



# High-Grade Nickel-Copper Sulphide Discovery:

*Commodities for our Future*



ST GEORGE MINING LIMITED  
ACN 139 308 973 ASX: SGQ

Investor Presentation – 31 January 2020

# St George Mining Limited

## *Growth Nickel Company*

- Our Vision:** *To create long term shareholder value*
- Our Strategy:** *To deliver a high-margin nickel mine in Western Australia*
- Our Success:** *Standout discovery of nickel-copper-cobalt-PGEs at shallow depth in WA's Goldfields*
- Our Timing:** *Transformative impact on nickel demand from electric vehicle and energy storage markets creates excellent timing for project development*



*Above: Drill core from MAD177 at Mt Alexander which intersected 6.15m of massive nickel-copper sulphides with average XRF values 8.1%Ni and 2.69%Cu. Cover photo: The camp at the Mt Alexander Project.*

# Primed to Deliver Value

*High-grade discoveries in a great location*



## *Mt Alexander – St George’s Flagship Nickel-Copper Sulphide Project*

Massive sulphide mineralisation discovered 30m from surface and open at depth

Growing nickel inventory - four high-grade discoveries with new targets for drilling in 2020

Potential rapid development pathway with high grades and existing infrastructure

Scoping study initiated with potential to deliver into global nickel deficit

***Grade is king***  
***Wide intercepts of nickel-copper-cobalt-PGEs***

Prospect	Hole	From m	Width m	Ni %	Cu %	Co %	PGE g/t
<i>Stricklands</i>	<i>MAD71 including and</i>	37.5	17.45	3.0	1.3	0.13	1.68
		39.3	5.30	4.4	1.5	0.21	2.09
		50.6	2.02	5.1	2.0	0.21	3.31
<i>Cathedrals</i>	<i>MAD56 including</i>		7.50	3.9	1.7	0.12	3.32
			3.15	6.4	2.9	0.20	5.03
<i>Investigators</i>	<i>MAD126 including</i>	184.0	7.86	5.7	2.1	0.18	2.65
		185.0	5.25	7.0	2.7	0.23	3.10
<i>Investigators</i>	<i>MAD127 including</i>	183.9	8.49	5.8	2.6	0.18	3.61
		184.4	6.39	6.5	2.8	0.21	3.68
<i>Investigators</i>	<i>MAD108 including</i>	199.0	8.40	2.0	1.0	0.06	2.59
		206.0	1.37	6.8	2.9	0.21	5.58

# Corporate Overview

*Listed on the ASX – code SGQ*



**Market Capitalisation  
(30 Jan 2020)**

**A\$50m**

**Listed Shares**

**412,611,265**

**Top 20 Shareholders**

**27%**

**Listed Options - 20¢ strike,  
30 Sep 2020**

**24,576,114**

**Directors &  
Management**

**9.2%**

**Share Price (30 Jan 2020)**

**A\$0.12**

**Cash (31 Dec 2019)**

**A\$4.2m**

**Debt**

**Nil**

**Directors and Management –  
Vision and Experience for Success**

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

**John DAWSON, Non-Executive Director** – over 30 years in the finance and mining sectors where he occupied very senior roles with global investment banks Goldman Sachs and Dresdner Kleinwort Wasserstein.

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

**Dave O'NEILL, Exploration Manager** – over 20 years experience as a geologist with expertise in nickel exploration gained in senior roles with WMC Resources, BHP, Western Areas; managed exploration programmes at Mt Alexander for BHP and Western Areas.

**Charles WILKINSON, Technical Consultant** – over 32 years' as a geologist with 16 years at WMC including as Exploration Manager - Nickel. Joined Western Areas in 2008 as General Manager Exploration. During his 9 years at WSA, it grew its resource inventory to become Australia's No. 1 independent nickel sulphide producer.

*Broad Shareholder Base with over 3,500 shareholders including Australian and overseas institutions, high net worth and retail investors*

# Share Price Performance



**ST GEORGE**  
MINING LIMITED

*Highly leveraged to nickel price and newsflow*

**SGQ 52-week price**  
H: A\$0.245 L: A\$0.105

**Nickel 52-week price**  
H: US\$18,475/t L: US\$11,630/t



***SGQ share price poised for potential increase with exploration news and rising nickel price in 2020***

***Drilling and exploration programmes for 2020 are now underway***

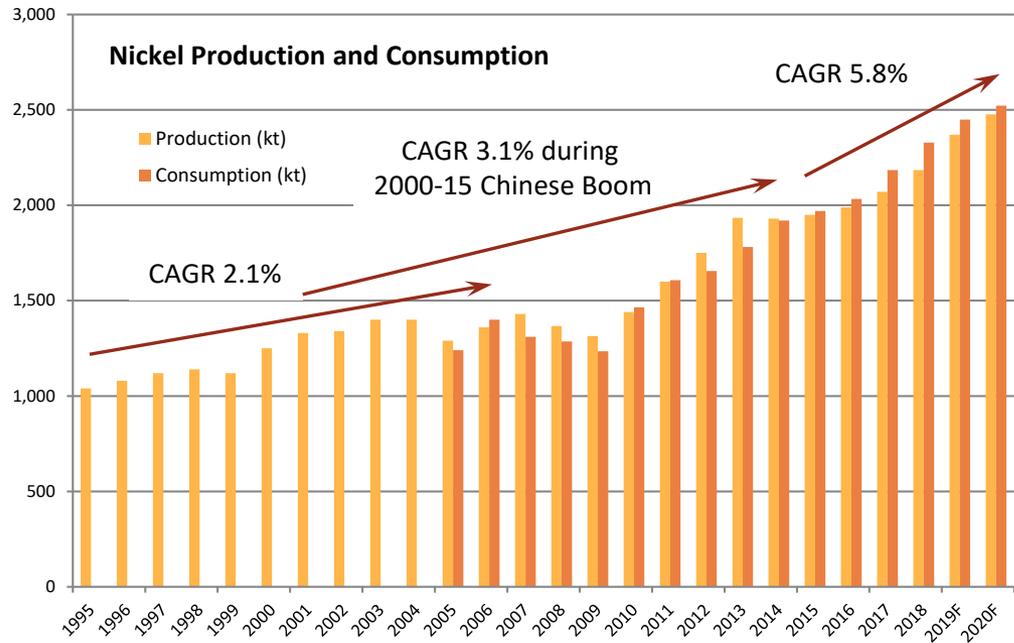
Source: S&P Global, Terra Studio

# Nickel Market Dynamics

# Nickel Outlook



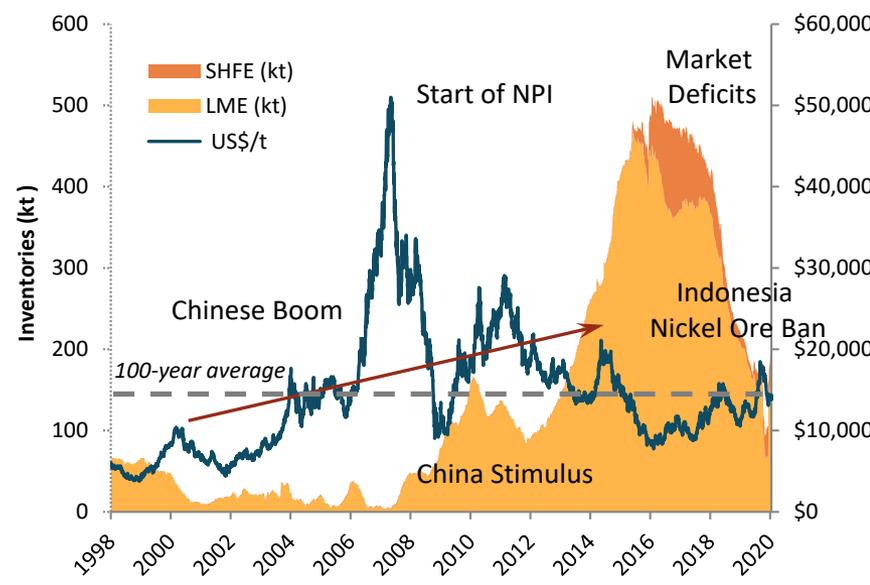
## Acceleration of Market Growth



Source: INSG, USGS, Terra Studio

- Market size doubled from 1995 to 2016 – over 1 million tonnes added – with rising demand from Chinese economic boom
- Production and consumption is accelerating *even faster* over the past 5 years – adding 500,000 tonnes
- Battery demand is contributing to growth but not significant yet

- Boom in 2006 resulted from sharp fall in inventories - a mere two days supply
- In 2019 inventories fell rapidly, at a pace not seen since 1998, creating a short-term spike
- Inventories likely to fall further as EV demand grows creating a more sustainable price increase



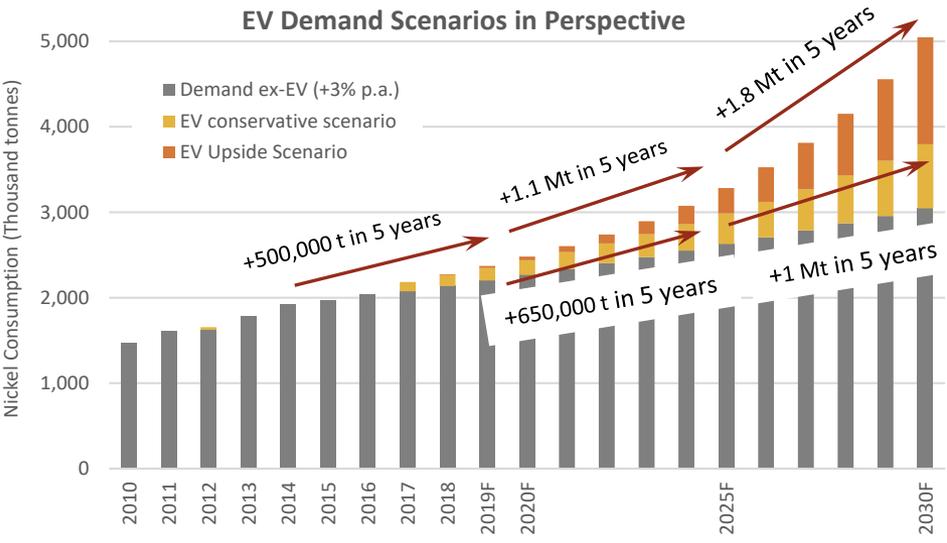
Source: LME, SHFE, Terra Studio

# Electric Vehicle Demand

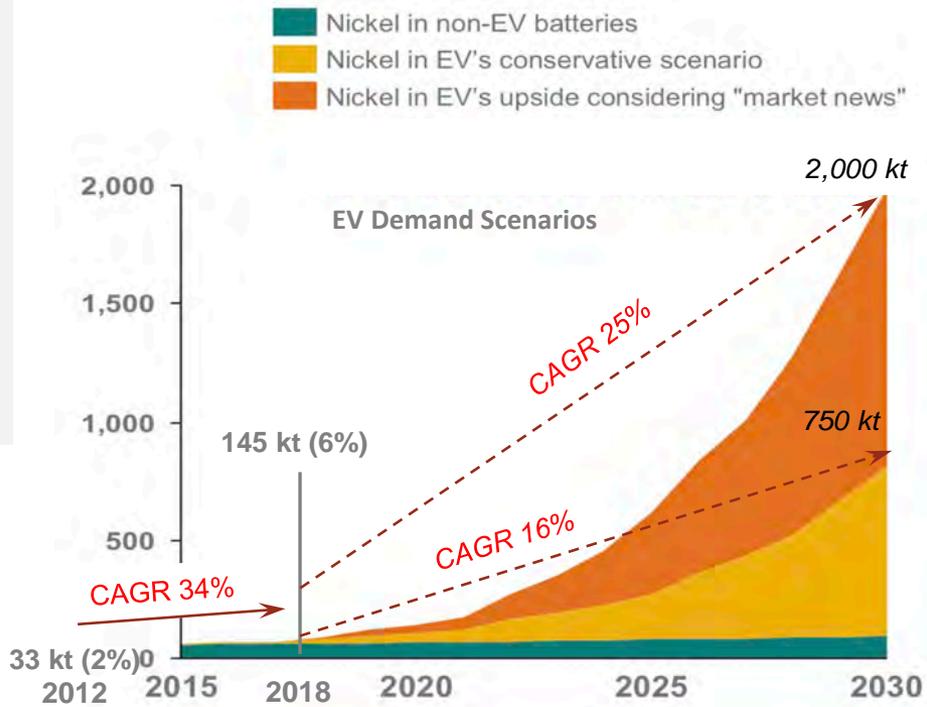


## Reshaping the nickel market

- Traditional demand from stainless steel continues to grow at circa. 4-5% p.a.
- Megatrend in EV and energy storage will see unprecedented demand for Class 1 nickel - i.e. from sulphide and high quality HPAL plants
- Forecast nickel demand will far exceed nickel production from existing operations



Source: INSG, Terra Studio

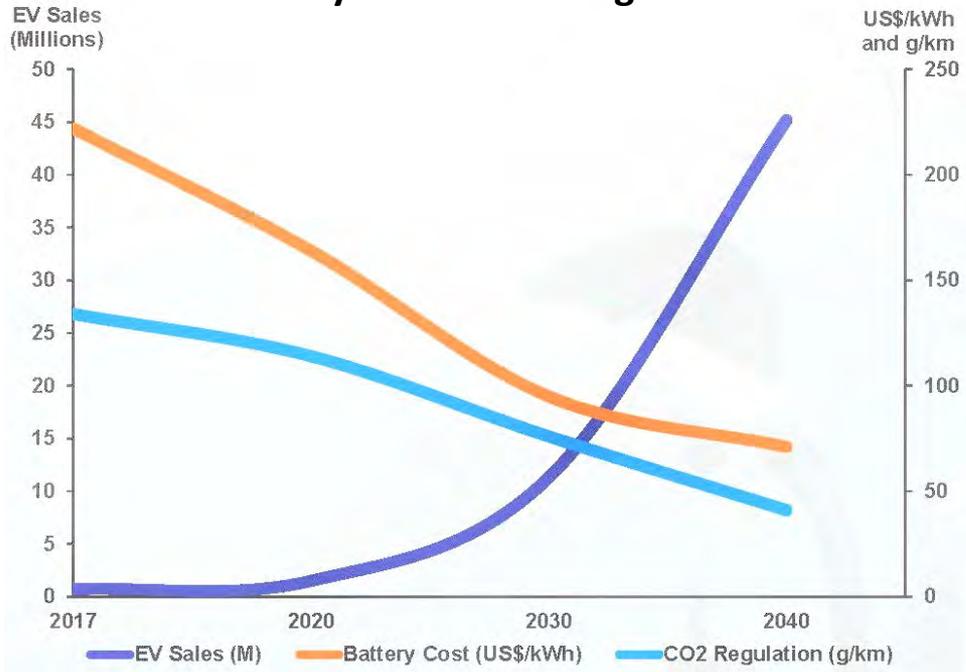


Source: Vale, Terra Studio

# EV Demand Growth

*Tipping point for mass adoption is approaching*

- Carbon regulations are increasing
- Battery costs are falling



Source: Goldman Sachs, 2019

Tesla shares surge in Jan 2020 giving it a market cap over US\$100b, more than Ford and General Motors combined.  
 "It speaks to the inflection in electric vehicle demand globally." *Wedbush Securities, 23 Jan 2020.*

**In 2015** BHP – Australia’s largest nickel producer – sold no product to the battery sector.  
**Today** BHP sells 75% of production to battery manufacturers.  
*Source: BHP Nickel West Presentation, 8 Aug 2019.*

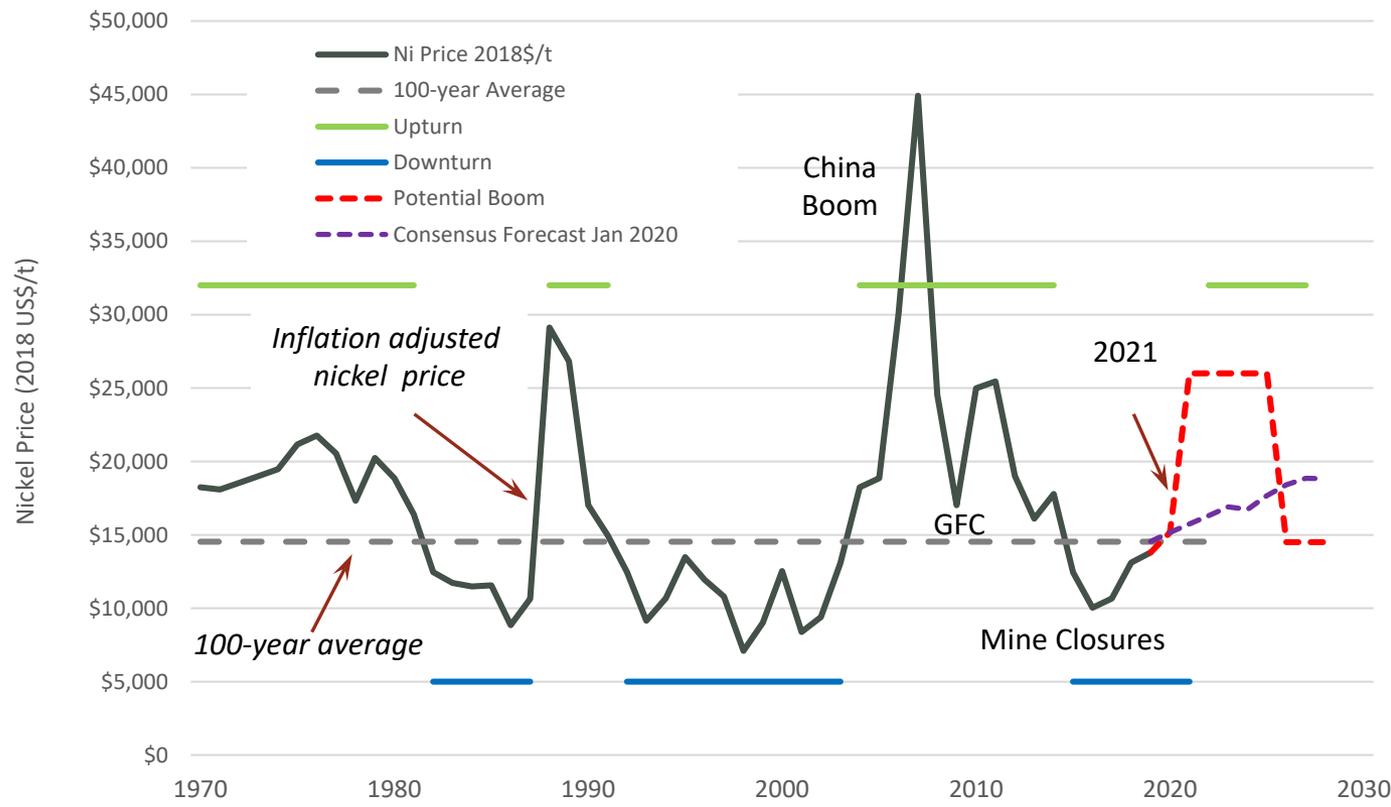
Nickel-based cathodes are increasingly preferred as they have greater energy density and improve battery performance and range.  
 NCM (811) and NCA batteries – which contain 70-80% nickel – will be in 80% of EV’s by 2025.  
*Source: Goldman Sachs – Nickel – The Hope Stock of Metals, June 2019*

VW announce on 8 Jan 2020 guidance for production of 1m EV’s in 2023, previously a milestone set for 2025.  
 VW will invest US\$36bn over the next 5 years to develop the EV range.  
*Source: Energy Live News 8 Jan 2020.*

# Nickel Price Outlook



*The next boom is forming*



- Price history shows boom and bust cycles
- EV is a major disruptive event that will likely trigger a boom and maintain the nickel price at historically high levels
- Consensus forecast recognises strong price growth but not a boom increase - yet

Source: Terra Studio

**Price spike likely in 2021 which will be sustained for several years given projected EV demand and lack of new supply**

# High-Grade Discovery at Mt Alexander

# Cathedrals Belt

## *Exceptional Discovery*

### Mineralisation from shallow depths

- Massive sulphide mineralisation 30m from surface
- Intrusive system with potential for significant mineralisation at depth – geological setting similar to large North American mines like Raglan and Eagle

### High-grade and polymetallic

- Nickel sulphide plus copper, cobalt and PGEs (70-80% Pd)
- High demand battery metals

### Electromagnetic (EM) targeting – 100% Success

- EM surveys are a reliable exploration tool
- Concurrent drilling and downhole EM is expanding the resource down-plunge

*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 61.8m*



# World Class Address

*Next to the majors' backyard*

## Established Nickel Mining Region

Tier 1 mining jurisdiction Western Australia

Near major nickel operations, including BHP's flagship nickel mines

Adjacent to Agnew-Wiluna Belt, the most productive nickel belt in WA

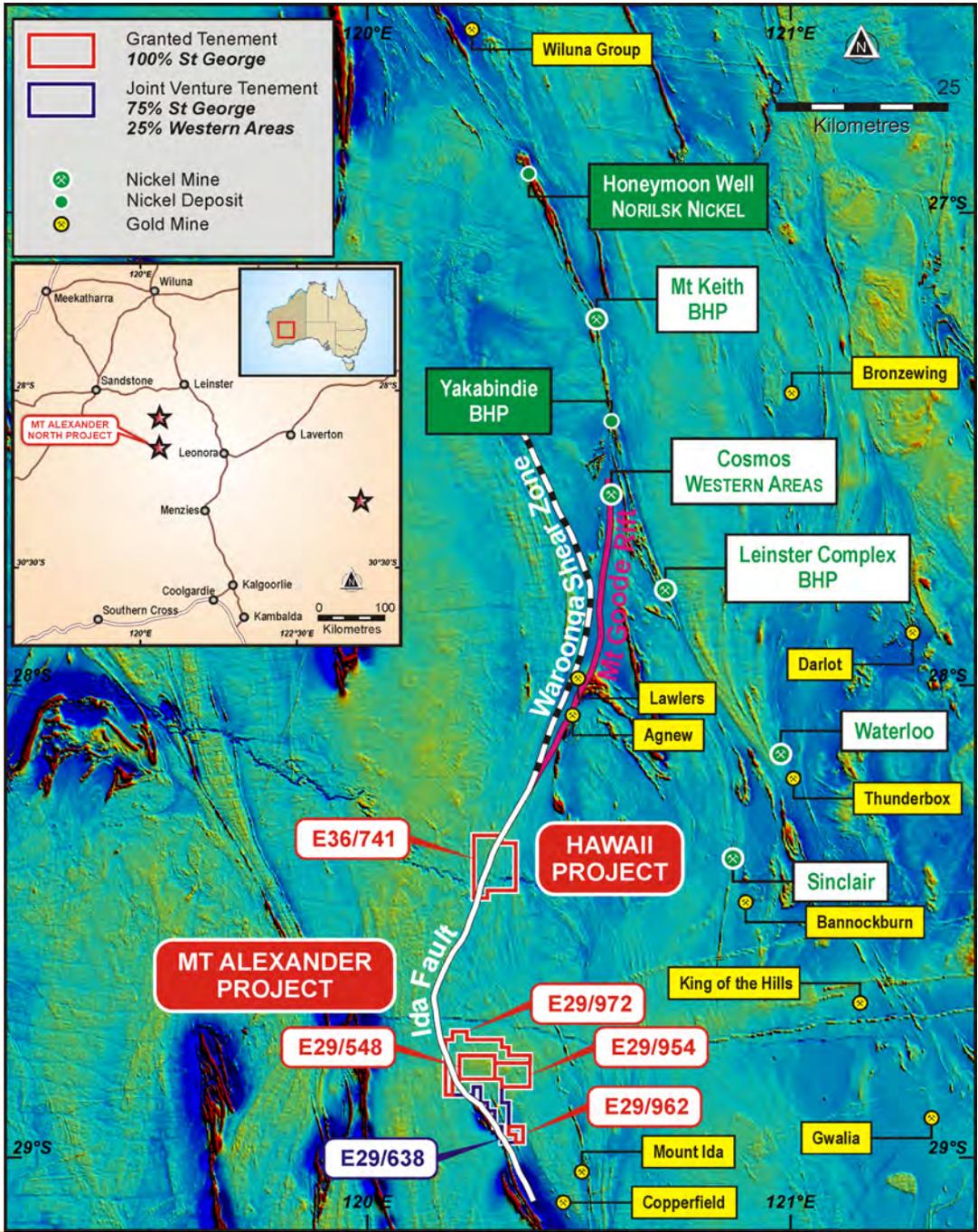
## Foundation for Development

Access to existing infrastructure, including roads and power (grid electricity and gas pipeline)

Close to processing plants, mining workforce & service industry

Established route to market

*Left: St George Mining Ltd holds 100% of all the Mt Alexander tenements with the exception of E29/638, which is held in Joint Venture: St George Mining Ltd (75%) and Western Areas Ltd (25%). St George is the manager of the Project with Western Areas retaining a 25% non-contributing interest in the Project until decision to mine.*



# Large Project Area

*+200 sq km tenement package with two proven fertile belts*

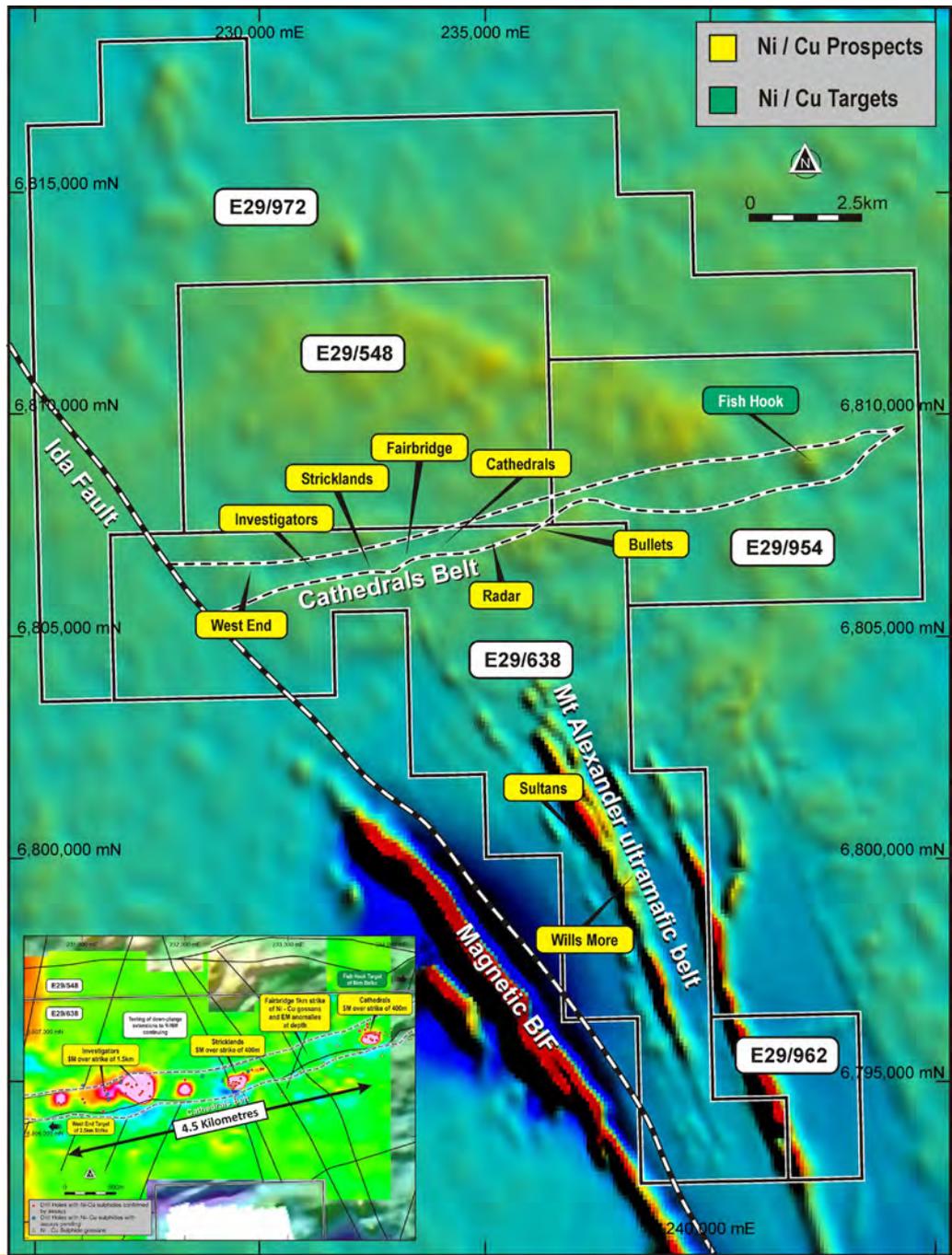
## Cathedrals Belt

- East-northeast oriented belt
- High-grade discoveries at Investigators, Stricklands, Cathedrals and Radar
- Other sections of the +16km belt are underexplored but highly prospective
- Potential for repetitions of the east-northeast belt on adjoining tenements

## Mt Alexander Belt

- +7km ultramafic belt with usual north-northwest strike
- Widespread intersections of nickel sulphides but remains underexplored

*Right: Mt Alexander tenements against RTP magnetics with key prospects highlighted.*



# Emerging Nickel Camp

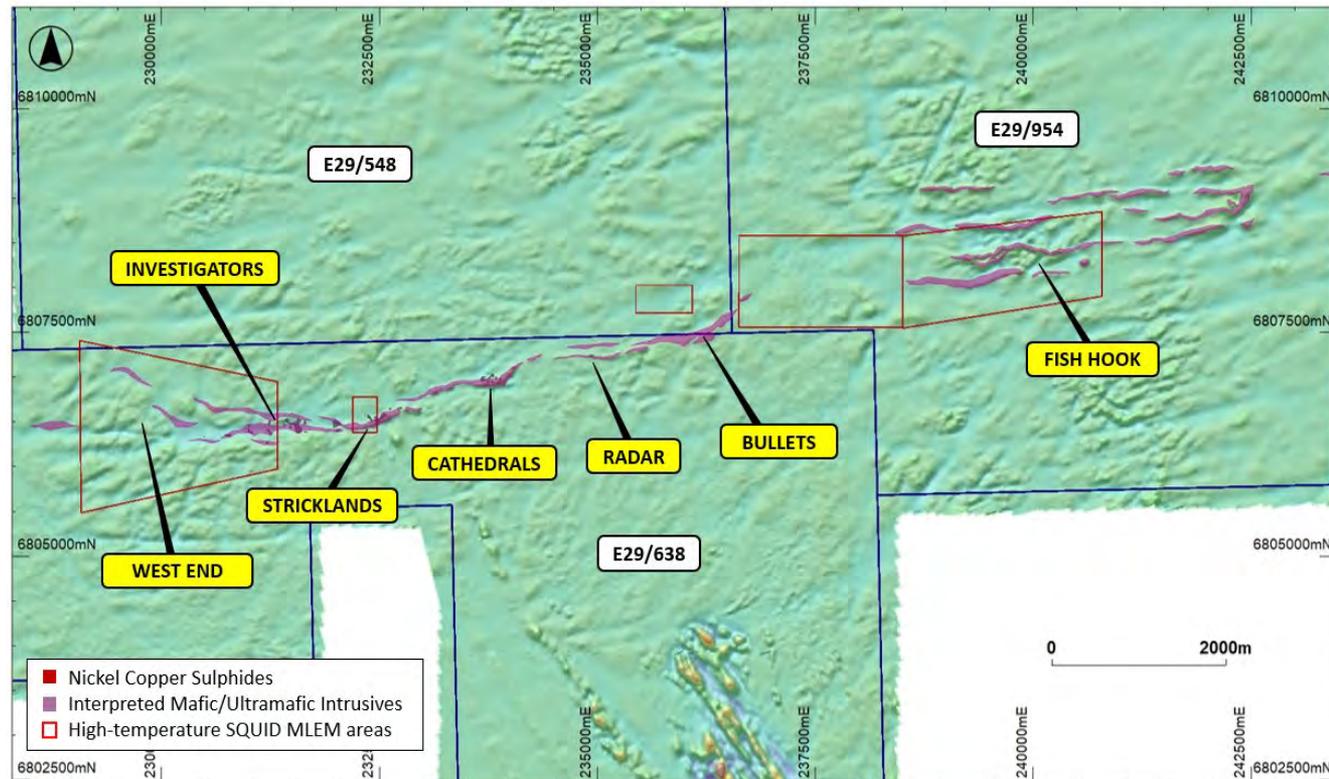


**Four high-grade nickel-copper sulphide discoveries... and counting**

Shallow deposits discovered at Investigators, Stricklands, Cathedrals and Radar over a 5.5km strike length of the Cathedrals Belt – mineralisation remains open down-plunge

EM surveys underway across unexplored areas of the Belt with new EM conductors identified for testing – potential for more greenfield discoveries with new targets identified at Fish Hook and West End for drilling in 2020

*Right: map of the Mt Alexander tenements (against RTP 1VD magnetic data) with key prospects on the Cathedrals Belt highlighted. New targets generated at Bullets, West End and Fish Hook have potential to significantly extend the strike of mineralisation along the 16km Cathedrals Belt.*



# Deeper Drilling Delivers

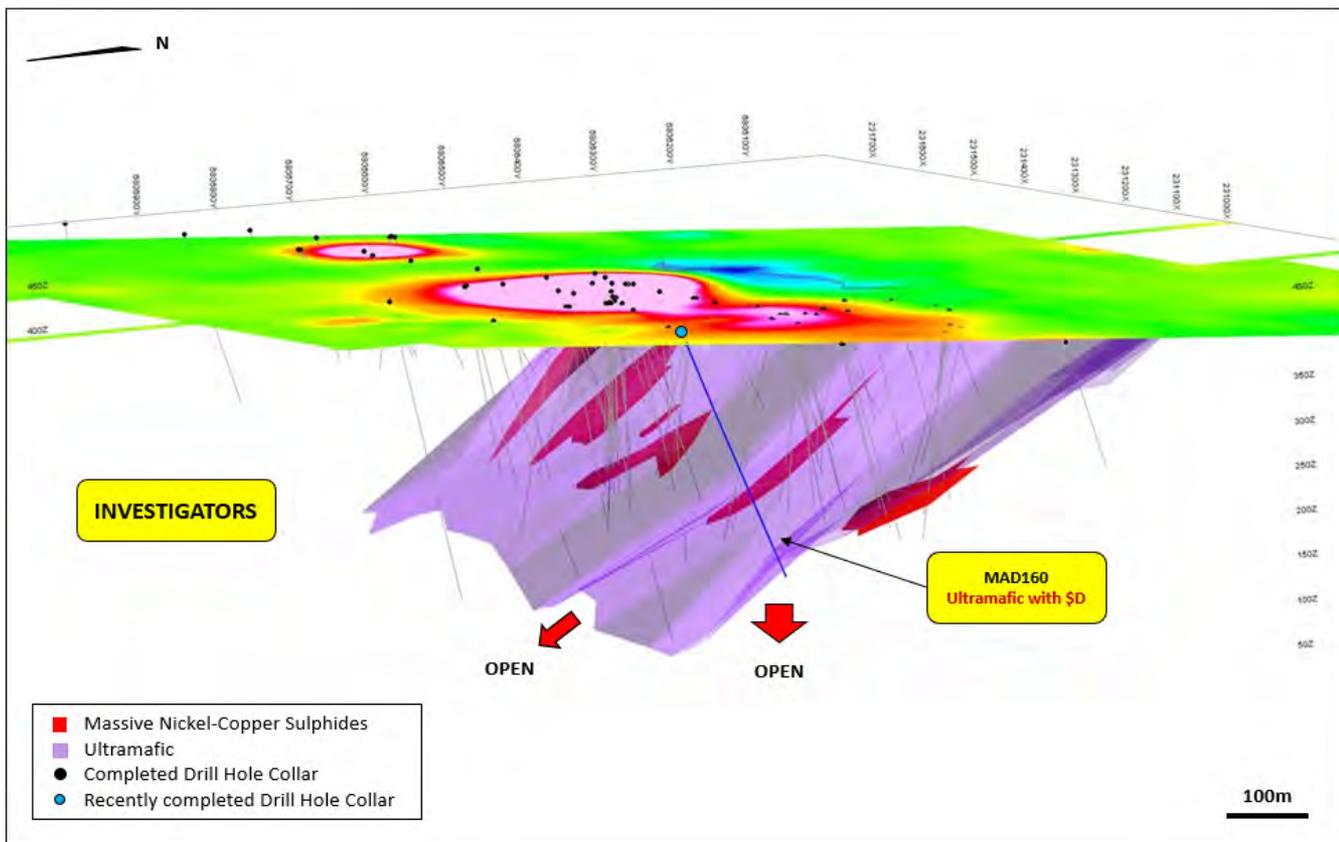
*The system is 'live' down-plunge*

Mineralised ultramafic of the Cathedrals Belt dips 30-40 degrees to the N-NW

Initial drilling at depth (+250m) intersects thick ultramafic and nickel-copper sulphides

More deep drilling and downhole EM surveys will test for mineralisation at depth

*Right: 3D orthographic view (looking south-east) of the Investigators ultramafic showing drill holes and known massive nickel-copper sulphide mineralisation. The surface image is the SAMSON EM data showing the large EM anomaly at Investigators. The latest drill results, including MAD160, confirm that mineralisation is open down-plunge with the ultramafic dipping 30-40 degrees to the north-northwest.*



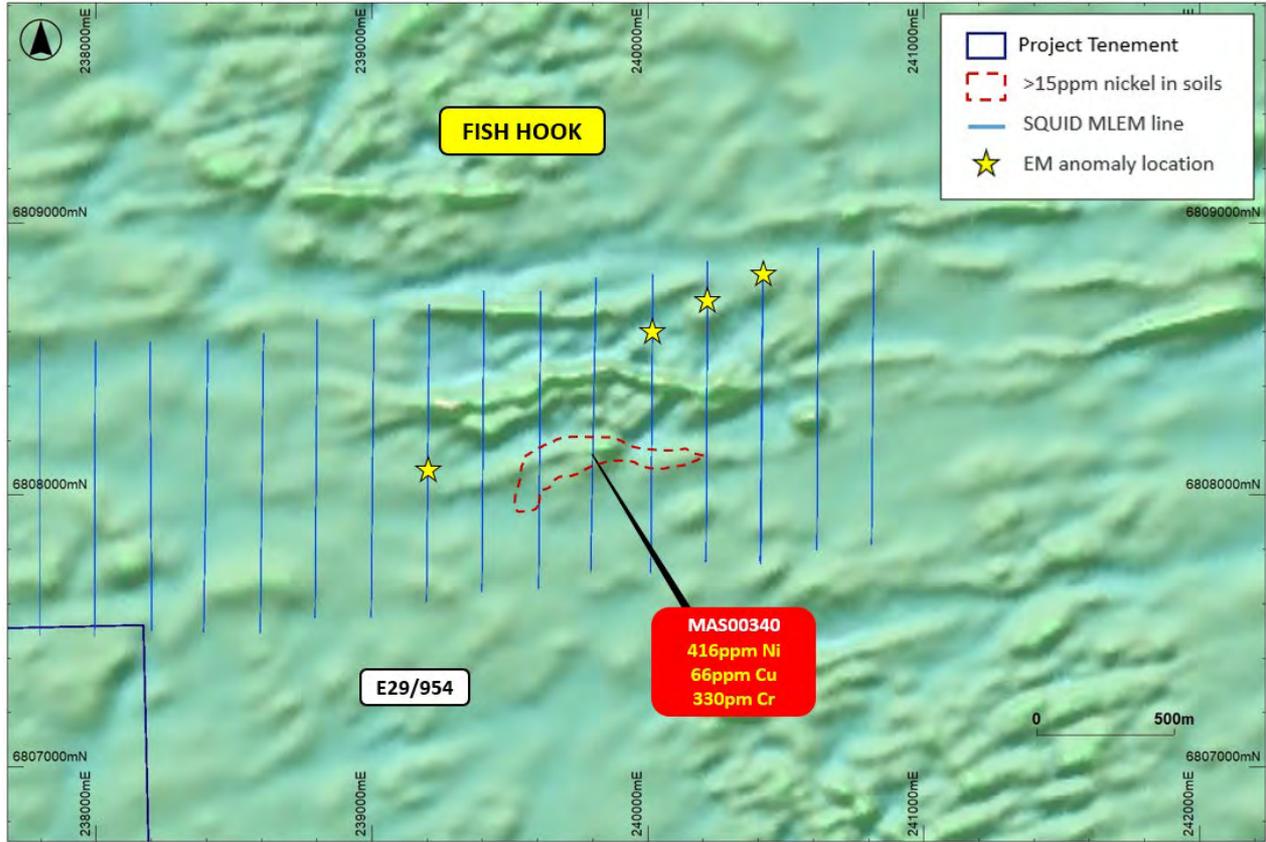
# Fish Hook Prospect



## High priority EM targets

- Two new EM anomalies identified – one has a strike length +500m
- Both are coincident with magnetic anomalies, supporting potential for mafic-ultramafics
- Proximal to large, high order nickel and copper soil anomaly, indicative of sulphide mineralisation

*Right: map of the Fish Hook Prospect showing location of new EM anomalies and survey lines, as well as the location of the large nickel soil anomaly, overlaying magnetic (RTP 1VD). The strong nickel anomalism is co-incident with a linear magnetic feature within a structure, a setting known to host mineralised ultramafics in the Cathedrals Belt.*



# 2020 Work Programmes

*Expanding known deposits and making new discoveries*

## Resource Definition:

Resource drill-out of shallow deposits at Stricklands, Cathedrals and Investigators

## Deeper Drilling:

Continue testing targets down-plunge of shallow deposits

Test underneath extensive gossans observed at Fairbridge

## New EM Conductors:

Test high priority conductors – including new conductors at Fish Hook

Ongoing EM survey at West End and other underexplored areas

Downhole EM surveys of deeper holes

***Strong newsflow throughout 2020***



# Project Development

# Advancing Towards a Mine

*Scoping study initiated*

Scoping study to assess a potential mining proposal for Mt Alexander is underway:

- Environmental studies have commenced
- Additional consultants to be appointed soon

## Preliminary Metallurgical Testwork:

### *High Recoveries from Ore:*

- >99% recoveries of Ni and Cu to bulk concentrates
- Separate nickel and copper concentrates produced with 89% and 86% recoveries respectively (*on right: copper being floated in test completed by Strategic Metallurgy Pty Ltd*)

### *Clean Concentrate:*

No deleterious elements like MgO, talc or arsenic

### *Standard Flotation:*

Standard re-agents utilised: excellent amenability of ore to flotation process

### *High Value Concentrate:*

**Nickel concentrate: 18% Ni plus cobalt of 0.55% Co and PGEs+Au of 13.5 g/t**

**Copper concentrate: 32% Cu plus PGEs+Au of 3.2 g/t**



# Opportunity for Low Cost/ High Margin Project

*Key project features support favourable project economics which will be assessed by scoping/feasibility studies*

## Shallow Mineralisation:

Low cost drilling

Potential low cost mining (open-pit)

## Existing Infrastructure:

Close to roads, power and workforce

Potential lower capex and/or toll treat

## High Value Concentrate:

High grade Ni, Cu + credits for Co, PGEs

Clean concentrate amenable to blending

Potential for premium price

The location and quality of the Mt Alexander Project presents:

- **Multiple potential development & processing options** (subject to scoping/feasibility studies)
- **Strategic value and corporate M&A**



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

*Creating shareholder value through the development of a high-grade nickel-copper sulphide project in the heart of Western Australia's Goldfields.*

*Photo: Diamond drilling at Mt Alexander for St George Mining by DDH1 Drilling*



# 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 holds performance rights in the Company.

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):

- 24 August 2018 *Mt Alexander Continues to Deliver Outstanding Results*
- 18 September 2018 *More Strong Results at Mt Alexander*
- 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*
- 20 November 2018 *Further Extensions to Nickel-Copper Sulphides at Mt Alexander*
- 30 November 2018 *Assays Confirm Best Ever Intercepts*
- 20 December 2018 *Strong Results Continue at Mt Alexander*
- 31 January 2019 *More Outstanding Nickel-Copper Sulphide targets*
- 18 March 2019 *Drilling at Mt Alexander – Strong Results Continue*
- 9 April 2019 *Nickel-Copper Sulphide Drilling at Mt Alexander – Update*
- 13 June 2019 *Assays Confirm Thick Nickel-Copper Sulphides*
- 9 July 2019 *42 EM Conductors Ready to Drill at Mt Alexander*
- 13 August 2019 *High-Grade Nickel-Copper Sulphide Drilling*
- 2 September 2019 *New Discovery of Nickel-Copper Sulphides*
- 12 September 2019 *Thick Nickel-Copper Sulphides Intersected Down-Plunge*
- 9 October 2019 *Assays Confirm High-Grade Discovery*
- 8 November 2019 *More Nickel Sulphide targets at Mt Alexander*
- 12 November 2019 *Thick Intercept in Drilling of Deeper Conductors*
- 20 November 2019 *More Thick Intercepts Down-Plunge of Shallow Deposits*
- 23 December 2019 *Drilling Success Continues at Mt Alexander*
- 28 January 2020 *2020 Begins With More Strong Results*

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.

## 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.

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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.