



**CASSINI**  
RESOURCES LIMITED  
ABN 50 149 789 337

ASX Announcement

12 September 2013

## Final Drill assays confirm prospectivity of West Musgrave Project

- **Copper and nickel anomalism confirmed over 400m strike**
- **Results confirm mineralisation in previously untested geological domain**
- **Targeting technique effective for identification of concealed nickel-copper sulphide deposits within project area**
- **Next exploration targets already identified and will be rapidly progressed**
- **Fully funded to complete next phase of high impact exploration**

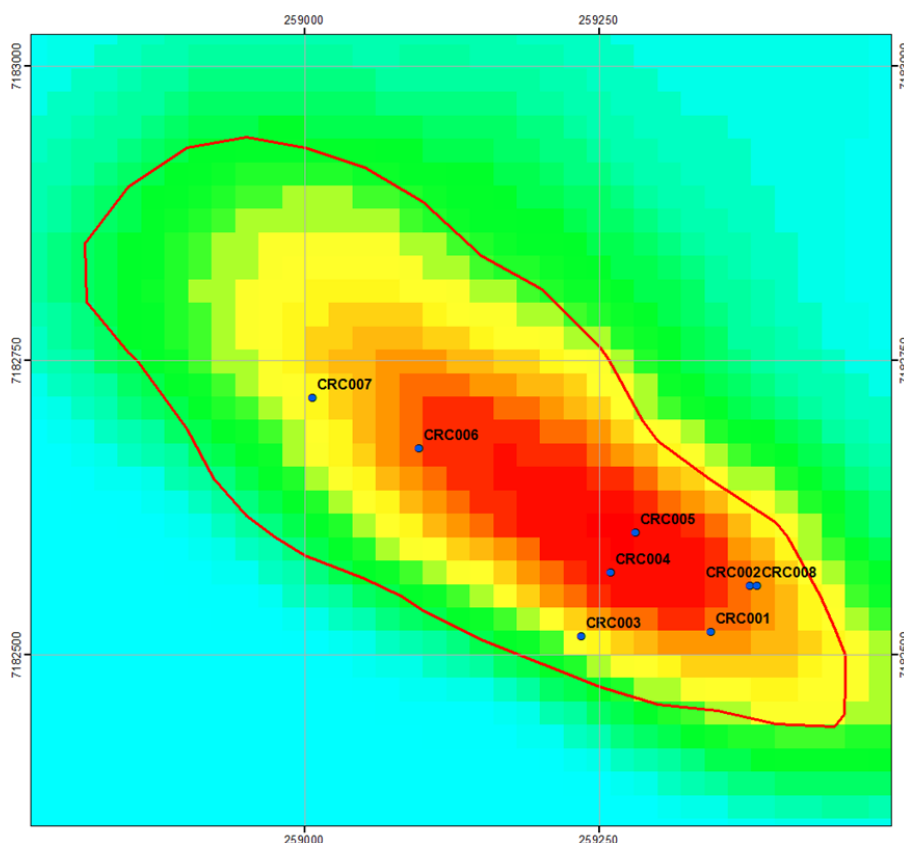
Cassini Resources Limited (ASX:CZI) (**Cassini** or the **Company**) announces the receipt of all remaining assay results for its initial Reverse Circulation (RC) drilling program at the Pandora target within its 100% owned West Musgrave Project in Western Australia.

### Summary of Drill Program Results

The Company reported initial assay results from this program on 26 August 2013.

Assays for the five remaining holes (CRC003, 005 – 008) confirm that copper and nickel anomalism over significant widths and down-hole intervals is continuous over 400 metre strike length. The strongest anomalism was observed in CRC007, which intersected 7m @ 0.1% Cu and 635 ppm Ni from 48m and 1m @ 0.14% Cu and 0.11% Ni from 78m. Coincident anomalous sulphur assays are evidence that base metals are present in sulphide form. CRC007 is the western-most hole at the prospect and shows that copper and nickel mineralisation remains open. Table 1 summarises copper and nickel assays intersected at Pandora.

Analysis of down-hole geological and geophysical data indicates that the massive magnetite intersected over significant down-hole intervals is the source of the observed surface and airborne electromagnetic geophysical anomaly. Magnetite occurring in massive form, particularly when combined with disseminated sulphides, is a good electrical conductor.



**Figure 1.** Drill collar plan at Pandora showing location of holes CRC001-008 and targeted VTEM anomaly (red)

These assays reinforce the Company's contention that Giles Complex magmatism, prospective for nickel-copper sulphide, extends into the Company's project area and that this represents a large and previously unexplored extension of the West Musgrave mineralised province. Globally, the opportunity to conduct maiden exploration in such prospective terrain is extremely rare.

The recent work on this project has achieved a number of important milestones that have significantly reduced the exploration risk of the Project. The program has confirmed that:

- ✓ the Ni-Cu sulphide prospective geology of the exposed parts of the western Musgrave Province continues under cover into the Project area
- ✓ magnetic anomalies in the project area are sourced by mafic intrusive bodies
- ✓ magmatic sulphides are forming in these rocks and the right type of highly-dynamic metal-concentrating magmatic processes are occurring
- ✓ the prospective basement in the project area occurs at relatively shallow depths and has not been significantly weathered, improving the chances of geophysical detection of sulphide mineralisation
- ✓ Electro-magnetic (EM) surveying techniques are effective for detecting sulphide mineralisation within the project area where palaeo-drainage pathways are not present
- ✓ the area of the Project surveyed to date does not host stratigraphic conductors that would generate false-positive anomalies in EM surveys. This is similar to the exposed parts of the west Musgrave province further east and reduces the technical risk in future exploration.

## Forward Exploration Strategy

Further drilling programmes at Pandora are being designed in parallel with thorough interpretation of the results, which is currently ongoing.

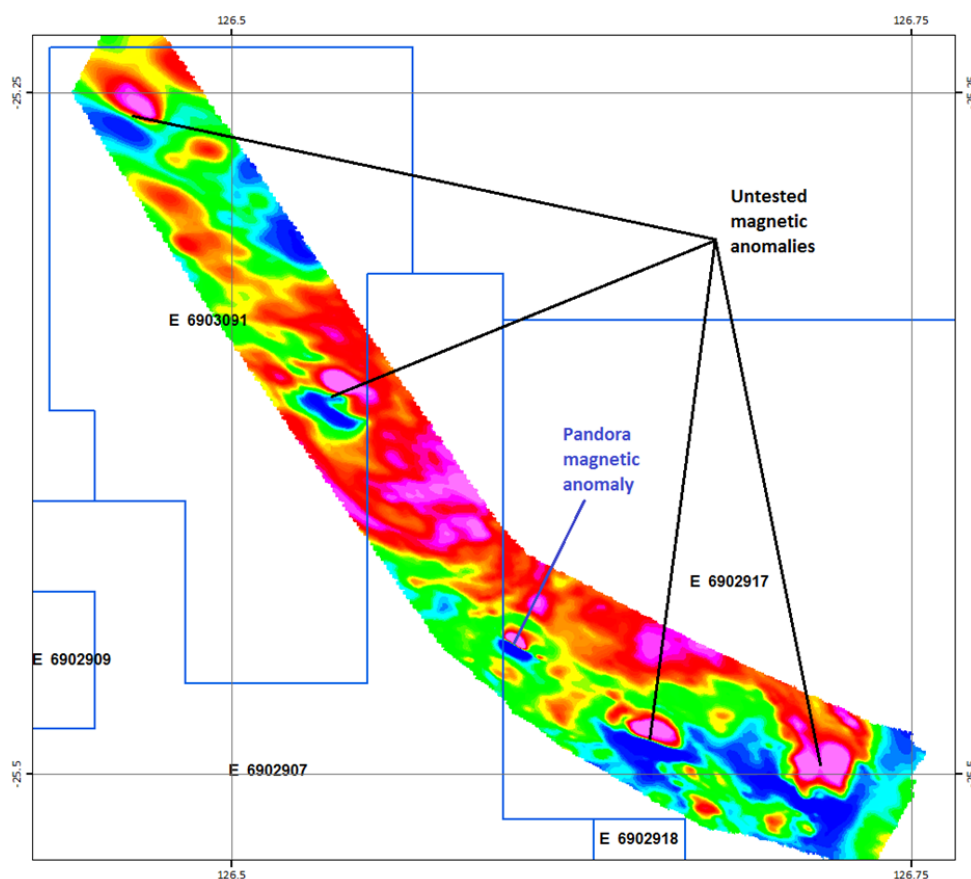
The Company has confirmed that the discrete magnetic anomalies in the project area are sourced from mafic intrusive bodies. The initial Variable Time-domain EM (VTEM) survey that identified the Pandora target was designed to test these magnetic anomalies and subsequent analysis has shown that a number of these anomalies were not effectively tested by VTEM due to conductive cover masking any possible response.

Moving Loop EM (MLEM) is likely to be a more sensitive and definitive technique to assess the presence of sulphide mineralisation coincident with these magnetic anomalies. Accordingly a MLEM program will be the next step in the exploration strategy.

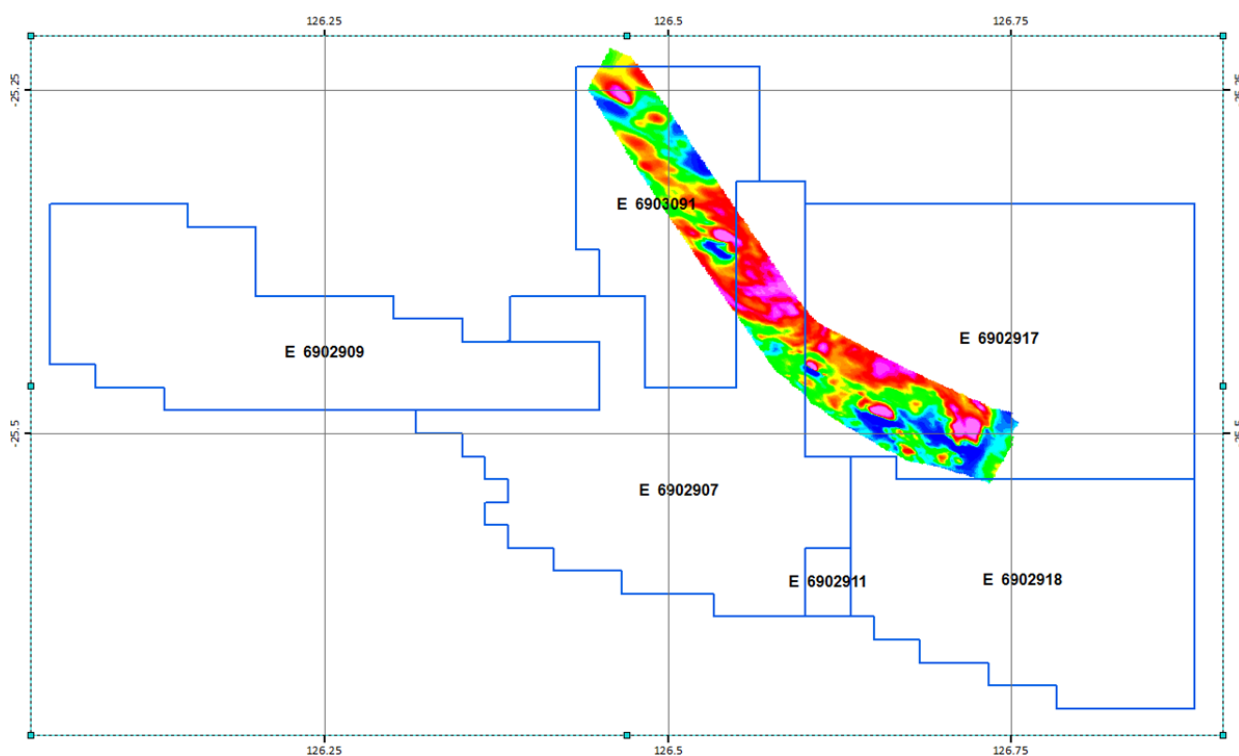
The ground EM survey represents a highly targeted, relatively low cost exploration technique, which the Company is fully funded to be able to undertake and complete. The generation of further positive EM responses will assist the company in prioritising a number of prospective drill targets.

The Company will now progress these other untested anomalies and systematically prioritise and evaluate their prospectivity in the light of the encouraging results at the Pandora target.

Post survey analysis of the VTEM determined that it effectively tested only 120 km<sup>2</sup> (approximately 5%) of Cassini's 2,254km<sup>2</sup> project area. Although Cassini's exploration was focused on the strong discrete magnetic anomalies originally observed in the GSWA regional data, there is no compelling reason why mineralisation needs to only be associated with such bodies. The Company is also evaluating the option to complete much broader VTEM coverage of the project area.



**Figure 2.** Magnetic image showing identified but untested anomalies and location of Pandora target



**Figure 3.** Cassini tenure (100% CZI) showing extent of existing VTEM survey which effectively tested only 5% of CZI land holding.

GDA94 MGA52						Assay Data		
Hole ID	Easting	Northing	Azimuth (True)	Dip	Hole Depth (m)	Cu Anomalism	Ni Anomalism	
CRC001	259345	7182520	026	-80	142	8m @ 547ppm from 48m; 4m @ 773ppm from 67m incl. 1m @ 0.11% from 68m	2m @ 653ppm from 48m; 1m @ 550ppm from 68m	Reported previously
CRC002	259378	7182559	026	-80	192	4m @ 505ppm Cu from 65m	Nil	Reported previously
CRC003	259235	7182516	026	-80	90	Nil	Nil	
CRC004	259260	7182570	026	-80	96	12m @ 618ppm from 53m; 2m @ 589ppm from 67m; 1m @ 652ppm from 72m; 1m @ 534ppm from 77m	5m @ 526ppm from 58m	Reported previously
CRC005	259281	7182604	026	-80	108	4m @ 682ppm from 71m	Nil	
CRC006	259097	7182676	026	-80	102	1m @ 536ppm from 67m; 1m @ 844ppm from 72m	Nil	
CRC007	259007	7182719	026	-80	108	7m @ 965ppm from 48m incl. 1m @ 0.14% from 48m; 4m @ 781ppm from 76m	8m @ 629ppm from 48m; 1m @ 0.11% from 78m	
CRC008	259384	7182559	206	-50	155	7m @ 551ppm from 58m; 5m @ 707ppm from 74m; 7m @ 703ppm from 108m	1m @ 548ppm from 75m; 1m @ 670ppm from 114m	
<b>Total Drill Metres</b>					<b>993m</b>			

**Table 1.** Collar information and summary of down-hole anomalism in CRC001-008, drilled at Pandora.

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## **About Cassini**

Cassini Resources Limited (ASX: CZI) is an Australian resource exploration company that successfully listed on the ASX in January 2012 with an asset package of prospective tenements and applications in Western Australia. In May 2012, Cassini added three gold exploration projects in Nevada, USA, via Joint Venture agreements with Renaissance Gold Inc. (TSX:REN).

Cassini has a dual focus, with gold exploration projects in Nevada (USA) and nickel, copper and gold prospects in Western Australia.

The Nevada projects represent a near term opportunity for exploration success in one of the world's pre-eminent mining jurisdictions. Nevada has a history of recent multi-million ounce discoveries despite a mining history of over 150 years.

Cassini's priority Western Australian project is located in the highly regarded Musgrave region, with limited previous exploration and potentially high reward.

Cassini aims to explore and progress its key projects, and to identify additional projects that are commercially attractive with the aim to increase shareholder value.

## **Competent Persons Statement**

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Mr David Johnson, who is an employee of the company. Mr Johnson 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 2004 Edition of the Joint Ore Reserves Committee (JORC) Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Johnson consents to the inclusion in this report of the matters based on information in the form and context in which it appears.

## **Assay Methodology**

Drill samples are composite 1m Reverse Circulation rock chip samples.

Analysis was conducted by Bureau Veritas Minerals Pty Ltd. Sample preparation was completed in Kalgoorlie (WA) and Perth (WA) with chemical analysis conducted in Perth (WA).

The samples have undergone a mixed four-acid digest, including Hydrofluoric, Nitric, Hydrochloric and Perchloric acids. Due to the limitations of the Mixed Acid Digest and the high presence of Titanium, some refractory minerals will not be completely attacked and the analysis for some elements will not be total.

Quality control used the laboratory standards and field duplicates.

Elements Cu and Ni have been determined.