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ASX Announcement

28 June 2021

ASX Code: RVR

# Red River identifies multiple large silver-indium targets at Orient

**Highlights:**

- **Red River completes drone magnetics and induced polarisation survey at Orient prospect (Herberton, North Queensland)**
- **Surveying identified multiple large targets including one close to historic drillhole EO3 which intersected a wide zone of mineralisation; 75m @ 38g/t Ag from 15m downhole to EOH including 4m @ 154g/t Ag, 20g/t In, 3.3% Pb & 2.2% Zn from 36m downhole**
- **Next steps include ground truthing then drill testing before the wet season subject to rig availability**

Red River Resources Limited (ASX: RVR) is pleased to announce that drone magnetic and induced polarisation (IP) geophysical surveys completed on its Orient project near Herberton in North Queensland have identified multiple large silver indium targets.

Red River completed a 14 km$^2$ drone magnetic survey and six lines of IP (Induced Polarisation) geophysical surveying at the Orient mining camp on EPM 27223, near Herberton in north Queensland (Figure 1). The magnetic survey and three of the lines of IP survey completed in May 2021, were completed using a Queensland Geological Survey Collaborative Exploration Initiative (CEI) grant awarded to Red River in August 2020. The results from the first three lines of IP encouraged Red River to complete three additional lines of IP to achieve complete coverage across the entire Orient mining camp area.

The surveys aimed to map and target mineralised structures additional to those already known within the Orient tenement and aid in improved targeting for exploration drilling.

The Orient silver-indium project comprises the Orient West and East silver-lead-zinc-indium deposits and is highly prospective for additional high-grade deposits along strike and down dip. It was one of two polymetallic projects granted to Red River last year that host the highest grade known indium deposits in Australia. Indium is a new economy mineral used in electronics and has been identified as a critical mineral by Geoscience Australia.

Red River acknowledges the assistance of the Queensland Government in promoting exploration for new economy minerals through the CEI grant scheme.

Address: Level 6, 350 Collins Street, Melbourne, VIC, 3000, Australia

T: +61 3 9017 5380 F: +61 3 9670 5942 E: info@redriverresources.com.au

www.redriverresources.com.au

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## Background

RVR's drone magnetic survey provided high density and quality data over a 14km$^2$ area covering the Orient mining area and surrounds. The magnetic data clearly highlights the northeast trend of the known mineralisation at Orient West which continues for a further 1.6km to the east indicating the potential for additional mineralisation. At the Orient East and Nannum workings the structural setting from the magnetic data appears more complex indicating the potential for stockwork style veining (Figure 2).

The survey also identified a large elongated magnetic feature to the south of the Orient West workings which appears to be fault bounded within the Bluewater Rhyolite. The feature contains several deep lows that may represent a buried intrusion complex.

The IP survey was designed to test the response of known mineralised areas at Orient East and West and to further target additional possible mineralisation along strike, inclusive of areas associated with the magnetic features identified in the drone magnetic survey.

Three lines totalling 7.18 line kms were completed under the CEI grant and a further three lines totalling 5.3 line kms were completed by RVR. Results show conductors and chargeability features coincident with and along strike of known mineralisation and a large, buried IP feature associated with the margins of the magnetic low feature identified in the drone magnetic survey.

***Overall, the two techniques were successful in identifying the structures and IP responses of known mineralisation and extensions to the structures that will be further assessed for additional mineralisation. The magnetic feature in the Bluewater Rhyolite and corresponding IP chargeability features are a new target style for the area.***

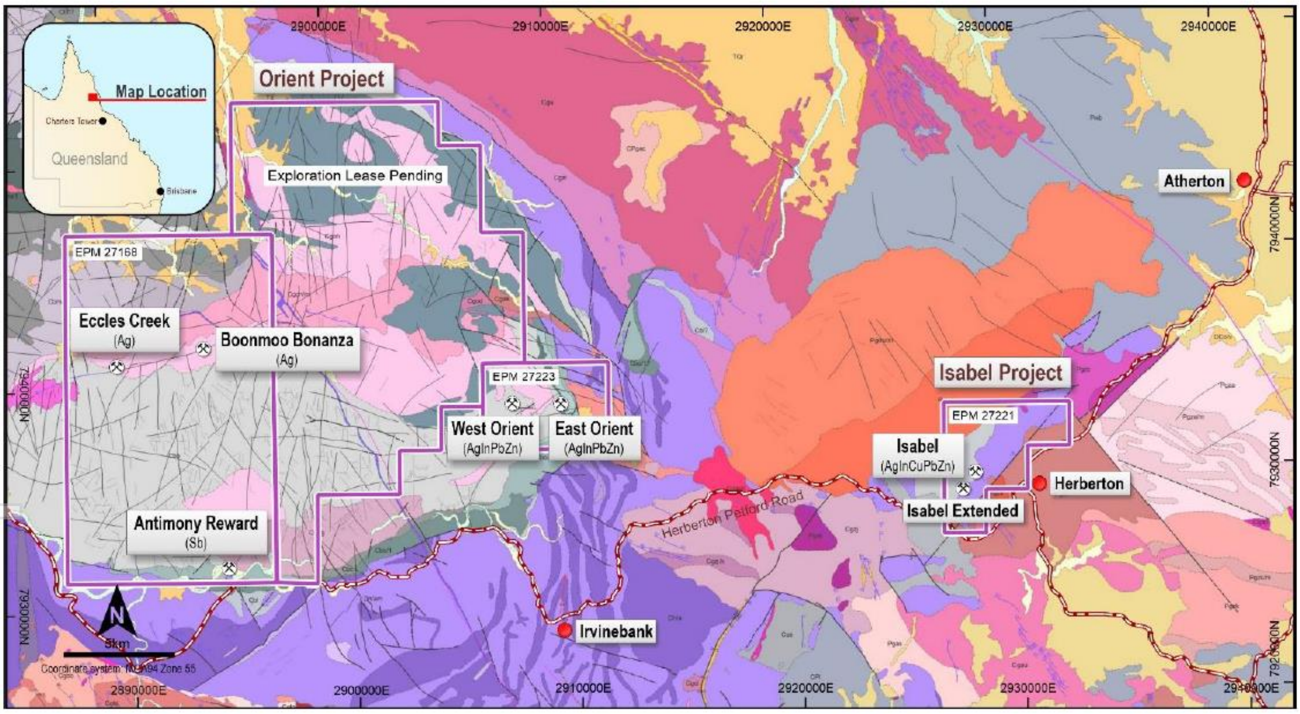


***Figure 1.*** *Location of EPM 27223 and other RVR tenement comprising the Orient, Isabel and Herberton Projects near Herberton, Queensland*

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## Discussion

Mineralisation at **Orient West** follows northeast striking magnetic lows along the boundary of the Halpin Granite and Bluewater Rhyolite. The dronemag data shows the lineations extend for a further 1.6km to the northeast of Orient West. The prospective structural setting, anomalous soils and rock chip samples and presence of small workings, make this a high priority target.

**Orient East** and Nannum Amalgamated displays a zone of complex magnetic lineation's and probable structures (Figure 2) indicating the potential for a larger zone of stockwork style mineralisation than currently indicated by the existing workings.

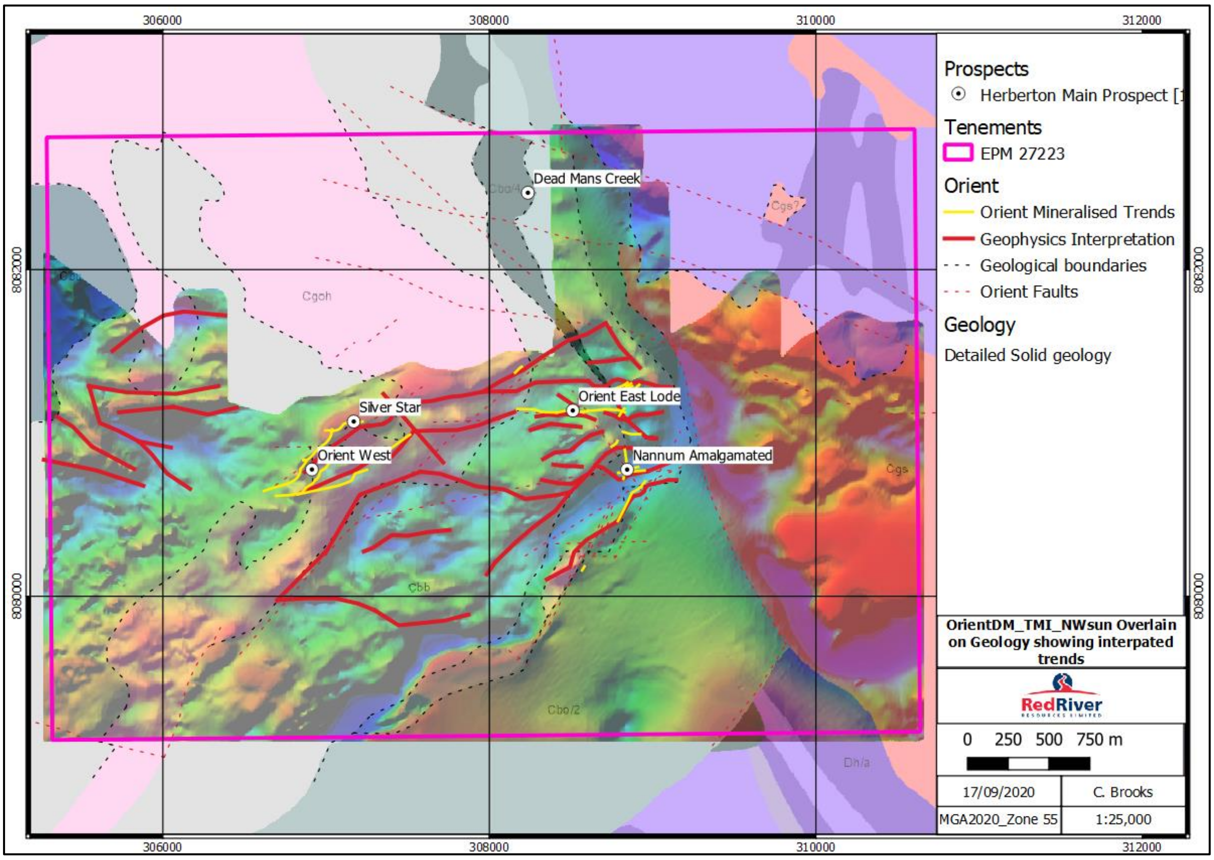


***Figure 2.*** *Orient Drone Magnetic image (TMI NWsun) overlain on geology showing interpreted trends.*

The IP survey returned multiple chargeability and conductivity targets on each line (Figure 3). The Orient West mineralisation which shows a strong near- surface chargeability feature associated with the known mineralisation drilled by GNMC in the 1980's and a strong conductor down-dip.

The Orient East and Nannum workings returned a similar response with a coincident complex chargeability and conductivity anomaly beneath the Nannum workings.

A large, buried chargeability feature on Lines 300 and 500 (Figure 3, 5 and 6) was identified in the complex magnetic low feature highlighted in the dronemag. The presence of the deep-seated chargeability features adjacent to or within structures is suggestive of deeper buried mineralised intrusions that may be the feeders to the structurally controlled vein hosted mineralisation at Orient West and East.

The IP survey was effective in identifying conductors associated with the known mineralisation. The IP survey also identified previously unknown features within the magnetic feature.

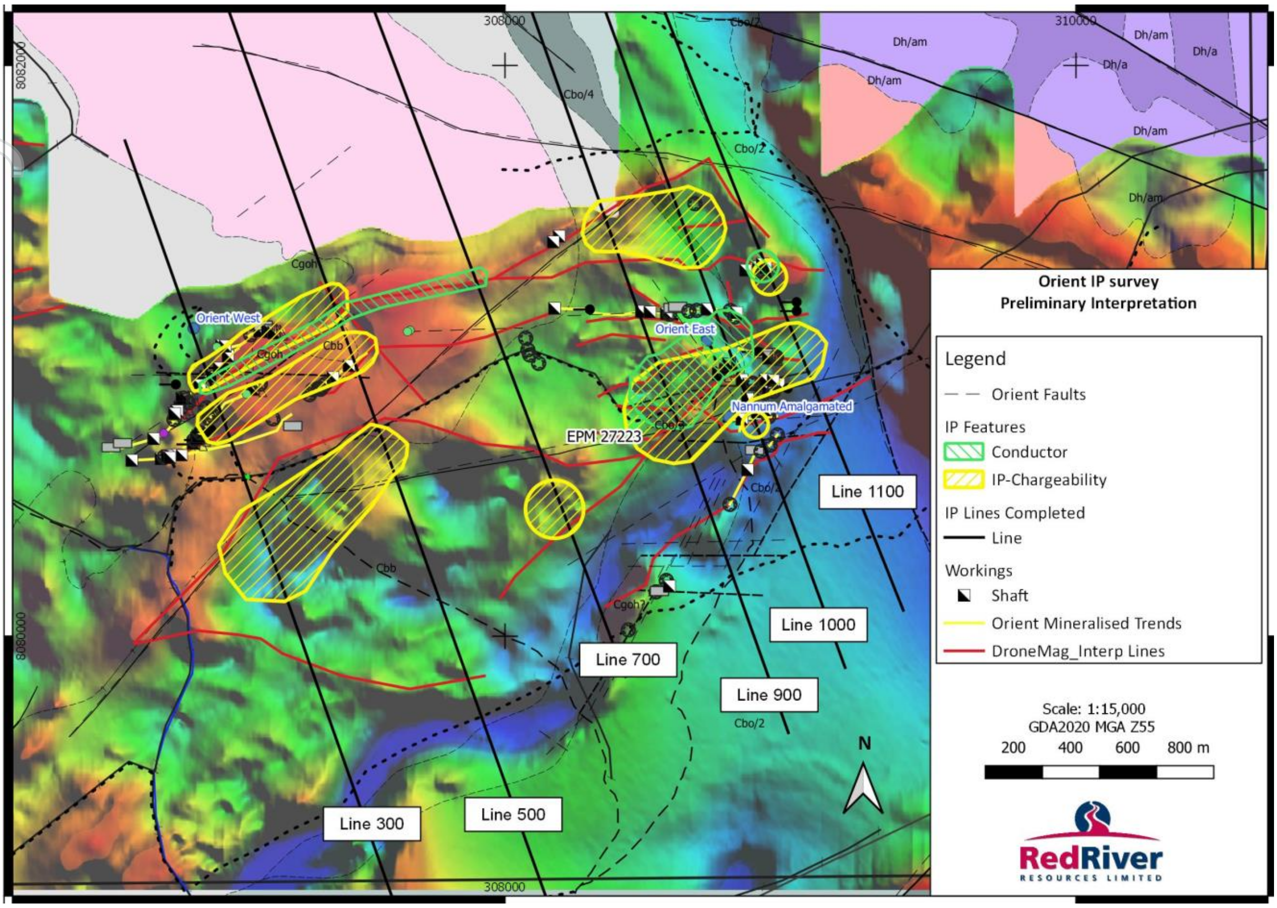


***Figure 3.*** *Preliminary interpretation of the Orient IP data*

Figure 4 shows the IP interpretation and previous drillholes. Historic drillhole EO3 at Orient East which intersected high grade zones of silver-indium-lead-zinc within a wider zone of lower grade mineralisation with elevated silver was collared on the edge of a large IP chargeability feature, adding weight to the potential for a bulk tonnage epithermal silver-lead-zinc target at Orient East see Table 1 (refer to ASX release 11/11/2020 for details). The presence of two other large IP chargeability features increases the prospectivity of the area for large scale mineralisation.

**Table 1:** Material drill hole assay summary (EO3), Herberton Silver Indium Project

| Hole ID | From | To | Down Hole Intersection | Ag | In | Pb | Zn |
|---|---|---|---|---|---|---|---|
| | (m) | (m) | (m) | (g/t) | (g/t) | (%) | (%) |
| EO3 | 15.0 | 24.0 | 9.0 | 27 | na | 0.6 | 0.2 |
| | 36.0 | 40.0 | 4.0 | 154 | 20 | 3.3 | 2.0 |
| | 44.0 | 51.0 | 7.0 | 68 | 10 | 1.4 | 1.3 |
| EO3 (Ag only) | 15.0 | 90.0 | 75.0 | 38 | na | na | na |
| inc. | 19.0 | 28.0 | 9.0 | 84 | na | na | na |
| inc. | 34.0 | 39.0 | 5.0 | 141 | na | na | na |
| inc. | 44.0 | 54.0 | 10.0 | 62 | na | na | na |
| inc. | 85.0 | 90.0 | 5.0 | 30 | na | na | na |

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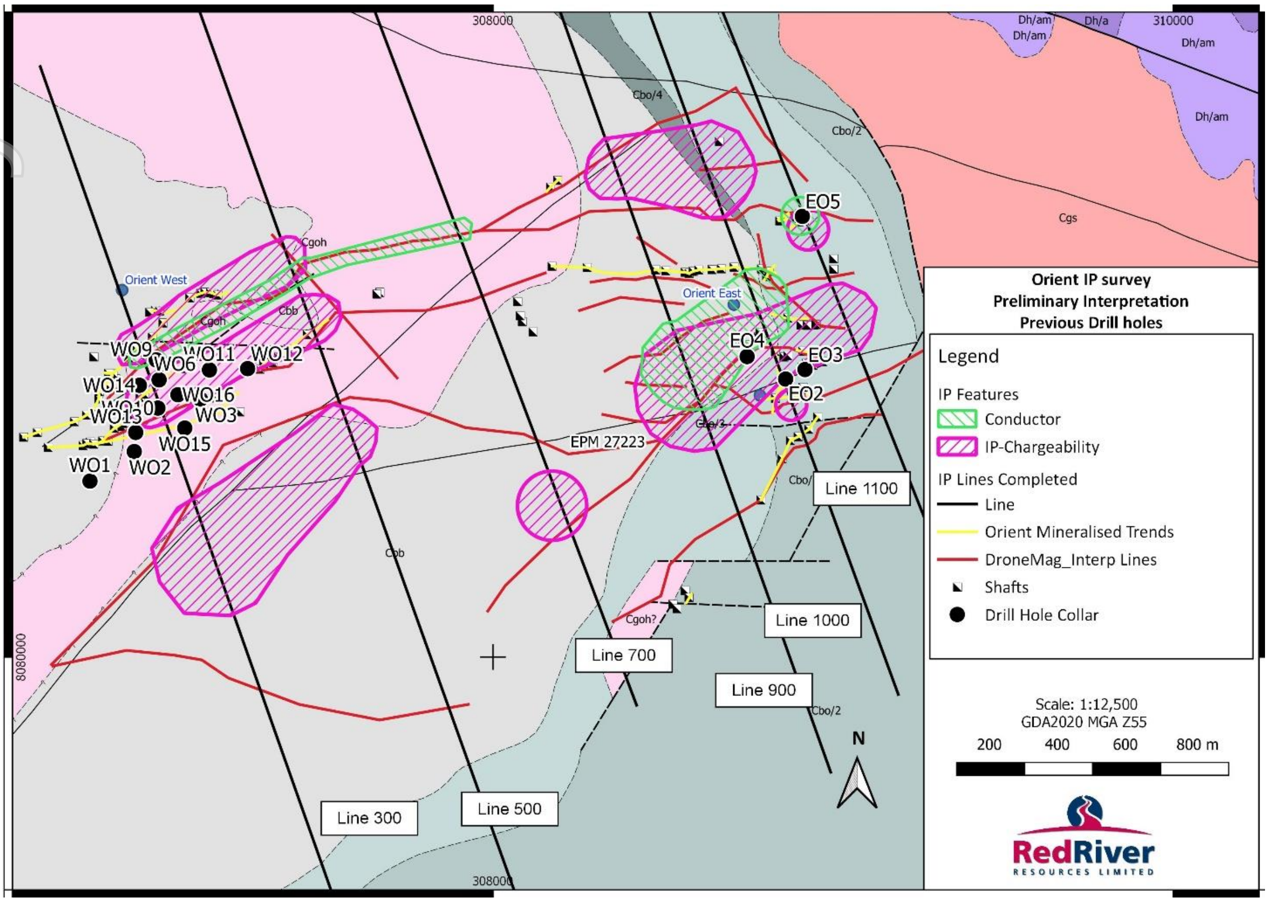


***Figure 4.*** *Preliminary interpretation of the Orient IP data and previous drill hole collars*

The modelled IP inversion sections for the six lines are shown in Figures 5 to 10. The inversion models show the location of the chargeable and conductive features.

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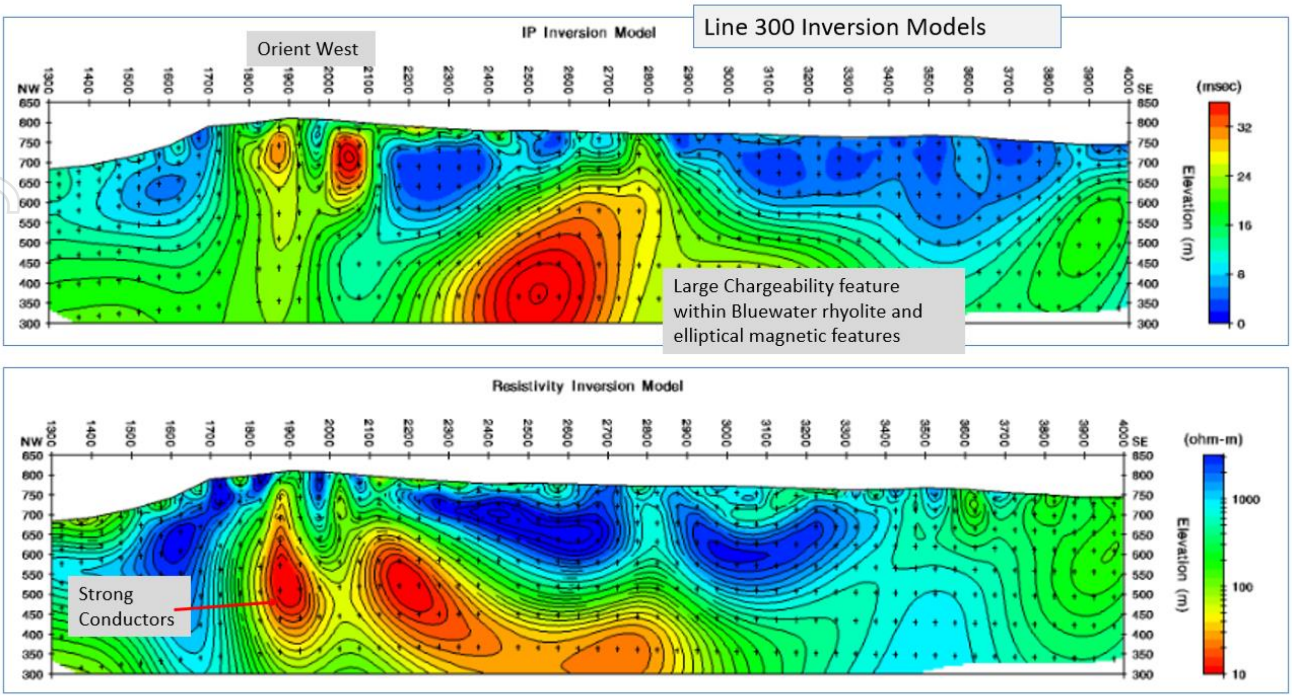


***Figure 5**. IP line 300 inversion model sections*

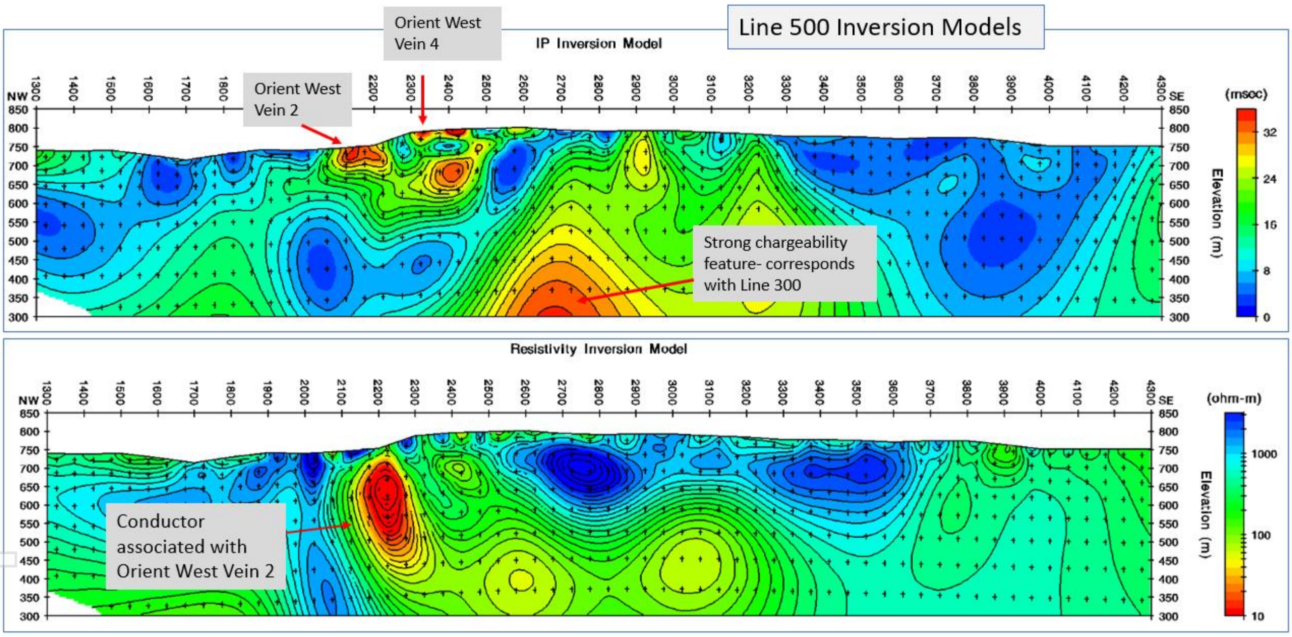


***Figure 6**. IP line 500 inversion model sections*

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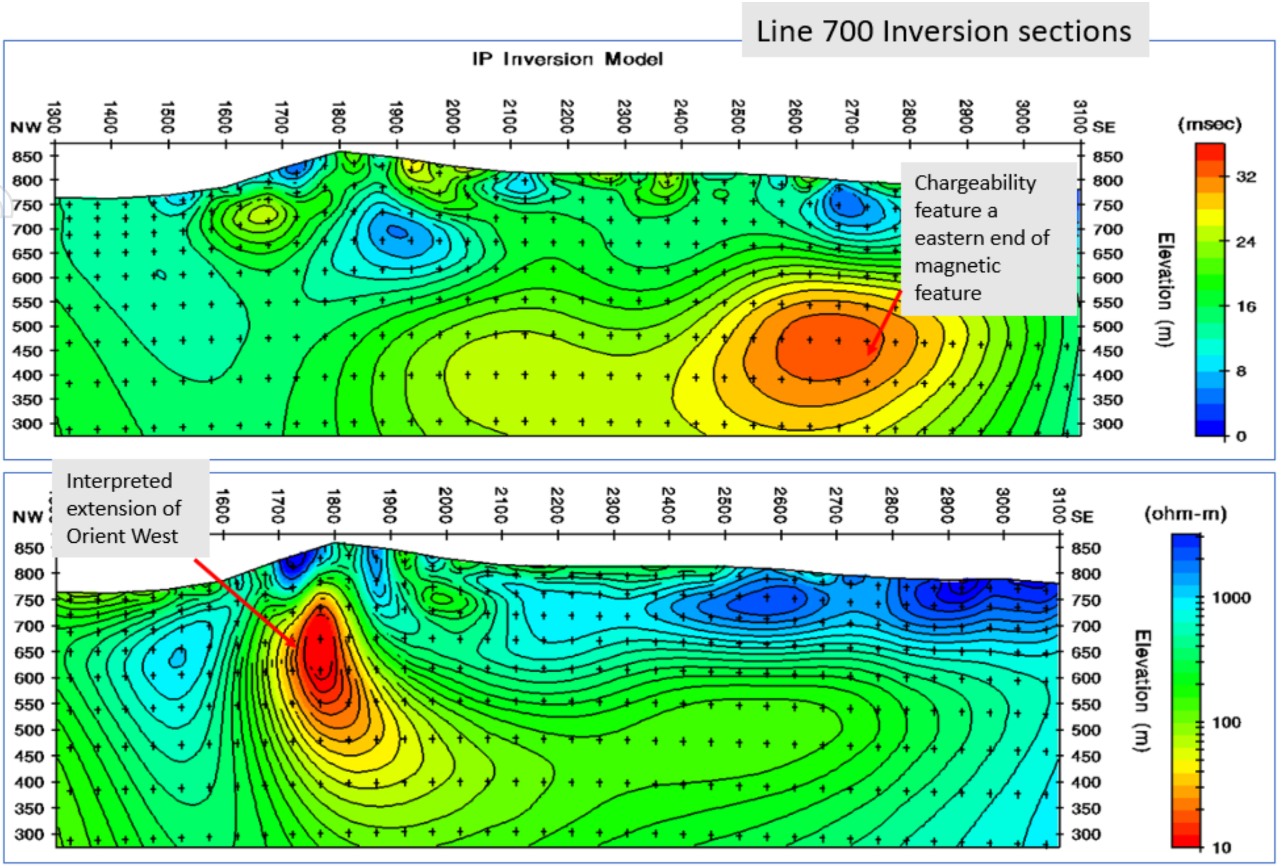


***Figure 7**. IP line 700 inversion model sections*

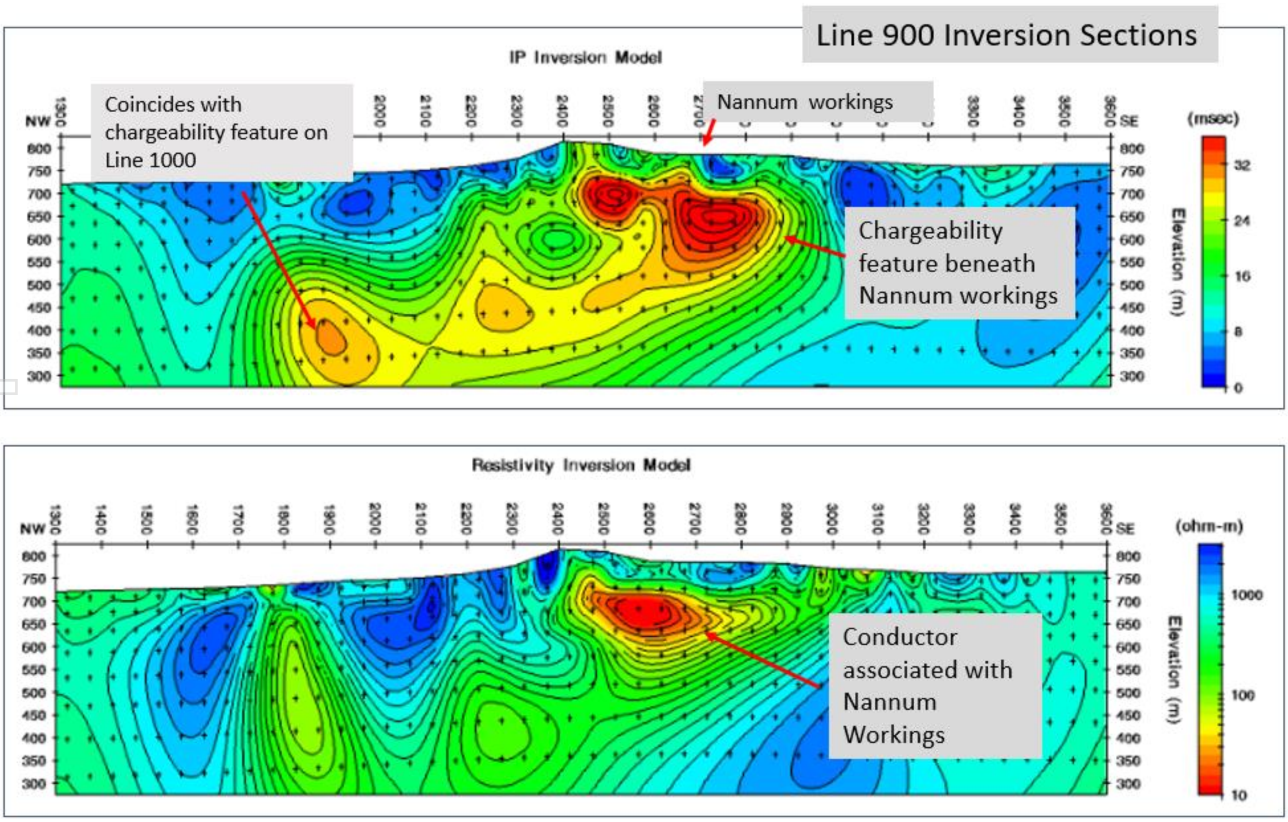


***Figure 8.** IP line 900 inversion model sections.*

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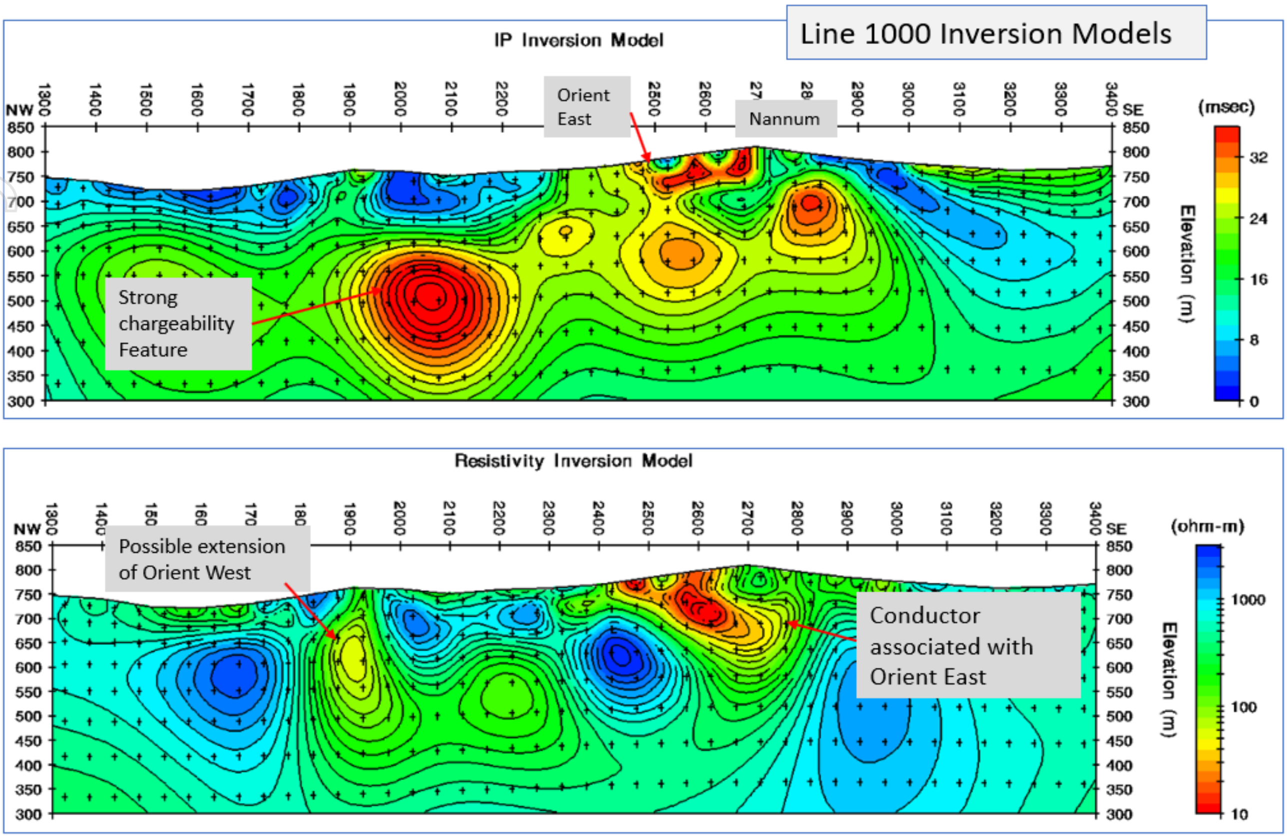


***Figure 9.*** *IP line 1000 inversion model sections*

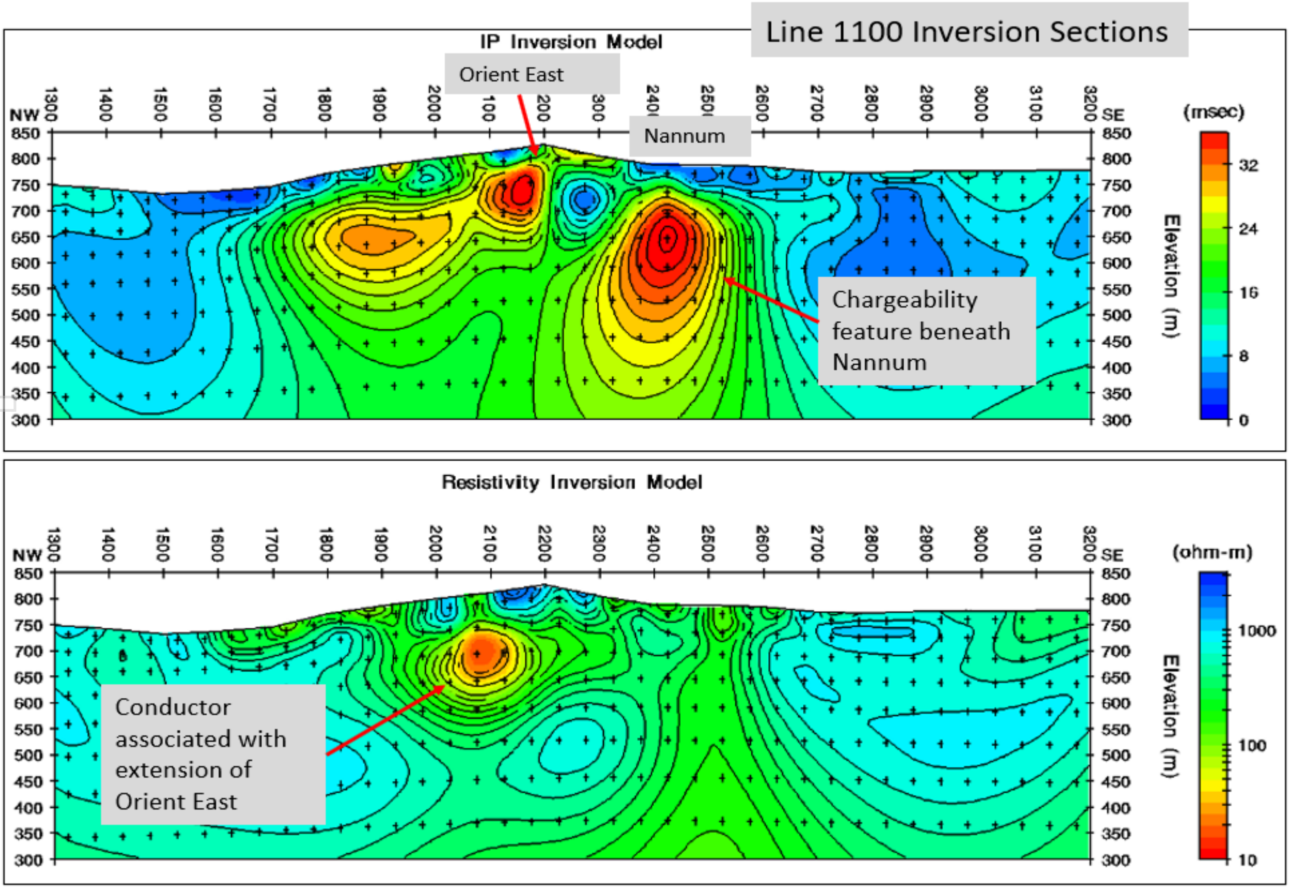


***Figure 10.*** *IP line 1100 inversion model sections*

## About Red River Resources (ASX: RVR)

RVR is building a multi-asset operating business focused on base and precious metals with the objective of delivering prosperity through lean and clever resource development. RVR's foundation asset is the Thalanga Base Metal Operation in Northern Queensland, which was acquired in 2014 and where RVR commenced copper, lead and zinc concentrate production in September 2017. RVR has commenced production at the high-grade Hillgrove Gold Operation in New South Wales which was acquired in 2019. The Hillgrove Operation is a key part of RVR's strategy to build a multi-asset operating business focused on base and precious metals.

On behalf of the Board,

**Mel Palancian**
**Managing Director**
Red River Resources Limited

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For further information please visit Red River's website or contact:


| | |
|---|---|
| Mel Palancian | Nathan Ryan |
| Managing Director | NWR Communications |
| mpalancian@redriverresources.com.au | nathan.ryan@nwrcommunications.com.au |
| D: +61 3 9017 5380 | M: +61 420 582 887 |


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### Competent Persons Statement

### Exploration Results

The information in this report that relates to Exploration Results is based on information compiled by Mr Jon Rutter who is a member of The Australasian Institute of Geoscientists, and a full time employee of Red River Resources 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 Rutter consents to the inclusion in this report of the matters based on the information in the form and context in which it appears.

## JORC Code, 2012 Edition – Table 1

## Section 1 Sampling Techniques and Data

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sampling techniques*** | • *Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*<br>• *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*<br>• *Aspects of the determination of mineralisation that are Material to the Public Report.*<br>• *In cases where 'industry standard' work has been done this would be relatively simple (eg 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.* | • No drilling or sampling was carried out |
| ***Drilling techniques*** | • *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).* | • No drilling was carried out |
| ***Drill sample recovery*** | • *Method of recording and assessing core and chip sample recoveries and results assessed.*<br>• *Measures taken to maximise sample recovery and ensure representative nature of the samples.*<br>• *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.* | • No drilling was carried out |
| ***Logging*** | • *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.*<br>• *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.*<br>• *The total length and percentage of the relevant intersections logged.* | No drilling was carried out |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Sub-sampling techniques and sample preparation*** | • *If core, whether cut or sawn and whether quarter, half or all core taken.*<br>• *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.*<br>• *For all sample types, the nature, quality and appropriateness of the sample preparation technique.*<br>• *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.*<br>• *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.*<br>• *Whether sample sizes are appropriate to the grain size of the material being sampled.* | • No sub sampling was carried out |
| ***Quality of assay data and laboratory tests*** | • *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.*<br>• *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.*<br>• *Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.* | • No Assays were carried out |
| ***Verification of sampling and assaying*** | • *The verification of significant intersections by either independent or alternative company personnel.*<br>• *The use of twinned holes.*<br>• *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.*<br>• *Discuss any adjustment to assay data.* | • No Assays were carried out |
| ***Location of data points*** | • *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.*<br>• *Specification of the grid system used.*<br>• *Quality and adequacy of topographic control.* | • Location of Drone Magnetic data points and IP survey stations is in GDA1994 MGA Z55 UTM coordinates.<br>• Drone magnetic survey data points were located using a GPS mounted on the drone with the location stored with the magnetic data. Accuracy between 0.6 and 6m depending on the number of satellites and terrain. Terrain clearance was maintained using terrain drape technology built into the drone and control equipment.<br>• Locations and elevations for the IP stations were recorded using a handheld GPS. |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | |
| ***Data spacing and distribution*** | • *Data spacing for reporting of Exploration Results.*<br>• *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.*<br>• *Whether sample compositing has been applied.* | • The Drone magnetic data was collected at a rate of 20 Hz with the drone flying at between 5 and 7m/s.<br>• The line spacing was 20m and terrain clearance 25-30m with a drape height of 20m.<br>• The IP survey stations were spaced at 100m intervals along the lines. |
| ***Orientation of data in relation to geological structure*** | • *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.*<br>• *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.* | • The drone magnetic survey lines were oriented north south.<br>• The IP lines were oriented approximately 330 degrees to traverse perpendicular to the general trend of the geological units. |
| ***Sample security*** | • *The measures taken to ensure sample security.* | • The data for each survey was transmitted each evening to their respective companies for processing and quality checking. |
| ***Audits or reviews*** | • *The results of any audits or reviews of sampling techniques and data.* | • No audits were undertaken |

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## Section 2 Reporting of Exploration Results

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Mineral tenement and land tenure status*** | • *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.*<br>• *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.* | • The Orient project is located on EPM 27223, held by Cromarty Resources Pty Ltd, a wholly owned subsidiary of Red River Resources Limited.<br>• EPM 27223 is located approximately 20km W of Herberton on the Atherton Tablelands in north Queensland.<br>• Access is via the Herberton-Petford Road, Hales Siding Road and station tracks.<br>• The Bar Barrum people # 4 are the Cultural Heritage Party over the EPM. |
| ***Exploration done by other parties*** | • *Acknowledgment and appraisal of exploration by other parties.* | • Exploration activities have been carried out (underground mapping, Diamond drilling, surface geochemical surveys and surface mapping, pre-feasibility study) by Great Northern Mining Corporation and Mareeba Mining and Exploration over the West and East Orient areas from 1978 to 1989<br>• Exploration activities have been carried out (soils and rock chip sampling) around Orient West and East by Monto Minerals Limited from 2014 to 2017 |
| ***Geology*** | • *Deposit type, geological setting and style of mineralisation.* | • Mineralisation occurs in vein systems up to 2m wide (controlled by fractures/shears) containing argentiferous galena, cerussite, anglesite, sphalerite, pyrite, marmatite, cassiterite (minor), and stannite (minor).<br>• The lead-zinc-silver-indium mineralisation at Orient is believed to represent part of an epithermal precious metals system. The Orient vein and stockwork mineralisation are associated with a strongly faulted and deeply fractured zone near the margin of a major caldera subsidence structure.<br>• |

| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| ***Drill hole Information*** | • *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes, including, easting and northing, elevation or RL, dip and azimuth, down hole length, interception depth and hole length.*<br>• *If the exclusion of this information is justified the Competent Person should clearly explain why this is the case.* | • No drilling undertaken. |
| ***Data aggregation methods*** | • *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.*<br>• *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.*<br>• *The assumptions used for any reporting of metal equivalent values should be clearly stated.* | • No data aggregation methods were used in the reporting of the Dronemag or IP survey results. |
| ***Relationship between mineralisation widths and intercept lengths*** | • *These relationships are particularly important in the reporting of Exploration Results.*<br>• *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.*<br>• *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').* | • Not applicable |
| ***Diagrams*** | • *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 plans and sections.* | • Refer to plan in report |
| ***Balanced reporting*** | • *Where comprehensive reporting of all Exploration Results is not* | • The reporting of the drone magnetic and IP results is |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | *practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.* | balanced in that the results are presented without undue emphasis on the perceived significance or otherwise of the results.<br>• |
| ***Other substantive exploration data*** | • *Other exploration data, if meaningful and material, should be reported.* | • Drone Magnetic Survey details<br>• UAV Type: DJI Matrice drone<br>• Magnetometer: GEM Systems GSMP-35U<br>• Area: 14 km2<br>• Line Km: 700<br>• Line spacing:20m<br>• Line Orientation: North south<br>• Drape Height: 20m<br>• Start-End Date: 11/8/2021 to 25/8/2021<br>• Absolute accuracy of magnetometer: <0.1nT<br>• Data Acquisition: 20 Hz<br>• Flight Speed: 5-7 m/second<br>• The survey was undertaken by Ultramag Geophysics Pty Ltd, a reputable and very experience drone survey company.<br>• Survey QAQC: a base magnetometer was set up close to the survey area to monitor the earth's magnetic field changes throughout the day. This data was used to correct the readings from the drone magnetometer for diurnal noise.<br>• Operational QA is achieved through compliance with the Ultramag Geophysics General Operations Manual for Ground Magnetic Surveys.<br>• Survey point locations were recorded by a GPS mounted onboard the drone.<br>• Terrain clearance is maintained using terrain drape technology built into the drone and control equipment. |

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| Criteria | JORC Code explanation | Commentary |
|---|---|---|
| | | • Induced Polarisation (IP) Survey<br>• Survey undertaken by Zonge Engineering and Research Organisation (Australia) Pty Ltd a reputable and highly regarded geophysical survey company.<br>• Instruments: GDD-32 IP receiver, GDD Tx IV transmitter. Instrument synchronisation was achieved internally using GDD synchronisation technique.<br>• DDIP data collected using 100 metre transmitting and receiving dipoles.<br>• Survey Parameters<br>• All IP data recorded at 0.125Hz<br>• Chargeability recorded over 20 time windows after initial delay of 40ms<br>• Stack size was varied depending on signal strength and number of repeat stacks adjusted to balance survey speed and data quality. Most data collected using 3 to 6 stacks of 20 cycles.<br>• Data processing. Using industry standard techniques to provide pseudo sections of observed data and calculated data. The data was inverted for quality control using Zonge Engineering's TS2DIP program. The data quality for the survey is of high quality.<br>. |
| ***Further work*** | • *The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).* | • Ground checking of structures and IP features<br>• Drilling to investigate the deep IP chargeability features.<br>• Drilling to test for extensions to the known mineralisation along the structures identified in the Drone mag and IP anomalies. |

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