



**CASSINI**  
RESOURCES LIMITED

ASX Release (CZI)  
18 February 2019

## New Drilling Results Confirm Succoth Potential

### HIGHLIGHTS

- **Diamond drilling results support favourable new geological interpretation**
- **Positive implications for potential resource growth**
- **Confirms potential to support the Nebo-Babel mine development**
- **Enhanced potential for discovery of nickel sulphide mineralisation**
- **Further drilling planned in 2019 field program**

Cassini Resources Limited (ASX:CZI) ("Cassini" or the "Company") is pleased to announce results from recent drilling at the Succoth Deposit within the West Musgrave Project ("WMP" or the "Project") in Western Australia. The program is funded as part of the Earn-in/JV Agreement ("JV" or "the Agreement") with OZ Minerals Limited (ASX:OZL) ("OZ Minerals"). The JV Partners are currently undertaking a Pre-feasibility Study (PFS) on the Nebo-Babel Deposits as well as a regional exploration program. The Succoth Deposit is a large, Inferred copper resource of 156mt @ 0.60% Cu, located only 13km northeast of Nebo that could have significant benefits to the Project by providing additional mineralisation to a future mining operation at Nebo-Babel.

The results have confirmed thick zones of copper mineralisation that support a favourable, folded mineralisation geometry, with significant implications for future resource updates and mining evaluation. Drilling has also provided further evidence of a proximal source of nickel sulphide mineralisation.

Cassini Managing Director Richard Bevan commented, "The importance of these results goes well beyond the assays themselves. They support a favourable geological interpretation that has significant potential benefit for the scale of the resource at Succoth, its amenability to open pit mining and our goal of building a multi-decade mining operation in the West Musgrave. The perseverance of our geological team is successfully unlocking the potential of Succoth and we look forward to further drilling success in 2019".

### Diamond Drilling Results

Three diamond drill holes for 1,883.3m were completed in late 2018, infilling a strategic section critical to resolving the folded stratigraphy model hypothesis (Figure 1). Significant results from the program include **76.3m @ 0.71% Cu & 0.17g/t PGE** from 46.7m (CZD0096), **92.55m @ 0.75% Cu & 0.19g/t PGE** from 271.45m (CZD0097) and **141.3m @ 0.50% Cu & 0.11 g/t PGE** from 431.5m (CZD0098). A full table of results can be found in Table 1.

Of note in CZD0097 is a 0.25m intersection of re-mobilised massive sulphide within a dolerite dyke grading **3.17% Ni, 1.41% Cu & 0.22% Co**. There is further discussion of this intercept below.

## Next Steps

The significance of the Succoth Deposit and the implications for the Nebo-Babel development continue to be evaluated. The Succoth Deposit presents future optionality on copper with likely low capital intensity development costs that may support a multi-decade project in the region.

A second infill section requiring approximately 2,000m of drilling will be undertaken to confirm the folded geological interpretation extends along strike. Site works have already been completed and drilling will commence early in the 2019 field program.

## A New Geological Interpretation

Following acquisition of the West Musgrave Project, work by Cassini Resources has demonstrated that the Succoth Deposit has been ductile-deformed and metamorphically-recrystallised, in contrast to the younger Nebo-Babel mineralisation which is believed to be unmetamorphosed. Initial evidence for folding of the magmatic stratigraphy at Succoth includes:

- Small-scale fold structures in drill core
- Symmetrical repetition of units down-hole, confirmed by geochemical fractionation patterns
- Broad intervals of mineralisation which were completely absent in drill holes designed to intersect up-plunge positions of the same

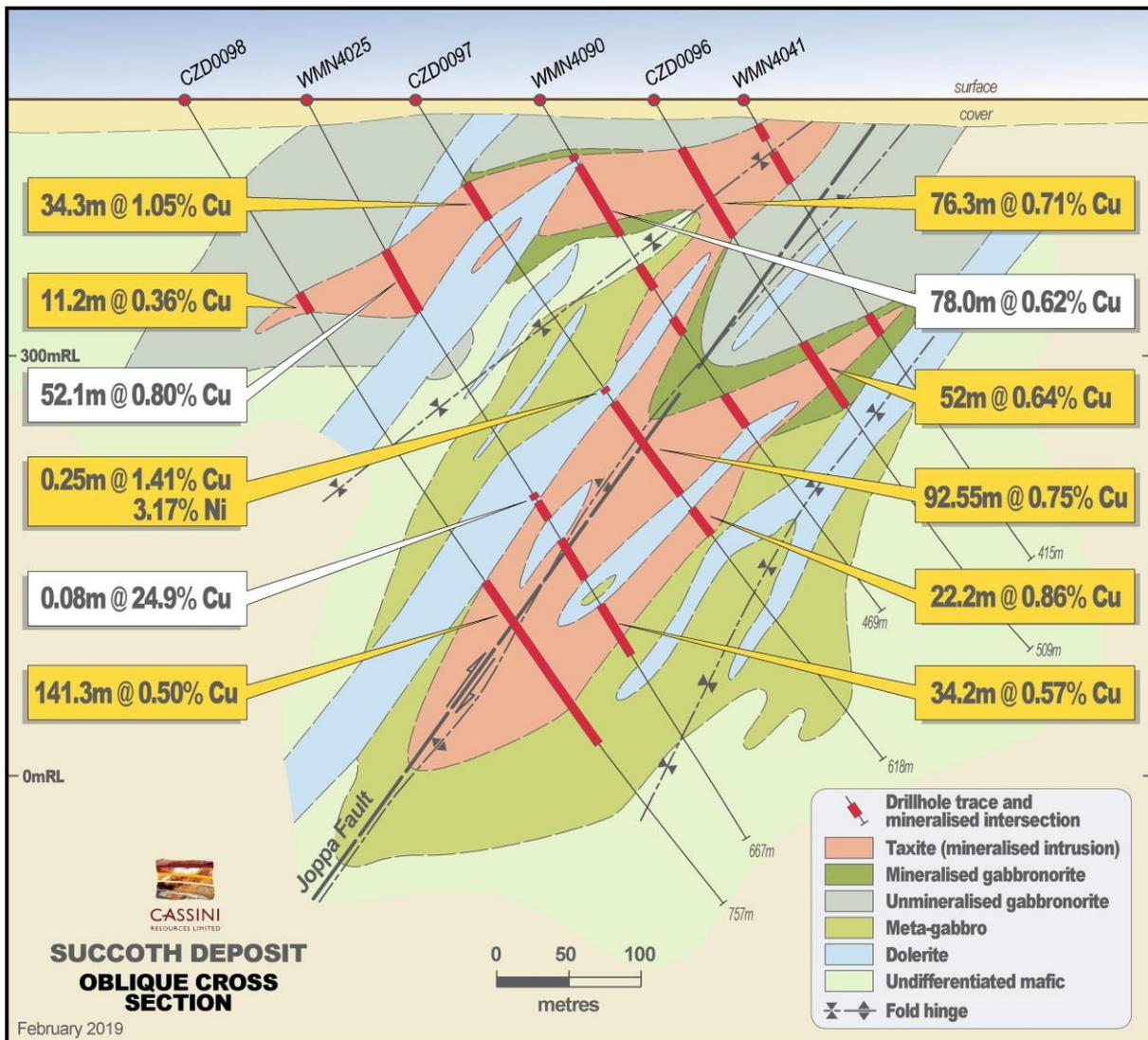


Figure 1. Succoth section with folded stratigraphy interpretation.

This contrasts with the previous interpretation which uses a vertical planar-style interpretation as the dominant orientation. This orientation formed the basis of the 2015 Inferred Mineral Resource estimate of 156mt @ 0.60% Cu, based on 45 broad-spaced drill holes. The new interpretation suggests that mineralisation is open along a broad northeast-southwest trending corridor (Figure 2).

This new interpretation if extrapolated across the remainder of the deposit, has implications for the scale of the resource, additional resource extensions, potential mining strip ratio and further economic considerations. Mineralisation remains open laterally as well as at depth and between broad-spaced drill holes. Further drilling will help refine the interpretation.

The massive sulphide intercept in a dolerite dyke in CZD0097 is further evidence of a proximal source of nickel sulphide mineralisation. Small xenoliths of copper-rich massive sulphide were intersected in the same dolerite unit in adjacent hole WMN4025 comprising 0.05m @ 12.7% Cu from 334.3m and 0.08m @ 24.9% Cu from 337.6m. Similar intersections have been previously reported in historical holes WMN4023 (0.36m @ 1.96% Ni) and WMN4024 (0.6m @ 1.39% Ni), 1.5km to the west of CZD0097.

More work is required on the relative timing of dolerite intrusions to determine pre- or post- folding emplacement and ultimately using these relationships to vector towards a potential source of the massive sulphides.

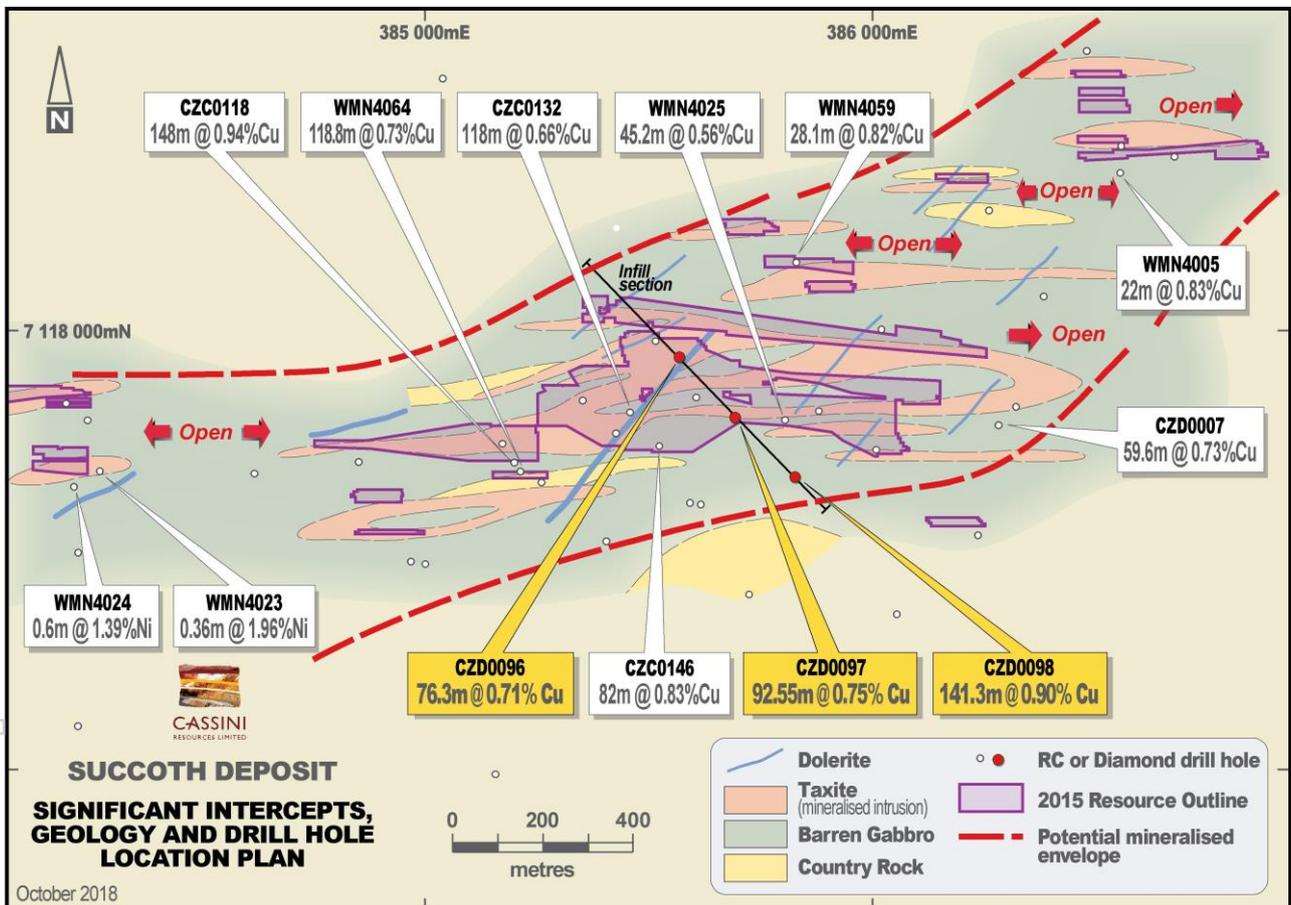


Figure 2. Succoth plan showing recent drilling and position to historical holes and resource.

**Table 1. 2018 Succoth Deposit Significant Drill Intercepts.**

HOLE ID	East	North	RL	Dip	Azi	EOH (m)	INTERSECTIONS				
							From (m)	Width (m)	Cu %	Ni %	PGE g/t
<b>CZD0096</b>	385560	7117928	480	-60	315	509.1	46.7	76.3	0.71	0.07	0.17
						Incl	87.0	9.2	1.47	0.14	0.34
							230.0	52.0	0.64	0.06	0.14
						Incl	235.0	8.0	1.56	0.12	0.28
<b>CZD0097</b>	385685	7117799	480	-60	315	617.5	71.7	34.3	1.05	0.09	0.25
							119.0	9.15	0.82	0.06	0.17
							148.65	19.95	0.47	0.06	0.13
							202.8	5.1	0.51	0.03	0.08
							218.0	40.0	0.41	0.04	0.09
							264.45	0.25	1.41	3.17	0.47
							271.45	92.55	0.75	0.09	0.19
							379.86	22.2	0.86	0.08	0.21
<b>CZD0098</b>	385815	7117680	480	-60	315	756.7	173.8	11.2	0.36	0.04	0.05
							431.5	141.3	0.50	0.05	0.11

For further information, please contact:

**Richard Bevan**  
Managing Director

Cassini Resources Limited  
Telephone: +61 8 6164 8900  
E-mail: [admin@cassiniresources.com.au](mailto:admin@cassiniresources.com.au)

### About the Company

Cassini Resources Limited (ASX: CZI) is a base and precious metals developer and explorer based in Perth. In April 2014, Cassini acquired its flagship West Musgrave Project (WMP), located in Western Australia. The Project is a new mining camp with three existing nickel and copper sulphide deposits and a number of other significant regional exploration targets already identified. The WMP is the largest undeveloped nickel - copper project in Australia.

In August 2016, Cassini entered into a three-stage \$36M Farm-in/Joint Venture Agreement with prominent Australian mining company OZ Minerals Ltd (ASX: OZL). The Joint Venture provides a clear pathway to a decision to mine and potential cash flow for Cassini.

Cassini is also progressing its Mt Squires Gold Project, an early stage zinc exploration project in the West Arunta region and also has an option to acquire 80% of the Yarawindah Nickel - Copper - Cobalt Project, all located in Western Australia.

## Competent Persons Statement

The information in this report that relates to Exploration Results is based on information compiled or reviewed by Mr Greg Miles, who is an employee of the company. Mr Miles is a Member of the Australian Institute of Geoscientists and 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 Miles 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 report that relates to the Succoth Mineral Resource Estimate has been compiled or supervised by Mr Aaron Green, who is a full-time employee of CSA Global Pty Ltd. Mr Green has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking 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 Green consents to the disclosure of this information in this report in the form and context in which it appears.

The Company is not aware of any new information or data, other than that disclosed in this report, that materially affects the information included in this report and that all material assumptions and parameters underpinning Exploration Results, Mineral Resource Estimates and Production Targets as reported in the market announcements dated 7 December 2015 and 14 November 2017 continue to apply and have not materially changed.

## ANNEXURE 1:

The following Tables are provided to ensure compliance with the JORC Code (2012) edition requirements for the reporting of the Exploration Results at the Succoth Deposit.

### Section 1: Sampling Techniques and Data (Criteria in this section apply to all succeeding sections)

Criteria	JORC Code explanation	Commentary
<b>Sampling techniques</b>	<i>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.</i>	Samples comprise half core to lengths no longer than 2m and separated by geological boundaries where appropriate. Portable XRF has been used to confirm the presence of nickel and copper mineralisation but is not considered suitable for public release.
	<i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i>	Drill hole locations were surveyed by handheld GPS units. Sampling has been carried out under Cassini protocols and QAQC procedures as per industry best practice.
	<i>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 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i>	Diamond drilling was used to obtain approximately 1m (or smaller where appropriate) samples which have been crushed and from which approximately 3 kg is pulverised (total prep) to produce a sub sample for analysis. XRF fusion was used to determine Al <sub>2</sub> O <sub>3</sub> , As, BaO, CaO, Co, Cr, Cu, Fe <sub>2</sub> O <sub>3</sub> , K <sub>2</sub> O, MgO, Na <sub>2</sub> O, Nb, Ni, P <sub>2</sub> O <sub>5</sub> , Pb, S, SiO <sub>2</sub> , Sn, Sr, TiO <sub>2</sub> , V, Zn, ZrO <sub>2</sub> . Other elements of interest have been determined by four acid digest with an ICP/MS finish. Au, Pt and Pd have been analysed by fire assay process (40 gm) and determined by ICP/MS.
<b>Drilling techniques</b>	<i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic etc) and details (e.g. core diameter, triple of standard tube, depth of diamond tails, face-sampling bit or other type, whether core is orientated and if so, by what method, etc).</i>	Diamond drilling accounts for 100% of the drilling completed by Cassini and comprises PQ3 and HQ3 and NQ2 diameter core samples.
<b>Drill sample recovery</b>	<i>Method of recording and assessing core and chip sample recoveries and results assessed.</i>	Overall core recoveries are >95% and there has been no significant sample recovery problems
	<i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i>	Samples are routinely checked for recovery.
	<i>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.</i>	No sample bias has been observed.
<b>Logging</b>	<i>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.</i>	All core has been geologically logged and the level of understanding of geological variables increases with the maturity of the prospect. The level of understanding is considered sufficient to include in future resource estimates.
	<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>	Logging at the West Musgrave Project records lithology, mineralogy, mineralisation, weathering, colour and other relevant features of the samples. Logging of core is both qualitative (e.g. colour) and quantitative (e.g. mineral percentages).
	<i>The total length and percentage of the relevant intersections logged.</i>	All drill holes have been logged in full.
	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Half core has been used for all samples sent for analysis.

Criteria	JORC Code explanation	Commentary
<b>Sub-sampling techniques and sample preparation</b>	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Not applicable.
	<i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i>	The sample preparation of diamond samples at Succoth Deposit follows industry best practice in sample preparation involving oven drying, followed by primary crushing of the whole sample, secondary crushing, riffle splitting to obtain a subsample for pulverisation (total prep) using Essa LM5 grinding mills to a grind size of 90% passing 75 micron.
	<i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i>	Field QC procedures involve the use of certified reference material (CRM) as assay standards and blanks along with field duplicates. The insertion rate of these will average 1:20 with an increased rate in mineralised zones
	<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>	Quarter core duplicate sampling will be 1-2% of total sampling.
	<i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i>	Sample sizes are considered appropriate for the rock type, style of mineralisation (massive and disseminated sulphides), the thickness and consistency of the intersections, the sampling methodology and percent value assay ranges for the primary elements within the West Musgrave Project.
<b>Quality of assay data and laboratory tests</b>	<i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i>	The analytical techniques used fused bead XRF for base metals and all other major and trace elements of interest. Gold, Pt and Pd were determined by FA/AAS finish (40 gram). Mixed acid digest and ICP/MS finish for other elements of interest e.g. Ag, Mo.
	<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>	Hand held assay devices have not been reported.
	<i>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.</i>	Sample preparation for fineness were carried by the laboratory as part of their internal procedures to ensure the grind size of 90% passing 75 micron was being attained. Laboratory QAQC involves the use of internal lab standards using certified reference material, blanks, splits and replicates as part of the in-house procedures.  Certified reference materials, having a good range of values, are inserted blindly and randomly.  Repeat or duplicate analysis for samples will be reviewed.
	<b>Verification of sampling and assaying</b>	<i>The verification of significant intersections by either independent or alternative company personnel.</i>
	<i>The use of twinned holes.</i>	The reported drill holes have not been twinned.
	<i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i>	Primary data collected for the West Musgrave Project using a set of standard Field Marshal templates on laptop computers using lookup codes. The information was sent to Geobase Australia for validation and compilation into a SQL database server.
	<i>Discuss any adjustment to assay data.</i>	No assay data has been adjusted.
<b>Location of data points</b>	<i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral</i>	Reported holes have been located with a Garmin hand-held GPS and are assumed to be accurate to ±5m. This is considered appropriate for exploration drill

Criteria	JORC Code explanation	Commentary
	<i>Resource estimation.</i>	holes. Downhole surveys were completed every 5m using north-seeking gyroscopes after hole completion. Stated accuracy is $\pm 0.25^\circ$ in azimuth and $\pm 0.05^\circ$ in inclination.
	<i>Specification of the grid system used.</i>	The grid system for the West Musgraves Project is MGA_GDA95, Zone 52.
	<i>Quality and adequacy of topographic control.</i>	The tenement package exhibits subdued relief with undulating hills and topographic representation is sufficiently controlled.
<b>Data spacing and distribution</b>	<i>Data spacing for reporting of Exploration Results.</i>	The holes drilled were for exploration purposes and have not been drilled on a grid pattern. Drill hole spacing is considered appropriate for exploration purposes.
	<i>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.</i>	Data continuity is considered sufficient at the current time to estimate resources
	<i>Whether sample compositing has been applied.</i>	No compositing was applied.
<b>Orientation of data in relation to geological structure</b>	<i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i>	The drill holes are drilled towards local grid north and northwest at $-70^\circ$ or $-60^\circ$ dip to intersect the mineralised zones at a close to perpendicular.
	<i>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.</i>	The orientation of drilling and key mineralised structure is not considered to have introduced sampling bias.
<b>Sample security</b>	<i>The measures taken to ensure sample security.</i>	Sample chain of custody is managed by Cassini. Samples for the West Musgraves Project are stored on site and delivered to Perth by recognised freight service and then to the assay laboratory by a Perth-based courier service. Whilst in storage the samples are kept in a locked yard.
<b>Audits or reviews</b>	<i>The results of any audits or reviews of sampling techniques and data.</i>	No reviews have been carried out to date.

## Section 2: Reporting of Exploration Results (Criteria listed in the preceding section also apply to this section)

Criteria	JORC Code explanation	Commentary
<b>Mineral tenement and land tenure status</b>	<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>	The Succoth Deposit is located within E69/2201. Through wholly owned subsidiary Wirraway Metals and Mining Pty Ltd, Cassini holds 49% of the leases comprising the West Musgrave Project (granted licences M69/0072, M69/0073, M69/0074, M69/0075, E69/1505, E69/1530, E69/2201, E69/2313, E69/3137, E69/3163, E69/3164, E69/3165, E69/3168, E69/3169) over which the previous operator retains a 2% NSR. OZ Minerals have earned 51% beneficial interest in the project having met the Stage 2 hurdle of their earn-in agreement.  The tenement sits within Crown Reserve 17614.
	<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>	All tenements are in good standing and have an existing Aboriginal Heritage Access Agreements in place. No Mining Agreement has been negotiated.

Criteria	JORC Code explanation	Commentary
Exploration done by other parties	<i>Acknowledgment and appraisal of exploration by other parties.</i>	Previous exploration has been conducted by BHP Billiton and WMC. The work completed by BHP Billiton and WMC is considered by Cassini to be of a high standard.
Geology	<i>Deposit type, geological setting and style of mineralisation.</i>	The project lies within the West Musgrave Province of Western Australia, which is part of an extensive Mesoproterozoic orogenic belt. The Nebo-Babel and Succoth deposits lie within mafic intrusions of the Giles Complex (1068Ma) that has intruded into amphibolite facies orthogneiss country rock. Mineralisation is hosted within tubular chonolithic gabbro-norite bodies and are expressed primarily as broad zones of disseminated sulphide and comagmatic or potentially remobilised accumulations of stronger mineralised, matrix to massive sulphides.
Drill hole Information	<p><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></p> <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>	Collar information is published in the body of the report.
	<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>	Not applicable, all information is included.
Data aggregation methods	<i>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.</i>	Weighted averages for Succoth mineralisation were calculated using parameters of a 0.25% Cu lower cut-off, no minimum reporting length, 6m maximum length of consecutive internal waste and the minimum grade for the final composite of 0.25% Cu.
	<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>	Short lengths of high grade results use either a nominal 1% Ni or Cu lower cut-off or a geological boundary such as a massive sulphide interval, no minimum reporting length and 2m maximum interval dilution and the minimum grade of the final composite of 1% Ni or Cu
	<i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i>	Metal equivalent values are not reported.
Relationship between mineralisation widths and intercept lengths	<i>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 (eg 'down hole length, true width not known').</i>	Mineralisation at Succoth is reported as down-hole widths is poorly defined and orientations are approximate. Using the new folded stratigraphy model, mineralisation is generally intersected slightly oblique or close to true-width.
Diagrams	<i>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.</i>	Refer to Figures in body of text.
Balanced reporting	<i>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.</i>	All results have been reported

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Criteria	JORC Code explanation	Commentary
Other substantive exploration data	<i>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.</i>	All relevant exploration data is shown on figures, in text and Annexure 1.
Further work	<p><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	<p>Cassini and its partner OZ Minerals Ltd are currently undertaking Pre-Feasibility study work at the Nebo-Babel Deposits in the West Musgrave Project. The Succoth Deposit is at an early stage of economic evaluation. Further resource definition drilling is likely to be conducted at Succoth prior to inclusion in any kind of feasibility study. An updated resource estimate would be also be undertaken.</p> <p>All relevant diagrams and inferences have been illustrated in this report.</p>