



24<sup>th</sup> July 2018

INVESTIGATOR  
RESOURCES  
LIMITED



## Breakthrough technology upgrades Maslins IOCG target in South Australia

- Prospective gravity target in deposit-rich Olympic Dam (“OD”) Belt further enhanced by Magneto-Telluric (MT) traverse contracted by Investigator;
- Underlying conductive “MT flare” similar to recently-recognised signature at Olympic Dam;
- Maslins IOCG target extends 6km along prospective structure at intersection with MT flare;
- Partner sought to drill test the high-priority target.

Investigator Resources Limited (ASX Code: IVR) is pleased to announce that a 24km long traverse of six MT stations was recently completed with positive results at the Maslins copper-gold target. The target is located 50km south of Carrapateena within the OD Belt of iron oxide copper gold (“IOCG”) deposits (Figure 1A).

A signature flare of MT conductivity was recognised by researchers in 2006 under the giant Olympic Dam IOCG deposit (Figure 1B). This has since gained wide acceptance as representing the conduit for metal-rich fluids that formed the deposit. Offering a breakthrough targeting technique to revitalise mineral discoveries, a Federal Government MT (“AusLAMP”) survey was rolled out nationally from 2015.

The Maslins target was secured under a 100% IVR-held tenement EL 5705 (Figure 2) after the AusLAMP survey highlighted the under-explored southern extension of the OD Belt. The federal agency Geoscience Australia had previously nominated the Maslins gravity anomaly as an IOCG target on other grounds in 2010. Investigator modelled Maslins as also having the right density for a prospective IOCG target (Figure 3; IVR ASX release 15 February 2016) with a conceptual target size between Carrapateena and Olympic Dam and with a depth range and shape likely to be amenable to modern bulk underground mining.

The coarse AusLAMP data indicated that a deep MT conductivity flare projected upwards towards the Maslins target. Investigator undertook a closer-spaced MT traverse for which modelling by a consultant geophysicist confirmed the upper extension of the conductive flare into the fault abutting the Maslins target (Figure 4). The Maslins MT flare has similar size, shape and conductivity to the OD flare.

Investigator Resources Limited Managing Director John Anderson said **“These exciting results, confirming the MT hotspot under our Maslins target, gives Investigator a front position for a new generation of potential copper-gold discoveries in South Australia. The MT targeting tool recently developed by local research now enables revitalised 3D exploration. With this breakthrough technology in high demand, the planned survey was delayed several months. We now have the data that are interpreted to show the Maslins target is upgraded by a prospective MT vector similar to the signature at Olympic Dam.”**

**“Modelled to be slightly deeper than Carrapateena - the last IOCG discovery in 2005, Investigator is seeking avenues to drill the high-priority Maslins target as soon as possible.”** Mr Anderson added.

The Investigator Resources’ results precede a wider government survey infilling the MT coverage in the Carrapateena district (Figures 1A & 2). The government data is not expected to be available until later in 2018.

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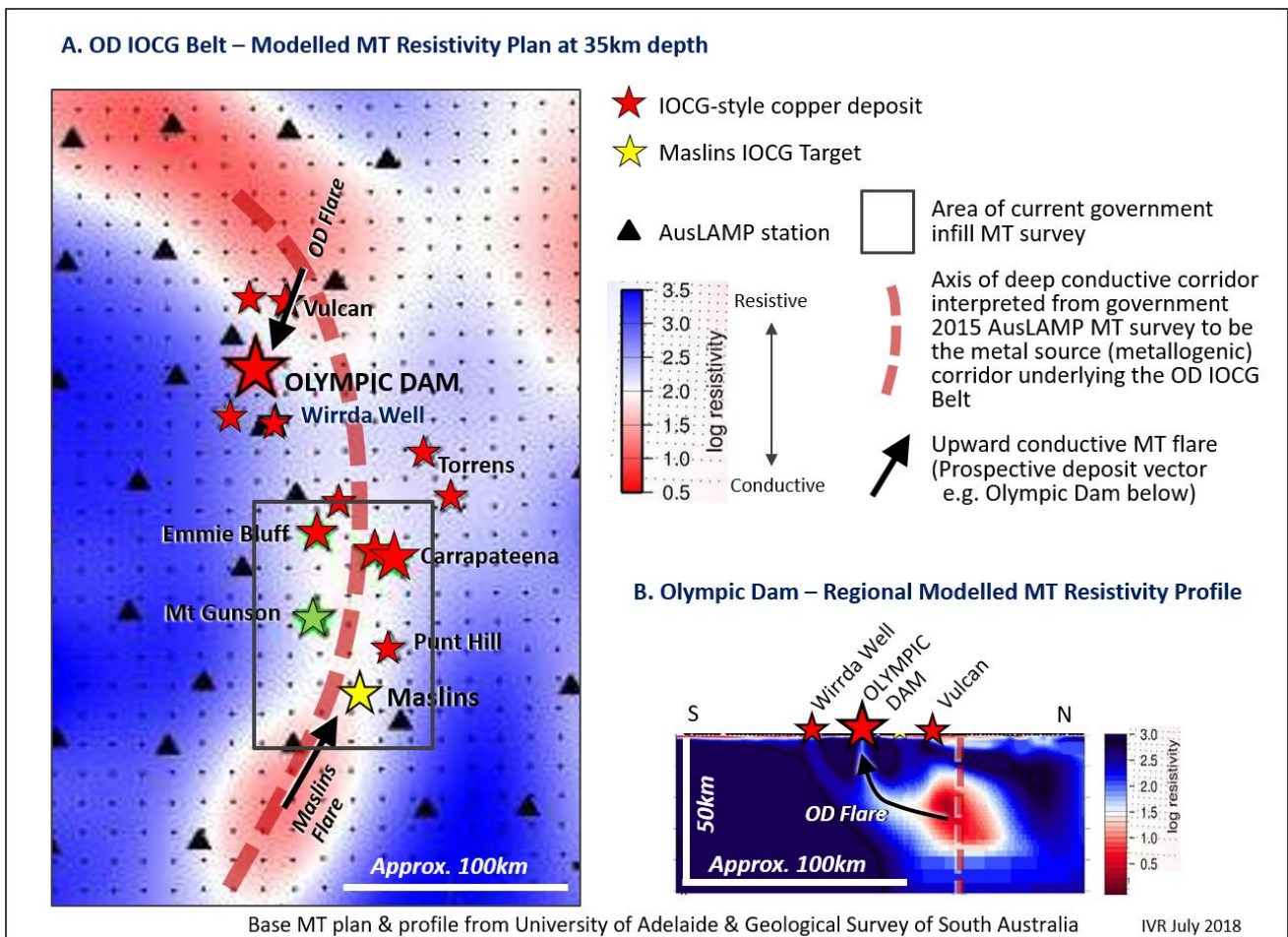
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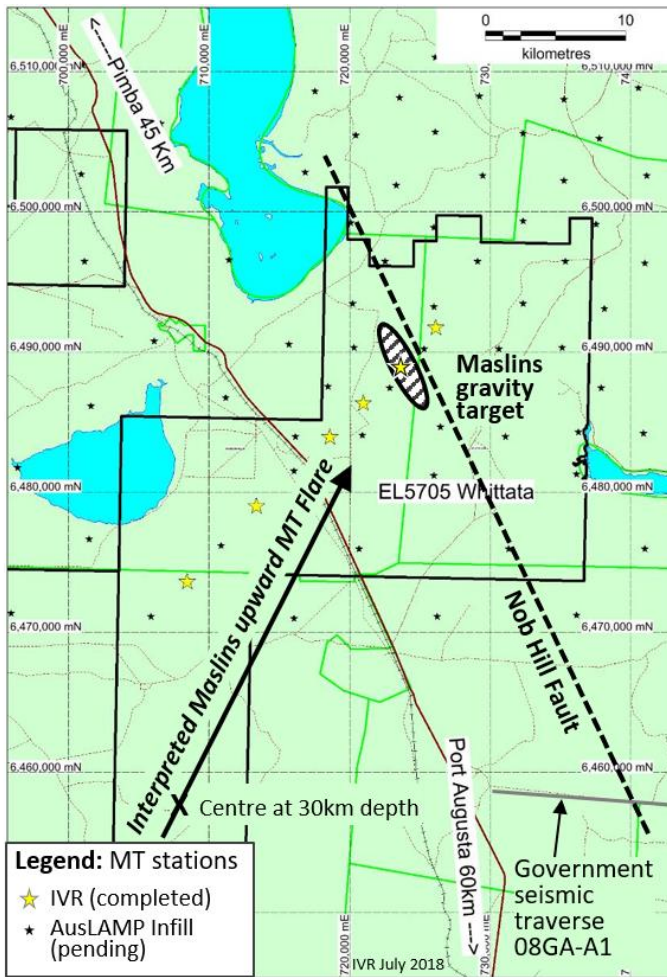
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**Figure 1A: Olympic Dam IOCG Belt – MT resistivity plan at 35km depth slice modelled from coarse first-pass AusLAMP data** showing the locations of IOCG deposits & prospects; axis of the OD MT Conductive Corridor; & traces of interpreted MT flares.

**Figure 1B: Olympic Dam - Regional profile of modelled MT resistivity.** Deep metal source regions and prospective metal feeders are interpreted as red & white conductive zones (i.e. inverse of blue resistive zones.)





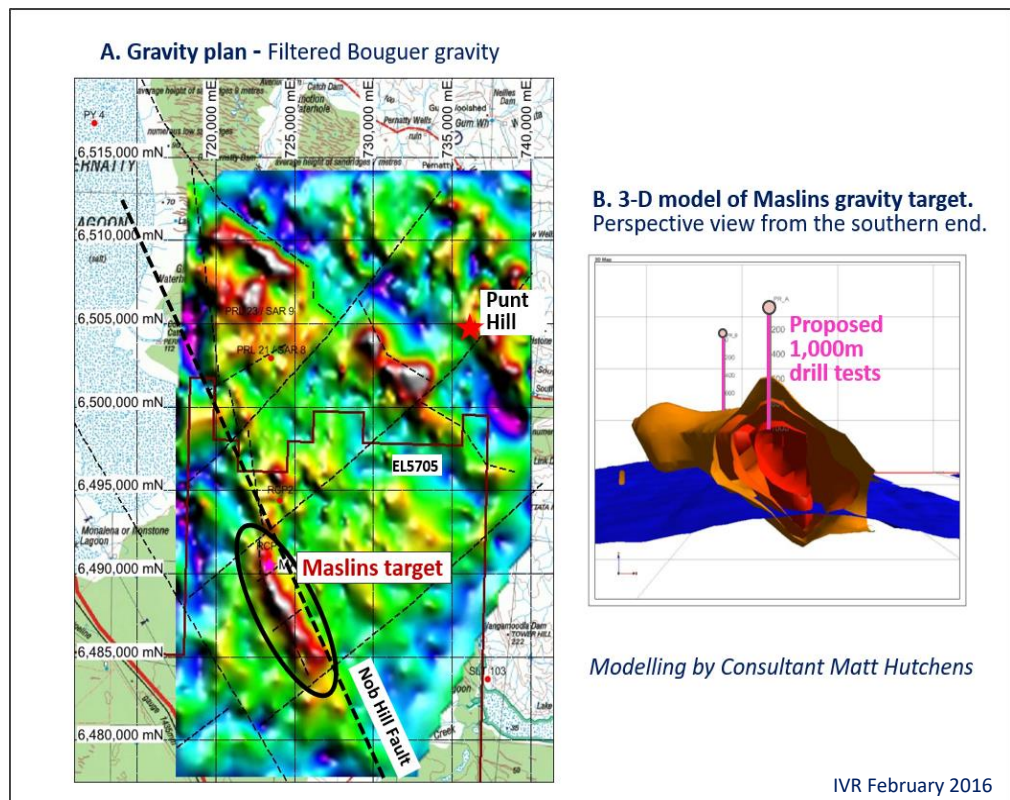
**Figure 2: Plan of the Maslins area showing Investigator's MT stations (yellow stars) across the Maslins target and associated Nob Hill Fault; and the trace of the deep Maslins MT flare approaching the target.**

Based on the modelled seismic profile of traverse 08GA-A1 (see Figure 4B), in 2010 Geoscience Australia nominated:-

- 1) the Nob Hill Fault as an IOCG prospective structure; and
- 2) the Maslins gravity anomaly as a prospective IOCG target on the west side of the projected Nob Hill Fault.

**Figure 3A: Residual Gravity Plan of the Maslins target & associated Nob Hill Fault.** The Maslins gravity anomaly has a maximum amplitude of 9 milligals.

**Figure 3B: Perspective view of the modelled Maslins gravity target.** The target is modelled as a horizontal cylinder with dimensions of 6km length and up to 1km diameter. Shallowest depth to top is 600m. The density contrast is 0.4 to 0.5 gm/cc.

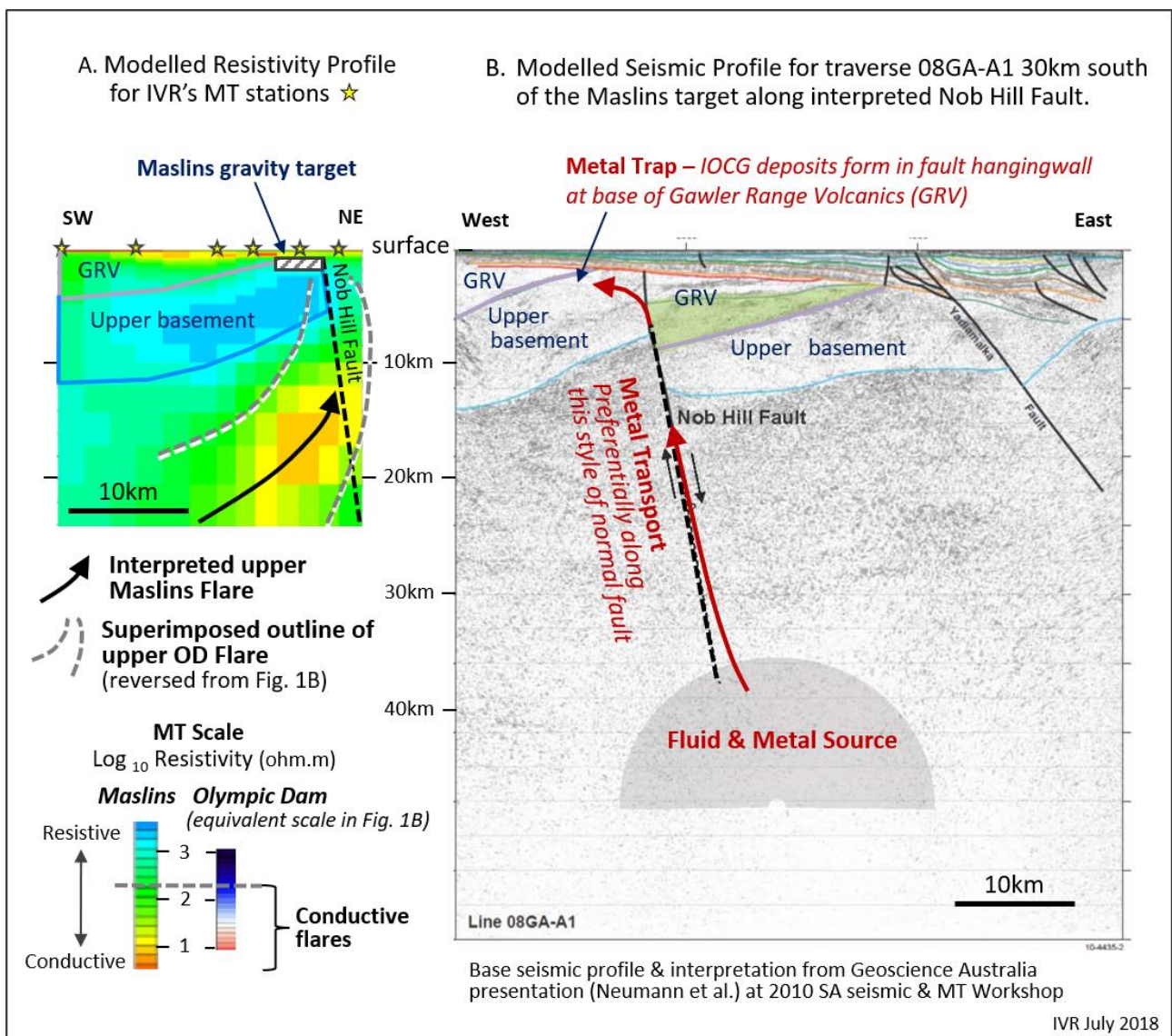


**Figure 4A: Modelled MT Resistivity Profile** showing a strong conductivity flare entering the Nob Hill Fault below the Maslins gravity target.

The Maslins MT flare is considered by Investigator to be similar to the OD flare adding further support for Maslins as an IOCG target.

**Figure 4B: Seismic Profile projected 30km from the south** showing prospective structural conditions for metal flow & deposition. The conceptual processes for ore deposit formation are labelled in red.

The favourable geological & structural setting interpreted by Geoscience Australia in the seismic profile is comparable with the setting interpreted by IVR for the MT profile. The connection of the deeper conductive flares with the shallow metal-focussing structures is interpreted to be important for the formation of IOCG and other large metal deposits.



### Competent Person Compliance Statement

The information in this announcement relating to exploration results is based on information compiled by Mr. John Anderson who is a full time employee of the company. Mr. Anderson is a member of the Australasian Institute of Mining and Metallurgy. Mr. Anderson has sufficient experience of relevance to the styles of mineralisation and the types of deposits under consideration, and to the activities undertaken, to qualify as a Competent Person as defined in the 2012 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr. Anderson consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

The information in this announcement that relates to Mineral Resources Estimates at the Paris Silver Project is extracted from the report entitled "Significant 26% upgrade for Paris Silver Resource to 42Moz contained silver" dated 19 April 2017 and is available to view on the Company website [www.investres.com.au](http://www.investres.com.au). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

### Investigator Resources overview

Investigator Resources Limited (ASX code: IVR) is a metals explorer with a focus on the opportunities for greenfields silver-lead, copper-gold and other metal discoveries in South Australia.

The Company's priority is progressing the development pathway for the Paris silver project with the preparation of a pre-feasibility study. The Paris Mineral Resource Estimate is 9.3Mt @ 139g/t silver and 0.6% lead, comprising 42Moz of contained silver and 55kt of contained lead, at a 50g/t silver cut-off. The resource has been categorised with an Indicated Resource estimate of 4.3Mt @ 163g/t silver and 0.6% lead for 23Moz contained silver and 26kt contained lead, and an Inferred Resource: 5.0Mt @ 119g/t silver and 0.6% lead for 19Moz contained silver and 29kt contained lead.

The Company has applied an innovative strategy that has developed multiple ideas and targets giving Investigator first-mover status. These include: the Paris silver discovery; recognition of other epithermal fields and the associated potential for porphyry copper-gold of Olympic Dam age; extending the ideas developed at Paris-Nankivel and using breakthrough government Magneto-Telluric surveying to rejuvenate targeting with the Maslins IOCG target as the next priority drill target.

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**APPENDIX 1****TABLE 1: Maslins IOCG Target – July 2018 MT Survey - JORC 2012****Section 1 Sampling Techniques and Data**

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. 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.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. '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 (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Results of a Geophysical Survey are being reported.</li> <li>Survey was conducted by Zonge Engineering and Research Organisation, a company which specialises in the design, acquisition, processing and interpretation of electrical geophysical surveys.</li> <li>Six Magnetotelluric stations were contracted to be read for Gawler Resources Pty. Ltd (a 100% held subsidiary of Investigator Resources) to infill and add detail to part of a regional Magneto-Telluric ("MT") infill survey being conducted in the Carrapateena district by Zonge for Geoscience Australia. The regional data is not yet available.</li> </ul>
Drilling techniques	<ul style="list-style-type: none"> <li>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. 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).</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable; Not reporting on drilling</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li>Method of recording and assessing core and chip sample recoveries and results assessed.</li> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: Not reporting on drilling</li> </ul>
Logging	<ul style="list-style-type: none"> <li>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: Not reporting on drilling</li> </ul>

Criteria	JORC Code explanation	Commentary
	<p><i>Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <ul style="list-style-type: none"> <li><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li><i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li><i>If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i></li> <li><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li><i>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.</i></li> <li><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: Not reporting on drilling</li> </ul>
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <li><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li><i>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.</i></li> <li><i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>The receiving equipment is Phoenix Geophysics MTU-5A receivers, featuring 5 input channels and capable of recording in 10kHz-DC frequency range with 24-bit resolution and up to 24000 samples per second. Timing accuracy - +-100ns, with oven-controlled crystal oscillator synchronized to GPS.</li> <li>Sensors: copper sulphate ceramic pots for electric field, low noise, non-polarizing. Phoenix MTC-150L coils, with 10kHz-10000s range and 25mv/nT sensitivity.</li> <li>The receivers have their own built-in GPS receivers, which can be used for both timing synchronization and positioning information. Coordinates get recorded in WGS84 system with accuracy of around 5 meters.</li> <li>An additional DGPS with decimeter accuracy was used to collect coordinates of all 5 pots on every site (4 pots for actual E-field electrodes and one extra local pot). Those coordinates are in WGS84 coordinate system with UTM projection used.</li> </ul>

Criteria	JORC Code explanation	Commentary
Verification of sampling and assaying	<ul style="list-style-type: none"> <li>The verification of significant intersections by either independent or alternative company personnel.</li> <li>The use of twinned holes.</li> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> <li>Discuss any adjustment to assay data.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable; Not reporting on drilling</li> </ul>
Location of data points	<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>Not applicable; Not reporting on drilling</li> </ul>
Data spacing and distribution	<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>Part of a regional survey- spacing suitable for the survey method's regional nature.</li> </ul>
Orientation of data in relation to geological structure	<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>Not applicable: Not reporting on drilling</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: Not reporting on drilling</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>Not applicable: Not reporting on drilling</li> </ul>



## Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> <li>• <i>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.</i></li> <li>• <i>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.</i></li> </ul>	<ul style="list-style-type: none"> <li>• EL5705 Whittata, is held 100% by Gawler Resources Pty. Ltd., a 100% owned subsidiary of Investigator Resources Ltd.</li> <li>• The tenement is approximately mid-way between Port Augusta and Woomera, South Australia, with the Trans-Australian Railway and Stuart Highway passing mid-way through the tenement.</li> <li>• Gawler Resources Pty Ltd has a Native Title Mining Agreement with the Kokatha People. An Heritage Clearance Survey was conducted in September 2017 over proposed drill sites at the Maslins Project. Drill sites and access tracks were given cleared status.</li> <li>• The tenement is over pastoral lands and a good relationship exists with the pastoral lease holders.</li> <li>• The Tenement has been granted to 3 February 2020.</li> <li>• There are no known impediments to further exploration within this tenement.</li> </ul>
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> <li>• <i>Acknowledgment and appraisal of exploration by other parties.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Significant exploration has been conducted across the area, however most has been aimed at discovering further Mt. Gunson-style Cu-Ag.</li> <li>• Two deep holes drilled by Havilah Resources N.L. in 2002 did not penetrate through Gawler Range Volcanics into the Palaeoproterozoic basement (456m and 266m).</li> <li>• Recent modelling by GSSA, through the use of a combination of drillhole data, seismic sections, and other data estimates that a depth of 500-600m is expected to Palaeoproterozoic basement, consistent with extrapolated depth from the nearest deep hole 10km distance.</li> <li>• There have been no drillholes within this tenement that have penetrated into the Palaeoproterozoic basement.</li> </ul>
<i>Geology</i>	<ul style="list-style-type: none"> <li>• <i>Deposit type, geological setting and style of mineralisation.</i></li> </ul>	<ul style="list-style-type: none"> <li>• The project area is in the highly prospective Olympic domain which contains the world-class Olympic Dam Iron-Oxide Copper-Gold-Uranium (IOCGU) mine, the Prominent Hill IOCG mine, the developing Carrapateena IOCG project and a number of other IOCG prospects in the region.</li> <li>• Compilation of the publicly available geophysical data indicates a combined gravity and magnetic anomaly. Modelling indicates a magnetic body with an elevated specific gravity from a depth of</li> </ul>

Criteria	JORC Code explanation	Commentary
		<p>approximately 600m to about 1200m, with a lateral extent of up to 6km in a NNW-SSE orientation. It is proposed that this could be an IOCG-related feature or possibly a skarn directly related to an IOCG system beneath the upper Gawler Range Volcanics.</p> <ul style="list-style-type: none"> <li>• Previous nearby drilling in the region has discovered the Punt Hill deposit (20km ENE), essentially a Cu-Au skarn. Other drillholes in the region have also intersected IOCG-related skarns (PRL21/SAR8, 8km north). Previous drilling within the current tenement, by Havilah Resources NL, stopped short of penetrating through the upper Gawler Range Volcanics. There have been no drillholes within the current tenement that have intersected palaeoproterozoic basement.</li> </ul>
<p><i>Drill hole Information</i></p>	<ul style="list-style-type: none"> <li>• <i>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:</i> <ul style="list-style-type: none"> <li>○ <i>easting and northing of the drill hole collar</i></li> <li>○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i></li> <li>○ <i>dip and azimuth of the hole</i></li> <li>○ <i>down hole length and interception depth</i></li> <li>○ <i>hole length.</i></li> </ul> </li> <li>• <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable; Not reporting on drilling</li> </ul>
<p><i>Data aggregation methods</i></p>	<ul style="list-style-type: none"> <li>• <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li>• <i>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.</i></li> <li>• <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable: Not reporting on drilling</li> </ul>
<p><i>Relationship between mineralisation widths and</i></p>	<ul style="list-style-type: none"> <li>• <i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li>• <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable; Not reporting on drilling</li> </ul>

Criteria	JORC Code explanation	Commentary
<i>intercept lengths</i>	<ul style="list-style-type: none"> <li>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</li> </ul>	
<i>Diagrams</i>	<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>Not applicable; Not reporting on drilling</li> </ul>
<i>Balanced reporting</i>	<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 applicable; Not reporting on drilling</li> </ul>
<i>Other substantive exploration data</i>	<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>Publicly available aeromagnetic and gravity data has been compiled and modelled, indicating that there is a significant, unexplained magnetic and gravity anomaly from a depth of 600m to approximately 1200m, and in the order of 6km in length.</li> <li>Very broad-spaced (AusLAMP) MT survey indicates a deep conductive zone in the broad project area.</li> </ul>
<i>Further work</i>	<ul style="list-style-type: none"> <li>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</li> <li>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</li> </ul>	<ul style="list-style-type: none"> <li>Diamond drilling proposed, subject to final Board approval, to test the Maslins gravity target enhanced by the MT results.</li> </ul>

### Note, sections 3 & 4 are not applicable