



# ASX ANNOUNCEMENT

Date: 10 December 2013

**ASX: IPT** Number: 327/101213

## **EXPLORATION UPDATE: MULGA TANK PROJECT**

Three mineralised zones identified over 300 m of strike on west side of the Mulga Tank Dunite

Zone 1. Basal contact zone with high grade nickel-copper veins and anomalous PGE;

Zone 2. 10 m thick zone of disseminated nickel sulphides within the dunite; and

Zone 3. Up to 50 m thick zone of weak copper sulphide mineralisation below the dunite

#### Mineralisation is open in all directions.

Soil geochemistry indicates at least 3 km of strike potential.

#### Conductor 5 not explained. Drilling in progress at Conductor 4.

Impact Minerals (ASX:IPT) is pleased to announce that it has identified three mineralised zones that extend for at least 300 m of strike along the west side of the Mulga Tank Dunite within E39/988 ((Impact 20% and earning 70% from Golden Cross Resources Limited).

The zones have been identified in Hole MTD005, drilled by Impact to test Conductor 2 as part of the company's on-going maiden drill programme at the Mulga Tank Project, and can be correlated with similar zones in Hole MTD003 drilled 300 m to the south east by a previous explorer (Figures 1 and 2 and Table 1; and see earlier announcement on Conductor 2 <u>19 November 2013</u>).

The three zones, together with the discovery of nickel-copper sulphides over 150 m of strike at Conductor 1 close to the north east part of the Dunite, further confirm the presence of a very large mineralised system associated with the Mulga Tank Dunite (see announcement <u>3 December 2013</u>).

On the west side, two of the zones occur within the Dunite and the third occurs in the immediate footwall to the Dunite (Figure 1).

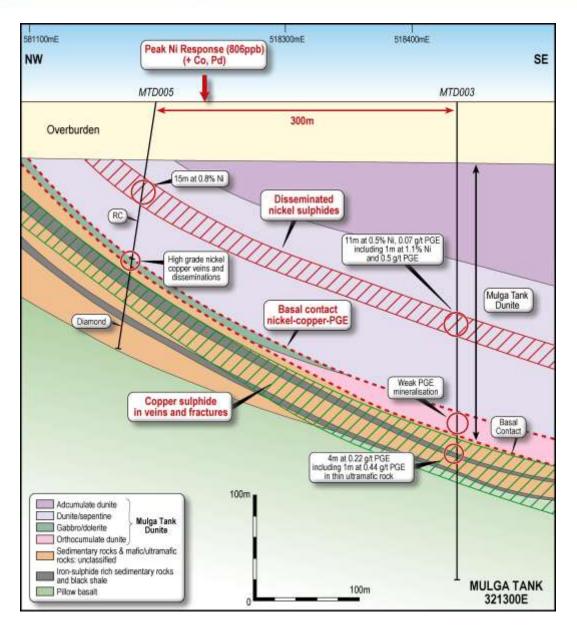
 Several narrow steeply south dipping veins of high tenor (grade) nickel and copper sulphides occur over several metres within the basal contact zone of the Mulga Tank Dunite in Hole MTD005. This zone can be correlated with weak PGE and nickel mineralisation at the base of the dunite in Hole MTD003. This is the first indication of high tenor mineralisation at the base of the dunite where a massive sulphide deposit may be expected to form.

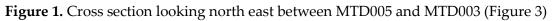
The veins are sub-parallel to the drill hole, which accordingly was not oriented optimally to intersect them. In addition the veins have a similar orientation to the high tenor (grade) veins identified 3 km away in MTD004 at Conductor 1 (see announcement dated 14 November 2013.



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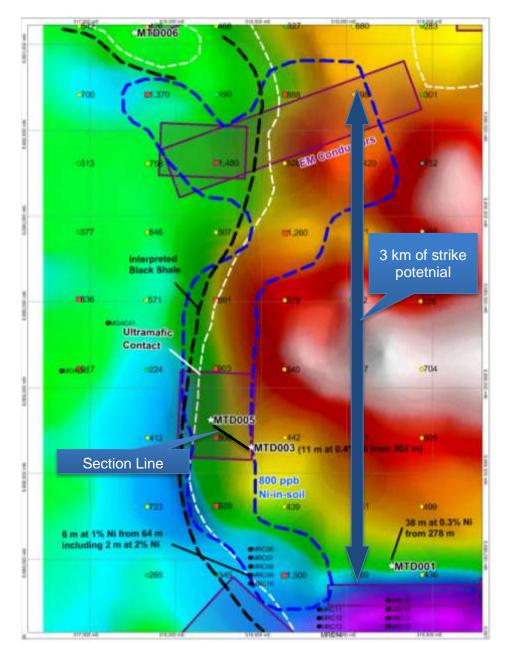
- 2. A 10 to 15 m thick zone of disseminated nickel sulphides occurs about 100 m above the base of the Dunite. Readings with a portable XRF analyser on RC chips from Hole MTD005 returned an intercept of 15 m at 0.8% nickel from 80 m depth. This zone can be correlated with Hole MTD003 where previous assays returned an intercept of 11 m at 0.4% nickel including 1 m at 1.1% nickel and 0.5 g/t PGE (see announcement dated 23 July 2013).
- 3. A zone of weak copper sulphide mineralisation that is up to 50 m thick in the immediate footwall of the dunite (see announcement 19 November 2013). The copper sulphide (chalcopyrite) occurs as disseminations and in veinlets and fractures.

Assay results from Hole MTD005 are expected in a few weeks.



The up-dip projection of the mineralised zones within the dunite are coincident with elevated nickelin-soil geochemistry responses up to 806 ppb together with elevated cobalt and palladium. This suggests that the soil geochemistry is detecting the blind mineralisation as it has done at Conductor 1. (Figures 1 and 2 and announcement dated 3 December 2013).

Nickel-in-soil responses greater than 800 ppb define a large area covering more than 3 km of strike of the up-dip projection of the mineralised units.



**Figure 2.** Image of magnetic data over the west side of the Mulga Tank Dunite showing drill hole locations, and nickel-in-soil responses. Note elevated results from previous drilling at MTD001 and MRC09 up to 1,000 m away from Conductor 2.



The soil samples were taken on a wide spaced grid of 400 m between samples. Similarly the EM survey was a 400 m moving loop survey. These surveys are very broad spaced compared to those used around major nickel deposits.

Together with the results from the drilling this indicates that there is potential for the discovery of further significant mineralisation in the area.

Importantly these mineralised zones occur close to units of iron sulphide-rich black shale (Figure 1). These shales are likely to be the source of Conductor 2 in Hole MTD005. However the shales may have masked, or be difficult to discriminate from, the EM response of any nearby massive sulphide mineralisation.

Further details on these results can be found in Appendix 1 (JORC2012).

#### Drilling in progress at Conductor 4, South East Quadrant of the Mulga Tank Dunite

Drilling now in progress at Conductor 4 in the south west quadrant of the Mulga Tank Dunite (Figure 3).

#### Conductor 5.

Hole MTD008, drilled to test Conductor 5, intersected an ultramafic unit at least 240 m thick that overlies a sequence of sedimentary rocks up to 20 m thick that includes thin units of sulphide-rich sandstones and black shale, and a thick sequence of pillow basalts (Figure 3).

The sedimentary rocks and basalts contain widespread veinlets and fractures containing chalcopyrite in a 40 m thick zone below the ultramafic unit. This is a similar sequence of rocks to that intersected n Hole MTD005 at Conductor 2.

The source of Conductor 5 has not been established. The amount of sulphide and black shale intersected is insufficient to explain the anomaly which is likely to be off-hole. A down –hole EM survey is in progress.

#### About the Mulga Tank Project

Impact is drill testing a number of ground electromagnetic (EM) and soil geochemical anomalies in an area of about 15 sq km centred on the Mulga Tank Dunite within E39/988 (Impact 20% and earning 70% from Golden Cross Resources Limited). To date Impact has drilled four of the priority EM targets and work to date is summarised in Table 1. The results of the current drill programme have upgraded the prospectivity of at least several other EM anomalies identified in the ground EM survey as well as elevated soil geochemistry results. A review of the data is on-going to identify further priority drill targets.

This is Impact's maiden drill programme at the project and is focussed on a small part of the entire Mulga Tank Project which covers about 425 sq km of the very poorly explored Minigwal greenstone belt, 200 km northeast of Kalgoorlie (Figure 3).

Dr Michael G Jones Managing Director



### Table 1. Summary of Impact drill holes

Conductor No	Conductor strength	Drill Hole ID	Key Results	Source of conductor	Easting GDA	Northing GDA	RL	Dip	Azimuth	EOH	Rotary Depth	RC Depth
1	Strong	MTD004	Two zones of disseminated nickel- copper sulphides; remobilised massive sulphide vein.	Single ground EM anomaly resolved into two off-hole conductors by down-hole EM.	521320	6690600	470	-80	180	455	78	0
1a	Strong	MTD007	Two zones of disseminated nickel +/- copper sulphide laterally equivalent to zones in MTD004 thickening to the east.	20 m thick sulphide-rich black shale. Overlies and masks nickel sulphide bearing units. Downhole EM survey in progress.	521488	6690658	470	-80	180	574	48	150
1b	Strong		Not yet drilled									
2	Weak to medium	MTD005	50 m thick zone of disseminated and fracture controlled chalcopyrite in footwall of dunite.	15 m thick unit of sulphide rich sandstone, minor black shale and basalt.	F18200	6699916	470	80	270	225		152
2		MTD005	High grade nickel copper veins in basal contact zone; 10 m thick zone of disseminated nickel sulphides in dunite.	No EM response.	518208	6688816	470	-80	270	235		152



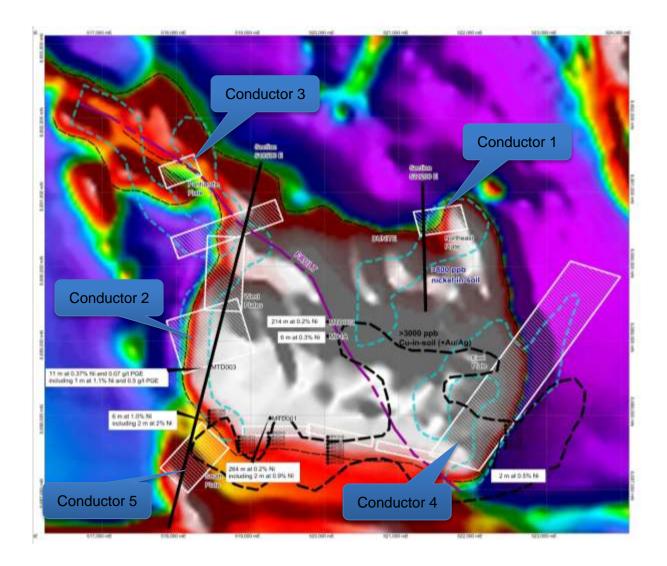


Conductor No	Conductor strength	Drill Hole ID	Key Results	Source of conductor	Easting GDA	Northing GDA	RL	Dip	Azimuth	EOH	Rotary Depth	RC Depth
3	Strong	MTD006	Anomaly unexplained	Anomaly off-hole at 300 m depth in metasedimentary rocks with chalcopyrite and some sulphide-rich black shale	517761	6691073	470	-80	270	451	78	117
4	Strong	MTD009	Drilling in progress.		522225	6687710	470	-60	180			150
5	Medium	MTD008	Anomaly unexplained.	Downhole EM survey in progress.	517920	6687241	470	-80	225	300	66	150

#### Note: Holes MTD001 MTD002 and MTD003 were drilled by a previous explorer

The review of exploration activities and results contained in this report is based on information compiled by Dr Mike Jones, a Member of the Australian Institute of Geoscientists. He is a director of the company and works for Impact Minerals Limited. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Mike Jones has consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.

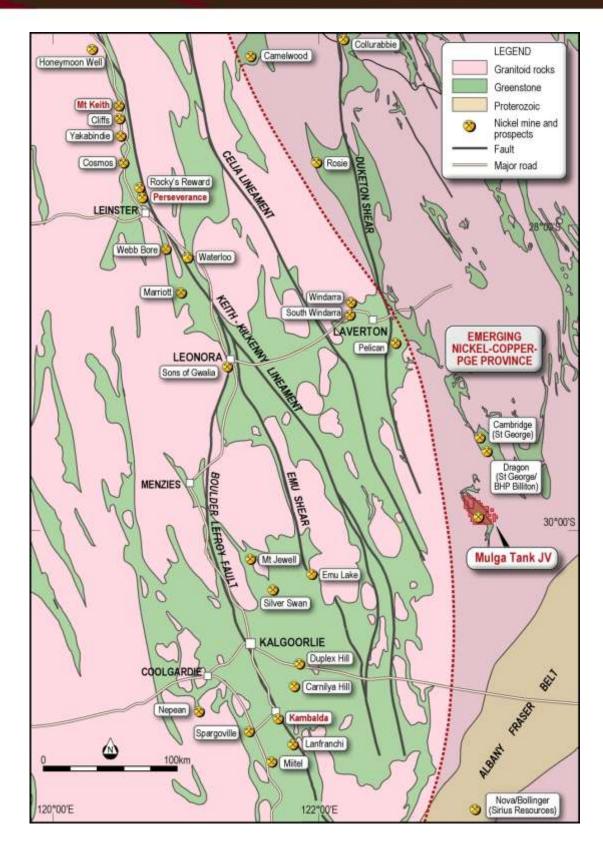




**Figure 3.** Image of the Total Magnetic Intensity from airborne magnetic data over the Mulga Tank Dunite (white outline) showing:

- 1. the location and modelled geometry of all seven of the priority EM targets;
- 2. the nickel-in-soil geochemistry contours at greater than 800 ppb; and
- 3. the copper in soil geochemistry contour at greater than 3,000 ppb to the south west coincident with Conductor 4.

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**Figure 4.** Location of Impact's Mulga Tank Project and significant nickel sulphide mines and prospects including Perseverance and Rocky's Reward deposits with new nickel-copper-PGE discoveries in the emerging nickel-copper province to the east.





#### **APPENDIX 1 - SECTION 1 SAMPLING TECHNIQUES AND DATA**

Criteria	JORC Code explanation	Commentary
Sampling techniques	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.	The targets at Mulga Tank have been drilled by Reverse Circulation (RC) and diamond drill holes (DD). Up to 10 holes are planned in this reconnaissance stage work. A hand held Olympus XRF machine has been used to take multi-element readings on the samples bags from the RC drill pre-collars (I reading every I metre) and at 25 cm to 50 cm intervals on the diamond core. These readings are a guide only and do not constitute an accurate or precise assay. Impact has conducted a number of quality control experiments to determine the optimal reading time and number of readings per sample site. A correlation of these readings against the assay data will be completed when the assay data is available. Drill holes have been oriented to intersect the dip of electromagnetic conductors as interpreted by Impact's consultants Newexco.
	Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used	RC samples have been collected by cone or riffle splitter. Diamond core was used to obtain high quality samples that were logged for lithological, structural, geotechnical, density and other attributes. Sampling was carried out under Impact Minerals Ltd protocols and QAQC procedures as per industry best practice. A combination of mapping, soil geochemistry, airborne magnetic data and ground EM surveys identified the Mulga Tank target.
	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	Diamond core is NQ2 size, sampled on geological intervals (X.X m to X.X m), cut into half core to give sample weights under 3 kg. reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised Samples will be crushed, dried and pulverised (total prep) to produce a sub sample for analysis. The analytical method is yet to be decided. The main sulphide types are expected to be pentlandite and chalcopyrite, with pyrite, and minor sphalerite. Non-sulphide nickel species in weathered and transitional material have not yet been identified.
Drilling techniques	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).	Diamond drilling accounts for 75 % of the drilling to date and comprises HQ and NQ2 sized core. Pre-collar depths range from 50 m to about 150 m and hole depths range from 300 m to 570 m. The core was oriented using a down-hole orientation tool at the end of every run with 70% of orientations rated as "good". RC drilling in the pre-collar accounts for 20 % of the total drilling and comprises 140 mm diameter face sampling hammer drilling.
Drill sample recovery	Method of recording and assessing core and chip sample recoveries and results assessed	Diamond core and RC recoveries are logged and recorded in the database. Overall recoveries are >95% for Mulga Tank and there are no core loss issues or significant sample recovery problems.



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Criteria	JORC Code explanation	Commentary		
	Measures taken to maximise sample recovery and ensure representative nature of the samples	Diamond core at Mulga Tank is reconstructed into continuous runs on an angle iron cradle for orientation marking. Depths are checked against the depth given on the core blocks and rod counts are routinely carried out by the drillers. RC samples were visually checked for recovery, moisture and contamination.		
	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 sample bias has been established because no samples have been assayed yet.		
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.	Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material is stored in the structure table of the database.		
	Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.	Logging of diamond core and RC samples at Mulga Tank recorded lithology, mineralogy, mineralisation, structural (DDH only), weathering, colour and other features of the samples. Core was photographed in both dry and wet form.		
	The total length and percentage of the relevant intersections logged	All drillholes were logged in full, apart from rock roller diamond hole pre-collar intervals of between about 50 m and 70 m depth.		
Sub-sampling techniques and sample preparation	If core, whether cut or sawn and whether quarter, half or all core taken.	Half of the diamond core will be sent for assay.		
	If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.	RC samples were rotary split.		
	For all sample types, the nature, quality and appropriateness of the sample preparation technique.	The sample preparation technique is still being determined. No assays are reported here.		
	Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.	The quality control procedures are still being determined. No assays are reported here.		
	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.	Field duplicates are done every 25 samples.		
	Whether sample sizes are appropriate to the grain size of the material being sampled.	The sample sizes are considered to be appropriate to correctly represent the sulphide mineralisation at Mulga Tank based on the style of mineralisation (massive sulphides), the thickness and consistency of the intersections, the sampling methodology and percent value assay ranges for the primary elements.		
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.	The assay technique is still being determined.		



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Criteria	JORC Code explanation	Commentary
	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.	No geophysical tools were used to determine material element concentrations.
	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.	Quality control procedures for assays are being determined. No assays are reported here.
Verification of sampling and assaying	The verification of significant intersections by either independent or alternative company personnel.	Significant intersections have yet to be returned and therefore verification is not required.
	The use of twinned holes.	No twin holes have been drilled at Mulga Tank.
	Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.	Primary data was collected using a set of standard Excel templates on toughbook laptop computers using lookup codes. The information was sent to IOGlobal/Reflex for validation and compilation into a SQL database server.
	Discuss any adjustment to assay data.	No assays are reported in this report.
Location of data points	Accuracy and quality of surveys used to locate drillholes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.	Drill holes have been located by hand held GPS. Down-hole surveys used single shot readings have been completed during drilling at x m, intervals.
	Specification of the grid system used.	The grid system for Mulga Tank is MGA_GDA94, zone 51. Local easting and northing are in MGA.
	Quality and adequacy of topographic control.	Standard government topographic maps and hand held GPS have been used for topographic control. The land surface is flat and increased accuracy and precision for topographic contours is not required at this stage.
Data spacing and distribution	Data spacing for reporting of Exploration Results.	This is a first pass reconnaissance drill programme designed to test geochemical and geophysical anomalies. Drill spacing is adequate for that and will change according to on-going 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.	This is a first pass reconnaissance drill programme designed to test geochemical and geophysical anomalies. Drill spacing is adequate for that and will change according to on-going results.
	Whether sample compositing has been applied.	Samples will be composited to one metre lengths and adjusted where necessary to ensure that no residual sample lengths have been excluded (best fit).
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.	The targets have been drilled sub-perpendicular to mineralisation within the stratigraphy, but subparallel to the orientation of some veins in the mineralised trend. Structural logging based on oriented core to determine the controls on mineralisation are on-going.





Criteria	JORC Code explanation	Commentary			
	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.	No orientation based sampling bias has been identified at Mulga Tank in the data at this point, although the vertical sulphide veins may cause hole orientations to be changed.			
Sample security	The measures taken to ensure sample security.	Chain of custody is managed by Impact Minerals Ltd. Samples for Mulga Tank are stored on site and delivered by Impact Minerals Ltd personnel to Kalgoorlie for initial sample preparation by Genalysis who then transport the samples to Perth for assay. Whilst in storage, they are kept in a locked yard. Tracking sheets have been set up to track the progress of batches of samples.			
Audits or reviews	The results of any audits or reviews of sampling techniques and data.	At this stage of exploration a review of the sampling techniques and data by an external party is not warranted. An internal review of the sampling techniques and data will be completed at the end of the current programme.			

#### 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.	The Mulga Tank Project comprises 13 exploration licences covering 452km <sup>2</sup> . Mulga Tank is located wholly within Exploration Licence E39/988. Impact Minerals Ltd (IPT) has a 20% interest in the tenement with Golden Cross Resources Limited (GCR: 80%). There is no Native Title Claim over the licence.
	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 tenement is in good standing and no known impediments exist. IPT has the right to earn 70% ownership with \$1.9M expenditure commitment before November 2017).
Exploration done by other parties	Acknowledgment and appraisal of exploration by other parties.	Limited bedrock-cover interface percussion drilling completed by previous explorers focused on the southern contact of the dunite, a circular, strongly magnetic feature 3.5 km by 4 km in diameter that is interpreted to represent a flat-lying ultramafic sill. A total of 28 RC and 4 diamond holes were completed.
Geology	Deposit type, geological setting and style of mineralisation.	Mulga Tank is interpreted as an ultramafic hosted primary magmatic nickel sulphide deposit, similar in style to the Perseverance and Rocky's Reward nickel mines at Leinster in Western Australia. The Mulga Tank Dunite is also similar to the unit that hosts the Mount Keith disseminated nickel sulphide deposit. There are two prospective units (Upper and Lower) that host the initial sulphide intersections at a depth of 300 and 350 metres vertically (respectively).





Criteria	JORC Code explanation	Commentary			
Drill hole Information	<ul> <li>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> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul></li></ul>	n Refer to Table 1 in body of text. Further details are not material for this early stage of explorat			
Data aggregation methods	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.	Assay spot readings have been taken using an Olympus hand held XRF machine. The results reported are the result of the averages of a number of spot readings. Mineralisation does not occur over mineable widths. The hand held XRF results are a guide only and are not a substitute for chemical assays from a commercial laboratory. The XRF results are used as a guide to determine samples to be sent for assay.			
	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.	High grade massive sulphide intervals internal to broader zones of sulphide mineralisation are reported as included intervals.			
The assumptions used for any reporting of metal equivalent values should be clearly stated.		No metal equivalent values are used for reporting exploration results.			
Relationship between mineralisation widths and intercept lengths	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. 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').	The Mulga Tank deposit is a flat lying ultramafic sill. Holes to date have been sub-vertical and whilst this is perpendicular to stratigraphy, steeply dipping sulphide veins are at a sub-optimal orientation to the drillhole.			
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 plan view of drill hole collar locations and appropriate sectional views.	Refer to Figures in body of text.			
Balanced reporting	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.	All results are reported.			





Criteria	JORC Code explanation	Commentary
Other substantive exploration data	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.	The drill targets at Mulga Tank have been ranked on the basis of soil geochemistry and ground EM results. Information on structure type, dip, dip direction, alpha angle, beta angle, texture, shape, roughness and fill material is stored in the structure table of the database.
Further work	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	Drilling is continuing at E39/988 with a further 3 to 4 holes to be completed in this programme.