

## AUSTRALIAN SECURITIES EXCHANGE ANNOUNCEMENT

## 21 MARCH 2018

# **Exploration Update:**

# **New IOCGU\* Targets Identified**

- Six IOCGU drilling targets defined within 30km of Olympic Dam
- Five targets modelled at depths considerably shallower than Vulcan
- Potential for multiple Carrapateena-sized IOCGU deposits
- Joint venture partner may be sought for drill testing

## Details

Tasman Resources is pleased to present the results of its recent gravity survey and subsequent geophysical modelling at the Vulcan West prospect; a very large, highly prospective area for economic IOCGU mineralisation.

Vulcan West is located 30km NNE of the giant Olympic Dam IOCGU deposit, and occupies a very geophysically anomalous and interesting zone (around 60km<sup>2</sup>) between two other very large IOCGU systems, Vulcan and Titan, both within Tasman's Exploration Licence 5499 (see Figure 1).

Tasman has been a very active explorer for IOCGU-style deposits in the area immediately north of Olympic Dam for a number of years. Drilling was initially focussed at the Titan IOCGU system (Figure 1), and subsequently other interesting targets including Vulcan. This work resulted in the discovery of the very large Vulcan IOCGU system, which Tasman further investigated in a major joint venture with Rio Tinto Exploration.

These exploration campaigns highlighted Vulcan West as a large, very interesting and geophysically anomalous regional target, which had not been drill tested. Importantly, regional synthesis suggested that Vulcan West is likely to be at a considerably shallower depth than Vulcan prospect (which is about 850m depth), but probably a little deeper than Titan (about 600m), and hence a discovery could be commercially more attractive than at the deeper Vulcan prospect. This recent geophysical modelling is consistent with this suggestion.

(\* IOCGU - Iron/Oxide-Copper-Gold-Uranium)



Figure 1.Regional residual gravity image over Tasman's Exploration Licence 5499, showing the location of Olympic Dam, Titan and Vulcan, and the area of the recent gravity infill survey and modelling. (GDA 94, MGA Zone 53)

### New Data

Previous gravity data at Vulcan West was relatively widely spaced (eg. 500m by 500m), and preliminary geophysical modelling indicated that infill, closer-spaced data (eg. 250m by 500m) was needed to enable effective modelling, and the level of detail required to define specific drill targets. The infill ground gravity work was completed in January, and new detailed modelling has just been completed, and this new data merged with the previous more widely-spaced information.

Figure 2 (see Figure 1 for location) shows the residual gravity response obtained from the new geophysical processing and modelling over the main area of interest at Vulcan West and clearly highlights a number of distinctive anomalies. Combined modelling of this gravity data with existing magnetics has defined a number of potential drill targets, at a variety of depths (Figure 2):

- Target A: Modelled depth of about 650m
- Target B: Modelled depth of about 700m
- Target C: Modelled depth of about 680m
- Target D: Modelled depth of about 850m
- Target E: Modelled depth of about 700m
- Target F: Modelled depth of about 750m

Figure 2 also shows in plan, at the same scale, an outline of the Carrapateena IOCGU deposit, located 125km to the SE. Clearly there is potential for the Vulcan West area (especially Targets A & C) to host Carrapateena-size deposits at attractive depths.



Figure 2. Detailed plan of residual gravity at Vulcan West, based on all available data. Red/magenta colours are areas of stronger residual gravity, generally indicating areas likely to be underlain by denser, more iron-rich rock, potentially IOCGU systems. The letter A, B C etc. refer to individual modelled bodies which could be responsible for the gravity signature (refer to depth estimates in the text). For comparison, a plan of the Carrapateena deposit is shown at the same scale (GDA 94, MGA Zone 53).

Magnetotelluric (MT) data.

The Earth Imaging Group at the University of Adelaide has been conducting regional surveys which Tasman believes have clear relevance in its exploration. Researchers have conducted MT surveys over large areas of South Australia, including the Stuart Shelf which hosts Tasman's IOCGU prospects as well as other deposits such as Olympic Dam. The technique employed essentially measures conductivity of the underlying rocks down to considerable depths below surface (eg. to 50km depth). This information provides clues as to where major mineral deposits are likely to occur.

Figure 3 is a profile of MT conductivity data from near Woomera 100km south of Olympic Dam to a location about70 km north of Vulcan, supplied by the University of Adelaide. Areas of higher conductivity are postulated to indicate zones of earlier mineralising fluid or melt pathways, which would have been critical in locating where a large IOCGU deposit would ultimately form. It is extremely encouraging that the MT data clearly confirms Vulcan as a major regional site of mineralising activity, along with the postulated pathways associated with Olympic Dam. Tasman believes that it is most likely that both Vulcan West and Vulcan itself share the same deep MT conductivity anomaly, and hence potential mineralising fluid pathways.



Figure 3. MT conductivity profile from near Woomera at the south (left hand side) to a location approximately 70 km north of Vulcan (right hand side). Areas shown in red and white are zones of higher inferred conductivity, and considered likely to highlight former mineralising fluid pathways. Note that there is a single large conductive body at considerable depth (about 30km) beneath the IOCGU systems at Olympic Dam, Wirrda Well/Acropolis and Vulcan, and it bifurcates at shallower depth (MT data supplied by University of Adelaide).

#### Conclusions

The recent infill gravity survey has successfully provided high quality data to enable detailed geophysical modelling (combined gravity and magnetics) over an area considered highly prospective for discovery of IOCGU deposits. A number of potential drill targets have been identified in this modelling, and as suspected, a number of these targets are at shallower depth than the nearby large Vulcan IOCGU system.

Regional MT surveys conducted by the University of Adelaide have confirmed that Vulcan and Olympic Dam share a very deep underlying zone of anomalously conductive rocks that are postulated to represent a zone of fluid migration, which was critical in the formation of these two very large IOCGU systems.

As a result of these positive developments Tasman is now considering potential options for drill testing and may seek a joint venture partner.

<u>Greg Solomon</u> Executive Chairman

#### Disclaimer

The interpretations and conclusions reached in this announcement are based on current geological theory and the best evidence available to the authors at the time of writing. It is the nature of all scientific conclusions that they are founded on an assessment of probabilities and, however high these probabilities might be, they make no claim for complete certainty. Any economic decisions that might be taken on the basis of interpretations or conclusions contained in this report will therefore carry an element of risk. It should not be assumed that the reported Exploration Results will result, with further exploration, in the definition of a Mineral Resource.

#### **Competent Persons Statement**

The information in this announcement that relates to Exploration Results is based on and fairly represents information compiled by Robert N. Smith and Michael J. Glasson, Competent Persons who are members of the Australian Institute of Geoscientists. Mr Smith and Mr Glasson are part-time employees of the company and also share and option holders.

Mr Smith and Mr Glasson have sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as Competent Persons as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Smith and Mr Glasson consent to the inclusion in the report of the matters based on their information in the form and context in which it appears.

#### THE FOLLOWING TABLES ARE PROVIDED TO ENSURE COMPLIANCE WITH THE JORC CODE (2012 EDITION) FOR THE REPORTING OF EXPLORATION RESULTS

### **VULCAN WEST PROSPECT**

	Section 1 Sampling techniques	and data
	(criteria in this group apply to all succe	eding groups)
Criteria	JORC Code explanation	Commentary
Sampling techniques.	<ul> <li>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.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• 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 (eg "reverse circulation drilling was used to obtain 1m samples from which 3 kg was pulverised to produce a 30g 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.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Drilling techniques.	<ul> <li>Drill type (eg. core, reverse circulation, openhole hammer, rotary air blast, auger, Bangka 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.).</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Drill sample recovery.	<ul> <li>Whether core and chip sample recoveries have been properly recorded and results assessed.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Measures taken to maximise sample recovery and ensure representative nature of the samples.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <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> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Logging.	<ul> <li>Whether core and chip samples have been logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Whether logging is qualitative or quantitative in nature. Core (or costean, channel etc.) photography.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• The total length and percentage of the relevant intersections logged.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>

Sub-sampling techniques and	<ul> <li>If core, whether cut or sawn and whether quarter, half or all core taken.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
sample preparation.	• If non-core, whether riffled, tube sampled, rotary split etc. and whether sampled wet or dry.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Quality control procedures adopted for all sub- sampling stages to maximise representivity of samples.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• Measures taken to ensure that the sampling is representative of the in situ material collected.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Whether sample sizes are appropriate to the grainsize of the material being sampled.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Quality of assay data and laboratory tests.	<ul> <li>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• For geophysical tools, spectrometer, 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.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>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.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Verification of sampling and assaying.	• The verification of significant intersections by either independent or alternative company personnel.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• The use of twinned holes.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• Discuss any adjustment to assay data.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Location of data points.	<ul> <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> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• Specification of the grid system used.	<ul> <li>The grid system used is Geodetic Datum of Australia 1994; MGA Zone 53.</li> </ul>
	• Quality and adequacy of topographic control.	<ul> <li>Leica System GX 1230 dual frequency DGPS receivers used in gravity infill survey. Considered highly adequate for this type of work.</li> </ul>

Data spacing and distribution.	• Data spacing for reporting of Exploration Results.	<ul> <li>Infill gravity surveying conducted on 500m by 500m and 250m by 500m spaced stations.</li> </ul>
	• 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.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	• Whether sample compositing has been applied.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
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.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <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> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Sample security	• The measures taken to ensure sample security.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Audits or reviews.	• The results of any audits or reviews of sampling techniques and data.	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>

Section 2 Reporting of Exploration Results		ration Results
(0	criteria listed in the preceding group a	pply also to this group)
Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status.	<ul> <li>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.</li> </ul>	<ul> <li>Exploration Licence No 5499, is located approximately 13km north of Olympic Dam, South Australia and owned 100% by Tasman Resources Ltd.</li> <li>There are no joint ventures, partnerships or royalties involved. The EL is partially covered by the Kokatha Native Title Claim Settlement ILUA S12014/011 and agreements between the claimants and Tasman designed to protect Aboriginal heritage sites. There are no historical or wilderness sites or national parks or known environmental settings.</li> </ul>
	<ul> <li>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.</li> </ul>	<ul> <li>Tasman has secure tenure over the EL at the time of reporting and there are no known impediments to obtaining a licence to operate in the area.</li> </ul>
Exploration done by other parties.	<ul> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul> <li>The first significant exploration in the area was conducted by WMC Resources in the mid-1970's, which led to the drilling of holes at Titan prospect. WMC drilled the first hole just west of the Vulcan IOCGU system, but it was drilled off Tasman's current Vulcan prospect and no mineralisation was intersected. Tasman's former joint venture partner WCP Resources Ltd conducted some ground gravity surveying, data processing and modelling, but conducted no further work. No other exploration has been conducted by other parties, apart from regional geophysical surveys by Government Departments. Tasman discovered Vulcan prospect in November 2009, with the drilling of VUD 001.</li> </ul>
Geology.	Deposit type, geological setting and style of mineralisation.	<ul> <li>The type of deposit sought is a major iron- oxide, copper gold uranium type system (IOCGU), similar to Olympic Dam, about 30km south. The adjacent Vulcan prospect occurs within basement rocks beneath approximately 800m of younger, flat-lying sedimentary cover rocks. Vulcan has been dated at 1,586 +/- 8 million years old, the same at Olympic Dam (Proterozoic age).</li> <li>Only a very limited number of drill holes have been completed within a very large regional area, and there are still many questions to be resolved, such as host rocks, regional structural setting etc.</li> </ul>

Drill hole informa tion.	<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:</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Easting and northing of the drill hole collar</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Elevation or RL (Reduced Level- elevation above sea level in metres) of</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	the drill hole collar <ul> <li>Dip and azimuth of the hole</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>Down hole length and interception depth</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	Hole length	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Data aggregation methods.	<ul> <li>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.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>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.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>The assumptions used for any reporting of metal equivalent values should be clearly stated.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Relationship between mineralisation	<ul> <li>These relationships are particularly important in the reporting of Exploration Results.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
widths and intercept lengths.	<ul> <li>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
	<ul> <li>If it is not known and only the down-hole lengths are reported, there should be a clear statement to this effect (eg. 'downhole length, true width not known').</li> </ul>	<ul> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Diagrams.	<ul> <li>Where possible, maps and sections (with scales) and tabulations of intercepts should be included for any material discovery being reported if such diagrams significantly clarify the report.</li> </ul>	<ul> <li>Appropriate geophysical maps are included in the report.</li> </ul>
Balanced reporting.	<ul> <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> <li>Not Applicable (NA) – no drilling or sampling is reported.</li> </ul>
Other substantive exploration data.	<ul> <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> <li>Geophysical results are reported in the report.</li> <li>No other substantive exploration data is reported.</li> </ul>

<ul> <li>Further work.</li> <li>The nature and scale of planned further work (eg. 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> <li>The nature of planned further work is included in the report.</li> <li>Please refer to information in the report.</li> </ul>
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