

## ASX Announcement

ASX Code: RVR

6 February 2015

### **Multiple new drilling targets identified from Stage 1 IP survey results at Liontown-Waterloo**

---

#### Highlights

- **Multiple untested chargeable bodies detected from Liontown-Waterloo Stage 1 induced polarisation (IP) survey**
- **Orientation survey lines confirm ability of new (high powered multi-channel) IP technology to detect mineralisation under areas of cover**
- **Depth penetration of survey greater than 500m**
- **Thalanga Project IP survey commenced**
- **Drilling of targets planned during the second quarter 2015**

---

Zinc developer Red River Resources Limited (Red River or the Company) is pleased to announce that a total of four induced polarisation (IP) lines, for 12.8 kilometres, have been completed at its Liontown-Waterloo project, located approximately 40km SE of Charters Towers in Central Queensland, and part of its Thalanga Operations.

The results of the Stage 1 IP survey are highly significant for Red River, as it indicates that IP can see through the conductive cover formation and identify mineralisation, giving the Company the ability to identify new exploration targets in areas which previous explorers had discounted.

The Stage 1 IP results at Liontown-Waterloo are part of the Company's new exploration strategy at Thalanga, with the objective of identifying additional resources to extend the mine life of the Operation. As previously announced, the Company is working towards restarting production at Thalanga by end of calendar year 2015.

The IP lines completed to date consisted of:

- Two orientation lines over known mineralisation; Liontown deposit (Line I) and the Waterloo deposit (Line L), and;
- Two exploration lines (Line H and M).

The survey follows Red River's review of historic exploration data, which identified potential for multiple volcanic hosted massive sulphide (VHMS) deposits to occur in areas of the project area. The four IP lines have demonstrated the ability of a new high powered multi-channel IP system to detect mineralisation beneath the conductive cover sequence and have generated multiple new untested drill targets. The remaining two lines (J and K) at the Liontown-Waterloo project area have been postponed due to wet season rainfall, however the planned IP lines at the Thalanga Project area have commenced where access is not impacted by the wet season.

The dipole-dipole IP survey was carried out by Search Exploration Services Pty Ltd (Search) using a high powered, deep seeking 50KVva transmitter and a 32 channel receiver, and the geophysical data was processed by David McInnes, a consultant geophysicist, who has more than 20 years' experience in geophysical processing, modelling and interpretation.

Figure 1 Project Location

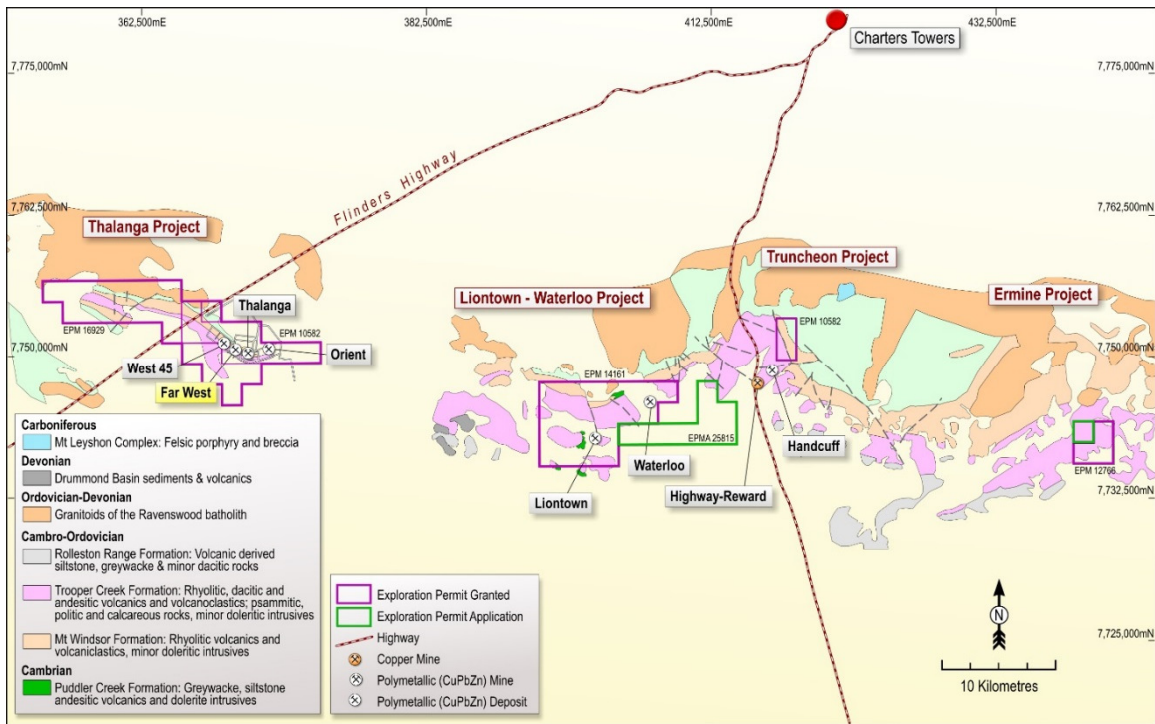
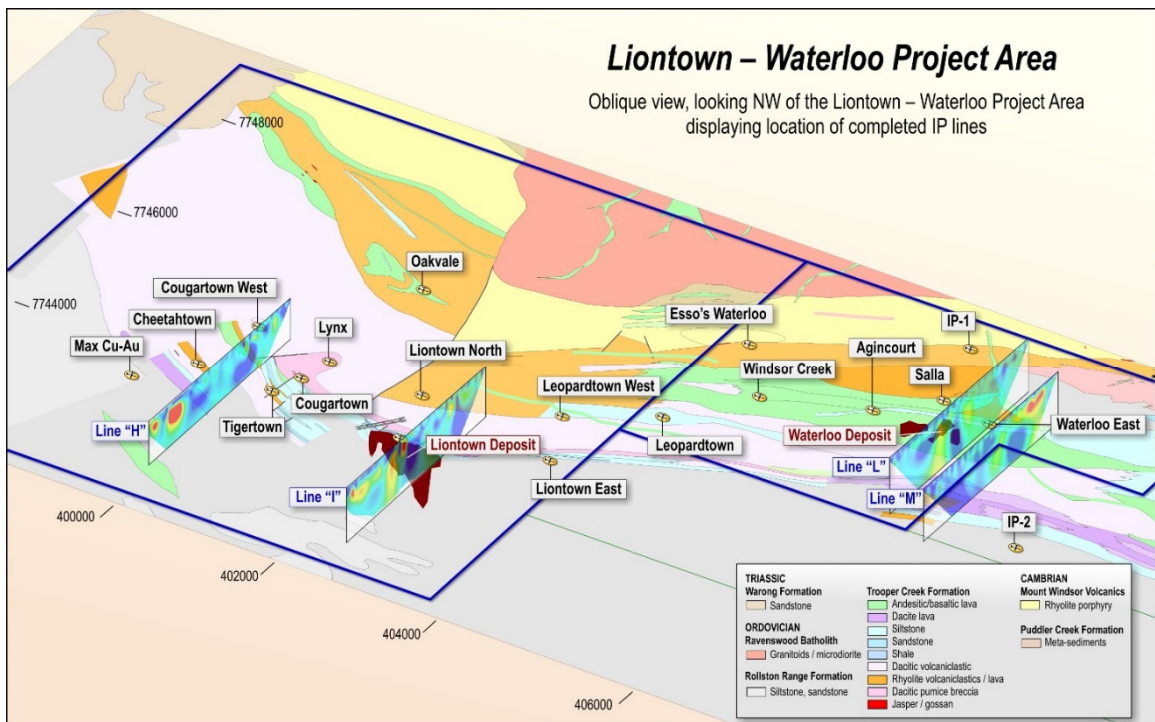


Figure 2 Plan of IP Survey



Induced Polarisation is an electrical geophysical technique that requires direct injection of current into the ground through electrodes. The information recorded is commonly translated into an Apparent Resistivity and a Chargeability component.

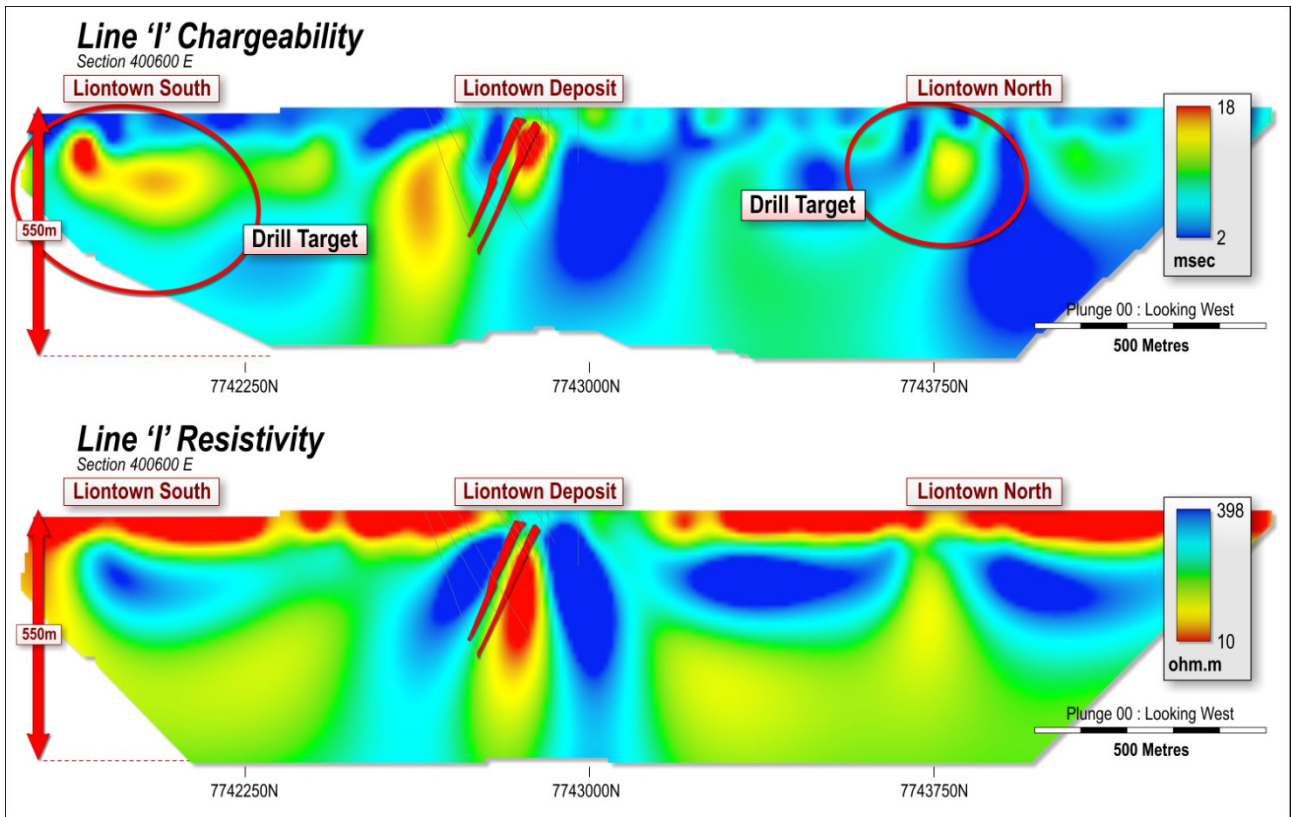
- **Apparent Resistivity** – This component maps the electrical flow of the current injected into the ground. The current preferentially flows through the ground in areas of relatively lower resistivity. These areas are normally associated with faults, shales, and rocks with more water, clay component and/or sulphide mineralisation. Areas of high resistivity are associated with geology that has a high level of silicification (commonly associated with mineralisation).
- **Chargeability** – This component reflects the ability of the ground to store electrical charge (capacitance): Areas of elevated sulphides are more effective at storing electric charge. The magnitude of the observed chargeability data increases when recording over areas of elevated sulphides. The level of chargeability is dependent on many aspects (grain size, porosity, resistivity etc.) so the comparison of chargeability amplitudes across projects is not generally recommended.

The IP responses of the known deposits surveyed to date provide an indication of the ability of the system to detect VHMS base metal deposits in areas blanketed by both shallow and deep cover sequences. The system also accurately mapped the depth of the cover sequence of the known deposits. The conductive cover sequence is the Tertiary age Campaspe Formation, which can be up to 120m thick and consists of poorly consolidated sandstone, claystone, conglomerate and discontinuous nodular ferricrete.

The known deposits surveyed to date produced moderate to strong chargeability responses with variable resistivity signatures. One characteristic common to all known deposits surveyed is the presence of a conductivity (low resistivity) trough directly above the deposit. This is likely related to preferential oxidation of sulphide rich lithologies and is present in both outcropping and blind deposits under cover.

Multiple un-tested anomalies displaying all or some of the characteristics of the known deposits have already been identified.

Figure 3 Line I (400600E)



Line I was designed to test the IP response of known mineralisation at the outcropping Lontown deposit.

The Lontown deposit produced a complex chargeability response consisting of a discrete zone of high chargeability in the footwall, coincident with a discrete linear zone of low resistivity and a broad zone of moderate to high chargeability in the hanging wall within a discrete zone of high resistivity (Figure 3).

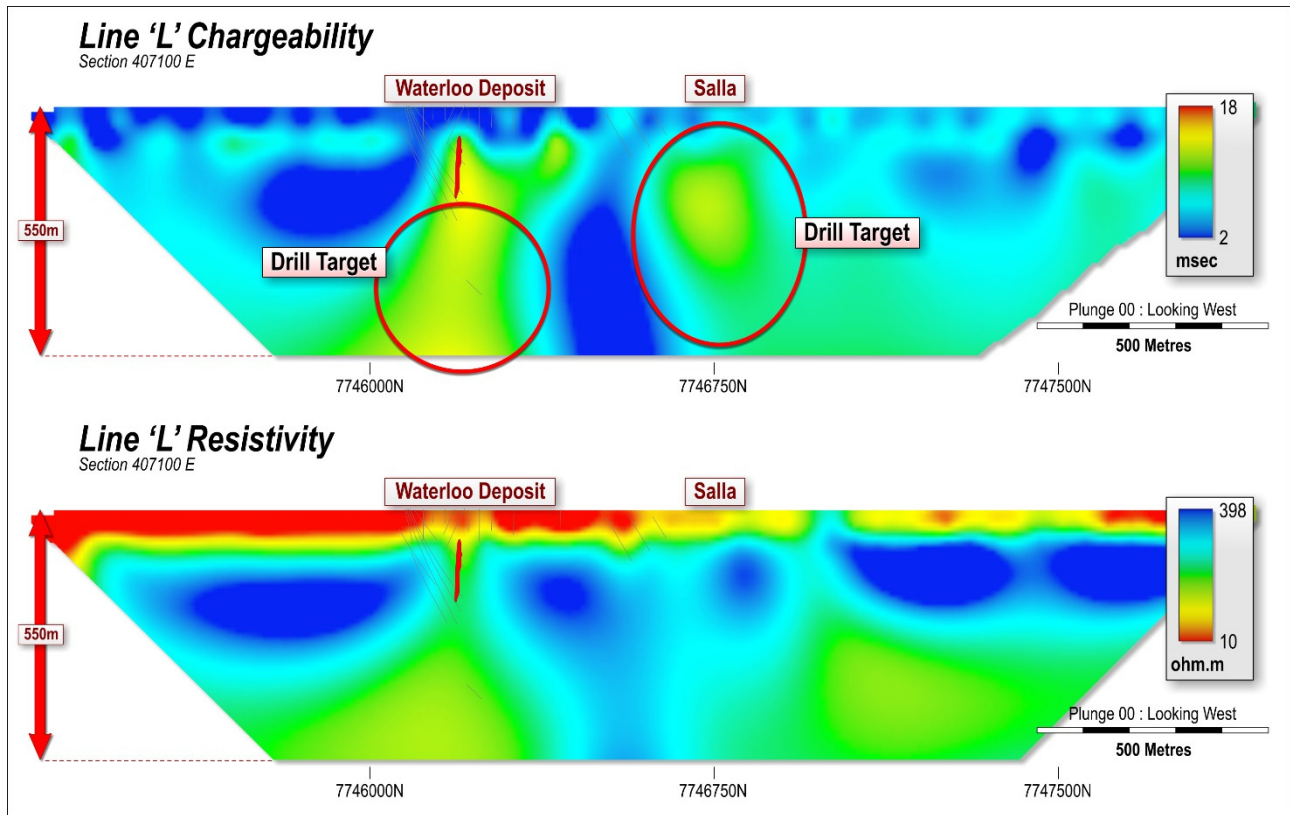
The conductive nature of the Campaspe Formation is clearly defined in the Line I Resistivity section, presenting as the horizontal low conductivity (red) zone, extending from surface to approximately 50m depth.

A further two IP anomalies were detected on Line I now termed Lontown North and Lontown South. Lontown North presents as a discrete steep zone of moderate chargeability within a broader zone of low resistivity. Lontown South presents as a broad zone of moderate to strong chargeability within a discrete zone of high resistivity.

Both these anomalies are blanketed by considerable depths of Campaspe Formation, however, both display conductivity troughs at the base of the cover sequence directly above the best of the chargeability anomalies and as such present as further priority drill targets to be tested in 2015.



Figure 4 Line L (407100E)



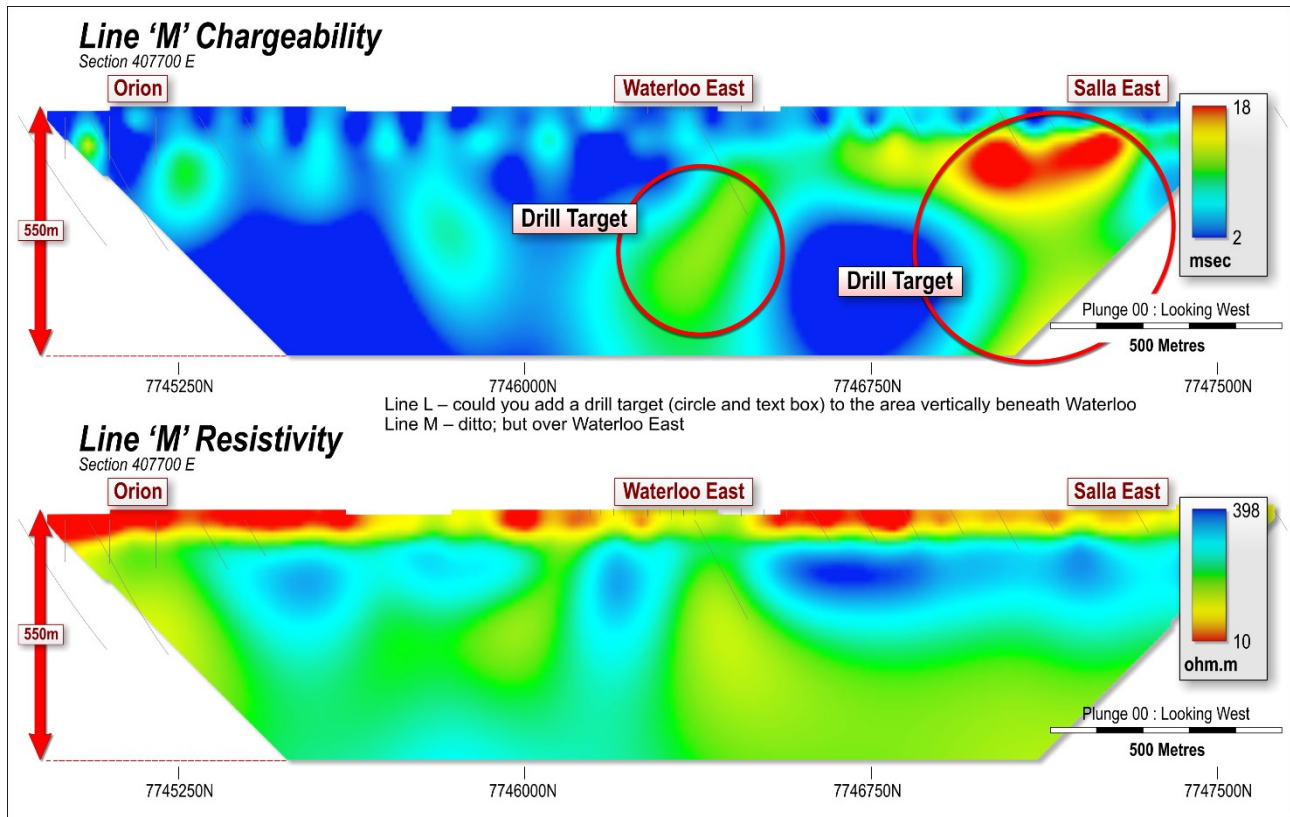
Line L was designed to test the response of the Waterloo deposit, one of the few blind deposits (under Campaspe Formation cover) discovered within the region to date. The Waterloo deposit was found in 1985 by drilling through the Campaspe Formation into the underlying rocks after a small outcrop of altered volcanic rock was recognised in an adjacent creek.

The IP line bisected the Waterloo Deposit in a position where the bedrock hosted mineralisation is situated under approximately 50m of conductive cover sequence.

The Waterloo deposit produced a steep, broad zone of moderate chargeability coincident with a discrete, steep zone of low resistivity. Depth penetration of the survey was exceptional with resolution to approximately 550m in areas of thick cover. Both the chargeability and resistivity responses at Waterloo appear to be increasing at depth, highlighting the potential for resource extensions below the current Waterloo deposit (Figure 4).

The Salla prospect, a coincident, gravity, EM and regoleach (regoleach is a highly sensitive soil sampling technique designed to test for metal ions migrating up through the cover sequence) anomaly produced a chargeability response of similar tenor to the Waterloo deposit but within a slightly more resistive zone. Historic RC drilling at Salla has now been determined to have been too shallow to test the newly defined IP anomaly (Figure 4).

Figure 5 Line M (407700E)



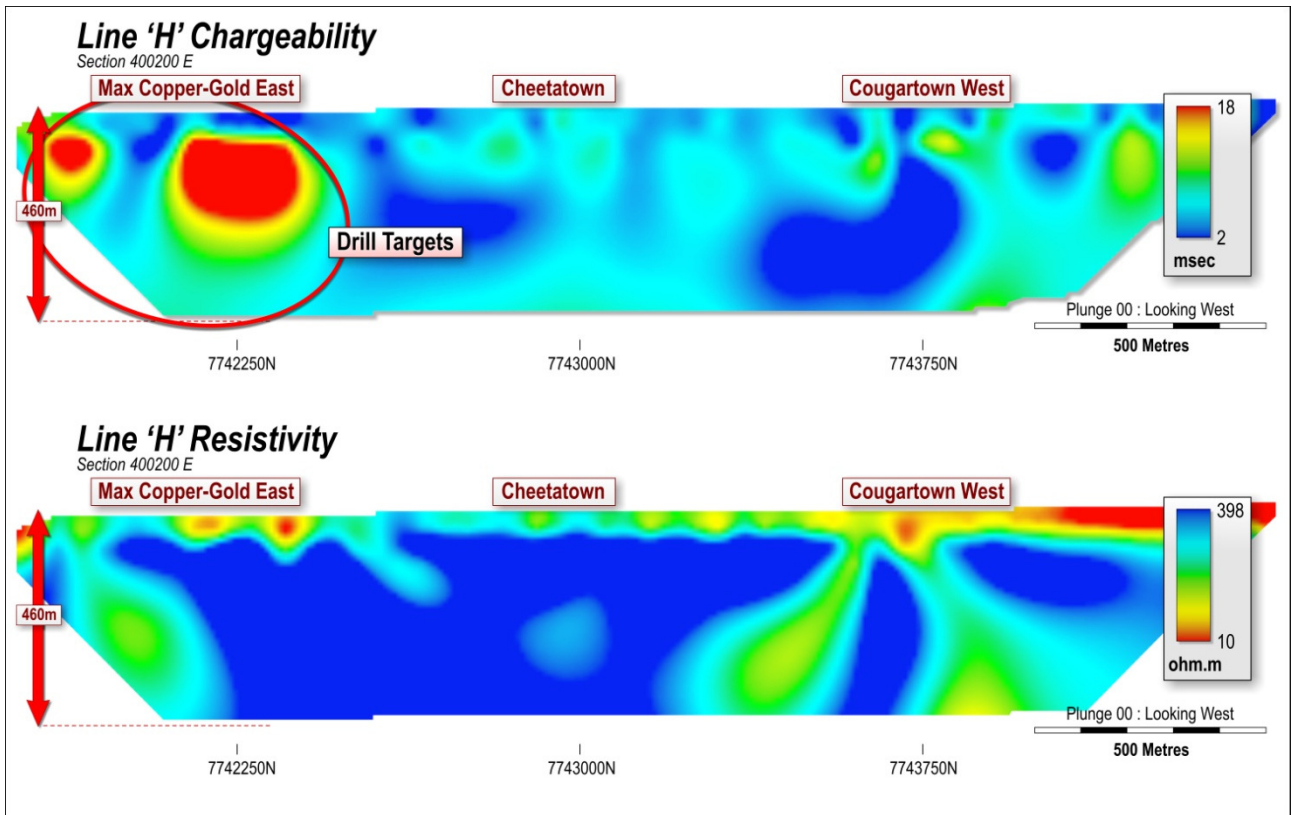
Line M was designed to test for an easterly extension to the Waterloo deposit at Waterloo East

The Waterloo East position produced a discrete zone of moderate chargeability within a broader zone of low resistivity, supporting the potential for easterly extensions to the Waterloo Deposit. Only one historic drill hole has tested the Waterloo East prospect and whilst no economic base metal grades were intersected, the IP modelling would suggest that this drill hole failed to test the bulk of the IP anomaly (Figure 5).

Two other areas of interest have also been identified on Line M, Salla East in the north and the historic Orion prospect in the south. While these prospects are situated under considerable depths of cover, both produced highly anomalous base metal geochemistry in historic drilling. The IP response at Salla East produced a large zone of high chargeability, extending to depths of greater than 550m. The best of the "Salla East" chargeability anomaly is coincident with a discrete zone of moderate resistivity at between 150 and 250m below surface (Figure 5).

The IP response at Orion produced a more subtle, discrete zone of moderate chargeability within a broad zone of low resistivity. The Orion anomaly would appear to be improving to the south and as such Line "M" may be extended.

Figure 6 Line H (400200E)



Line H was designed to test two poorly tested historic prospects, both displaying anomalous base metals in soil geochemistry, Cougartown West and Cheetahtown.

Cougartown West produced a discreet small moderately chargeable response within a steep linear zone of high resistivity, flanked by broad zones of low resistivity. This signature supports the current model of this prospect representing localised, fault hosted disseminated base metal mineralisation.

Cheetahtown produced a small zone of weak to moderate chargeability within a broader zone of high resistivity and as such this prospect has been downgraded. Two previously unknown IP anomalies were detected at the southern end of Line H, now termed Max Copper-Gold East.

Blanketed by shallow Campaspe Formation cover, this stratigraphic position correlates with an outcropping zone of copper-gold enrichment in soil sampling previously identified by Liontown Resources Ltd in 2009, approximately 200m further west at Max Cu-Au.

The IP response produced consists of two large zones of high chargeability, one within a discrete zone low resistivity and one within a broader zone of high resistivity. Furthermore, both anomalies display considerable conductivity troughs directly above each of the anomalies and as such present as priority drill targets planned to be tested in 2015.

## Forward Program

Survey work on the Lione town-Waterloo project area is currently on hold as a result of limited access due to the wet season. Red River expects to gain access to the area in April, and the remaining lines J&K will be completed.

Red River's geophysical consultant is continuing to process the data generated from the current survey and reprocess historical geophysical data in order to design further IP lines prior to planning a first pass drilling program during the second quarter in 2015.

On behalf of the board



**Donald Garner**

**Managing Director**

Red River Resources Limited

**End.**

---

For further information please visit Red River's website [www.redriverresources.com.au](http://www.redriverresources.com.au) or contact us:

Donald Garner  
Managing Director  
[dgarner@redriverresources.com.au](mailto:dgarner@redriverresources.com.au)  
M: +61 438 338 496

Paul Hart  
Non-Executive Director  
[phart@redriverresources.com.au](mailto:phart@redriverresources.com.au)  
M: +61 421 051 474

Nathan Ryan  
NWR Communications  
[nathan.ryan@nwrcommunications.com.au](mailto:nathan.ryan@nwrcommunications.com.au)  
M: +61 420 582 887



## COMPETENT PERSON STATEMENT

### Exploration Results

The information in this report that relates to Exploration Results is based on information compiled by Mr. Tav Bates who is a member of the Australasian Institute of Mining and Metallurgy, and a full time employee of Terra Search Pty. Ltd., and who has sufficient experience relevant to the style of mineralisation and type of deposit 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 Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr Bates consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

## APPENDIX A – JORC 2012 EDITION TABLE 1

### LIONTOWN WATERLOO INDUCED POLARISATION (IP) SURVEY

The following information follows the requirements of the JORC 2012 Table 1 Section 1 as applicable for ASX release related to the results of the IP Survey conducted at the Liontown-Waterloo Project.

#### Section 1: Sampling Techniques and Data

Criteria	Commentary
Sampling techniques	<p>This report relates to the results of four induced polarisation (IP) surveys conducted during November and December 2014. Surveys were conducted by Search Exploration Services Pty Ltd (job number RRR-01) and supervised by Red River and Montana GIS Pty Ltd personnel. The surveys targeted known mineralisation, interpreted mineralised lenses and areas of no known mineralisation at the Company's Liontown-Waterloo Project.</p> <p>Induced polarization (IP) is a geophysical imaging technique used to identify subsurface materials, such as ore. The method is similar to electrical resistivity tomography, in that an electric current is induced into the subsurface through two electrodes, and voltage is monitored through two other electrodes.</p>
Drilling techniques	The ASX release does not report exploration drilling
Drill sample recovery	The ASX release does not report exploration drilling
Logging	The ASX release does not report exploration drilling
Sub-sampling techniques and sample separation	<p>The survey consisted of four separate lines (H, I, L and M) (refer to Figure 2). The technical equipment used in the survey was:</p> <p>Configuration: Transmitter (Tx) Dipole (200m ) – Receiver (Rx) Dipole (100m)</p> <p>Station Interval: 100 &amp; 200m</p> <p>Number of receiver dipoles: 32 ("n" levels)</p> <p>Base frequency: 0.125 Hertz</p> <p>Duty Cycle: 50%</p> <p>Receiver: Search Exploration Full Time Series Unit SSIP32</p> <p>Chargeability Integration: 590msec to 1450msec</p> <p>Transmitter: Search Exploration WB50 – 50 KVa.</p> <p>Sensor: Porous Pots</p>

Quality of assay data and laboratory tests	Acquired IP data is of high quality – QAQC conducted by David McInnes of Montana GIS, Geophysics Consultant.
Verification of sampling and assaying	N/A
Location of data points	Refer to Figure 2.
Data spacing and distribution	200m Dipole Spacing and 3.2 kilometre survey lines
Orientation in relation to geological structure	Survey lines designed perpendicular to strike of stratigraphy
Sample security	Raw data emailed to consultant geophysicist daily
Audits or reviews	N/A