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## EXCELLENT METALLURGICAL TEST WORK RESULTS FOR MT ALEXANDER

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- Preliminary test work completed in Perth confirms excellent metallurgical recoveries and concentrate grades for massive and disseminated nickel-copper sulphides from the Investigators Prospect
- Separate clean saleable nickel and copper concentrates were generated in a conventional flotation circuit test
- Very high recovery of Platinum Group Elements (PGEs) in both the nickel and copper concentrates including from disseminated sulphides
- Nickel concentrate produced at the following grades:
  - 16.2% Ni from massive sulphides at 90.6% recovery with 6.26 g/t total PGEs
  - 13.5% Ni from disseminated sulphides at 62% recovery with 8.10 g/t total PGEs
- Copper concentrate produced at the following grades:
  - 30.3% Cu from massive sulphides at 90.6% recovery with 7.39 g/t total PGEs
  - 25.1% Cu from disseminated sulphides with 59.8% recovery with 18.1 g/t total PGEs
- Strong payable cobalt recoveries in the nickel concentrates with 0.59% Co in concentrate from massive sulphides and 0.50% Co in concentrate from disseminated sulphides
- High silver values of 52 g/t Ag in copper concentrate produced from massive sulphides
- Ore samples are also amenable to bulk flotation with similar recoveries, providing optionality for processing and marketing strategies for potential project development
- Detailed metallurgical test work is also underway in Canada on ore samples from the Stricklands deposit for incorporation in the scoping study for a potential mining operation at Mt Alexander

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Growth-focused Western Australian nickel company St George Mining Limited (ASX: **SGQ**) (“**St George**” or “**the Company**”) is pleased to announce excellent results from metallurgical test work on nickel-copper sulphide mineralisation from its flagship Mt Alexander Project, located in the north-eastern Goldfields.

Preliminary metallurgical test work has been completed by Strategic Metallurgy Pty Ltd in Perth on samples of massive and disseminated mineralisation from drill hole MAD177 completed at the Investigators Prospect.

The objective of this test work was to assess if nickel and copper could be recovered into separate saleable concentrates by flotation process, and to determine the PGE department in the concentrates. The results are very favourable and are likely to have a positive impact on project economics for a potential mining operation at Mt Alexander.

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## Excellent Metallurgical Results

Two composites representing both massive and disseminated mineralisation from MAD177 were assessed as part of the test work programme. The head grades for these composites are presented below.

| Composite sample | Ni % | Cu % | Co % | Fe % | S %  | Mg % | Pt g/t | Pd g/t |
|------------------|------|------|------|------|------|------|--------|--------|
| Massive          | 5.89 | 2.58 | 0.19 | 53.5 | 33.6 | 0.04 | 0.60   | 2.45   |
| Disseminated     | 1.59 | 0.39 | 0.06 | 16.2 | 6.60 | 12.9 | 0.35   | 1.25   |

Separate nickel and copper concentrates were produced from each of the massive and disseminated sulphide samples with the following grades:

### Nickel Concentrate

| Metal Grades                | Ni % | Ni recovery % | Cu % | Co % | Total PGEs g/t |
|-----------------------------|------|---------------|------|------|----------------|
| Massive Ni Concentrate      | 16.2 | 90.6          | 0.66 | 0.59 | 6.26           |
| Disseminated Ni Concentrate | 13.6 | 62.0          | 0.37 | 0.50 | 8.10           |

### Copper Concentrate

| Metal Grades                | Cu % | Cu recovery % | Ni % | Co % | Total PGEs g/t | Ag g/t |
|-----------------------------|------|---------------|------|------|----------------|--------|
| Massive Cu Concentrate      | 30.3 | 90.6          | 1.07 | 0.03 | 7.39           | 52     |
| Disseminated Cu Concentrate | 25.1 | 59.8          | 0.36 | 0.02 | 18.1           | 0      |

An analysis of the PGE content confirms significant values for a number of highly sought after PGEs. In particular, Palladium and Rhodium – both of which are currently trading at historically elevated prices – occur at levels that are expected to attract very valuable smelter credits.

A summary of the PGEs in the nickel and copper concentrates is provided below.

| Detailed PGE analysis       | Au g/t | Ir g/t | Os g/t | Pd g/t | Pt g/t | Rh g/t | Ru g/t | Total PGEs g/t |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|----------------|
| Massive Cu Concentrate      | 0.14   | 0.02   | 0.00   | 5.26   | 1.82   | 0.14   | 0.02   | <b>7.39</b>    |
| Disseminated Cu Concentrate | 2.78   | 0.02   | 0.00   | 13.6   | 1.52   | 0.01   | 0.04   | <b>18.1</b>    |
| Massive Ni Concentrate      | 0.09   | 0.02   | 0.00   | 5.01   | 0.78   | 0.22   | 0.13   | <b>6.26</b>    |
| Disseminated Ni Concentrate | 0.58   | 0.03   | 0.01   | 6.16   | 0.88   | 0.23   | 0.21   | <b>8.10</b>    |

Separate clean concentrates were produced for nickel and copper from each of the massive and disseminated sulphide samples. The disseminated sulphides included elevated magnesium indicative of talc, which was successfully depressed in the flotation process resulting in a clean, saleable nickel concentrate being produced from the disseminated sulphides.

The important Fe:MgO ratio was more than 100 in the nickel concentrate from the massive sulphides – an excellent result. The Fe:MgO ratio for the nickel concentrate from the disseminated sulphides was 6.8 – lower but still acceptable for a saleable concentrate.

The potential blending of the two concentrates has not been assessed but is likely to provide an opportunity to optimise the overall nickel concentrate produced. This will be further investigated in more detailed metallurgical test work.

Although the test work programme targeted split flotation of nickel and copper, the ore samples are just as amenable to bulk flotation techniques with similar recoveries. The individual metal grades for any bulk flotation are yet to be assessed. The availability of bulk flotation is likely to provide alternative strategies for the processing and marketing of ore recovered from any potential mining operation.



*Figure 1 - drill core from MAD177 at approx. 185m downhole showing massive sulphides with coarse grained pentlandite and chalcopyrite.*

*Assays returned:*

**10.5m @ 4.82% Ni, 1.67% Cu, 0.15% Co and 2.87 g/t total PGEs from 182.5m,**

*including*

**4m @ 7.53% Ni, 2.47% Cu, 0.23% Co and 3.92 g/t total PGEs from 186m.**

*Platinum group metals include high levels of Palladium and Rhodium with assays indicating total PGEs of 10.5m @ 2.33g/t Pd and 0.08g/t Rh from 182.5m including 4m @ 3.23g/t Pd and 0.1g/t Rh from 186m.*

*Silver was also elevated in the massive sulphides with 10.5m @ 8 g/t Ag from 182.5m.*

*Both massive sulphides and disseminated sulphides from MAD177 were included in the latest metallurgical test work.*

**John Prineas, St George Mining's Executive Chairman,** said:

"We are delighted with the early results of this metallurgical test work programme. The high quality of our Mt Alexander mineralisation has been confirmed with separate clean nickel and copper concentrates produced from both the massive and disseminated sulphides.

"Importantly, we are seeing high values of PGEs, cobalt and silver – all of which could generate significant credits and have a positive impact on the economics for a potential mining operation at Mt Alexander which is currently being assessed by ongoing studies.

"We are confident that the metallurgical results can be further optimised as we undertake more detailed test work and progress marketing studies to maximise potential net smelter revenues."

## The Test Work for Investigators

The composite sample sizes comprised 34.8kg of massive sulphide ore and 16.2kg of disseminated sulphide mineralisation. Samples were prepared to a primary grind size of P<sub>80</sub> 75µm.

Standard reagents were applied to the samples and all sulphide minerals floated readily. Eleven flotation tests were completed – six on the massive sulphides and five on the disseminated sulphides. Rougher concentrates were processed through a cleaner and scavenger process to produce a final concentrate.

The test work demonstrated the ability to produce separate clean nickel and copper concentrates at saleable grades from both the massive and disseminated sulphide mineralisation. The results of this work provide an initial indication as to the metal recoveries and concentrate grades.

Detailed work will be completed in due course and include further optimisation work. A broader selection of drill holes at the Investigators Prospect will be used to provide a more definitive metallurgical assessment for use in a scoping study for the potential mining of ore at the Investigators Prospect.



Figure 2 – photos of flotation tests for massive sulphides: on left – copper flotation; on right – nickel flotation.

## Advancing to a Mine – Stricklands Prospect

Metallurgical test work is also underway with XPS in Canada on the mineralisation from the shallow, high-grade Stricklands deposit.

XPS has been engaged by St George to assess the metallurgical performance of the Stricklands mineralisation and to develop a flowsheet for the potential mining and processing of the Stricklands ore.

Eight PQ-size diamond core drill holes were completed during June 2020 at Stricklands with approximately 300kg of samples from these holes delivered to XPS for detailed test work. These are considered representative samples across the orebody at Stricklands which will enable a robust metallurgical assessment that can be incorporated directly into the scoping study for a potential mine at Stricklands.

Of the shallow high-grade discoveries along the Cathedrals Belt, Stricklands is considered the most amenable to a potential low-cost, high-margin open-pit mining operation and is the first of the deposits to be assessed under a formal scoping study.

We expect to provide results from the scoping study in Q4 2020.

## **COVID-19:**

St George is managing its operations in compliance with COVID-19 regulations issued by State and Commonwealth authorities. We will continue to proactively manage drilling and other field programmes to protect the health and safety of our team and service providers.

## **About the Mt Alexander Project:**

The Mt Alexander Project is located 120km south-southwest of the Agnew-Wiluna Belt, which hosts numerous world-class nickel deposits. The Project comprises six granted exploration licences – E29/638, E29/548, E29/962, E29/954, E29/972 and E29/1041.

The Cathedrals, Stricklands, Investigators and Radar nickel-copper-cobalt-PGE discoveries are located on E29/638, which is held in joint venture by St George Mining Limited (75%) and Western Areas Limited (25%). 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.

Authorised for release by the Board of St George Mining Limited.

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## **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 Dave O'Neill, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr O'Neill is employed by St George Mining Limited to provide technical advice on mineral projects, and he holds performance rights issued by the Company.

Mr O'Neill has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken 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'. Mr O'Neill consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.