



# *Western Australia's Next Big Nickel Sulphide Story*

**Precious & Battery Metals Summit,**  
*Zurich and London*  
*6 and 8 November 2018*



St George Mining Limited | ACN 139 308 973

**ASX: SGQ**

# St George – Growth Nickel Stock

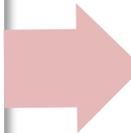
Nickel-copper  
sulphide discovery in  
WA



Drilling to expand  
resource potential



Upswing in nickel  
price



Major  
re-rating  
of  
St George



*On right: Diamond drilling at Mt Alexander*

# Breaking News

**Best intercepts of massive nickel-copper sulphides at the Investigators Prospect**

**Announced 25 October and 1 November 2018**

**MAD126:**  
14.37m of mineralisation from 177m incl.  
5.25m @ 8.8%Ni and 4.5%Cu

**MAD127:**  
12.02m of mineralisation from 180m incl.  
6.39m @ 8.08%Ni and 5.06%Cu

*(average XRF readings, assays pending)*

*Above right: drill core tray for MAD127*

*Right: MiningNews.net article, 1 November 2018*



## Investors attracted as St George's drilling lances more nickel-copper

GOOD news from the drill bit continues to surface at St George Mining's Investigators nickel prospect west of Leonora in Western Australia with another 6.4m of continuous massive nickel-copper sulphides intersected.

# Nickel Market Dynamics are Changing

# Upswing in Cycle

*Decreasing Stockpiles  
Support a Rising  
Nickel Price:*



SP Angel – Morning View – Thursday 01 11 18  
Glencore highlights major deficit in nickel

NICKEL LME WAREHOUSE LEVEL - NICKEL PRICE  
Jan 4, 2008 - Oct 26, 2018



Glencore note *“demand is much stronger than most market participants recognise, and the deficit is much higher than people think”*, noting a substantial fall in global inventory since 2015. *“There is very limited supply-side response excluding Indonesia. That will not change soon”*.

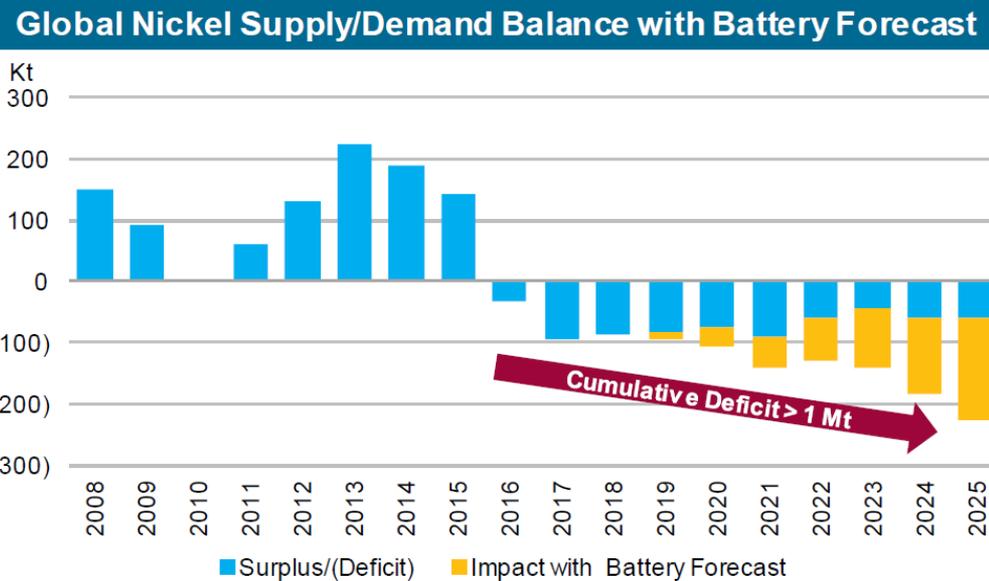
Holdings of nickel have been shrinking this year. Stockpiles tracked by the London Metal Exchange contracted for a 14th straight month in October, and are the lowest level since 2013. In China, the Shanghai Futures Exchange reports holdings of 14,385t, down from more than 100,000t in 2016

Glencore is not alone in its enthusiasm for the outlook for nickel. In a mid-October report, Goldman Sachs said that it expected the metal to average \$17,250/t next year, while only averaging about \$13,570/t in 2018.

# EV Demand

## Demand Rises on Electric Vehicle Revolution

- Nickel sulphide (Class 1 nickel) is required for EV batteries; nickel pig iron, etc (Class 2) is not suitable for batteries
- 1Mt deficit in 2025 = price pressure



Source: McKinsey Basic Materials Institute

# Nickel West charges on with battery plans

Australian Financial Review, 7 August 2018

Brad Thompson

BHP Billiton has approved new nickel mining developments in Western Australia as it pushes ahead with a move into manufacturing battery chemicals that could make its previously unloved Nickel West business more attractive to potential buyers.

Nickel West said it had received government approvals to build the first stage of the world's biggest nickel sulphate facility at its Kwinana refinery



why we are doing what we are doing."

## Market Alert:

BHP announces that 90% of nickel sulphide production will be sold for batteries from 2019 to meet increasing demand from EV's:

Diggers & Dealers Conference, 7 August 2018

# Nickel Price to Outperform

*LME Week, 8 October 2018 – 55% of metal traders vote nickel as the most exciting commodity for upcoming 12 months.*

*UBS, Miner's Price Review, June 2018:*

## **Best Commodities on Risk/Return ?**

***“Nickel is our preferred play on a >12 month view.”***

Commodity	Units	Current Price	LT Forecast	'Upside' LT v. Current
Cobalt	US\$/t	62,750	43,200	(32%)
Copper	US\$/t	5,972	7,280	22%
Nickel	US\$/t	12,673	22,000	<b>74%</b>
Zinc	US\$/t	2,503	2,830	13%
Lead	US\$/t	2,025	2,250	11%

***Nickel offers significant upside***

*Source: Current prices as at 14 September 2018 by Kitco; LT Forecasts by Wood Mackenzie (nickel forecast revised upwards in 2018 to US\$22,000/t)*

### **Nickel Price Targets:**

- Wood Mackenzie long-term forecast – **US\$22,000/t**
- High in previous cycle (March 2007) – **US\$54,000/t**

# Securing Nickel Supply

UBS, Miner's Price Review, June 2018:

*“EV battery demand is emerging faster than expected. Inventory is falling, premia are rising, indicating a scramble for nickel metal. Meanwhile little battery-ready mine supply investment is being made.”*

## Texan firm makes its move on Poseidon

■ Stuart McKinnon

Texas-based Black Mountain Metals has signalled a firm intention to move into the WA battery minerals space by taking a 7.6 per cent stake in Poseidon Nickel and lobbing a \$67 million cash bid for the Andrew Forrest-backed explorer.

Shares in Poseidon surged 174, or nearly 44 per cent to 564

stake in Poseidon from New York investment bank Jefferies and would assume its \$US17.5 million convertible note holding in the company.

Black Mountain's proposal includes an offer of a \$2 million loan to Poseidon while it conducts due diligence.

Poseidon emerged from a trading halt yesterday morning to announce the proposal by

*The West,  
18 August 2018*

## US player strikes Lanfranchi mine deal

■ Stuart McKinnon

US private equity player Black Mountain Metals has struck a deal to buy Panoramic Resources' shuttered Lanfranchi nickel mine near Kambalda for \$15 million.

The announcement comes just weeks after the acquisitive, Carlyle Group-backed company launched an unsuccessful \$67 million takeover bid for Poseidon Nickel.

The deal highlights renewed

*The West,  
14 Sept 2018*

# St George – Corporate Overview

# Market Profile and Capital Structure

**Listed shares (SGQ):** 298,116,211  
**Listed options (SGQOB):** 24,579,714  
 SGQOB - exercise price of 20c, expiring on 30 Sept 2020.

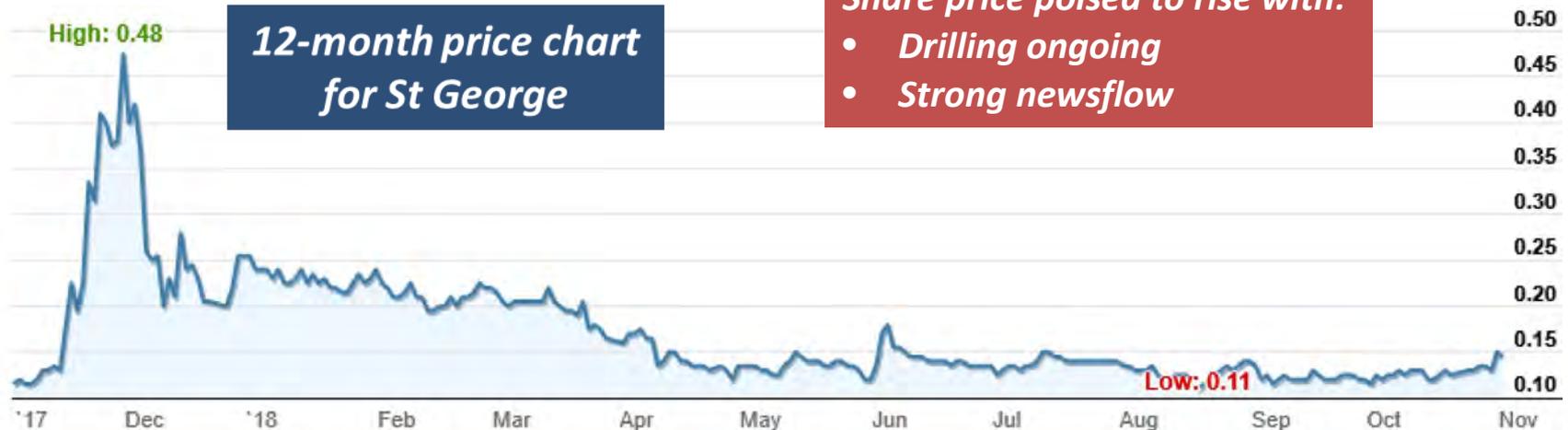
**Share Ownership**  
 Top 10: 19%      Top 20: 27%  
 Directors: 6%

**Market cap:** A\$42m (@14 per share)  
**Cash:** A\$3.8m (at 30 Sept 2018)

**Largest Shareholders**  
 Impulzive: 4.5%      City Natural Res's: 3%  
 John Prineas: 4.4%      Oceanic Capital: 3%

## Broad Shareholder Base

Over 3,500 shareholders including Australian and overseas institutions, high net worth and retail investors



# Highly Qualified Team

## Directors, Management and Consultants with a Track Record of Success

**John PRINEAS, Executive Chairman** – founding shareholder with over 25 years experience in mining, and the banking and legal sectors servicing the resources industry.

**Tim HRONSKY, Technical Director** – over 25 years as a geologist in the global exploration and mining industry, including 15 years with Placer Dome Inc.

**Sarah SHIPWAY, Non-executive Director/Company Secretary** – Chartered Accountant with extensive experience in advising listed exploration companies.

**Charles WILKINSON, Technical Consultant** – over 32 years' experience as a geologist in the mining industry. 16 years at WMC Resources including Exploration Manager - Nickel Exploration Australia. Joined Western Areas Limited in 2008 as General Manager Exploration. During his 9 years at WSA, the company developed the Spotted Quoll deposit, significantly grew its resource inventory and became Australia's No. 1 independent nickel sulphide producer.

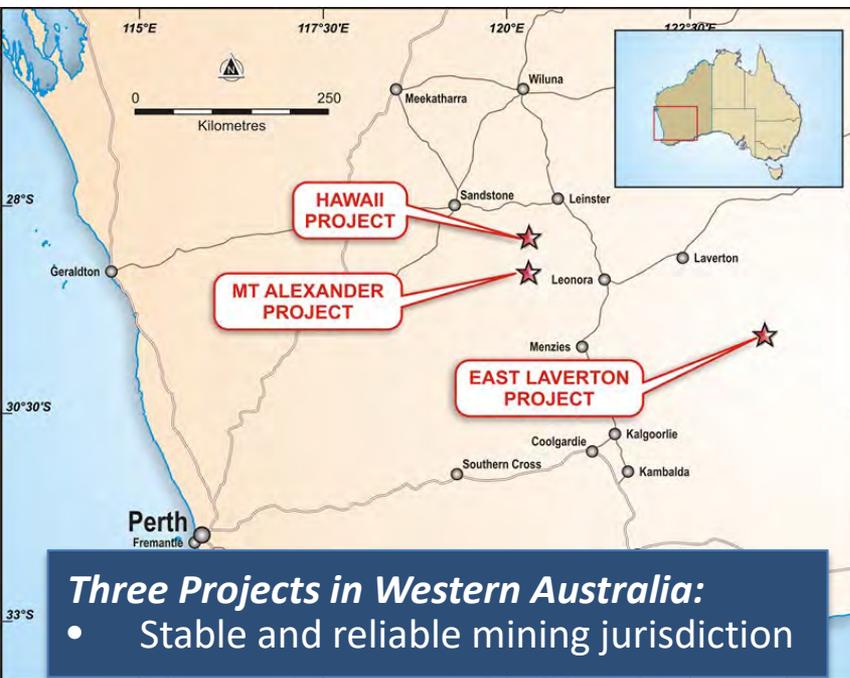
**Newexco** – Leading geophysical consultants in nickel sulphide exploration. Advisers on Nova-Bollinger deposit for Sirius Resources NL, and the Spotted Quoll and Flying Fox deposits for Western Areas Limited (ASX: WSA).

**Dr Jon HRONSKY, Consultant** – Chairman of the Centre for Exploration Targeting in WA, adviser on exploration targeting. Previously, Manager-Strategy & Generative Services for BHP Billiton Mineral Exploration.



*Massive nickel-copper sulphide intersection in MAD40 that graded 7.88%Ni and 3.11%Cu*

# The Discovery at Mt Alexander



**Three Projects in Western Australia:**

- Stable and reliable mining jurisdiction

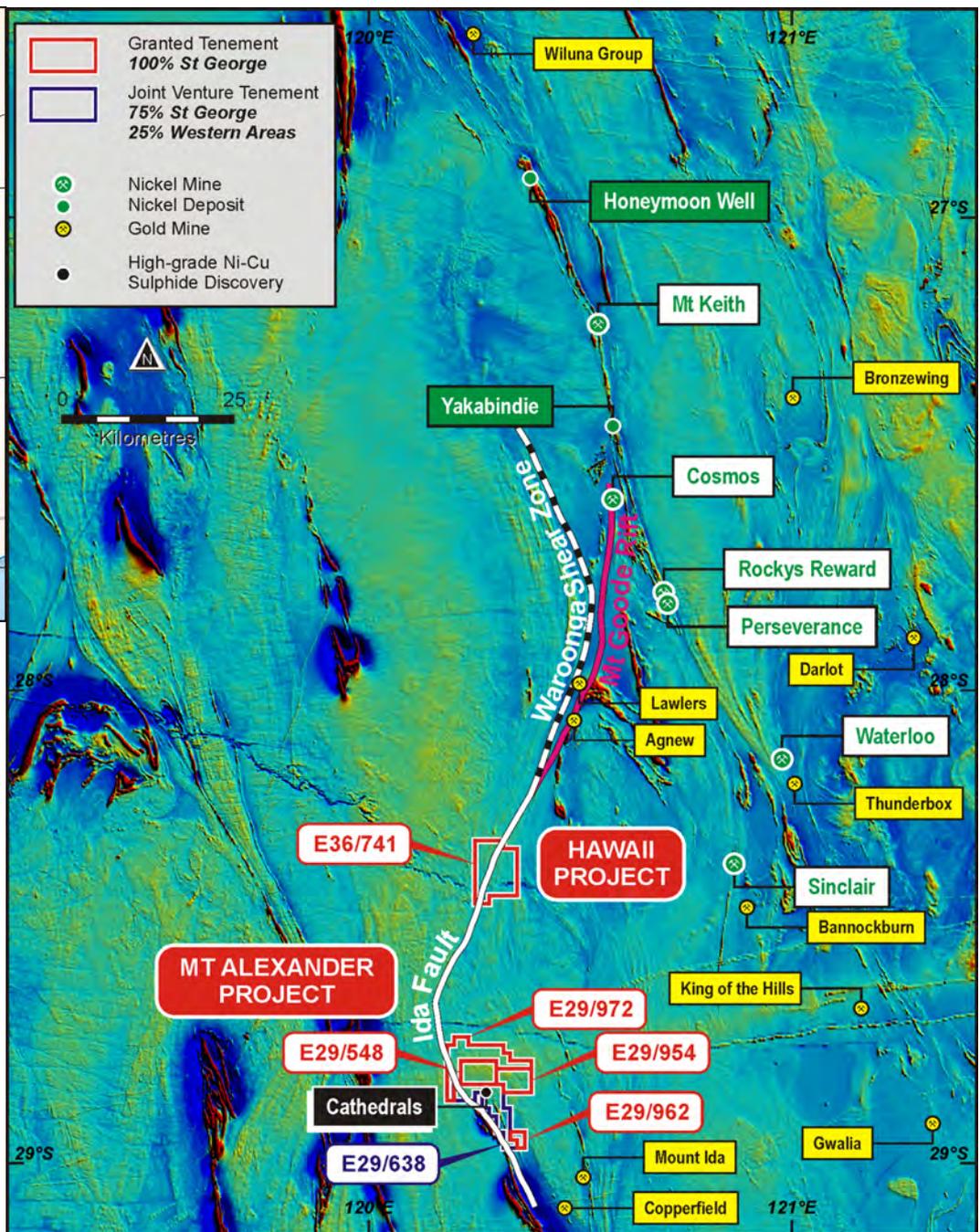
## MT ALEXANDER DISCOVERY

- Exceptional discovery in Western Australia
- High-grade nickel-copper sulphides

### Favourable Location:

- Located S-SW of world class nickel and gold mines of the Agnew-Wiluna Belt
- Close to infrastructure/processing plants

The Cathedrals, Stricklands and Investigators Prospects are located on E29/638, which is held in joint venture by Western Areas Limited (25%) and St George (75%). St George is the Manager of the Project with Western Areas retaining a 25% non-contributing interest in the Project (in regard to E29/638 only) until there is a decision to mine. St George has 100% of all other tenements at Mt Alexander.



# Exceptional Nickel-Copper Sulphide Discovery

## Cathedrals Belt Discovery at Shallow Depths:

- *Massive sulphide mineralisation 30m from surface*
- *Deeper drilling is underway to scope continuity at depth*

## High Grade and Polymetallic:

- *Nickel sulphide plus copper, cobalt and PGEs*
- *Key battery/EV metals*

## Extensive Strike of Mineralisation:

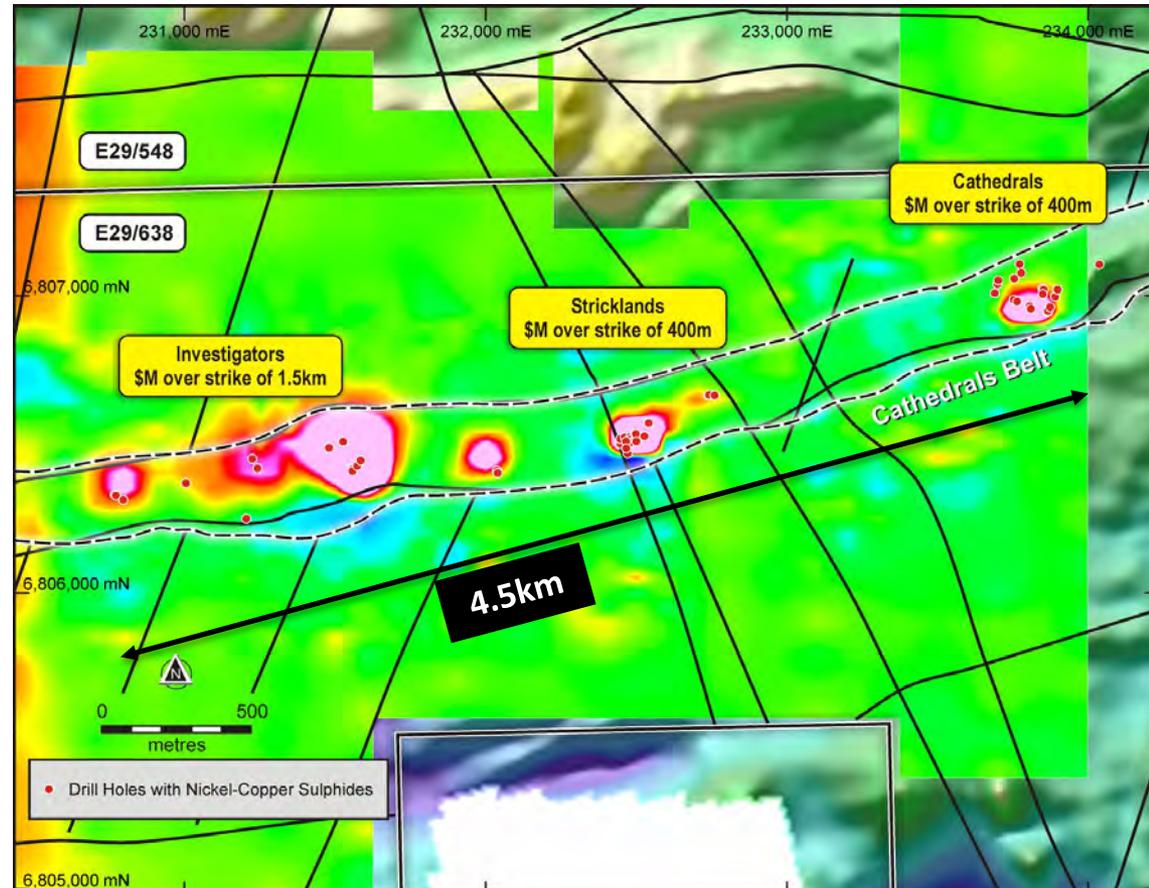
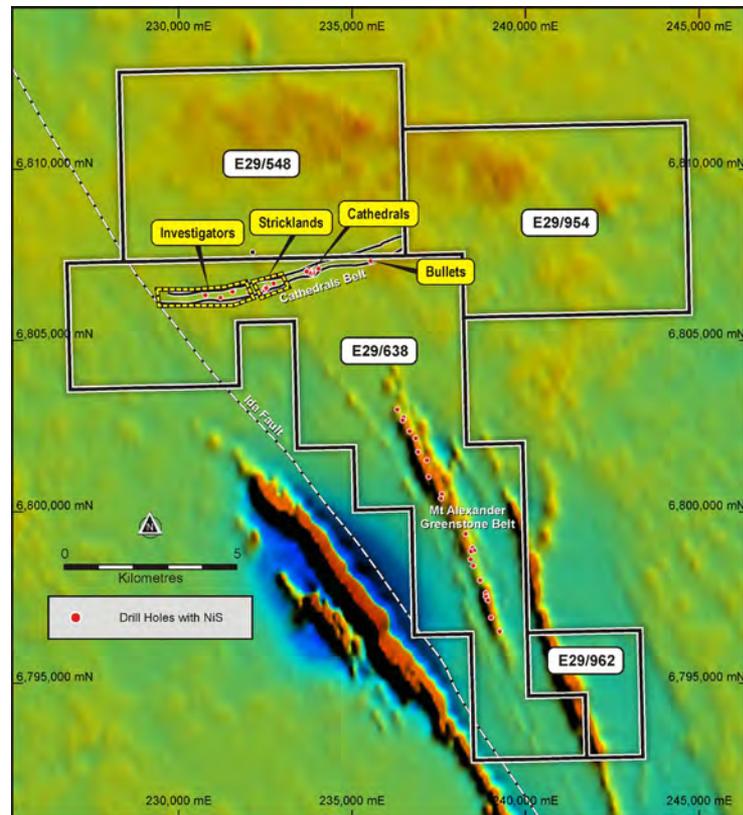
- *Nickel-copper sulphides occur over a 4.5km strike of the east-northeast Cathedrals Belt*
- *100% success rate in testing EM conductors in the Cathedrals Belt*

On right: Drill core from MAD56 that returned assays of **7.5m @ 3.90%Ni, 1.74%Cu, 0.12%Co and 3.32g/t total PGEs from 57.8m, including 3.15m @ 6.36%Ni, 2.92%Cu, 0.20%Co and 5.03g/t total PGEs from 61.81m**



# Large Mineral System

- *Investigators, Stricklands and Cathedrals Prospects are located within the 4.5km strike of the Cathedrals Belt – each with increasing resource potential*
- *Definition drilling underway to fully scope the scale of the discovery*



Above: Mt Alexander tenements against RTP magnetics.  
Right: Cathedrals Belt against SAMSON EM data.

# Drilling Success Continues

## *Wide intersections of high-grade Ni-Cu-Co-PGEs*

### *2017 – some of the best intersections (with assays):*

#### **MAD71 (Stricklands Prospect):**

17.45m @ 3.01%Ni, 1.31%Cu, 0.13%Co and 1.68g/t total PGEs from 37.45m, including  
5.3m @ 4.39%Ni, 1.45%Cu, 0.21%Co and 2.09g/t total PGEs from 39.3m; and  
2.02m @ 5.05%Ni, 2.01%Cu, 0.21%Co and 3.31g/t total PGEs from 50.6m.

#### **MAD56 (Cathedrals Prospect):**

7.5m @ 3.90%Ni, 1.74%Cu, 0.12%Co and 3.32g/t total PGEs from 57.8m, including  
3.15m @ 6.36%Ni, 2.92%Cu, 0.20%Co and 5.03g/t total PGEs from 61.81m

#### **MAD60 (Investigators Prospect):**

5.3m @ 4.95%Ni, 2.75%Cu, 0.16%Co and 4.55g/t total PGEs from 157.9m, including  
3m @ 6.40%Ni, 3.55%Cu, 0.21%Co and 5.25g/t total PGEs from 159.38m

### *2018 – some of the best intersections from current drilling (assays pending unless shown otherwise):*

#### **MAD126 (Investigators Prospect) – drill core on right:**

14.37m of mineralisation from 177m , including  
5.25m @ 8.8%Ni and 4.5%Cu from 185m

#### **MAD127 (Investigators Prospect):**

12.02m of mineralisation from 180m, including  
6.39m @ 8.08%Ni and 5.06%Cu from 184.42m

#### **MAD104 (Stricklands Prospect):**

6.25m @ 2.36%Ni, 1%Cu, 0.15%Co and 1.25g/t total PGEs from 67.2m, including  
3.34m @ 3.01%Ni, 1.12%Cu, 0.2%Co and 1.41g/t total PGEs from 70.11m.

#### **MAD108 (Investigators Prospect):**

8.4m @ 2%Ni, 0.96% Cu, 0.646% Co, 2.59g/t total PGEs from 199m, including  
1.37m @ 6.83% Ni, 2.88% Cu, 0.21% Co, 5.58g/t total PGEs from 206.03m

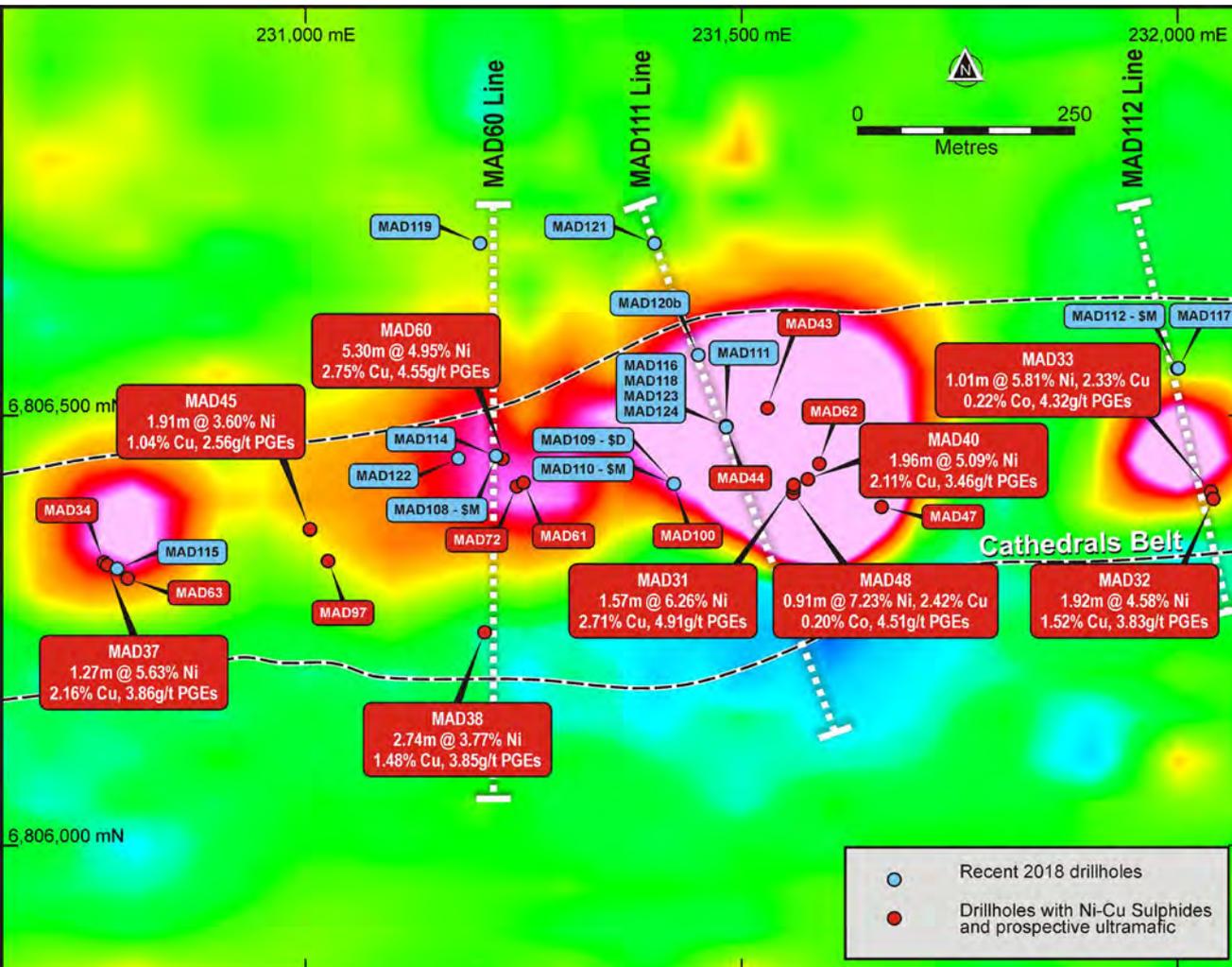


# Extensions of High-Grade Mineralisation

# Investigators Prospect

## Multiple high-grade hits over a 1,500m strike

- High powered SAMSON electromagnetic (EM) survey identifies large areas of EM conductivity indicating potential for extensive sulphide mineralisation



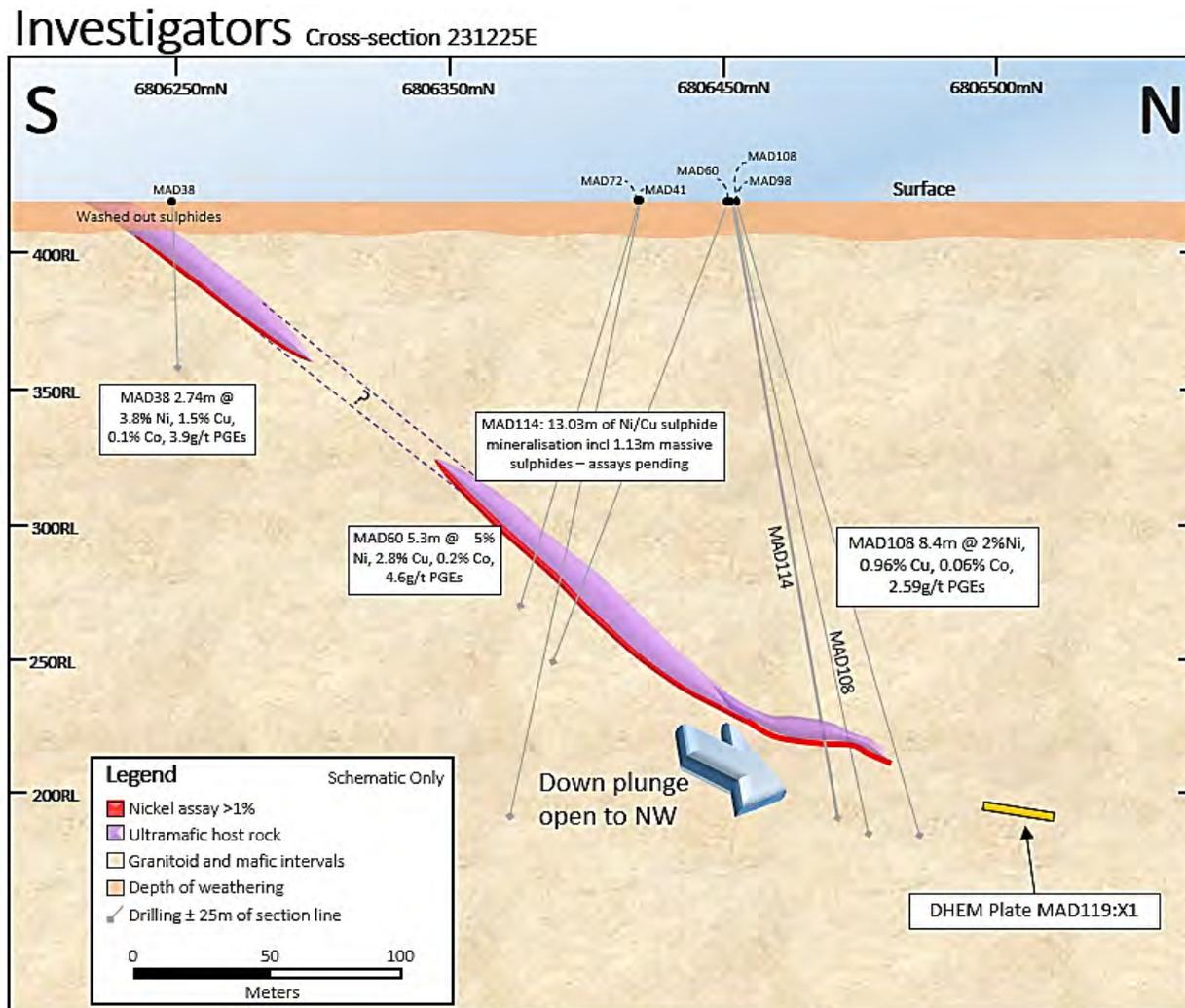
- Mineralised ultramafic unit dips 30 degrees to the north
- Drilling on three north-south lines – MAD60, MAD111 and MAD122 Lines – intersects additional massive Ni-Cu sulphides and new EM conductors in the northerly down dip direction
- Step-out drilling along these lines is continuing to extend mineralisation to the north and at depth

*Left: plan view of Investigators Prospect with drill hole collar locations (completed and planned) over the large SAMSON total field EM anomalies (red/pink colours). The three north-west lines which are the priority for current drilling are highlighted.*

# Plunge Increased by Latest Drilling

*Drilling and downhole EM surveys used concurrently to identify more high-grade mineralisation at depth*

- **MAD60 Line (approx. 231225E) has down plunge strike of high-grade mineralisation to 320m**
- **DHEM in MAD119, a 150m step-out to the north, has identified a strong EM conductor which could extend the plunge of mineralisation to 380m**



**MAD60 :**  
 5.3m @ 4.95%Ni, 2.75%Cu, 0.16%Co and 4.55g/t total PGEs from 157.9m, including 3m @ 6.40%Ni, 3.55%Cu, 0.21%Co and 5.25g/t total PGEs from 159.38m

**MAD108:**  
 8.4m @ 2%Ni, 0.96% Cu, 0.646% Co, 2.59g/t total PGEs from 199m, including 1.37m @ 6.83% Ni, 2.88% Cu, 0.21% Co, 5.58g/t total PGEs from 206.03m

*Left: Schematic cross section of the MAD60 line (facing west) with down plunge of mineralisation over 320m and open to the north-west.*

# MAD111 Line

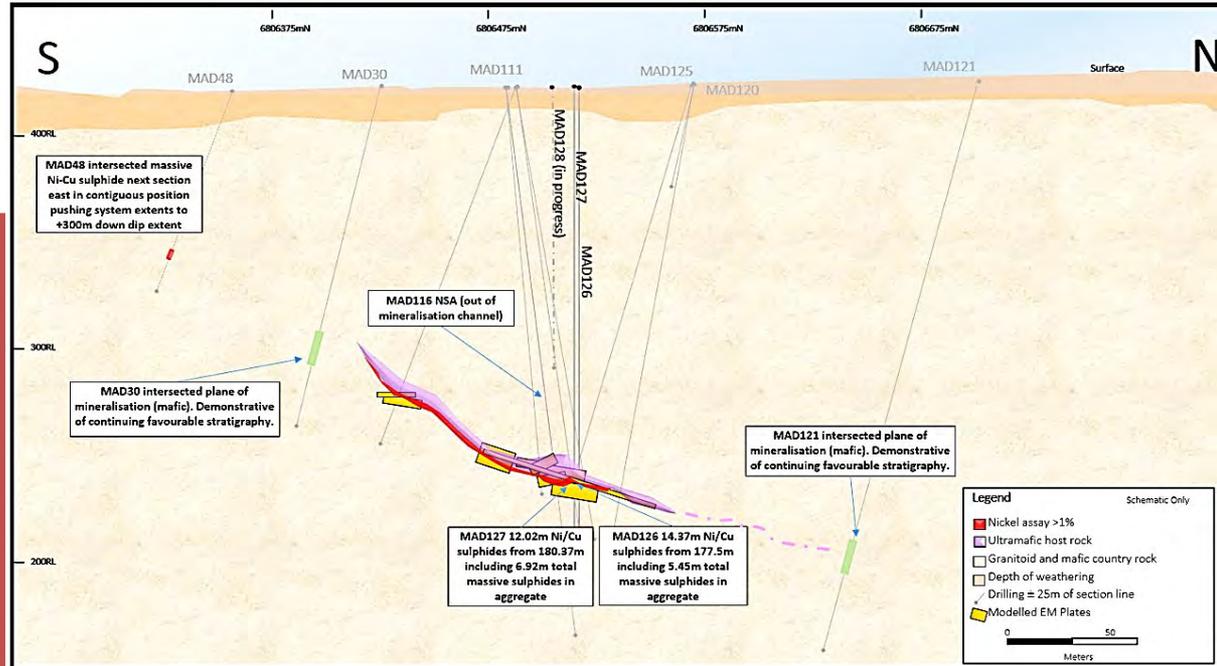
**Thickest Massive Sulphides  
at Investigators**

**MAD126 and MAD127 - thick massive  
sulphides with +8%Ni and +4%Cu**

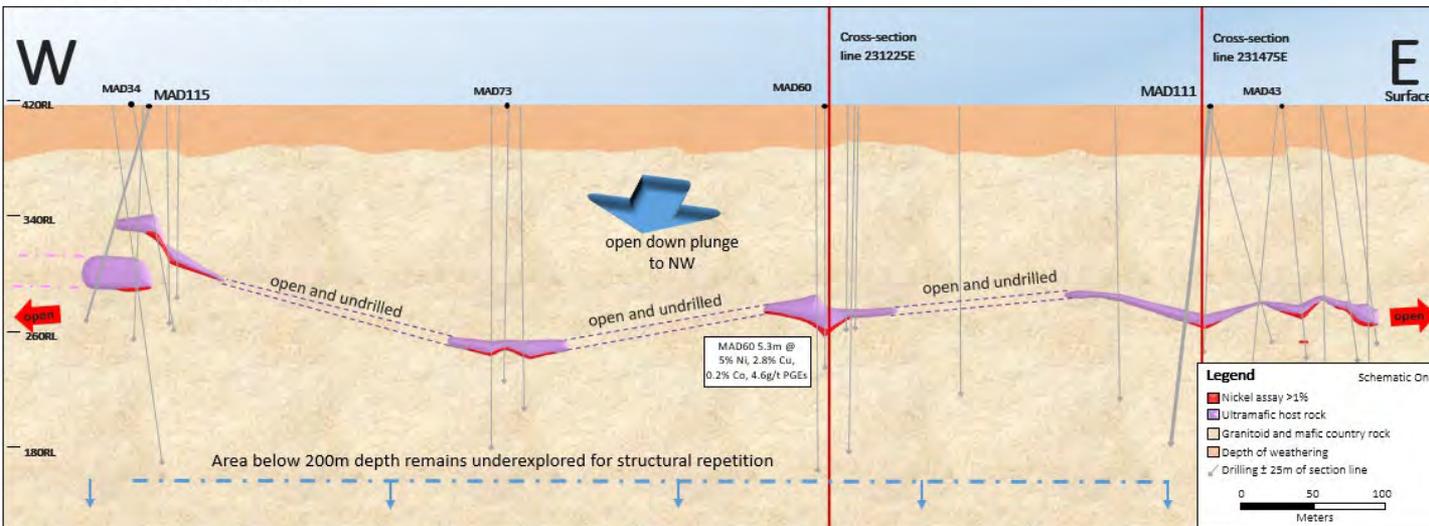
**Strong EM conductors up-dip and  
down plunge (e.g. circa 200,000  
Siemens)**

**Channelised lava flow with likely  
extensions of mineralisation**

Investigators – 231475E



Investigators Long-section



*Above: Schematic cross section of the MAD111 line (facing west) based on drill hole data. The mineralised ultramafic dips to the N-W with untested EM conductors down plunge.*

*Left: long section of Investigators highlights the multiple intersections of +1%Ni with mineralisation open to the N-W and at depth.*

# Stricklands Prospect

**+400m strike with wide intercepts**

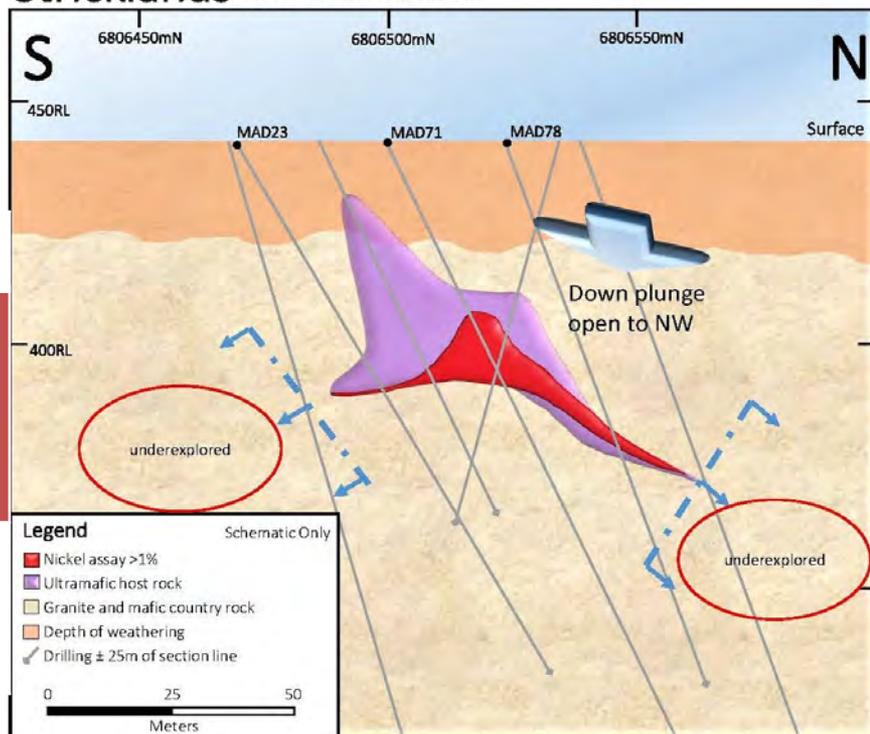
➤ **Multiple high-grade hits including drill hole MAD71:**

**17.45m @ 3.01%Ni, 1.31%Cu, 0.13%Co and 1.68g/t PGEs from 37.45m, including the massive sulphide zones of:  
5.3m @ 4.39%Ni, 1.45%Cu, 0.21%Co and 2.09g/t PGEs from 39.3m;  
and  
2.02m @ 5.05%Ni, 2.01%Cu, 0.21%Co and 3.31g/t PGEs from 50.6.**

➤ **Large areas undrilled and mineralisation is open**

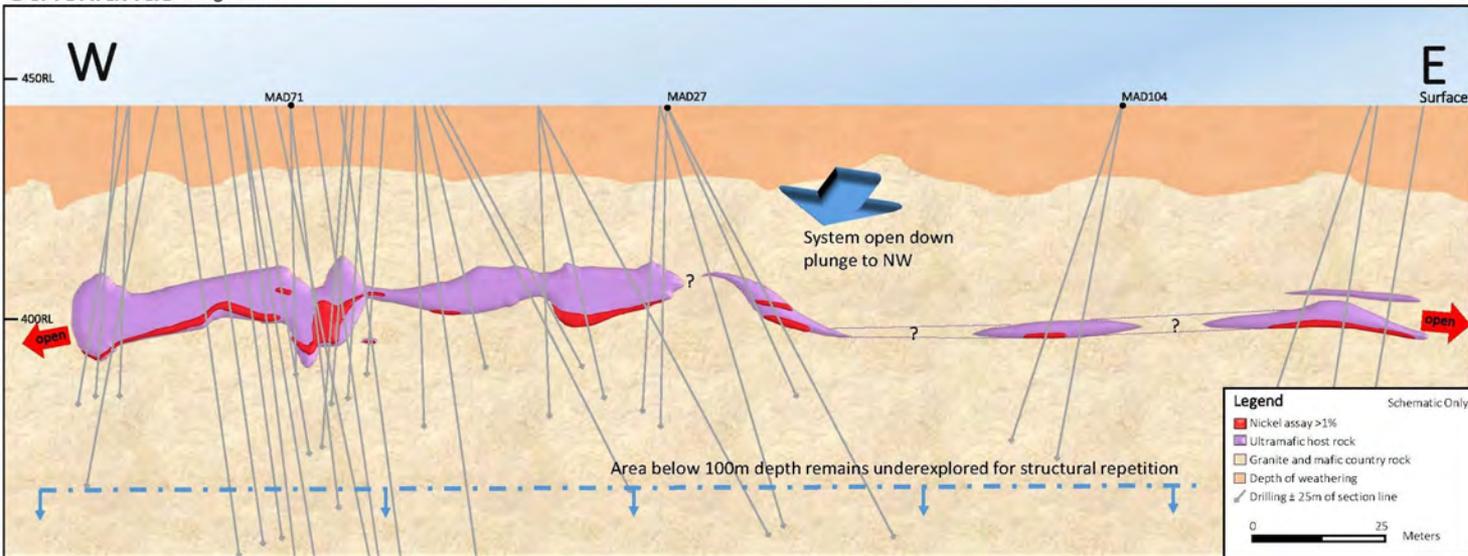
➤ **Step-out drilling to north to test for down plunge extensions**

Stricklands Cross-section 232470E



*Above: Schematic cross section of the MAD71 line (facing west) at Stricklands based on drill hole data. The mineralised ultramafic dips to the north-west with potential for a down plunge extension.*

Stricklands Long-section



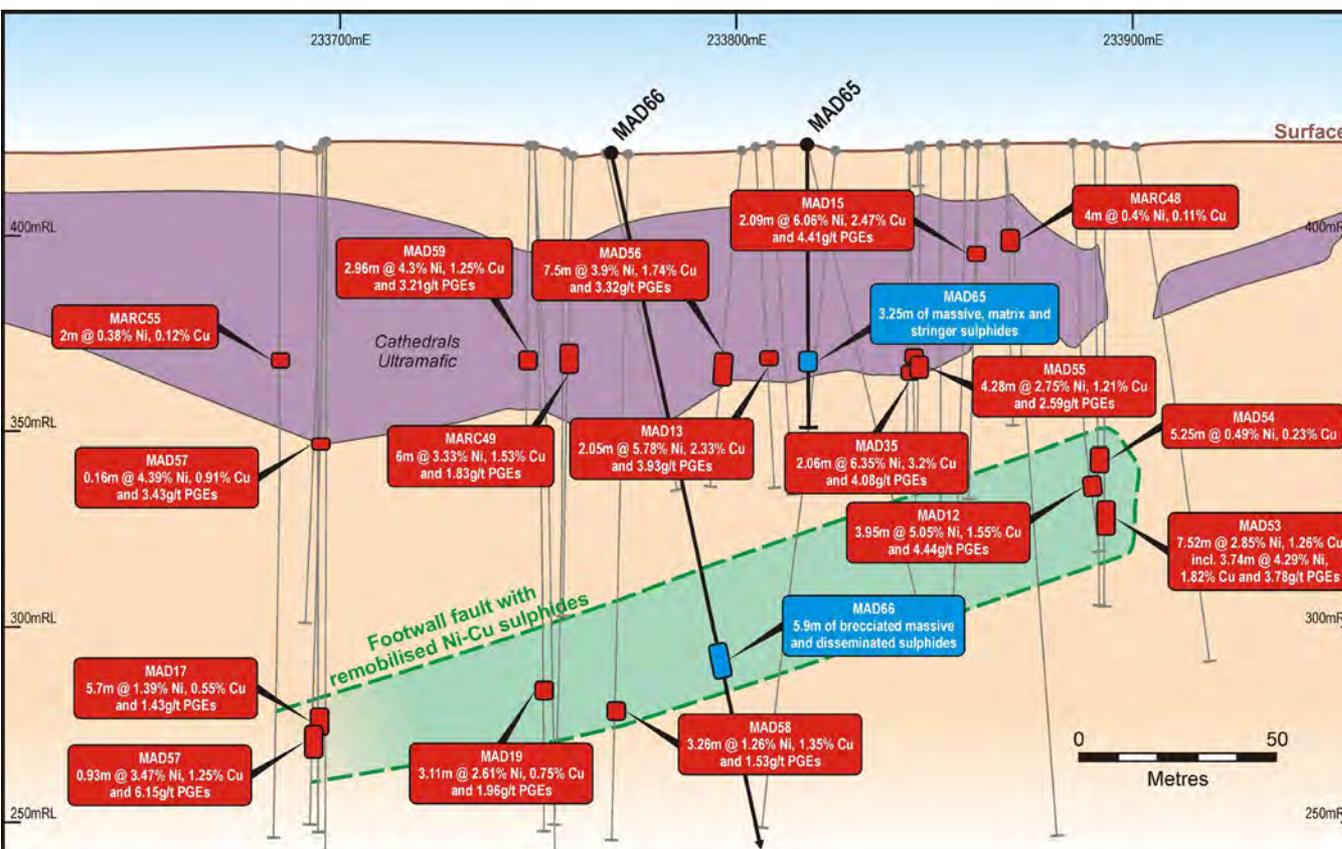
*Left: long section of Stricklands highlights the multiple intersections of +1%Ni mineralisation over a 400m strike.*

# Cathedrals Prospect

## High grade mineralisation on two surfaces

- Numerous intersections of nickel-copper sulphides on two surfaces – the Cathedrals ultramafic and the footwall fault below including MAD56:

7.5m @ 3.90%Ni, 1.74%Cu, 0.12%Co and 3.32g/t total PGEs from 57.8m, including 3.15m @ 6.36%Ni, 2.92%Cu, 0.20%Co and 5.03g/t total PGEs from 61.81m



- Cathedrals ultramafic extends for strike length of 400m with potential for extensions

- Infill and extensional drilling ongoing

*Left: a long section of the Cathedrals Prospect (looking north) showing significant intersections from both recent and historic drill holes. The Cathedrals ultramafic and footwall fault outlines are also shown.*

# Metallurgical Testwork

## High Recoveries from Ore:

- >99% recoveries of Ni and Cu to concentrates from preliminary testwork on massive sulphides

## Clean Concentrate:

- No deleterious elements like MgO, talc or arsenic

## Standard Flotation:

- Separate nickel and copper concentrates produced by standard flotation process (*on right: copper being floated in test completed by Strategic Metallurgy Pty Ltd*)

## High Value Concentrate:

- Nickel concentrate with **18%Ni** (*Nova is 13.5%Ni\**)
- Copper concentrate with **32%Cu** (*Nova is 29%Cu\**)
- Cobalt grade of **0.55%Co** in nickel concentrate
- **PGEs + Au of 13.5 g/t** in nickel concentrate
- **PGEs + Au of 3.2 g/t** in copper concentrate

*Clean and high grade concentrate will attract a premium price*



\* Nova Optimisation Study: IGO ASX Release dated 14 December 2015

# Opportunity for Low Cost/ High Margin Project

Shallow Mineralisation	Existing Infrastructure	Clean Concentrate
✓ Low cost drilling/ low cost potential mining	✓ Nearby processing plants	✓ High grade Ni and Cu plus cobalt and PGEs
✓ Well defined zones of mineralisation	✓ Close to existing roads, power	✓ Excellent metallurgy



***Strong indications for favourable project economics which will be assessed by scoping/feasibility studies***

***Left: Tim King Pit at Spotted Quoll mine at Forresteria (owned 100% by Western Areas Limited) where high grade nickel sulphides were mined from 60m below surface***

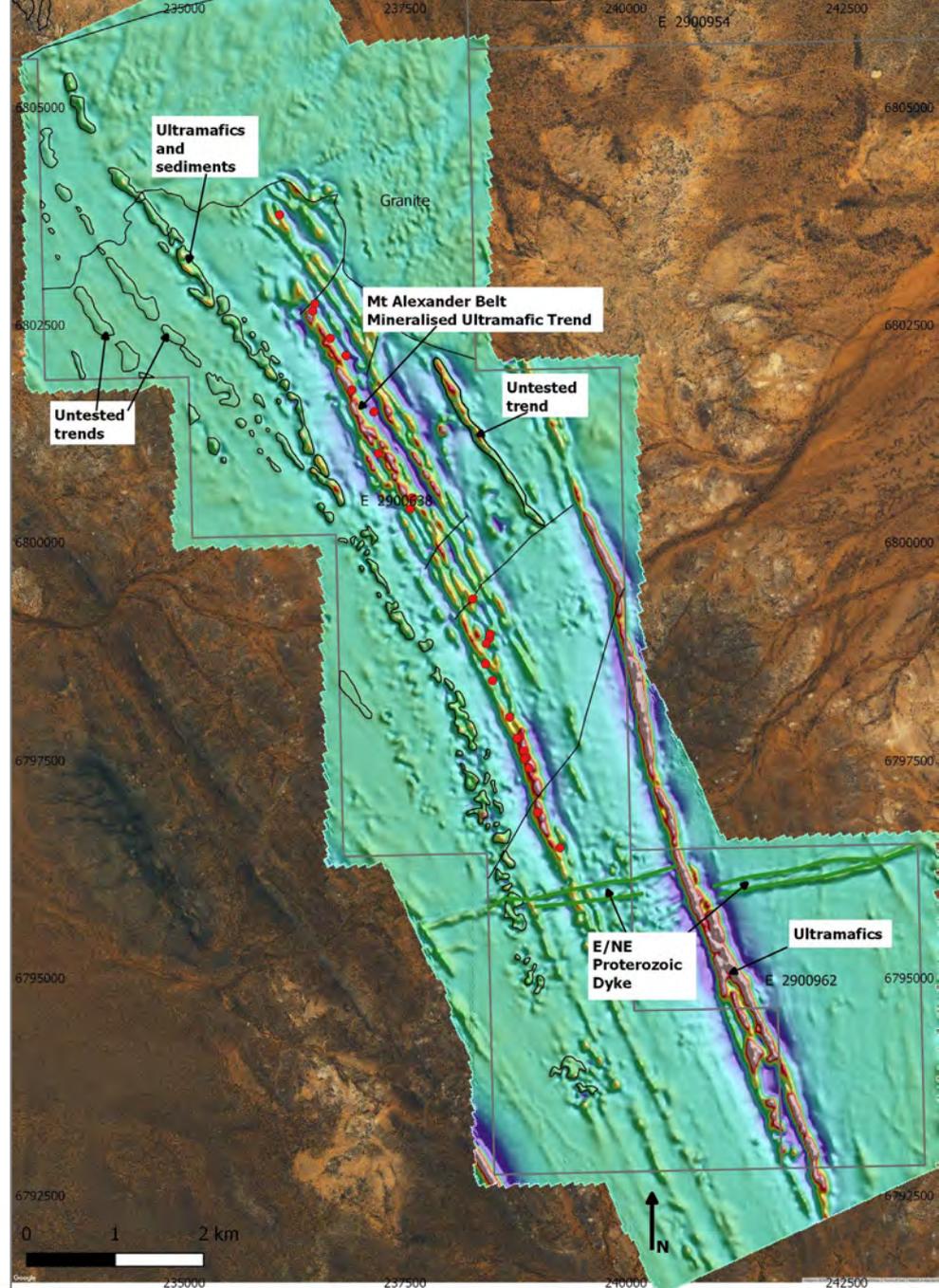
# Upside with Regional Exploration

# Mt Alexander Belt

*Underexplored belt with proven massive nickel sulphides*

- **Mt Alexander Belt is north-northwest trending with a strike of 7km**
- **Historical drilling has intersected widespread nickel sulphides including massive sulphides**
- **Prior drilling completed mostly as wide-spaced drill holes (upto 1km apart) or single drill holes**
- **New high resolution magnetic data has identified additional trends parallel to the Mt Alexander Belt that are untested and could represent mineralised ultramafic sequences**
- **Mt Alexander Belt and parallel trends remain prospective for nickel sulphide deposits**

*Right: new high resolution magnetic data (RTP 1VD) acquired by St George for the southern portion of E29/638 set against an airphoto of the surrounding ground. The new data clearly recognises the north-northwest Mt Alexander Belt and a series of weak-moderate magnetic sequences that are parallel to the west and east of the mineralised ultramafic trend (drill holes with NiS shown in red).*

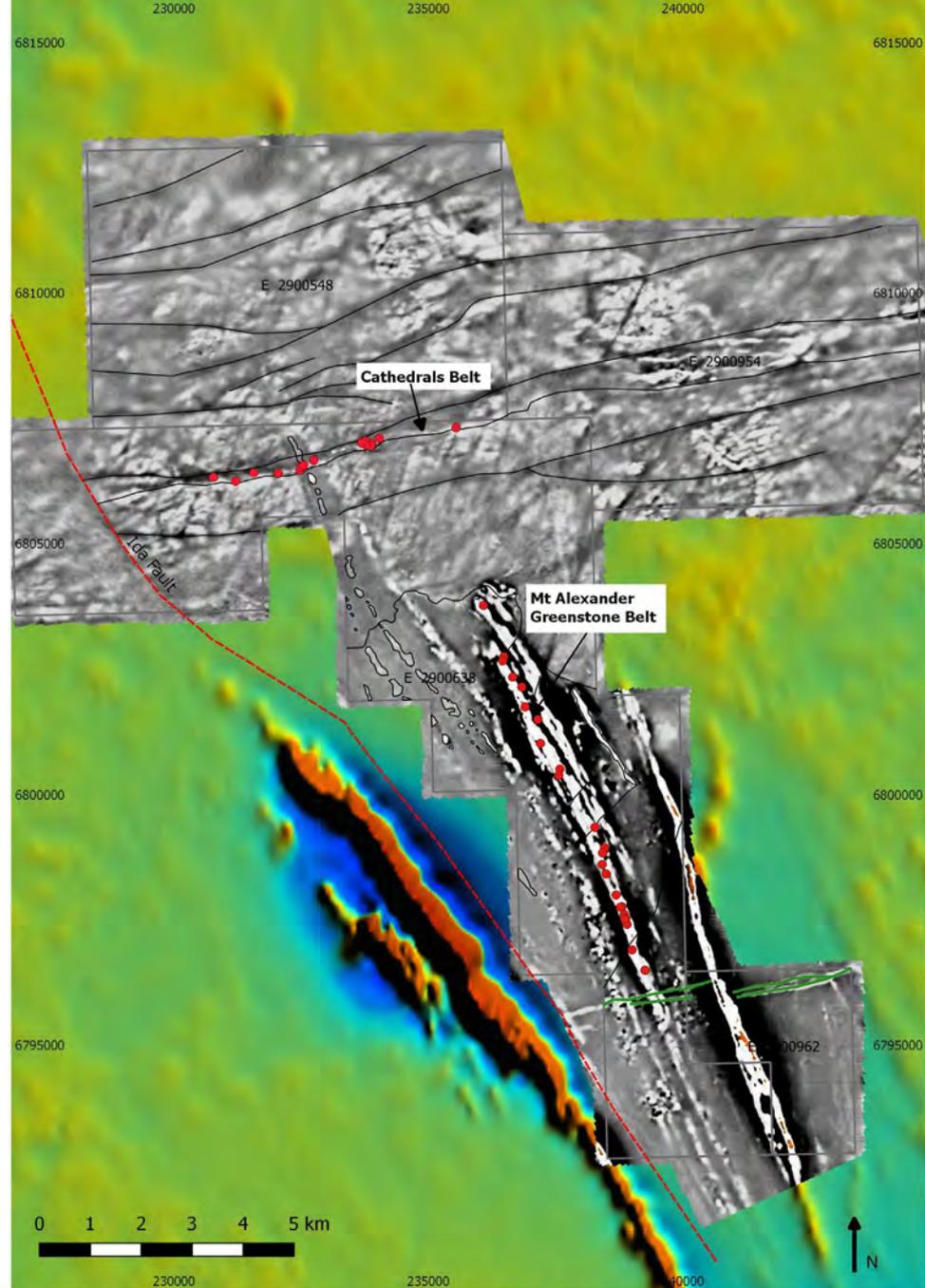


# Northern Areas

*Newly recognised magnetic trends, never explored*

- ***New high resolution magnetic data for the northern tenements – E29/548 and E29/954 – has recognised east-northeast structures parallel to the Cathedrals Belt***
- ***These structures may represent ultramafic sequences similar to the Cathedrals Belt that may also host nickel-copper sulphide mineralisation***
- ***These trends have either never been explored or not explored systematically for nickel sulphides***
- ***St George to complete a high-powered EM survey to identify any conductive material associated with these trends***

*Right: new high resolution magnetic data (RTP 1VD) for E29/638, E29/954 and E29/548. The new high resolution magnetic data is set against lower-resolution regional TMI RTP magnetics. Drill holes with nickel sulphides shown in red. The new magnetic data has recognized trends that are parallel to the Cathedrals Belt and may also represent mineralised ultramafics.*



# ***St George Mining: creating shareholder wealth through exploration success***



Above: diamond drill rig at Stricklands, Cathedrals Belt. Right: Drill core from MAD108.

## DISCLAIMER:

Certain statements contained in this presentation, including information as to the future financial or operating performance of St George Mining Limited (ASX:SGQ) and its projects, are forward looking statements:

- may include, among other things, statements regarding targets, estimates and assumptions in respect of mineral reserves and mineral resources and anticipated grades and recovery rates, production and prices, recovery costs and results, capital expenditures, and are or may be based on assumptions and estimates related to future technical, economic, market, political, social and other conditions;
- are necessarily based upon a number of estimates and assumptions that, while considered reasonable by St George Mining, are inherently subject to significant technical, business, economic, competitive, political and social uncertainties and contingencies; and
- involve known and unknown risks and uncertainties that could cause actual events or results to differ materially from estimated or anticipated events or results reflected in such forward looking statements.

St George Mining disclaims any intent or obligation to update publicly any forward looking statements, whether as a result of new information, future events or results or otherwise. The words “believe”, “expect”, “anticipate”, “indicate”, “contemplate”, “target”, “plan”, “intends”, “continue”, “budget”, “estimate”, “may”, “will”, “schedule” and similar expressions identify forward looking statements.

All forward looking statements made in this presentation are qualified by the foregoing cautionary statements. Investors are cautioned that forward looking statements are not guarantees of future performance and investors are cautioned not to put undue reliance on forward looking statements due to the inherent uncertainty therein.

## COMPETENT PERSON STATEMENT:

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Mr Ben Pollard, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Pollard is employed by Cadre Geology and Mining Pty td which has been retained by St George Mining Limited to provide technical advice on mineral projects.

This ASX announcement contains information extracted from the following reports which are available on the Company’s website at [www.stgm.com.au](http://www.stgm.com.au):

- 20 November 2017 *Outstanding Intersection of Nickel-Copper Sulphides*
- 30 November 2017 *Drilling at Mt Alexander – Update*
- 7 December 2017 *Further Nickel-Copper Sulphides Intersected at Mt Alexander*
- 15 December 2017 *Assays Confirm Best Ever Intersection at Mt Alexander*
- 19 March 2018 *Drilling of Nickel-Copper Sulphide Targets at Mt Alexander Resumes*
- 4 April 2018 *Nickel-Copper Sulphide Drilling at Mt Alexander – Update*
- 11 April 2018 *Further Nickel-Copper Sulphides Intersected at Mt Alexander*
- 19 May 2018 *Nickel-Copper Sulphide Drilling at Mt Alexander – Update*
- 4 June 2018 *Assays Confirm High Grades at Mt Alexander*
- 19 June 2018 *New EM Conductors Ready for Drilling at Mt Alexander*
- 21 June 2018 *Assays Confirm Further High Grades at Mt Alexander*
- 25 June 2018 *Drill Programme Expanded at Mt Alexander*
- 23 July 2018 *High-Grade Nickel-Copper Sulphides in First Drill Hole*
- 15 August 2018 *Further High-Grade Nickel-Copper Sulphides*
- 24 August 2018 *Mt Alexander Continues to Deliver Outstanding Results*
- 5 September 2018 *Mt Alexander – Drilling Update*
- 18 September 2018 *More Strong Results at Mt Alexander*
- 3 October 2018 *Downhole EM Surveys Light Up Strong Conductors*
- 19 October 2018 *Extension to High-Grade Mineralisation at Mt Alexander*
- 25 October 2018 *Best Ever Intercept At Investigators*
- 1 November 2018 *More Massive Nickel-Copper Sulphides at Investigators*

The Company confirms that it is not aware of any new information or data that materially affects the exploration results included in any original market announcements referred to in this report and that no material change in the results has occurred. The Company confirms that the form and context in which the Competent Person’s findings are presented have not been materially modified from the original market announcements.