



## Assays Confirm Significant Nickel Sulphide Mineralisation at Yappsu

### HIGHLIGHTS

- **Drill hole CZD0076B returns a broad zone of nickel and copper mineralisation with significant levels of cobalt, PGE and gold**
- **Represents the most significant intercept at the Yappsu Prospect to date**
- **Follow-up hole, CZD0079 has also intersected further mineralisation with drilling continuing**
- **Yappsu developing into a substantial discovery with implications for WMP development**

Cassini Resources Limited (ASX:CZI) ("Cassini" or the "Company") is pleased to announce a second significant intersection of massive sulphide mineralisation at the Yappsu Prospect 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 visual observations of this hole were first reported by the Company on 27 June 2018.

### Drill hole CZD0076B Results

Assay results for diamond drill hole CZD0076B have confirmed nickel and copper sulphide mineralisation in three distinct units:

1. A massive sulphide zone returning **6.45m @ 1.67% Ni, 1.07% Cu, 0.14% Co and 0.49g/t PGE**. The high levels of cobalt and platinum group elements (PGE) are some of the highest recorded at the WMP.
2. An upper heavily disseminated zone of **15.25m @ 0.60% Ni, 0.77% Cu, 0.02% Co, 0.31g/t PGE and 0.18g/t Au**. Significant gold mineralisation potential has not been previously recognised.
3. A lower broad disseminated zone of **55.6m @ 0.32% Ni, 0.34% Cu, 0.01% Co, 0.23g/t PGE and 0.06g/t Au**.

The combined weighted average of all intercepts is 77.8m @ 0.49% Ni, 0.49% Cu, 0.2% Co, 0.29g/t PGE which is the most significant intercept at the prospect to date on a contained metal basis, confirming the Company's belief that historical drill holes had not intersected the core of the mineralised system. Mineralisation has continuity over 250m down-plunge and appears to be strengthening at depth which remains completely open and untested by current Downhole Electromagnetic (DHEM) or surface Moving Loop Electromagnetic (MLEM) systems. Additionally, the disseminated mineralisation has a weak EM signature and may extend up-plunge closer to surface than indicated by the EM models. The up-plunge position has not been tested by drilling.

This result marks a turning point in the exploration of the prospect within the context of the broader West Musgrave Project. Whilst at an early stage of exploration, Yappsu is currently being pursued as an opportunity that could support the development of the Nebo-Babel deposits.

Cassini Managing Director, Richard Bevan, commented “The results from the first two holes at Yappsu are very significant. The mineralised trend north east of Nebo-Babel has now been shown to host some of the highest tenor sulphide mineralisation identified so far in the Project area. This has big implications for our continued exploration programs and also for the development scenarios at Nebo-Babel, where the discovery of additional high grade ore could materially impact the project metrics.

The early success of our exploration program is a result of the significant work of our technical team and has demonstrated that our targeting strategy is becoming very efficient and effective indeed.”

### Yappsu Prospect Developing into a Significant Discovery

The Yappsu prospect is located 6km north-east of Nebo, within an identified corridor of nickel and copper sulphide mineralisation. The mineralisation is hosted in a gabbro-norite “chonolithic” intrusion which appears similar to the Babel Deposit, albeit with a significant massive sulphide component and an overall higher metal tenor. The upper disseminated zone has metal signatures similar to the Startmeup Shoot at the Babel Deposit.

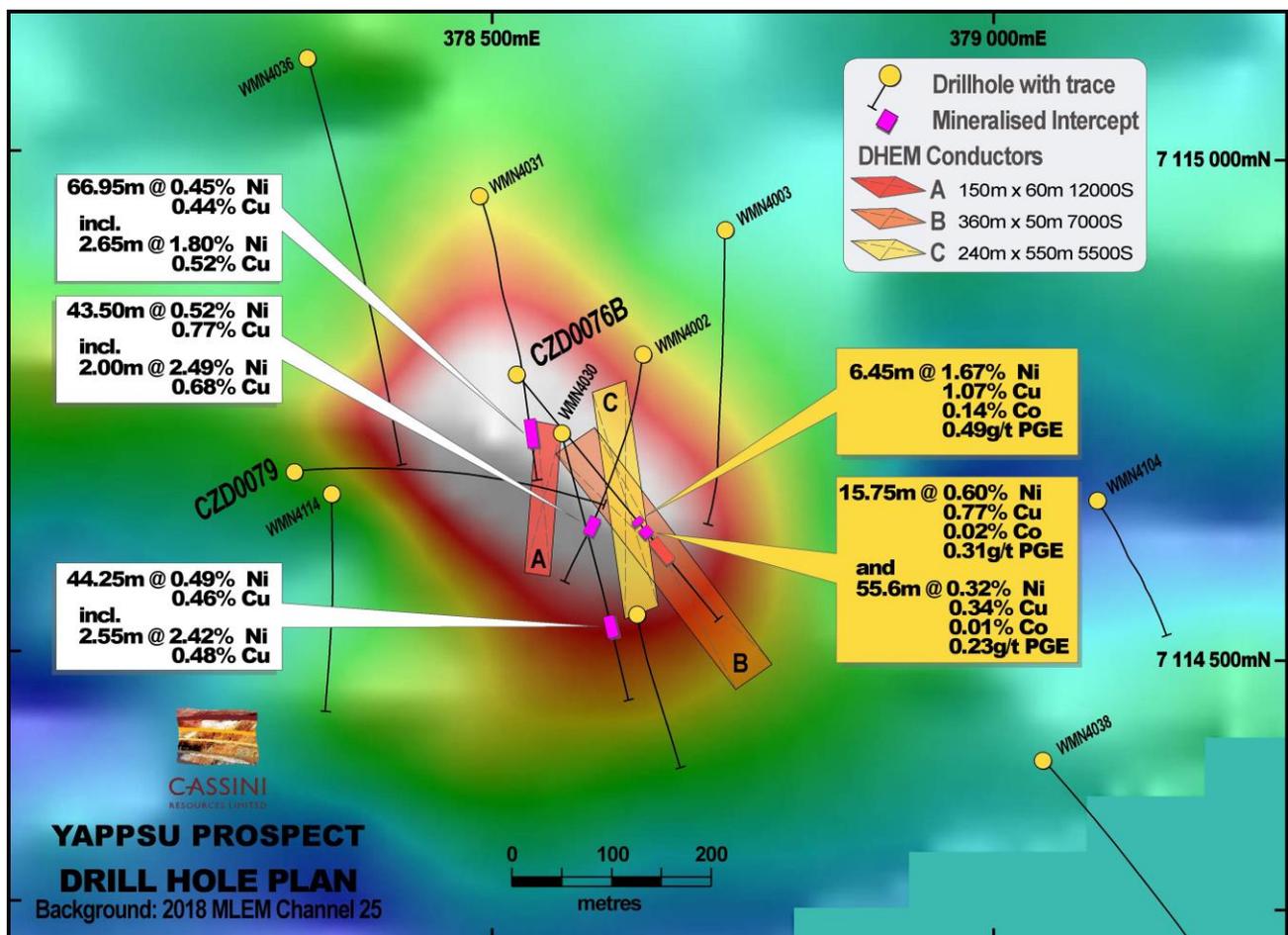


Figure 1. Drill hole plan showing results from CZD0076B and trace of CZD0079.

The top of the massive sulphide mineralisation in CZD0076B is approximately 386m vertically below surface, piercing the middle of a strong conductor that extends 110m up-plunge and 130m down-plunge. The depth of this intersection is comparable to mining depths currently undertaken at Independence Group’s Nova-Bollinger Mine in the Fraser Range, while many other nickel operations are routinely mining

from depths beyond 1,000m below surface. The strong by-product credits make this a highly attractive underground mining proposition which warrants further exploration.

The massive sulphide is hosted in the amphibolite hanging wall and it has been most likely remobilised from an original position closer to the host intrusion. The contacts between the mineralised units have been intruded by later-stage dolerite dykes.

### Follow-up Drilling

A second diamond drill hole, CZD0079, targeting a previously untested DHEM conductor (Conductor "A" in Figure 1) and following the successful testing of two other DHEM conductors by CZD0076B, is currently in progress. Visual observations of CZD0079 reveal the hole has intersected approximately 80m of variably disseminated mineralisation including a narrow zone of massive sulphide corresponding to the modelled position of the "A" Conductor. The hole has been extended to drill through the entire intrusive body to provide insight into the total mineralisation potential of the prospect.

The core is currently being logged and prepared for assaying with results expected in the next 3-4 weeks.

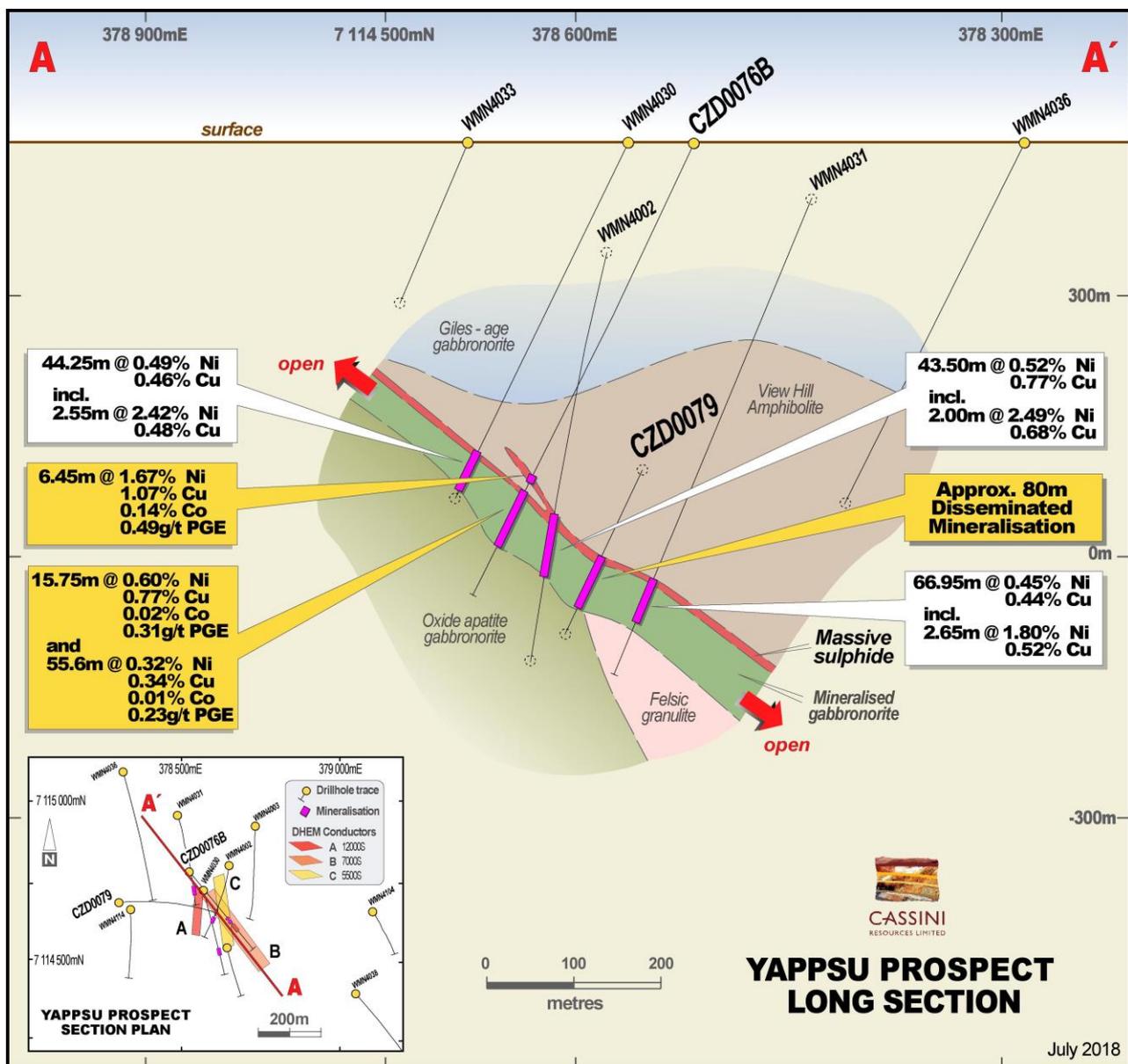


Figure 2. Yapssu section and plan showing approximate intersections in CZD0076B.

## Next steps

The rig will now be moved to the One Tree Hill Prospect to allow DHEM, geological interpretation and follow-up drill planning to be conducted in a systematic manner. Both new holes demonstrate the possibility for the prospect to become a significant deposit in its own right.

The One Tree Hill Prospect is another high-priority exploration prospect within the portfolio (Figure 3) that the Company has been eager to drill since announcing the new discovery in December 2016. Two holes are planned at One Tree Hill, after which the rig should move back to Yappsu for further drilling.

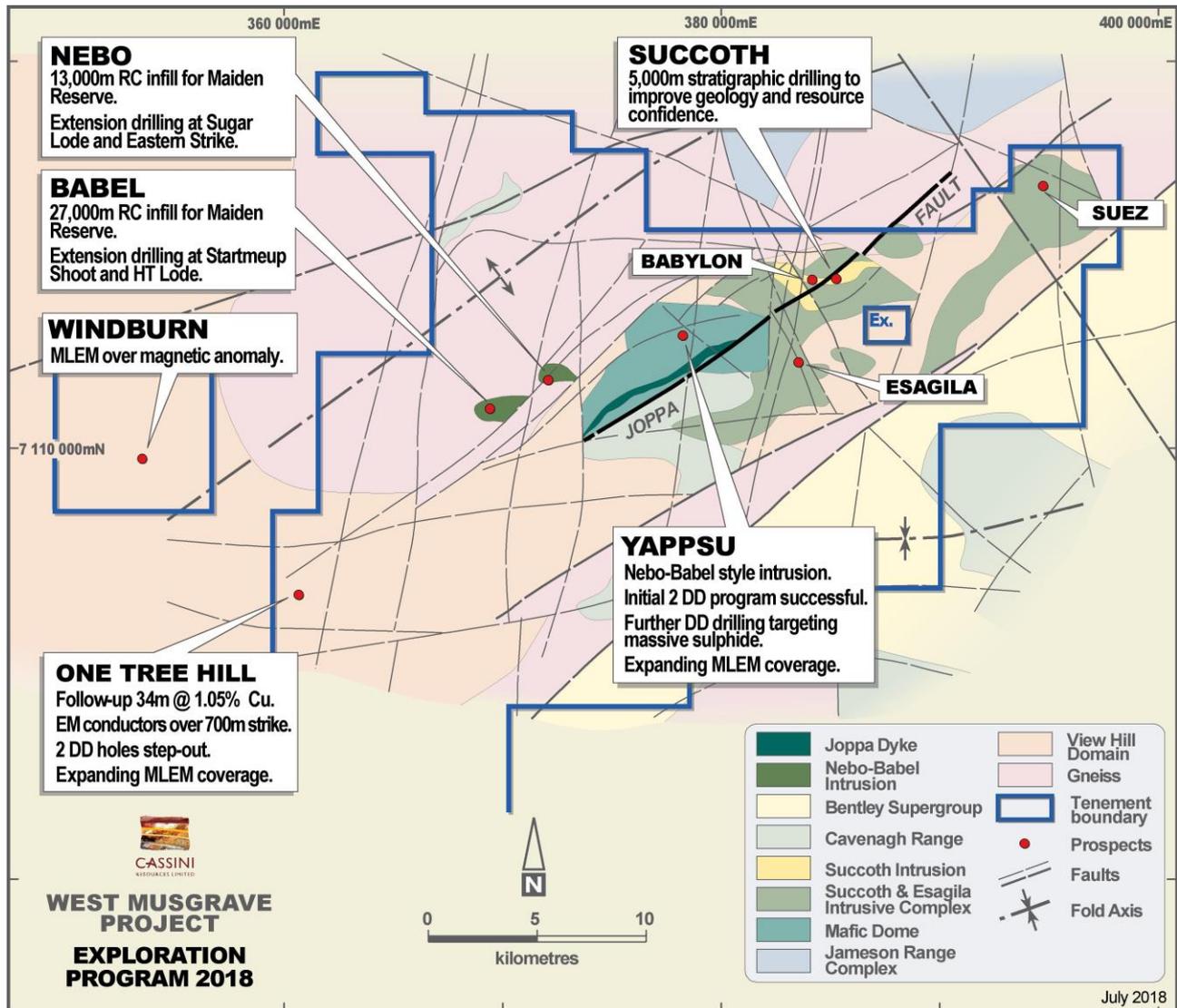


Figure 3. WMP 2018 Exploration program activities.

## About the Yappsu Prospect

The Yappsu Prospect is located 6km east of Nebo. The prospect has been targeted by the JV partners as part of a regional exploration program designed to identify high-grade nickel mineralisation to complement the development of the Nebo-Babel Deposits. Historical drilling has intersected up to 2.65m of high-grade nickel massive sulphides and broad zones, of up to 70m, of disseminated sulphide mineralisation. The JV Partners have made significant progress in understanding the geology of the prospect, including re-modelling the historical surface and Downhole Electromagnetics (DHEM). A new surface Moving Loop Electromagnetic (MLEM) survey utilising the latest “SQUID” technology supported the targeting of the prospect for massive sulphides (ASX release 5 June 2018).

**Table 1. CZD0076B Significant drill intercepts.**

HOLE ID	East	North	RL	Dip	Azi	EOH (m)	INTERSECTIONS						
							From (m)	Width (m)	Ni %	Cu %	Co %	PGE g/t	Au g/t
CZD0076B	378525	7114780	477	-65	138	583.8	426.1	6.45	1.67	1.07	0.14	0.49	<0.01
							443.25	15.75	0.60	0.77	0.02	0.31	0.18
							475.0	55.60	0.32	0.34	0.01	0.23	0.06

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### 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 world-class asset which currently has over 1.0 million tonnes of contained nickel and 2.0 million tonnes of contained copper in Resource. 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 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 3 April 2014, 1 May 2017, 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 Yappsu Prospect.

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

Criteria	JORC Code explanation	Commentary
Sampling techniques	<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 1m 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 from which 3 kg is pulverised (total prep) to produce a sub sample for analysis by four acid digest with an ICP/AES or ICP/MS finish (0.25 gram) for base metals or a FA/AAS finish (40 gram) for Au, Pt and Pd.
Drilling techniques	<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 diameter core samples.
Drill sample recovery	<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
Logging	<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 will be 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>	The drillhole will be logged in full.
Sub-sampling techniques and sample preparation	<i>If core, whether cut or sawn and whether quarter, half or all core taken.</i>	Half core will be sampled.
	<i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i>	Not applicable as half-core sampled.
	<i>For all sample types, the nature, quality and</i>	The sample preparation of diamond samples at

Criteria	JORC Code explanation	Commentary
	<i>appropriateness of the sample preparation technique.</i>	Yappsu follows industry best practice in sample preparation involving oven drying, followed by pulverisation of the entire sample (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 1:15 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 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).
	<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>	Core has been viewed by contract and Cassini geology staff.
	<i>The use of twinned holes.</i>	The reported drill hole has 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 Resource estimation.</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 holes.  Downhole surveys were completed every 5m using north-seeking gyroscopes after hole completion. Stated accuracy is ± 0.25° in azimuth and ± 0.05° in inclination..
	<i>Specification of the grid system used.</i>	The grid system for the West Musgraves Project is MGA_GDA95, Zone 52.

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>
	<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 not 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>	CZD0076B is drilled at 138 degrees at -65° dip to intersect the conductors at a close to perpendicular relationship for the bulk of the targets. The orientation of sampling is considered to be unbiased. CZD0079 has been drilled at -62° dip to 095 to intersect the target conductor in as close to a perpendicular relationship as possible
	<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)

<b>Criteria</b>	<b>JORC Code explanation</b>	<b>Commentary</b>										
<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>	Yappsu is located within E69/2201. Through wholly owned subsidiary Wirraway Metals and Mining Pty Ltd, Cassini holds 100% 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. 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.										
<b>Exploration done by other parties</b>	<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.										
<b>Geology</b>	<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.										
<b>Drill hole Information</b>	<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>	<p>Collar information for CZD0076B is published in the body of the report.</p> <p>CZD0079 collar information:</p> <table border="1"> <thead> <tr> <th><i>East</i></th> <th><i>North</i></th> <th><i>RL</i></th> <th><i>Azi</i></th> <th><i>Dip</i></th> </tr> </thead> <tbody> <tr> <td>378290</td> <td>7114700</td> <td>478</td> <td>095</td> <td>-62</td> </tr> </tbody> </table> <p>The hole is progress with a proposed depth of 750m</p>	<i>East</i>	<i>North</i>	<i>RL</i>	<i>Azi</i>	<i>Dip</i>	378290	7114700	478	095	-62
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378290	7114700	478	095	-62								
	<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.										
<b>Data aggregation methods</b>	<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 Yappsu mineralisation were calculated using parameters of a 0.25% Ni or Cu lower cut-off, no minimum reporting length, 6m maximum length of consecutive internal waste and the minimum grade for the final composite of 0.2% Ni.										

Criteria	JORC Code explanation	Commentary
	<p>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.</p>	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
	<p>The assumptions used for any reporting of metal equivalent values should be clearly stated.</p>	Metal equivalent values are not reported.
<b>Relationship between mineralisation widths and intercept lengths</b>	<p>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').</p>	Mineralisation at Yappsu is a moderately, north-westerly plunging body of variably mineralised mafic rock. Mineralisation is generally intersected with approximate true-width down-hole lengths.
<b>Diagrams</b>	<p>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.</p>	Refer to Figures in body of text.
<b>Balanced reporting</b>	<p>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.</p>	All results have been reported
<b>Other substantive exploration data</b>	<p>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.</p>	All relevant exploration data is shown on figures, in text and Annexure 1.
<b>Further work</b>	<p>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</p> <p>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</p>	<p>Cassini and its partner OZ Minerals are currently undertaking advanced scoping study work at the West Musgrave Project. Further resource definition drilling is likely to be conducted during a pre-feasibility study in conjunction with regional exploration programs including reconnaissance drilling and geophysics.</p> <p>All relevant diagrams and inferences have been illustrated in this report.</p>