RESOURCES ROADHOUSE™

The Inside Story
By Wally Graham

St George Mining (ASX: SGQ)

# Mt Alexander draws an interested crowd for St George Mining

St George Mining (ASX: SGQ) is gaining plenty of attention with results from its nickel sulphide and gold projects, located in the Yilgarn Craton of Western Australia.

ST GEORGE COMPLETED AN OVERSUBSCRIBED raising of $6.47 million in August, largely on the back of its high-grade shallow massive nickel-copper sulphide discoveries at the Mt Alexander project.

"The greatest way for a mining company to deliver shareholder growth is to make a greenfields discovery," St George Mining executive chairman John Prineas told *The Resources Roadhouse*.

"We've been very lucky this year to do exactly that at Mt Alexander."

St George is following in the footsteps of BHP Billiton, which first discovered massive nickel-copper sulphides at Mt Alexander in 2008.

Not much attention was paid to Mt Alexander after that initial breakthrough, until St George acquired the project in 2016 and set about consolidating its now dominant tenement package.

The Mt Alexander project is located 120 kilometres south-southwest of the Agnew-Wiluna belt, an area synonymous with nickel exploration that hosts numerous world-class nickel deposits.

The project comprises four granted exploration licences – E29/638, E29/548, E29/962 and E29/954.

St George's recent drilling focused on the Cathedrals, Stricklands and Investigators nickel-copper discoveries, which are located on E29/638.

This License is held in Joint Venture by Western Areas Limited (ASX: WSA) (25%) and St George (75%) as manager.

Recent work at Mt Alexander included a second drill program, which maintained the company's 100 per cent strike rate of encountering massive nickel-copper sulphide mineralisation when testing electromagnetic (EM) anomalies.

"One of the most consistent aspects has been our reliable EM testing with every conductor we have drilled intersecting nickel-copper sulphide mineralisation," Prineas said.

"There has been no false positive anomaly, no barren sulphides – every conductor we test is nickel-copper sulphide mineralisation and that's a huge bonus in exploration targeting.

"We started with 400 metres of mineralisation along the Cathedrals Belt and that has now been extended to over 3.5 kilometres of recurrent mineralisation."

A recent sixteen hole program included follow-up targets at the Cathedrals and Stricklands prospects, where St George intersected massive nickel-copper sulphides in its maiden drill program earlier this year.

The program also included first ever drilling at the Investigators prospect, kicking off a whole new adventure.

"The Investigators prospect was completely unexplored at the start of the year," Prineas said.

"In a short space of time, we generated priority targets and drilling has now confirmed the presence of an extensive shallow nickel-copper system with high grades that compare favourably with established WA nickel mines.

"The first holes drilled into Investigators tell us strong exploration upside exists to extend and discover further mineralisation."

The drilling discovered massive nickel-copper sulphides at Investigators returning multiple intersections of high-grade mineralisation over a strike length of 1.3km.

This was supplemented with the discovery of further high-grade nickel-copper sulphides at the Cathedrals and Stricklands prospects.

These prospects are within the Cathedrals Belt, which runs on an east-northeast orientation, which is relatively unique amongst WA nickel

sulphide deposits that generally occur in greenstone belts oriented northwest-southeast.

"We have established recurrent high grade mineralisation over a strike length of 3.5 kilometres of the Cathedrals Belt within the Joint Venture tenement E29/638," Prineas said.

"We believe this mineralised belt extends to the northeast into our newly granted tenement E29/954 with potential to double the strike length of mineralisation.

"We own the new tenement 100 per cent and it has never been explored.

"We are excited about the potential here and have commenced geophysical surveys to generate drill targets."

Meanwhile, laboratory assays just received for the most recent drilling at Investigators confirmed thick intervals of sulphide mineralisation with a number of high grade intersections.

These included:

- *MAD31*

Over 5m of nickel-copper sulphide mineralisation, including a high-grade interval of:

1.57 metres at 6.26 per cent nickel, 2.71 per cent copper, 0.18 per cent cobalt and 4.91 grams per tonne total PGEs from 111.67m, including 1.01m at 7.98 per cent nickel, 3.13 per cent copper, 0.22 per cent cobalt and 5.9g/t total PGEs from 112.08m.

- *MAD32*

Over 9m of mineralisation including a high-grade interval of:

1.92m at 4.58 per cent nickel, 1.52 per cent copper, 0.14 per cent cobalt and 3.83g/t total PGEs from 51.6m, including 0.77m at 7.82 per cent nickel, 2.5 per cent copper, 0.24 per cent cobalt and 6.31g/t total PGEs from 52.75m.

- *MAD33*

Over 10m of mineralisation including a high-grade interval of:

1.01m at 5.81 per cent nickel, 2.33 per cent copper, 0.22 per cent cobalt and 4.32g/t total PGEs from 96.48m.

- *MAD37*

Over 13.5m of mineralisation including a high-grade interval of:

1.27m at 5.63 per cent nickel, 2.16 per cent copper, 0.17 per cent cobalt and 3.86g/t total PGEs from 122m, including 0.72m at 7.93 per cent nickel, 2.75 per cent copper, 0.23 per cent cobalt and 4.81g/t total PGEs from 122.6m.

"Intersecting multiple intersections of massive sulphides in the maiden drilling at Investigators clearly demonstrated Mt Alexander is an under-explored nickel-copper system that is growing with every drill program we complete," Prineas said.

"The latest discoveries at Investigators reinforce the status of Mt Alexander as a significant nickel sulphide project in Western Australia."

The good news from the drilling results was boosted further with successful metallurgical flotation test work on a sample of massive nickel-copper sulphide mineralisation from the Cathedrals prospect.

This preliminary test work, carried out by Strategic Metallurgy, generated separate copper and nickel sulphide concentrates and assed any smelter credits from the PGEs and cobalt.

The results were very encouraging, achieving selective separate flotation of copper and nickel concentrates.

Of note was the recovery of nickel and copper to bulk concentrate, which exceeded 99 per cent, demonstrating the exceptional amenability of the Mt Alexander massive sulphide to a flotation process.

The test work also returned nickel recovery of 89.4 per cent, producing an 18 per cent nickel concentrate, which is impressive when production of anything greater than 13 per cent nickel is considered saleable concentrate.

Copper recovery of 85.8 per cent with a 32 per cent copper concentrate produced, well within saleable concentrate grades of above 24 per cent.

Copper not recovered into the copper concentrate is recovered into the nickel concentrate resulting in an overall copper recovery of 99.7 per cent.

Cobalt in the nickel concentrate grading 0.55 per cent cobalt would attract smelter credits, as would the recoveries of Platinum Group Elements (PGEs) at 3.2g/t PGEs plus gold in the copper concentrate and 13.5g/t PGEs plus gold in the nickel concentrate.

"The metallurgical testwork confirms the mineralisation is very amenable to commercial processing and is likely to produce a high value, smelter-friendly concentrate, supporting the favourable economics of a potential mining operation at Mt Alexander," Prineas said.

St George has just commenced a deep penetrating fixed loop electromagnetic (FLEM) survey across the defined Cathedrals Belt mineralised strike using the SAMSON system, penetrating to depths below 500m to identify mineralisation at depth and extensions of mineralisation identified to date.

"With every conductor drilled in this Belt so far confirmed as nickel-copper sulphides, we know it's a highly mineralised Belt where EM targeting works," Prineas said.

"The deep search survey is exploring areas of the Belt not yet tested and has the potential to deliver another important exploration breakthrough."

## The Short Story

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