



**CASSINI**  
RESOURCES LIMITED

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# EXPLORATION REVIEW HIGHLIGHTS SUCCOTH'S POTENTIAL

## HIGHLIGHTS

- **Detailed Exploration Review of West Musgrave Project Completed**
- **Review provides a more advanced geological model for the region**
- **New Succoth interpretation identifies mineralisation controls and the potential for Ni-rich mineralisation at Succoth**
- **Review identified numerous high-priority targets and EM conductors for follow-up work**
- **Priority drill targets at Succoth, Esagila and One Tree Hill**
- **Current drilling of the Succoth EM conductor is progressing well, at target depth next few days**

Cassini Resources Limited (ASX:CZI) ("Cassini" or the "Company") is pleased to provide an update on the Company's exploration activities, including the results of a regional geological review at its 100% owned West Musgrave Project ("Project") in Western Australia.

## Detailed Exploration and Targeting Review Completed

Cassini is pleased to announce that it has completed a detailed geological review ("Exploration Review") at the project designed to prioritise the large number of mineralised targets and assist with the next stage of drill targeting. The Exploration Review drew upon the work of a number of industry-leading advisors, in addition to Cassini's technical team.

The review was based on a new regional structural interpretation of aeromagnetics, re-logging of over 10,000m of core, re-modelling of surface and downhole geophysics and creation of a 3D geological model.

The results from this Exploration Review demonstrate the significant potential of the Project, and provides a more developed exploration model for its advancement, as well as revealing a number of other high-priority targets.

## Review Highlights

### Succoth-Esagila Complex – multiple intrusive events

The Succoth-Esagila mafic intrusive complex is very large (approximately 65Km<sup>2</sup>) and hosts multiple occurrences of magmatic Cu-PGE-Ni mineralisation (Figure 1). It comprises multiple generations of mafic intrusions (probably more than 5), of which at least two are known to be mineralised. An earlier mineralisation event is represented by deposits of the Succoth-Esagila complex and a later one represented by Babel, Nebo and Yappsu.

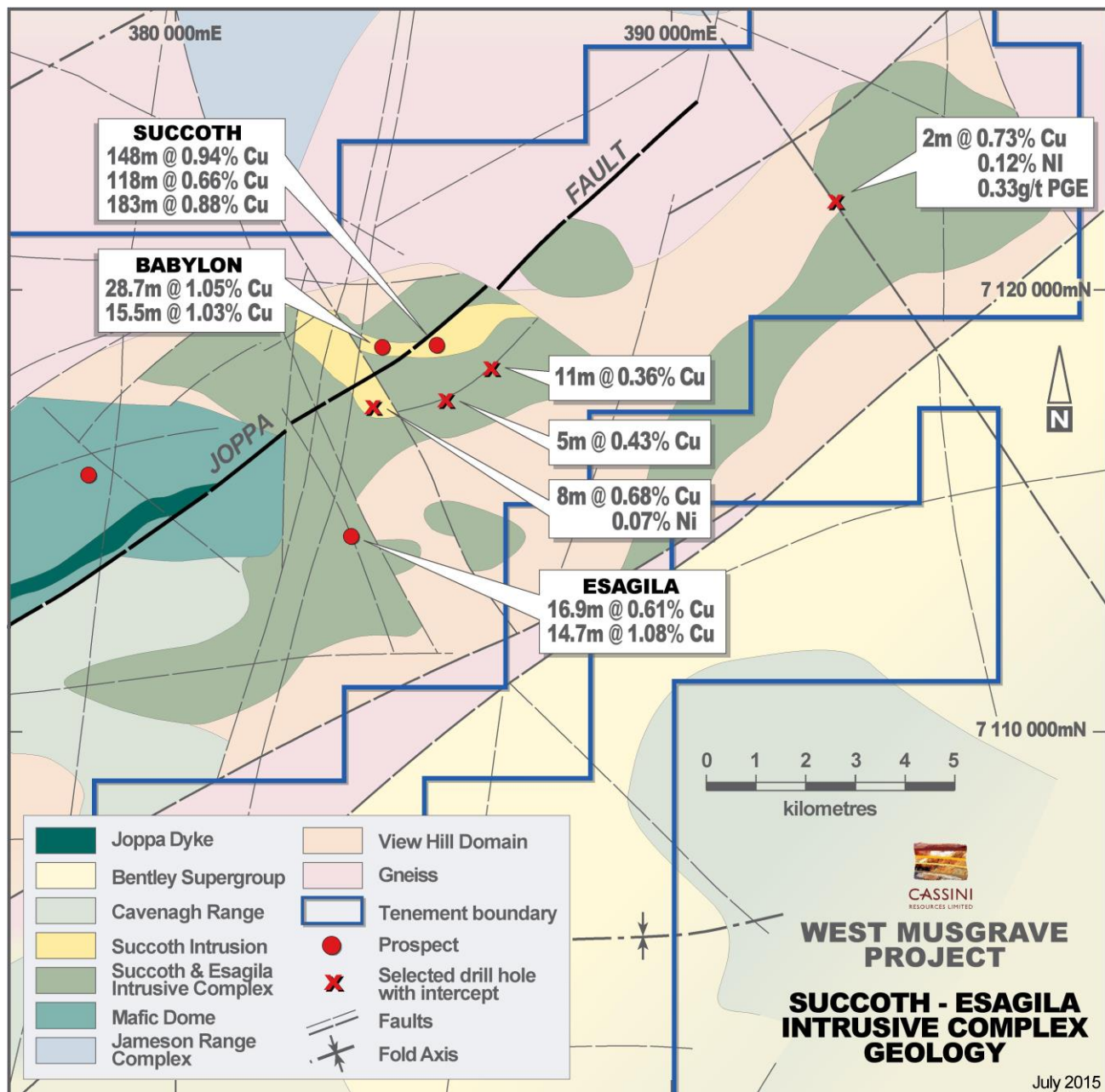


Figure 1. Succoth – Esagila geology and targets

## Understanding Succoth – Huge Potential, Being Drilled Now

The Succoth Prospect is the largest and most advanced exploration target at the Project. The Exploration Review provides a number of key understandings as to the potential mineralisation controls at Succoth.

The Succoth deposit is now interpreted to be associated with a discrete mineralised intrusion that has been tightly folded. A major late fault (the Joppa Fault) has developed along the main fold axis.

Most of the higher-grade intersections occur on the intersection of the fault and the mineralised intrusion and are associated with small EM conductors. However, the DHEM conductor currently being drill tested is different from the others as it is larger, occurs below the usual host rocks, and is plunging orthogonally to the plunge-direction of the other smaller EM conductors within the Joppa Fault zone. All of these lines of evidence provide encouragement that it represents a previously untested primary body of mineralisation.

Drilling is ongoing, with the first drill hole expected to reach the target depth in the coming days. Cassini will provide more information as soon as possible.

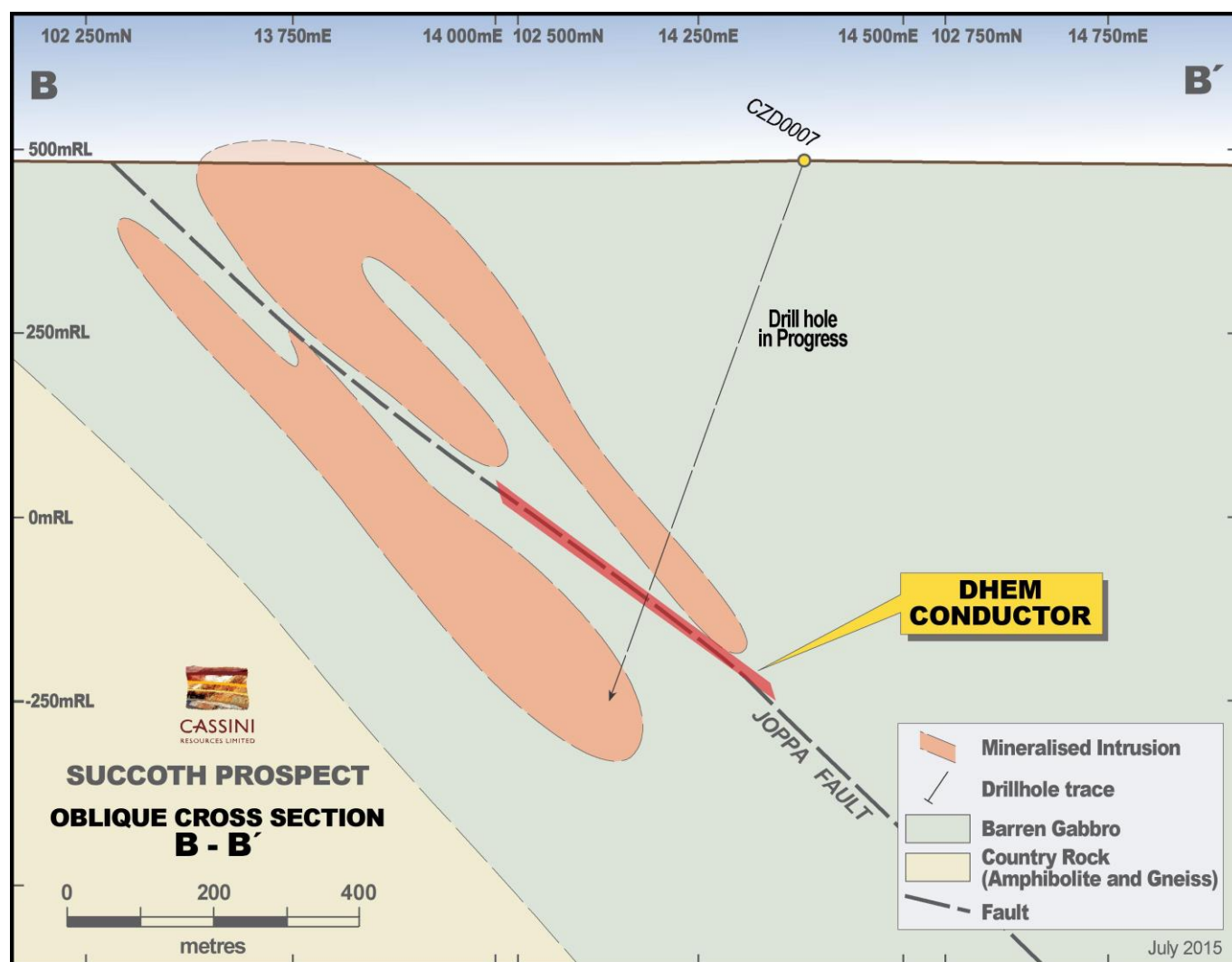


Figure 2. Succoth Cross-section showing DHEM Conductor target and current drill hole in progress

### Potential for nickel-rich mineralisation at Succoth

Historical drilling at Succoth has so far demonstrated that Succoth hosts a large zone of copper sulphide mineralisation. The Exploration Review has highlighted the potential that Succoth may also host nickel mineralisation at depth. Minor nickel-rich mineralisation has been intersected in previous drilling, such as 0.55m @ 1.59% Ni from 225.8m (WMN4023) at the recently recognised Babylon Intrusion, west of Succoth.

A common geological process in mafic-intrusion hosted nickel sulphide deposits is for sulphide liquids to fractionate (or separate) with the copper-rich sulphide component forming a halo to the nickel-rich ore.

The Exploration Review included an analysis of historical geochemical results, which supported the interpretation that mineralisation at Succoth displays fractionation trends of copper and palladium from nickel and platinum mineralisation.

Such fractionation has been commonly observed at other major mafic-intrusion hosted Ni sulphide deposits including the Talnakh deposit at Noril'sk in Russia (Figure 3), Sudbury, Jinchuan and AngloAmerican's recent Sakatti discovery in Finland (Figure 4).

This is a particularly exciting development for Cassini, given the superior economic returns of a dual commodity mineralisation style, as demonstrated by Nebo and Babel. There is potential that the DHEM conductor currently being drilled at Succoth will reveal more about Succoth's nickel content.

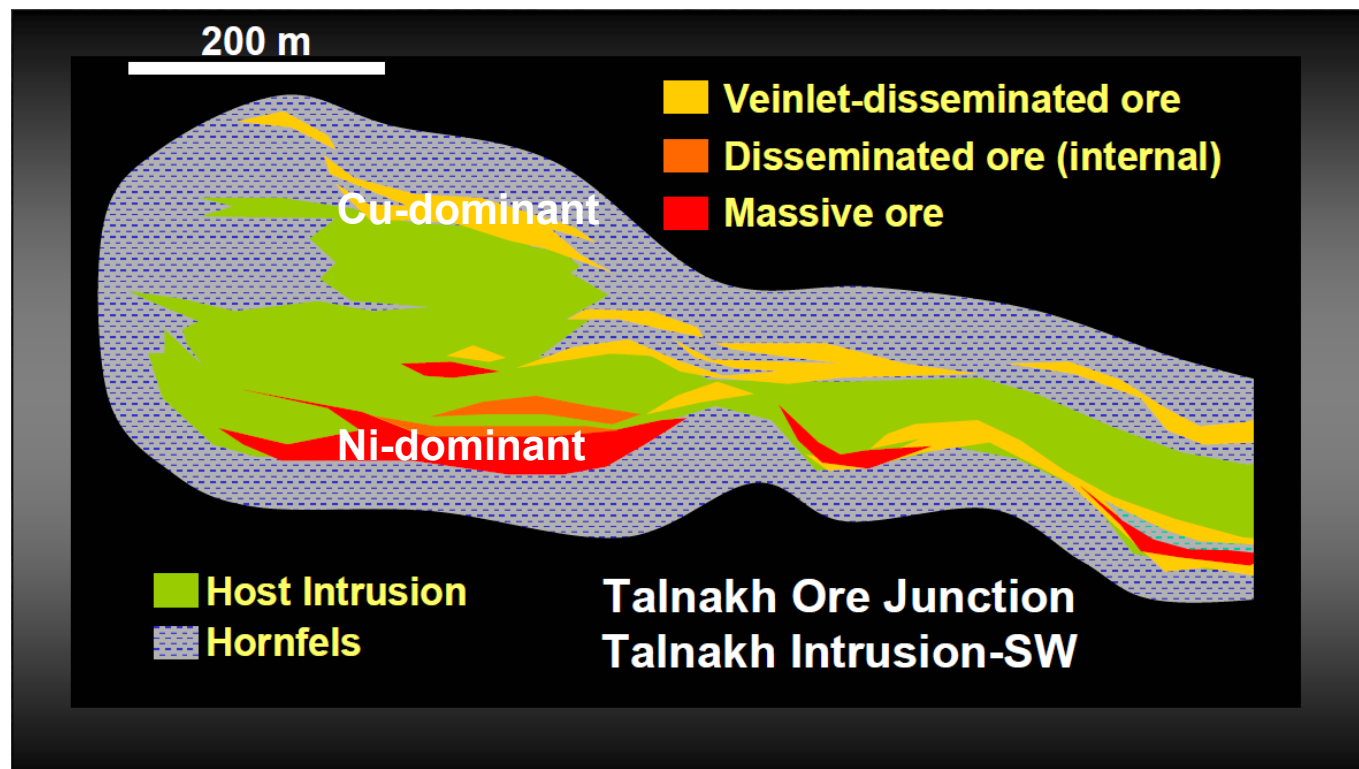


Figure 3. Schematic section of Talnakh Deposit, Noril'sk (modified from Foster 2005)

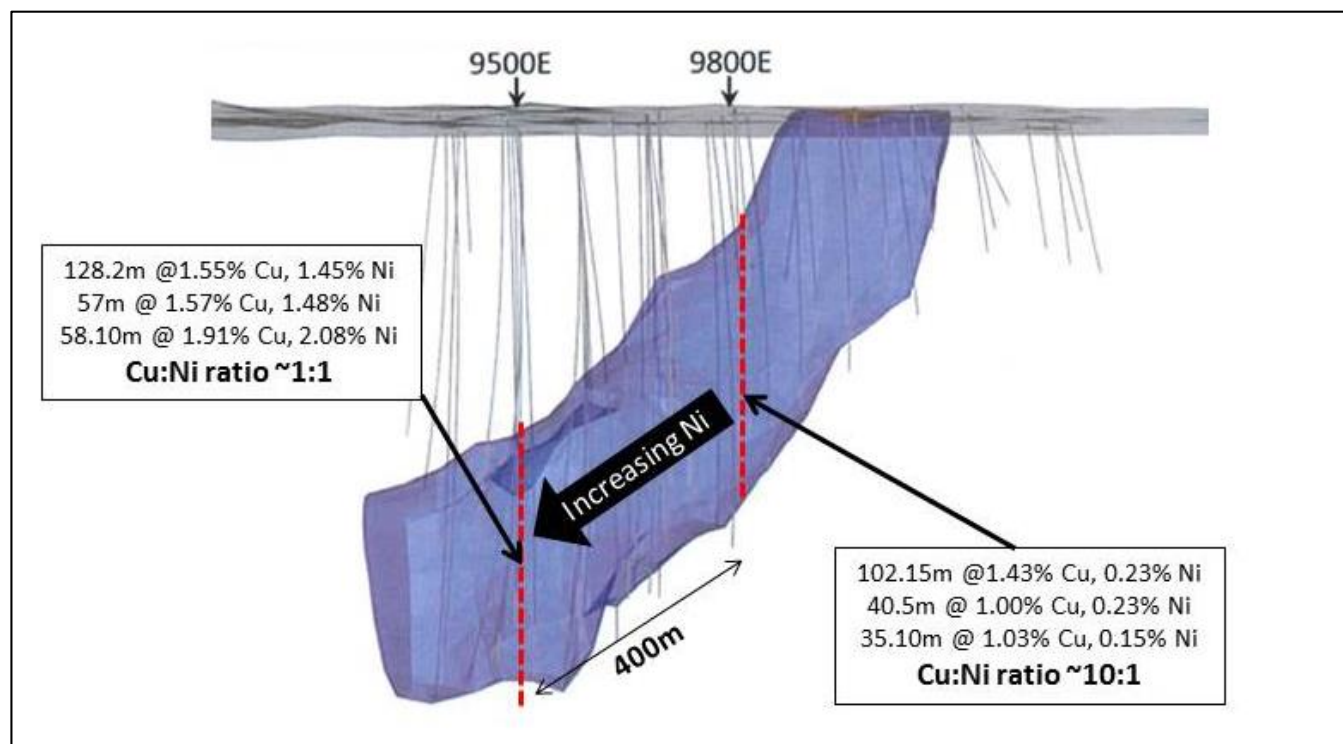


Figure 4. Sakatti Deposit, Finland, demonstrating increase in nickel grades down-plunge. (Modified from Anglo American presentation).



## Succoth's Neighbour – Esagila

Exploration to date has highlighted a number of promising prospects surrounding the Succoth Prospect, such as Esagila, which is the second most advanced prospect within the Succoth-Esagila Complex.

Mineralisation has been defined over 900m of strike, and locally to a depth of about 300m, by only 8 holes, two of which are air-core holes.

The strongest mineralisation (including 5m @ 1.96% Cu) was intersected at a depth of about 200m below surface and is associated with a strong EM conductor; it remains open down plunge and along strike with 300m of untested up-dip potential. Preparations for drill testing this target during the current field season are underway.

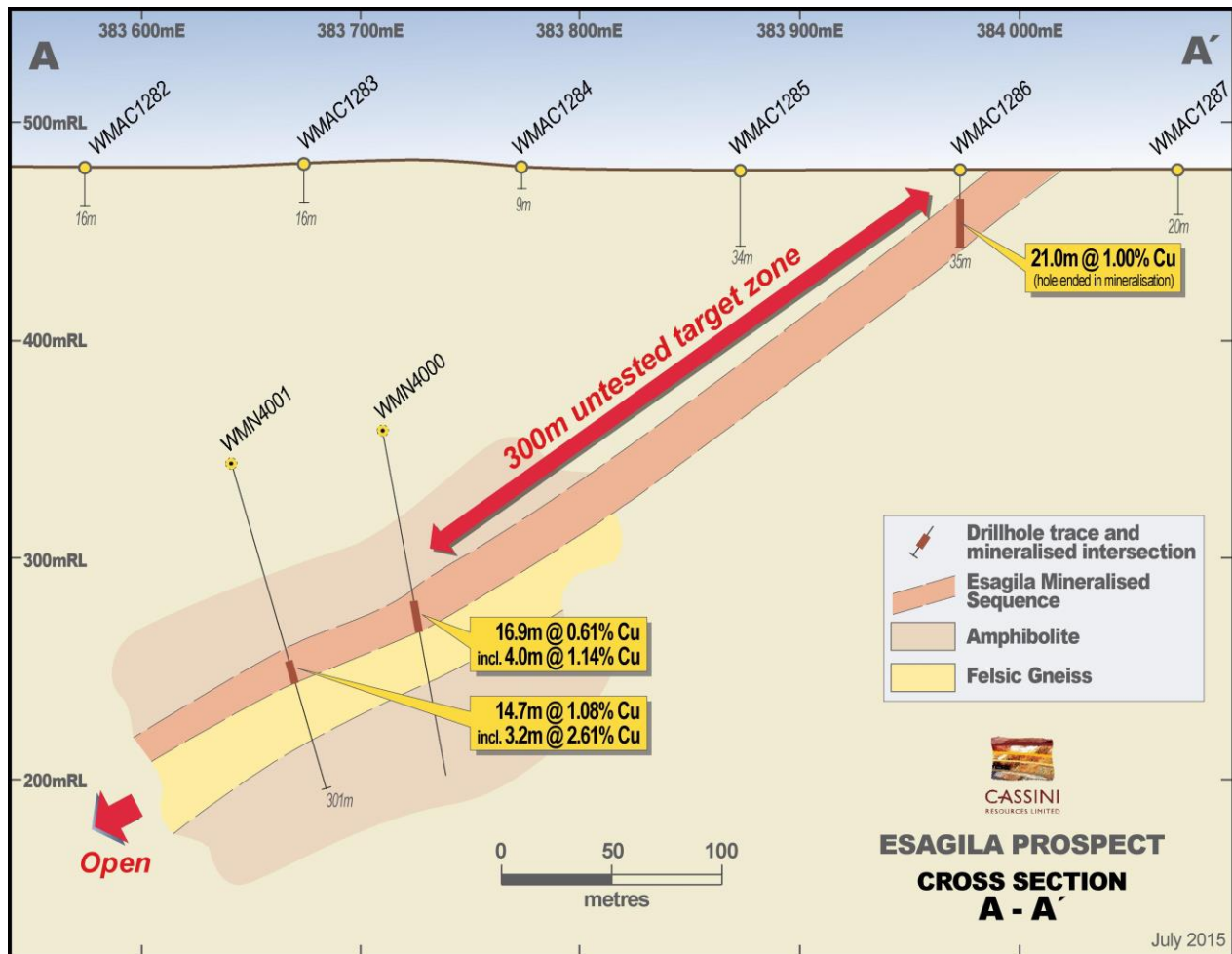


Figure 5. Cross-section of Esagila Prospect showing historical drill results

## One Tree Hill

The One Tree Hill prospect is located at the south western end of the project, about 13 km SW of Babel, and is associated with a major regional structural intersection. Only two holes have tested a surface EM anomaly identified by previous explorers with encouraging results of 0.4m @ 2.62% Cu from 152.6m. Importantly, significant PGE anomalism (up to 0.81 g/t Pt+Pd) has also been intersected. Cassini intends to step out from the previous holes to test if mineralisation extends into potentially prospective mafic rocks similar to those that host mineralisation at Succoth. Drill planning is well advanced. The strategic significance of the One Tree Hill prospect to the company is that it potentially represents the discovery of a second mineralised centre, distinct from the one that hosts Babel, Nebo and Succoth.

## Implications for the Broader Region

The Exploration Review has provided a greater understanding of the regional geology, which has led to the development of a more evolved geological model for advancing other known deposits and regional targets.

Previous exploration has been strongly driven by surface EM surveying, which was very successful in discovering the known prospects. However, much of the north eastern project area and prospective host sequence has been covered by recent alluvial drainage systems (paleochannels). The effectiveness of EM surveying in this terrane is limited because of the masking effect from the conductivity of the paleochannels.

Alluvial cover may also reduce the effectiveness of regional aircore drilling as many of the prospects identified to date are in areas of minimal cover. Therefore large portions of the north-eastern project area, including much of the highly prospective Succoth-Esagila complex, remain significantly under-explored (Figure 6).

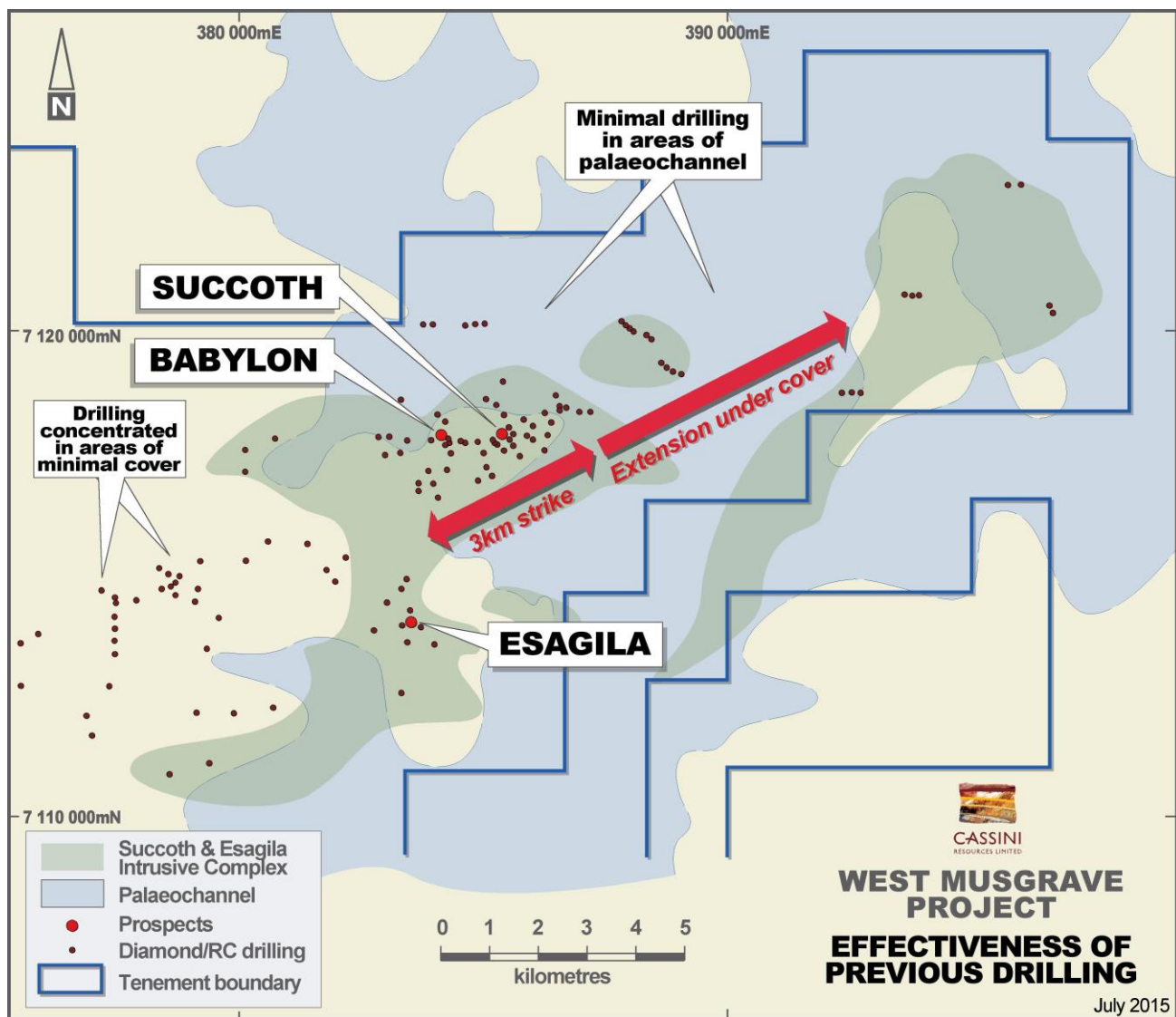


Figure 6. Prospective Succoth-Esagila intrusive complex and masking by alluvial cover.

-ENDS-

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**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 Mineral Resource Estimates and Exploration Results as reported in the market announcements dated 13 and 15 April 2015, continue to apply and have not materially changed.