



ASX/Media Release

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INVESTIGATOR
RESOURCES
LIMITED



New geophysical modelling reinforces Maslins as a valid IOCG target in Olympic Dam belt of Stuart Shelf in Gawler Craton, SA

Highlights

- Geophysics survey confirms the Maslins project as a valid IOCG target
- 3D modelling of new Magneto-telluric (MT) data confirms conductive body beneath the Maslins Target
- 3D Gravity and Magnetic models verified by independent geophysical consultant and will assist in potential drill hole targeting
- Infill gravity survey to commence this week over the north of Maslins anomaly to enhance targeting
- New data modelling reinforces Investigator's approaches with potential joint venture partners with capacity to fully explore Maslins Project
- Deep conductivity corridor links Olympic Dam, Maslins and Carrapateena

Further to previous announcements, Investigator Resources Limited (ASX: IVR or "Investigator") is pleased to provide the following update in relation to its 100% owned Maslins iron oxide copper gold ("IOCG") target – located in the Olympic Dam belt of the Stuart Shelf in South Australia's Gawler Craton (Figure 1 below).

Investigator's Acting CEO Andrew McIlwain commented: *"The release by Geoscience Australia of the additional Olympic Domain (Magneto-Telluric) MT survey data in late 2018 has enabled Investigator to better define its exciting Maslins IOCG target."*

"With completion of both the interpretation and modelling of gravity, magnetic and MT geophysical data we have improved our understanding of the anomaly and consequently the targeting of proposed drilling."

“The review has highlighted an additional area to the north and centre of the Maslins IOCG target and we are in the process of completing an infill gravity survey to add to our understanding of the potential mineralisation in the area.

“With the known risks and cost associated with drilling deep IOCG targets, Investigator has recommended the search for the appropriate joint venture partner to advance this significant project with us”.

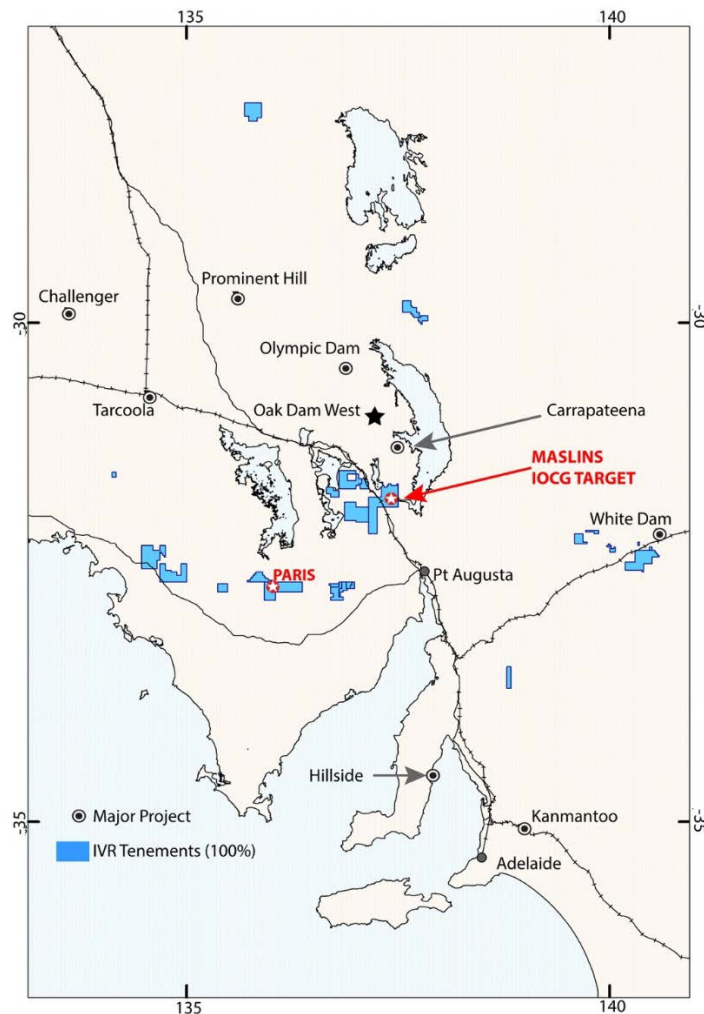


Figure 1. Investigator Resources' tenements – showing location of Maslins IOCG Target

Deep conductivity corridor links Olympic Dam, Maslins and Carrapateena

Subsequent to the release of AusLAMP Magneto-Telluric (“MT”) data in 2015, and combined with regional gravity data, Investigator selected and was granted a significant tenement package (the “Whittata” Project) of nearly 2,000 kms². These tenements lie over a deep (lower crustal) zone connecting the Olympic Dam, Carrapateena and BHP’s recently discovered Oak Dam IOCG deposits.

As shown in Figure 2 below, this corridor extends southwards into the Whittata tenement package. The Maslins IOCG target lies within these tenements.

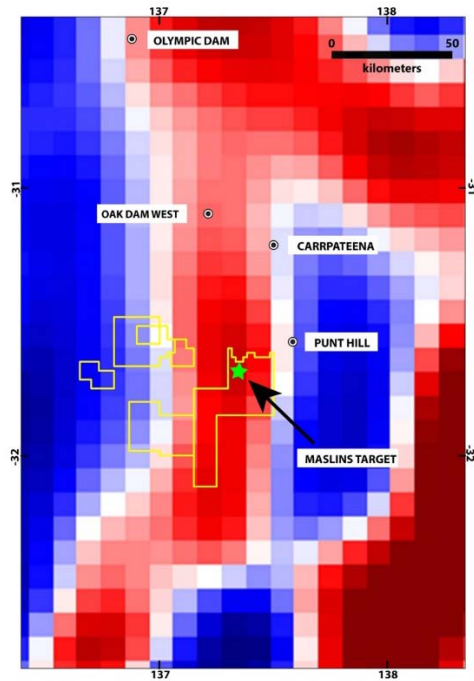


Figure 2. The 20 km AusLAMP Magneto-Telluric depth slice identifying conductive corridor from Olympic Dam and Oak Dam through Investigator's tenements and the Maslins Target

The outstanding BHP Oak Dam discovery lies about 85 kms to the north of the Maslins target within the MT-defined IOCG corridor. Oak Dam was a revisited target modelled solely on gravity and lies below about 1 km of cover.

BHP's Oak Dam and Investigator's Maslins gravity anomalies are shown for comparative size purposes in Figure 3 below.

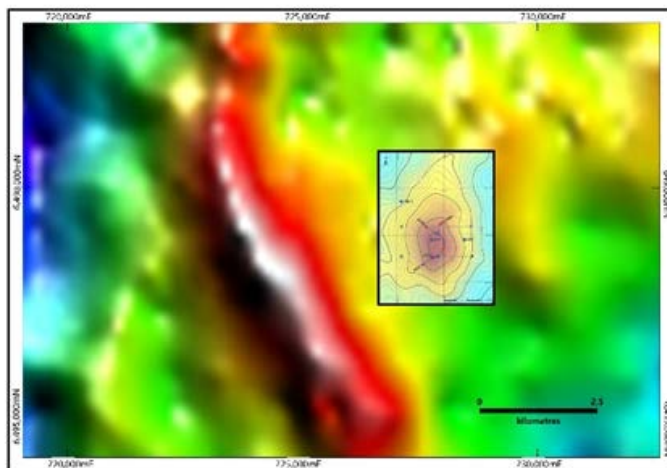


Figure 3. Maslins and Oak Dam West (inset) gravity anomalies – shown to scale

Maslins is an undrilled gravity anomaly interpreted as having a shallower depth to basement (estimated at about 600m) than Oak Dam.

As shown in Figure 3 above, the Maslins anomaly is curved in shape resembling a string of pearls, at least 6 kms in length and comprising a trend with numerous individual gravity highs. It is associated with a magnetic anomaly to the southeast, and defined by gravity alone to the north.

Geophysical Data and Interpretation

With the release of the Olympic Domain MT survey data in December 2018 (from both the survey conducted by Geoscience Australia and the additional infill stations funded by Investigator), an independent geophysical consultant was contracted to provide QA/QC data interrogation, modelling and interpretation of the MT data package.

The MT data indicated a complex geoelectrical regime, requiring 3Dimensional (3D) inversion to provide reliable results. This 3D inversion shows two large mid crustal conductors imaged to the north and south of the survey area. A key anomaly is a conductive zone interpretable as a “pipe”- or “flare” - originating from the southern mid-crustal conductor and extending towards the Maslins gravity target. (Figure 4 below).

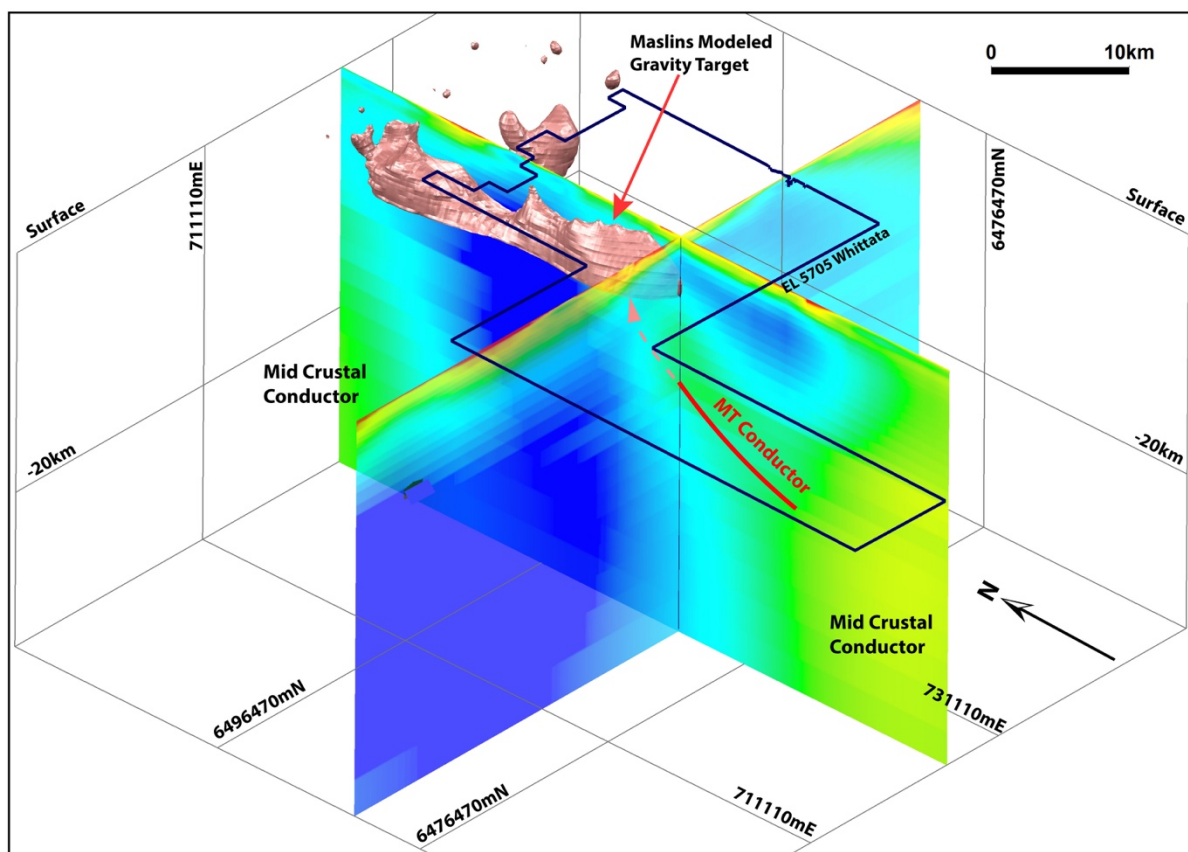


Figure 4. 3D model resistivity slices of MT data across the Maslins target, identifying a conductive pipe trending from mid-crustal regional conductor towards Maslins gravity target

Investigator also engaged a geophysical consultant to independently review, reassess and verify the previous gravity and magnetic modelling, including a focus on assessing the gravity target in relation to known magnetic bodies in the region. Data from the recently released Geological Survey of South Australia Gawler Craton Airborne Survey was included in this magnetic modelling. This detailed data enabled previously identified anomalies to be modelled at a greater level of confidence and, significantly, has improved the interpreted locations of Gairdner dykes that pervade the magnetic data. Comprehensive modelling of the gravity and magnetic data using a variety of scenarios has concluded that the Maslins target is not related to the Gairdner dykes themselves but is a valid magnetic and gravity target in its own right.

The modelling of regional gravity data has identified a number of gravity targets at relatively shallow depths along its trend. The closest drill hole previously drilled deep enough to intersect prospective lithology is some 12 kms north of the Maslins Target.

This work has enabled Investigator to produce more refined 3D models which will enhance drill hole targeting. Figure 5, below, presents an oblique view looking to the northwest of the 3D modelled gravity shell over Maslins, highlighting the sparse previous drilling and the tenement boundary. The individual peaks are on the northerly trending alignment of the anomaly, and the southeastern part of the anomaly presents as a ridge. Conceptual drill hole locations shown below will be further refined with joint venture partners.

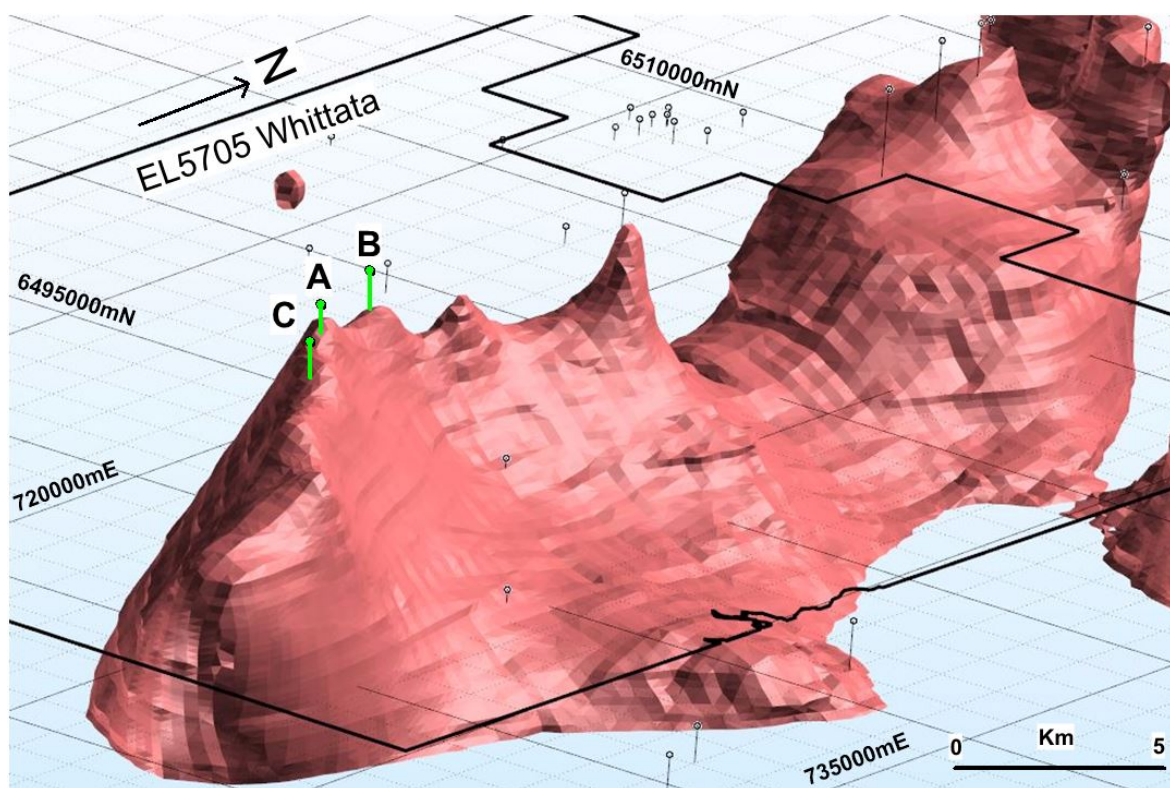


Figure 5. 3D modelled gravity shell looking to the NW over Maslins with previous drilling and tenement boundary indicated. Investigator's proposed drill holes shown in green.

Results from the additional 2D modelling, by varying assumed densities, has defined the distinction between the Maslins gravity target and the assumed presence of Gairdner dolerite dykes. Figures 6, 7 and 8, below, demonstrates that to the southeast the Maslins target is not attributable to shallow Gairdner dykes however there is a likely to be a deeper magnetic body present of higher magnetic susceptibility as shown in orange in Figure 6.

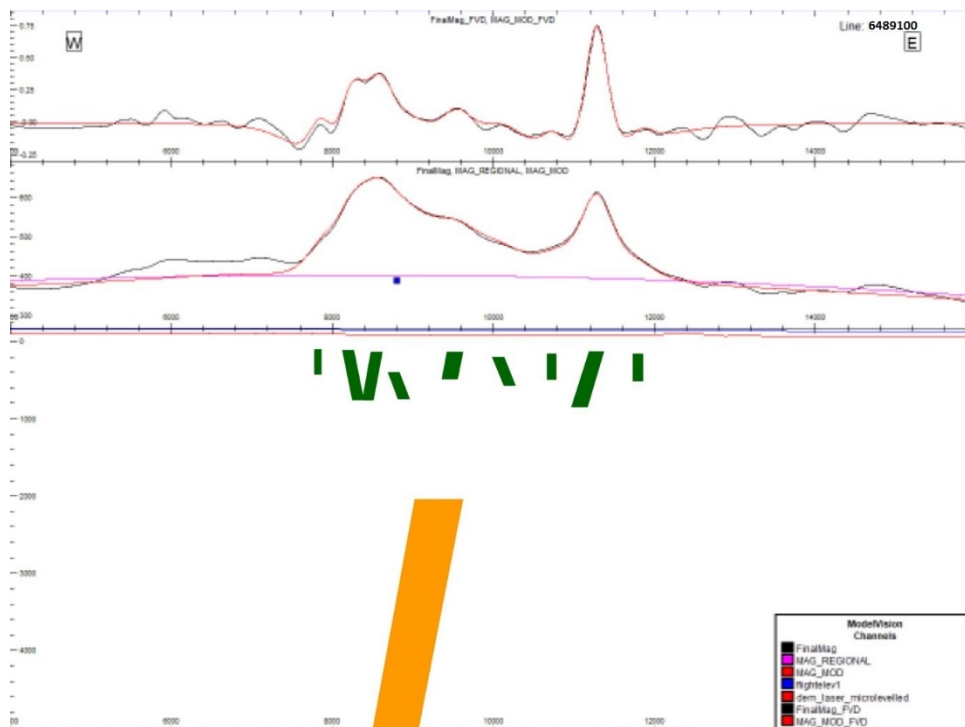


Figure 6. Detailed magnetic block modelling of the data across the Maslins target highlighting the interpreted Gairdner dykes (small green polygons) and Maslins magnetic target (orange polygon).

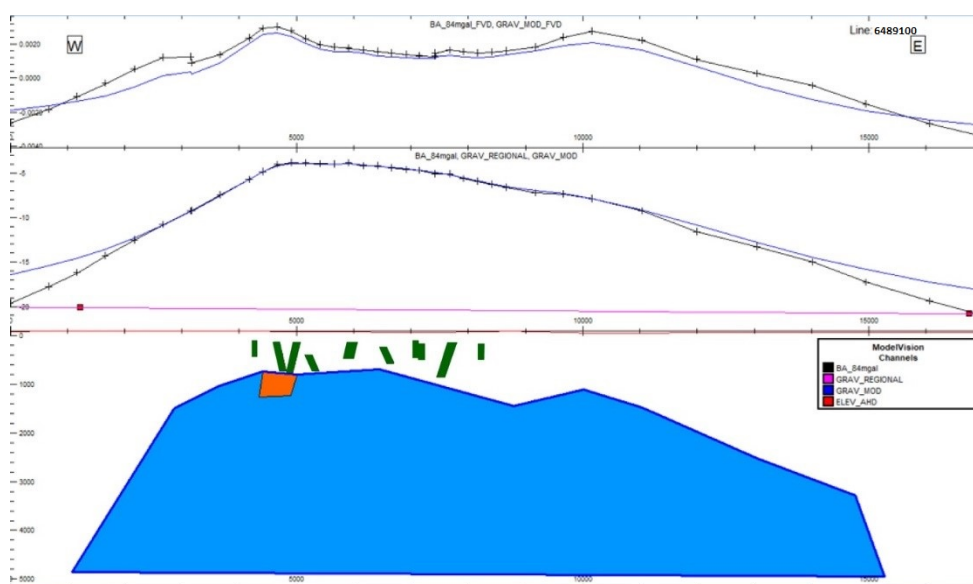


Figure 7. 2D modelling of the gravity data across the Maslins target highlighting the interpreted Gairdner dykes (small green polygons) and Maslins gravity target (small orange polygon within the blue (regional gravity) polygon).

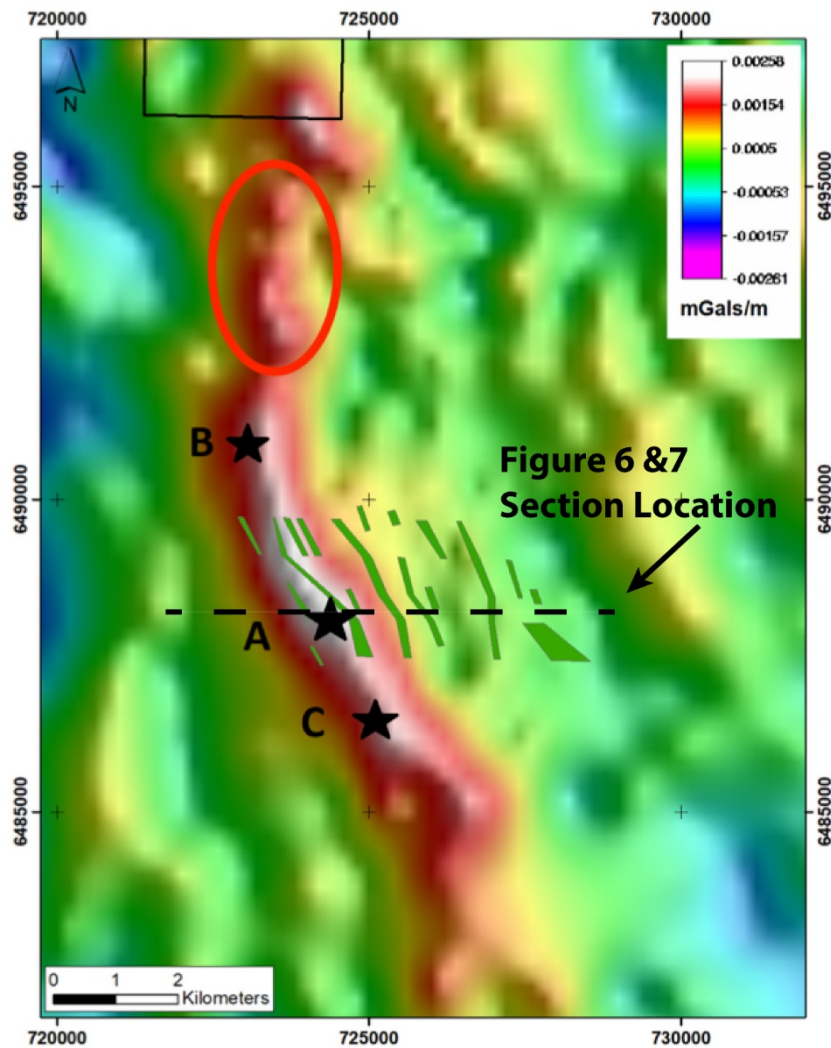


Figure 8. 1st Vertical Derivative (1VD) gravity image with 2D modelled Gairdner dykes over the central part of the gravity anomaly, demonstrating that the gravity anomaly is independent of the Gairdner dykes. Gravity-only zone at Maslins North (circled). Proposed drill targets A, B, C shown.

Modelling identifies additional significant analogue IOCG target

The geophysical modelling shows a clear separation of the gravity and magnetic parts of the Maslins anomaly as seen in Figures 5 and 9 (below). This separation is characteristic of known IOCG deposits, notably Prominent Hill and Oak Dam.

In order to test this observation and assist with drill hole targeting, Investigator has initiated a further gravity survey to acquire additional data from 200 gravity stations. Infilling current broader spaced lines will improve interpretation of the northerly anomaly trend and providing data relevant to the relationship between the magnetic and non-magnetic components of the Maslins anomaly near its inflection as shown in Figure 8.

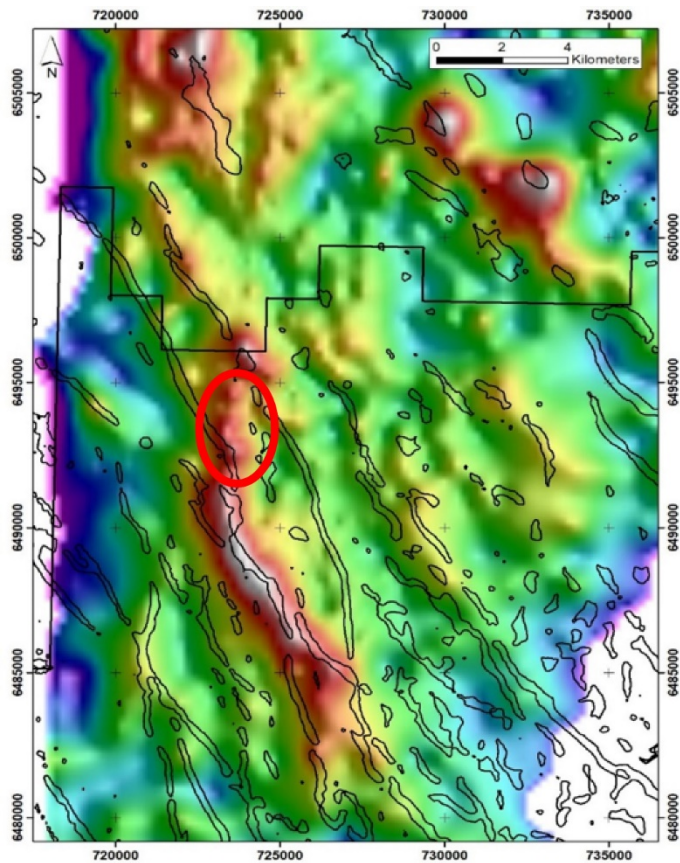


Figure 9. High-pass gravity image with tilt-filtered magnetics contours showing the “gravity-only” zone at Maslins North (red oval) where infill gravity survey is currently underway

It is anticipated that three drill holes for a total of approximately 3,000 m will be defined contingent on this survey and through review with joint venture partner.

Conclusion

The current programme of geophysical interpretation has provided further insight into the prospectivity of the Maslins anomaly.

Investigator is moving toward the drilling of the Maslins geophysical anomaly in 2019. The current programme and the planned infill gravity survey is aimed at further reducing the geological risk in this endeavour, and the definition of optimal sites to drill-test the inferred IOCG target.

The scale of the Maslins anomaly and scope of the geological potential is outstanding. It is a high risk, high reward target and is the primary focus of the Company at the present time. With the 2D and 3D interpretation and modelling of the MT data completed, Investigator has re-engaged with a number of interested parties in the search for a Joint Venture partner to advance the exciting Maslins project.

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**Competent Person statement**

The information in this announcement relating to the Maslins IOCG Project exploration results is based on information compiled by Mr. Richard Hill, who is a full-time employee of the company. Mr Hill is a Member of the Australian Institute of Geoscientists. Mr Hill has sufficient experience of relevance to the style of mineralisation under consideration, and to the activities undertaken to qualify as a Competent Person as defined in the 2012 edition of the Joint Ore Reserve Committee Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Hill consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

APPENDIX 1

TABLE 1: Maslins IOCG Target – March 2019 MT, Gravity and Magnetic Modelling- 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"> 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. Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used. Aspects of the determination of mineralisation that are Material to the Public Report. 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. 	<ul style="list-style-type: none"> Results and interpretations of Geophysical Surveys are being reported. Magnetotelluric Survey was conducted by Zonge Engineering and Research Organisation, a company which specialises in the design, acquisition, processing and interpretation of electrical geophysical surveys. Six Magnetotelluric stations were contracted to be taken for Gawler Resources Limited (A wholly owned subsidiary of Investigator Resources Ltd) to infill and add detail to part of a regional MT survey being conducted by Zonge for Geoscience Australia. The survey was conducted during the first six months of 2018 and the data was released in December 2018. Magnetic and Gravity interpretations are of publicly available data. The gravity interpretations are based on data from a variety of sources and surveys downloaded from SARIG and undergone a rigorous QA/QC process prior to being modelled Magnetic data is from the recently released GCAS Area 3b survey.
Drilling techniques	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> Not reporting on drilling
Drill sample recovery	<ul style="list-style-type: none"> Method of recording and assessing core and chip sample recoveries and results assessed. Measures taken to maximise sample recovery and ensure representative nature of the samples. 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. 	<ul style="list-style-type: none"> Not reporting on drilling
Logging	<ul style="list-style-type: none"> Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral 	<ul style="list-style-type: none"> Not reporting on drilling

Criteria	JORC Code explanation	Commentary
	<p>Resource estimation, mining studies and metallurgical studies.</p> <ul style="list-style-type: none"> Whether logging is qualitative or quantitative in nature. Core (or core-an, channel, etc) photography. The total length and percentage of the relevant intersections logged. 	
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry. For all sample types, the nature, quality and appropriateness of the sample preparation technique. Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. 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. Whether sample sizes are appropriate to the grain size of the material being sampled. 	<ul style="list-style-type: none"> Not reporting on drilling
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. 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. 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. 	<p>For the MT data, 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.</p> <p>Sensors: copper sulphate ceramic pots for electric field, low noise, non-polarizing. Phoenix MTC-150L coils, with 10kHz-10000s range and 25mv/nT sensitivity.</p> <p>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. 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.</p> <p>All data used for the MT interpretation was downloaded from the South Australian Resources Information Geoserver (SARIG) and only included the data from the Olympic Domain MT Survey.</p> <p>3-D Modelling and interpretation of the MT data was undertaken by suitably qualified geophysical consultants. The data from 78 MT stations were</p>

Criteria	JORC Code explanation	Commentary
		<p>used, with a nominal data frequency range from 10Khz to 0.001Hz. Station spacing ranged from 1.5 to 8.5km. Tensor analysis indicated that the data was good for 3-D inversion in the frequencies below 1000hz, but with poor data quality between 0.5 and 5 hz, which was not used.</p> <p>For the gravity data, a number of surveys from historic exploration reports were downloaded from SARIG. Thirty-seven different surveys were sourced from across the project area, of which 24 were rejected at first pass due to irregular sample spacing, surveys being mostly outside of IVR's tenements or surveys with a small number of points. The remaining surveys were checked for their datum/projection and converted to GDA94 Zone 53. They were then vetted and re-processed to create a consistent Bouguer anomaly values. Individual surveys were standardised to IsoGal84 and milligals. Conversion of geoidal elevation to ellipsoidal elevation, latitude, free-air, Bouguer correction and Bouguer anomaly were applied to the remaining data. A 1st Vertical derivative was then calculated to highlight any remaining data misfits between and within surveys, a further three and a half surveys were then excluded, leaving 7179 stations across the IVR Stuart Shelf tenement group.</p> <p>The aeromagnetic data is all from the Gawler Craton Airborne Survey Area 3B, details of which can be found on SARIG.</p> <p>Modelling of the gravity and aeromagnetic data was completed by a suitably qualified geophysical consultant using MGinv3D software to produce a series of 3-D isoshells, and Modelvision to produce detailed 2-D block models. Petrophysical parameters used in the modelling were derived from measurements on drillcore from appropriate drillholes in the region.</p>
Verification of sampling and assaying	<ul style="list-style-type: none"> • <i>The verification of significant intersections by either independent or alternative company personnel.</i> • <i>The use of twinned holes.</i> • <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> • <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> • Not reporting on drilling

Criteria	JORC Code explanation	Commentary
Location of data points	<ul style="list-style-type: none"> 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. Specification of the grid system used. Quality and adequacy of topographic control. 	<ul style="list-style-type: none"> Not reporting on drilling
Data spacing and distribution	<ul style="list-style-type: none"> Data spacing for reporting of Exploration Results. 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. Whether sample compositing has been applied. 	<ul style="list-style-type: none"> Part of a regional survey- spacing suitable for the survey method's regional nature.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. 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. 	<ul style="list-style-type: none"> Not reporting on drilling
Sample security	<ul style="list-style-type: none"> The measures taken to ensure sample security. 	<ul style="list-style-type: none"> Not reporting on drilling
Audits or reviews	<ul style="list-style-type: none"> The results of any audits or reviews of sampling techniques and data. 	<ul style="list-style-type: none"> Not reporting on drilling
	<ul style="list-style-type: none"> 	<ul style="list-style-type: none">

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
Mineral tenement and land tenure status	<ul style="list-style-type: none"> 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. 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. 	<ul style="list-style-type: none"> EL5705 Whittata, is held 100% by Gawler Resources Pty. Ltd., a 100% owned subsidiary of Investigator Resources Ltd. 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. Gawler Resources Pty Ltd has a Native Title Mining Agreement with the Kokatha People. A 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. The tenement is over pastoral lands and a good relationship exists with the pastoral lease holders. The Tenement has been granted to 03/02/2020. There are no known impediments to further exploration within this tenement.
Exploration done by other parties	<ul style="list-style-type: none"> Acknowledgment and appraisal of exploration by other parties. 	<ul style="list-style-type: none"> Significant exploration has been conducted across the area, however most has been aimed at discovering further Mt. Gunson-style Cu-Ag. Two exploration holes drilled by Havilah Resources N.L. in 2002 did not penetrate through Gawler Range Volcanics into the Palaeoproterozoic basement (456m and 266m). Recent modelling by GSSA, through the use of a combination of drill-hole data, seismic sections, and other data estimates that a depth of 500-600m is expected to Palaeoproterozoic basement There have been no drillholes within this tenement that have penetrated into the Palaeoproterozoic basement.
Geology	<ul style="list-style-type: none"> Deposit type, geological setting and style of mineralisation. 	<ul style="list-style-type: none"> 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. 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 approximately 600m 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

Criteria	JORC Code explanation	Commentary
		<p>possibly a skarn directly related to an IOCG system beneath the upper Gawler Range Volcanics.</p> <ul style="list-style-type: none"> • 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, 12km north of the Maslins project). Previous drilling within the current tenement by Havilah Resources NL and Redmetals Ltd, stopped short of penetrating through the Gawler Range Volcanics and did not test the Paleoproterozoic basement, which is the target identified by IVR. There have been no drillholes within the current tenement that have penetrated through the Gawler Range Volcanics and into the basement below.
Drill hole Information	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ○ easting and northing of the drill hole collar ○ elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar ○ dip and azimuth of the hole ○ down hole length and interception depth ○ hole length. • 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. 	<ul style="list-style-type: none"> • Not reporting on drilling
Data aggregation methods	<ul style="list-style-type: none"> • 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. • 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. • The assumptions used for any reporting of metal equivalent values should be clearly stated. 	<ul style="list-style-type: none"> • Not reporting on drilling
Relationship between mineralisation widths	<ul style="list-style-type: none"> • These relationships are particularly important in the reporting of Exploration Results. • If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported. 	<ul style="list-style-type: none"> • Not reporting on drilling

Criteria	JORC Code explanation	Commentary
and intercept lengths	<ul style="list-style-type: none"> 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'). 	
Diagrams	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Not reporting on drilling
Balanced reporting	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Not reporting on drilling
Other substantive exploration data	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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, and in the order of 6km in length. Very broad-spaced (AusLAMP) MT survey indicates a deep conductive zone in the broad project area.
Further work	<ul style="list-style-type: none"> The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling). Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive. 	<ul style="list-style-type: none"> Diamond drilling planned in the near future on targets generated from this survey and previous interpretations of the gravity and magnetic data.

Note, sections 3 & 4 are not applicable