-type: none"><li>• Induced polarization (IP) geophysical surveys over geochemical targets SHG01, SHG02 and SHG03. Survey type: Pole/Dipole-dipole (2D) at 100-200m spacing; Receiver: GDD GRX-32 IP receiver; Transmitter: zonge GGT-30; Frequency 0.125 Hz; Data coverage: N=12-16 ~300 to 500m depth of investigation.</li><li>• Current HPFLEM See location plan for current progress. - high powered fixed loop TEM 800x1200m loops, 100m stations, 150m line spacing, ORE HP transmitter producing ~120-150A, Base Frequency for initial surveys (will change) - 0.5Hz, ZXY components (Z+Up, X+East, Y+North), EMIT SMARTfluxgate B-field sensor Each loop currently consists of 12 survey lines, 192stns and 18.0kms coverage.</li></ul>



**Appendix 2: Location Plan Ground EM Surveys Symons Hill**