Great Boulder
RESOURCES LIMITED

Diamond drilling underway to test high-grade nickel-copper targets at the Eastern Mafic complex

Highlights

- **Targeted diamond drilling program has been designed in response to recent results which indicate the "feeder" zone or conduit to the Eastern Mafic complex potentially sits at depth**
- **High-grade nickel sulphide deposits are typically located in conduit systems of large mafic complexes, such as Nova-Bollinger, Voisey's Bay and Nebo-Babel**
- **Diamond drilling has commenced at the Zermatt prospect within the Eastern Mafic (Figure 1), targeting high-tenor nickel sulphide mineralisation associated with the interpreted conduit system**
- **Drilling will then shift to the Cortina, Ben Lomond and ML13 prospects to test high-grade nickel targets at depth**
- **Petrography confirms presence of nickel sulphide (pentlandite) at the Eastern Mafic – suitable for proposed metallurgical process to produce high value nickel sulphide concentrate**

Great Boulder Resources (ASX:GBR) is pleased to advise that drilling has started at the Eastern Mafic complex, part of the Company's larger Yamarna Project in Western Australia.

An initial diamond hole is being drilled into the Zermatt prospect to a target depth of 700m downhole (~600m below surface). The drill hole is designed to test the core of the Eastern Mafic in an area considered prospective for high-grade nickel and copper mineralisation.

RC and diamond drilling will also test several deeper targets within the Eastern Mafic complex at the Cortina, Ben Lomond and ML13 prospects.

The goal of the drilling program is to identify additional mafic intrusions with high-tenor nickel and copper sulphide mineralisation, which are key to the formation of high-grade sulphide deposits.

Drilling will also test the modelled extents of the Eastern Mafic complex and try to identify the base of the intrusion where accumulations of massive sulphide mineralisation may form.

Down-hole EM ("DHEM") surveys will be completed on all drill holes. DHEM has successfully detected massive sulphide mineralisation over 200m from the drill hole in previous drilling and will be a key exploration tool in testing deeper targets at the Eastern Mafic.

Planned Drilling – Eastern Mafic complex

Drilling at the Zermatt, Cortina, ML13 and Ben Lomond prospects will cover a 5km north-west area of strike along a structural corridor of the Eastern Mafic complex.

The dominant north-west structures that splay off the larger Yamarna shear zone are interpreted as important craton boundary structures that allow nickel and copper rich mafic intrusions to travel towards the Earth's surface from deep within the mantle.

Magmatic sulphide deposits, such as Nova-Bollinger and Voisey's Bay, tend to form in conduits known as chonoliths, where sulphide mixes with nickel and copper from the mafic intrusion and then separates into massive sulphide deposits.

Results from RC and diamond drilling in late 2018 and geophysical modelling of the Eastern Mafic complex indicate a dense pipe-like structure at depth below the Zermatt and Cortina prospects, with separate but most-likely interconnected intrusions along the structural corridor at ML13 and Ben Lomond.

Assay results and geological logging has also demonstrated the Eastern Mafic is comprised of multiple mafic intrusions. Each intrusion exhibits a relatively consistent nickel-tenor, with intrusions intersected at depth showing an increase in nickel-tenor.

The goal of this drilling program is to identify additional mafic intrusions that show a significant increase in nickel grade and tenor that can support a high-grade nickel deposit.

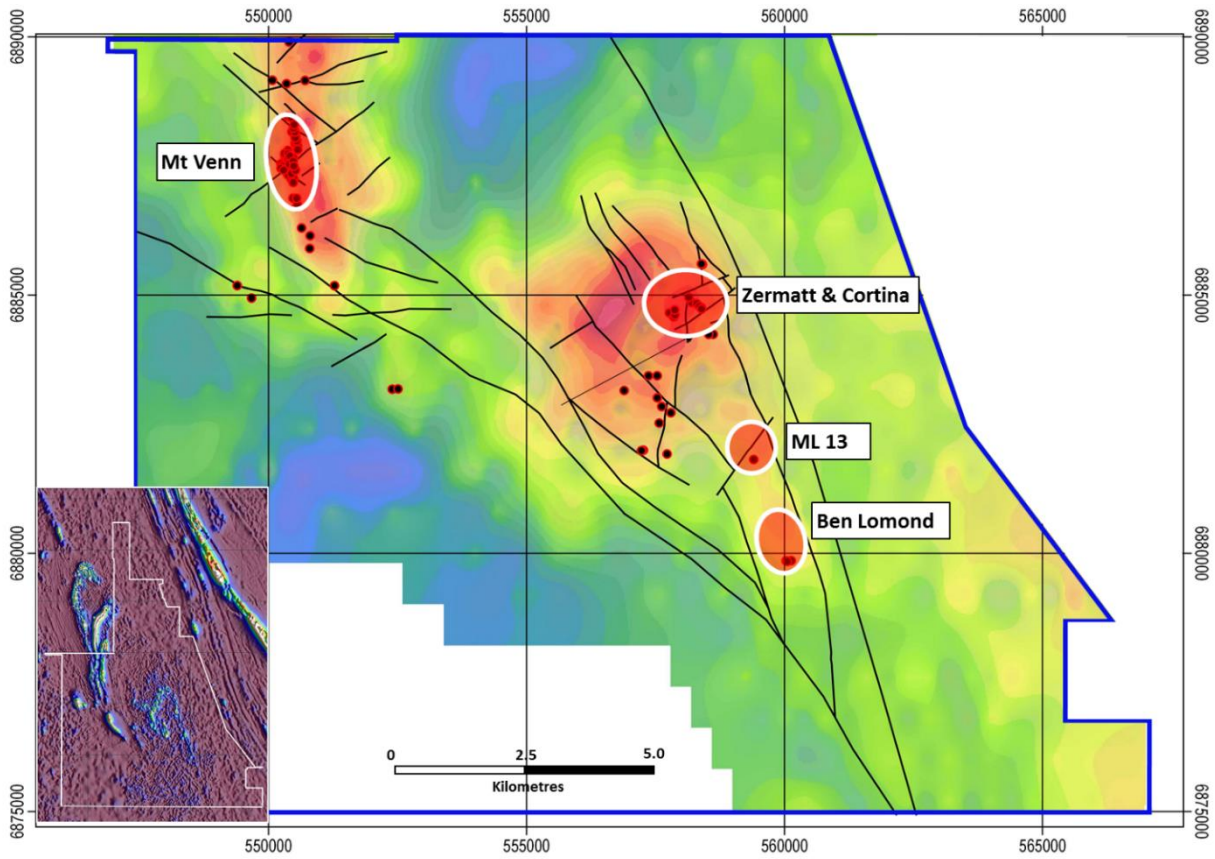


Figure 1: Prospect location map over 1VD Gravity image and previous RC/Diamond drill hole locations

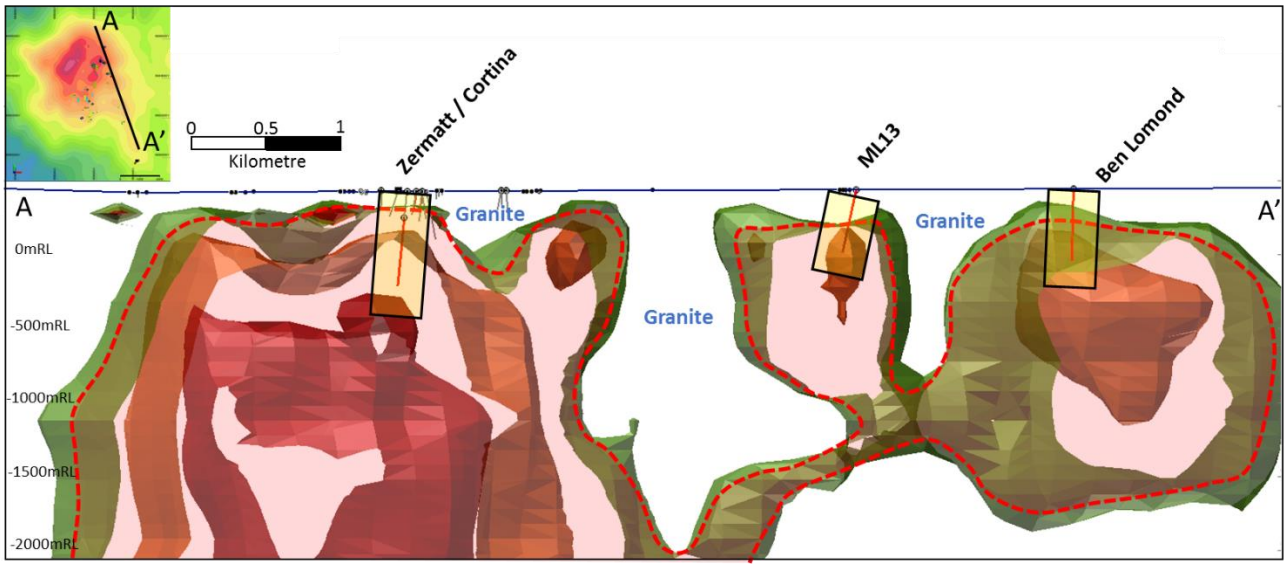


Figure 2: Revised gravity inversion model showing the extensive Eastern Mafic complex in long section. Yellow box highlights DHEM search area around planned drill holes

Four diamond drill holes are planned to penetrate deep into the mafic complex at Zermatt, Cortina, ML 13 and Ben Lomond. The drill hole at Zermatt is planned as a 510m diamond tail off a 190m existing RC hole, reaching a target depth of 700m downhole (~600m below surface).

Drilling at Cortina is targeting a discrete gravity high and EM conductor detected in the last round of drilling and interpreted as a potential extension of Zermatt.

Discrete but large intrusions have been identified at ML13 and Ben Lomond where recent drilling intersected nickel-sulphide (pentlandite) and improved nickel tenor at depth. Deeper drilling is targeting the modelled dense core of these intrusions.

All holes will be surveyed with a DHEM probe, a technique used successfully to locate massive sulphide mineralisation up to 200m from the drill hole. Assay data will be used in conjunction with DHEM to identify conductors that are consistent with the highest grade and tenor nickel sulphide.

Figure 3: Diamond drilling underway at the Zermatt prospect

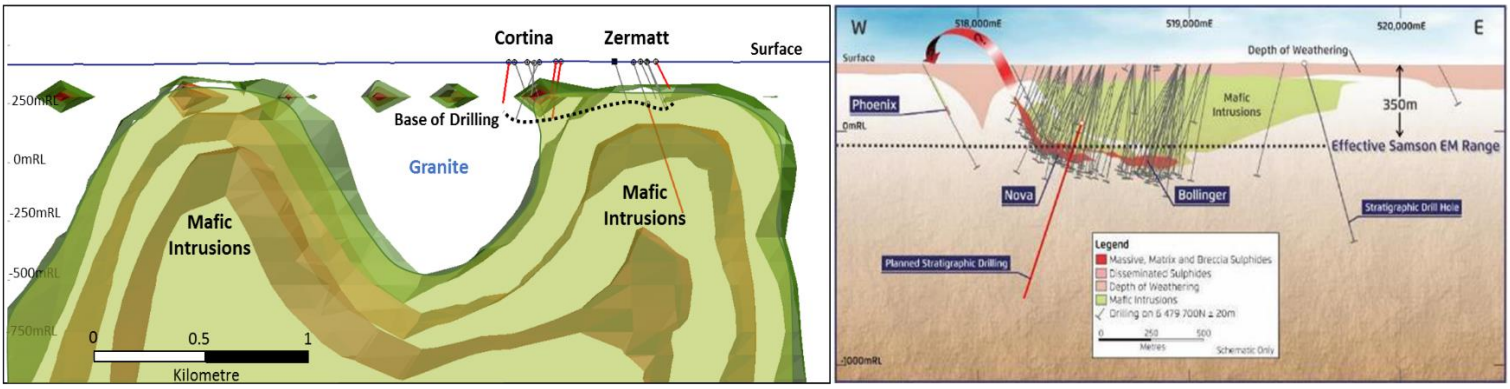


Figure 4: Scale comparison of Eastern Mafic (left) and Nova-Bollinger nickel-copper deposit (right)

Drilling to date at the Eastern Mafic has been relatively shallow, targeting surface moving loop EM ("MLEM") conductors that can only detect massive sulphide to 200m below surface.

Figure 4 above shows a scale comparison of Nova-Bollinger to Great Boulder's Cortina and Zermatt prospects at the Eastern Mafic. Nova-Bollinger had very little surface expression of the high-grade mineralisation at depth (+350m below surface).

The geometry of the Eastern Mafic complex is poorly defined due to a lack of drilling. The deeper drilling is designed to look for evidence of mafic intrusions within a chonolith or feeder structure where basal accumulations of high value nickel sulphide may be present.

Petrography

Initial petrography from the Eastern Mafic indicates the primary host rocks are metamorphosed mafic and ultramafic rocks (leucogabbro to pyroxenite).

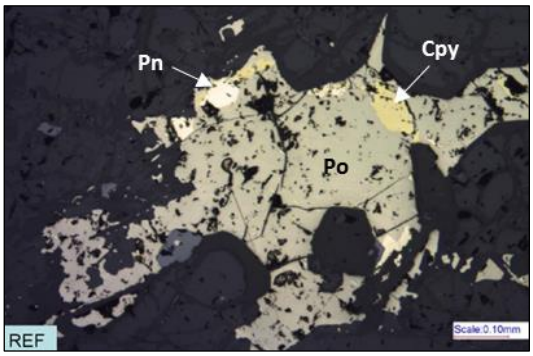
Sulphide mineralisation is pyrrhotite dominant with minor chalcopyrite and pentlandite of magmatic origin and subsequently remobilised during peak metamorphism.

Pentlandite is typically present as small flames and crystals developed along fractures or within pyrrhotite (see right image).

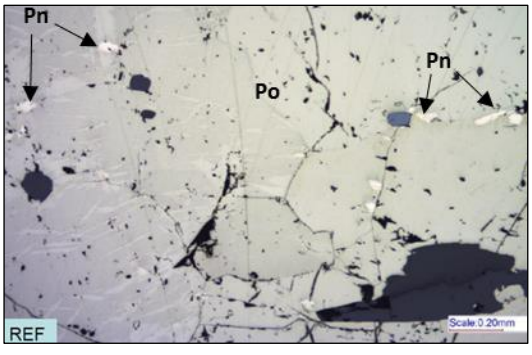
The generally low nickel tenor suggests that the sulphide probably formed from a nickel-depleted magma, however nickel tenor is materially higher than Mt Venn and improves further in the deeper drilling at Zermatt and ML13.

Nickel depletion may be due to an earlier stage of sulphur saturation that forms nickel rich sulphide (MSS phase), or earlier silicate crystallisation, or both.

The current drill program is targeting the nickel rich MSS phase at depth associated with the chonolith or feeder to the Eastern Mafic complex.



18EMRC003 185-186m: Pyrrhotite dominant sulphide with minor chalcopyrite and pentlandite



18BLRC002 164-165m: Massive pyrrhotite with small spots and flames of pentlandite

Competent Person's Statement

Exploration information in this Announcement is based upon work undertaken by Mr Stefan Murphy whom is a Member of the Australasian Institute of Geoscientists (AIG). Mr Stefan Murphy has sufficient experience that is 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 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' (JORC Code). Mr Stefan Murphy is an employee of Great Boulder and consents to the inclusion in the report of the matters based on their information in the form and context in which it appears.

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