

# 'Positioned for Further Exploration Success and Growth'

23 November 2016 AGM Presentation

St George Mining Limited | ACN 139 308 973

# 2016 – A Year of Achievements



### **Milestones Attained**

### **Exploration Success**

### Mt Alexander:

- ✓ Acquired Mt Alexander on competitive terms
- ✓ Drilling extends strike of recurrent mineralisation at Cathedrals Belt from 400m to 3.5km
- ✓ Confirmed a large mineral system with potential for an economic resource
- ✓ Established a potential new nickel camp with multiple deposits

#### **East Laverton:**

✓ Textbook environment for gold mineralisation confirmed by first drilling of high priority gold prospects

### **Corporate Growth**

### 400% increase in market cap:

- ✓ From \$10m to \$40m (at 16c/share) Rising share price:
- ✓ 16c compared to 52 week low of 6.3c Broader shareholder base:
- ✓ New retail investors and new institutional shareholders over 2,400 shareholders

### Raised significant funds:

- ✓ New capital raised at increasing prices: Placement and SPP in Apr 2016 at 8.5c followed by placement in Aug 2016 at 15c
- ✓ Well funded to deliver further exploration success

# **2017 – Positioned for More Success**



### **Increasing Shareholder Value**

#### More Discoveries at Mt Alexander

- Discover further high grade Ni-Cu-PGE sulphide mineralisation
- Accelerate regional exploration over underexplored and unexplored areas

#### **Resource Definition at Mt Alexander**

Complete extensional and infill drilling of known mineralised zones to establish a resource base

### **Review Mining Potential**

Assess the potential for a low cost/high margin mining operation at Mt Alexander

### **Breakthrough Discovery at East Laverton**

Continue gold and nickel sulphide exploration at East Laverton and deliver a new discovery

### **Maintain Balance Sheet Strength**

Grow the company with minimal dilution to shareholders

# **Overview of St George Mining**



### **High Quality Explorer**

### **ASX listed: SGQ**

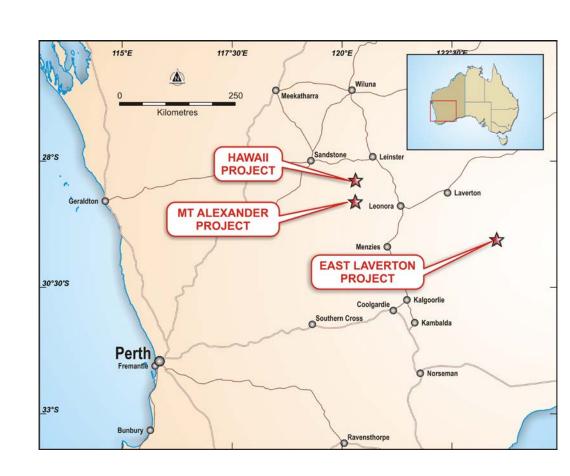
Based in Perth, WA

### Multiple exploration projects

- Nickel sulphide and gold
- Potential for world class deposits
- All in Yilgarn Craton, Western Australia

### **Creating shareholder wealth**

- Tight capital structure
- Targeting high multiplier returns on investment





# **Corporate Snapshot**

## Strong shareholder base and market support

**Listed shares** (SGQ): 250,359,725 **Listed options** (SGQOA): 47,354,622

SGQOA - exercise price of 20c, expiring on 30 June 2017.

Market cap: \$40m (@16c per share)

Cash: \$6.7m (as at 21 Nov 2016)

**Largest Shareholders** 

Impulzive: 4.5% City Natural Res's: 4% John Prineas: 4.16% Oceanic Capital: 3%

**Share Ownership** 

Top 10: 23% Top 20: 32%

Directors: 6%

Other Major Shareholders: Australian and overseas institutions, *plus* high net worths

Oversubscribed capital raising completed in August 2016 by **Bell Potter**, **Argonaut** and **RM Capital** 

Highly motivated management with 'skin in the game'



SGQ market capitalisation has risen by 400% since the 2015 AGM



# **Highly Qualified Team**

### **Track Record of Exploration Success**

### **Directors, Management**

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

**Tim HRONSKY, Technical Director** - over 25 years as a geologist in the 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.

Matthew McCARTHY, Exploration Manager - ex-BHP Billiton; part of the team that discovered the Venus nickel sulphide deposit (+200,000 Ni) at Leinster.

#### **Consultants**

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

**Dr Martin GOLE** – Consultant geologist, global expert and leading authority on magmatic nickel sulphide deposits. Author/co-author of several landmark research papers on major deposits in the Yilgarn.



Above: part of the massive nickel-copper sulphide intersection in MAD40 that graded 7.88%Ni and 3.11%Cu

# **High Reward Projects**

### **Company Maker Strategy**

St George has dominant landholdings in under-explored and strategically important districts

### **Mt Alexander Project**

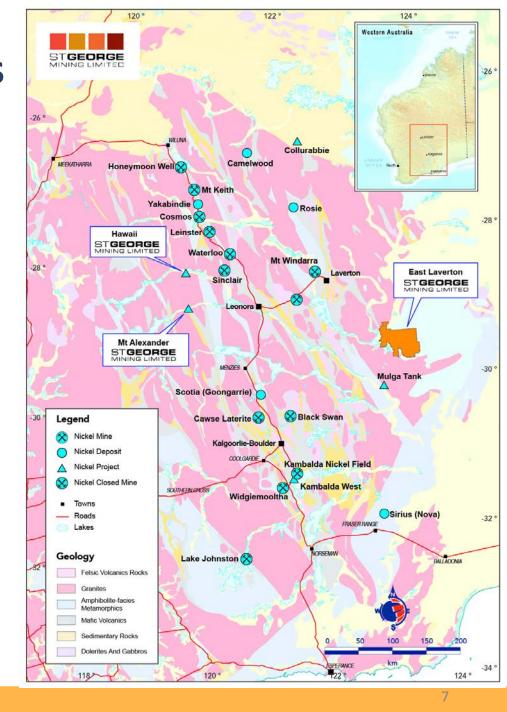
Significant high grade shallow Ni-Cu sulphide discoveries

### **East Laverton Project**

High priority targets for gold and nickel sulphide over three greenstone belts

### **Hawaii Project**

Early stage exploration at recently recognised unexplored greenstones



# Mt Alexander

### **Underexplored Region**

### **Discovery by BHP Billiton**

Massive Ni-Cu sulphides first discovered in 2008 but project remained under-explored

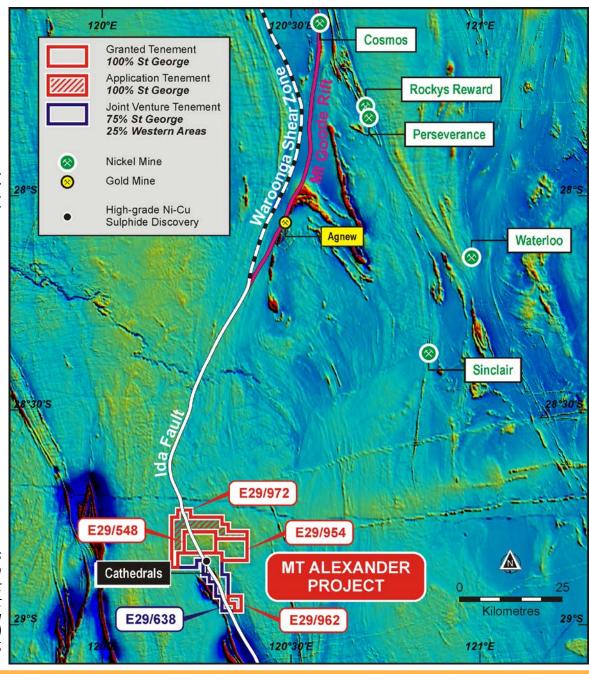
### **Acquisition by St George**

St George gains ownership and control in 2016 and consolidates a dominant tenement package

#### **Access to Infrastructure**

Favourable location south-west of world class nickel sulphide mines in the Agnew-Wiluna belt, with existing road access and infrastructure

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.



## Mt Alexander

### **Pipeline of Targets**

#### **Cathedrals Belt**

High grade Ni-Cu sulphides discovered at:

- Cathedrals Prospect
- Stricklands Prospect
- Investigators Prospect

E29/954 recently granted (100% St George) and may host extensions of the Cathedrals Belt

#### Mt Alexander Belt

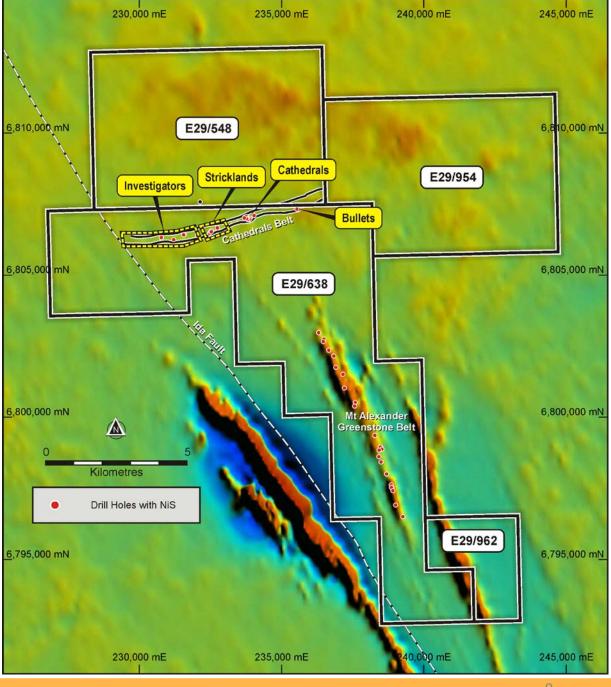
Multiple historical intersections of massive Ni-Cu but not followed up

#### **Regional Exploration**

Tenement package over 200 sq km remains largely unexplored

#### Deep Search

Only shallow targets tested to date with deep search geophysics planned



# **Cathedrals Belt**

# ST**GEORGE**MINING LIMITED

# **High Grade Nickel-Copper Sulphide Discovery**

### **Discoveries at Three Prospects**

High grade Ni-Cu-PGEs discovered at each of Cathedrals, Stricklands and Investigators Prospects

#### **Shallow Mineralisation**

Massive sulphides between 25m to 170m below surface

#### **Thick Mineralisation**

Mineralised ultramafics up to 15m thick including high grade massive sulphide intervals; consistent grade of massive sulphide mineralisation

### **Unique Geological Setting**

East-northeast belt with mineralised ultramafics in granites

### **Reliable EM Targeting**

No false positive EM anomalies

Fifteen discrete EM plates have been tested in the Cathedrals Belt with <u>all</u> confirmed as nickel-sulphide mineralisation

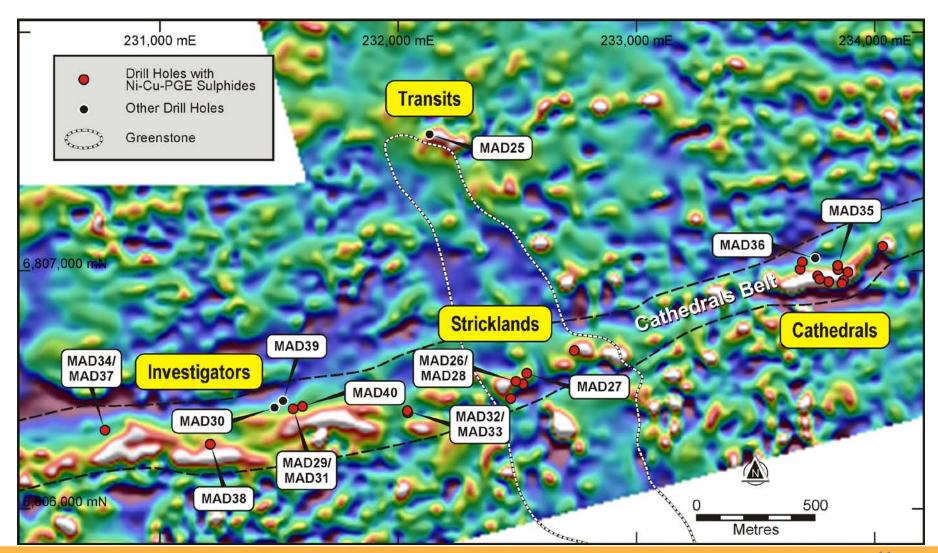


**Above**: drill core from MAD23 at 57m showing contact of massive nickel-copper sulphides against footwall mafics

# St George Extends Strike Length



# From 400m to 3.5km of recurrent mineralisation in the Cathedrals Belt



# **Cathedrals Prospect**

### **High Grade Ni-Cu-PGEs**

St George discovers further massive nickel-copper sulphides and substantially adds to the initial BHP Billiton discovery

#### **MAD12**:

9.25m @ 0.76%Ni, 0.34%Cu, 0.03%Co and 0.93g/t total PGEs from 81.5m, and

**3.95m @ 5.05%Ni, 1.55%Cu, 0.11%Co and 4.44g/t total PGEs** from 91.4m

#### **MAD13:**

9.75m @ 0.34%Ni, 0.11%Cu, 0.01%Co and 0.30g/t total PGEs from 47.5m, then

**2.05m @ 5.78%Ni, 2.33%Cu, 0.18%Co and 3.93g/t total PGEs** from 56.3m

#### **MAD15**:

1.75m @ 0.67%Ni, 0.39%Cu, 0.02%C0 and 1.72g/t total PGEs from 27.5m, then

2.09m @ 6.06%Ni, 2.47%Cu, 0.17%Co and 4.41g/t total PGEs from 29.25m, including

1.17m @ 8.75%Ni, 3.37%Cu, 0.24%Co and 6.16g/t total PGEs from 30.17m (photo on the right shows MAD15 drill core)

#### MARC49:

2m @ 0.58%Ni, 0.26%Cu, 0.02%Co from 58m, then

6m @ 3.33%Ni, 1.53%Cu, 0.12%Co and 1.83g/t total PGEs from 60m

#### **MAD35**:

3.19m @ 0.57%Ni, 0.22%Cu, 0.02%Co and 0.54g/t total PGEs from 61m, then

2.06m @ 6.35%Ni, 3.20%Cu, 0.21%Co and 4.08g/t total PGEs from 64.19m



# **Stricklands Prospect**



### **Massive Sulphide Mineralisation Continues West**

#### St George's maiden drilling in May 2016 at Stricklands discovers massive nickel-copper sulphides

Follow-up drilling in July 2016 discovers more mineralisation with thicker intersections and higher grades <u>and</u> mineralisation remains open in each direction along strike

#### **MAD22**:

7.95m @ 0.55%Ni, 0.3%Cu, 0.02%Co and 0.58g/t total PGEs from 49.3m , then 2.78m @ 1.62%Ni, 2.51%Cu, 0.07%Co and 1.88g/t total PGEs from 49.85m, including

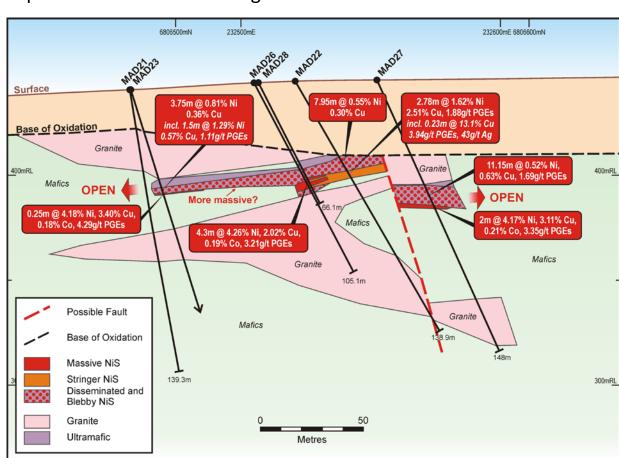
0.23m @ 13.1%Cu, 43g/t Ag from 52.4m

#### **MAD26**:

2.95m @ 0.55%Ni, 0.37%Cu, 0.03%Co and 0.57g/t total PGEs from 49.3m, and 4.3m @ 4.26%Ni, 2.02%Cu, 0.19%Co and 3.21g/t total PGEs from 53.9m, then 2.8m @ 0.48%Ni, 0.40%Cu, 0.02%Co and 0.56g/t total PGEs from 58.2m

#### **MAD27**:

11.15m @ 0.52%Ni, 0.63%Cu, 0.03%Co and 1.69g/t total PGEs from 60.1m, *then* 2m @ 4.17%Ni, 3.11%Cu, 0.21%Co and 3.35g/t total PGEs from 71.25m



# **Investigators Prospect**

## **New Discoveries over 1.3km Strike Length**

#### **MAD31**:

3.67m @ 0.56%Ni, 0.28%Cu, 0.02%Co and 1.22g/t total PGEs from 108m, then **1.57m @ 6.26%Ni, 2.71%Cu, 0.18%Co and 4.91g/t total PGEs** from 91.4m (photo on right shows the coarse grain pure pentlandite in drill core from MAD31)

#### **MAD32**:

7.6m @ 0.44%Ni, 0.19%Cu, 0.02%Co and 0.59g/t total PGEs from 44m, then **1.92m @ 4.58%Ni, 1.52%Cu, 0.14%Co and 3.83g/t total PGEs** from 51.6m

#### <u>MAD33:</u>

9.03m @ 0.43%Ni, 0.14%Cu, 0.02%Co and 0.44g/t total PGEs from 87.45m, then **1.01m @ 5.81%Ni, 2.33%Cu, 0.22%Co and 4.32g/t total PGEs** from 96.48m

#### **MAD34**:

2.10m @ 0.52%Ni, 0.25%Cu, 0.02%Co and 0.57g/t total PGEs from 94m, then 2.79m @ 1.63%Ni, 0.53%Cu, 0.05%Co and 1.24g/t total PGEs from 96.1m

#### **MAD37**:

12m @ 0.41%Ni, 0.13%Cu, 0.02%Co and 0.35g/t total PGEs from 110m, then **1.27m @ 5.63%Ni, 2.16%Cu, 0.17%Co and 3.86g/t total PGEs** from 122m

#### **MAD38:**

2.74m @ 3.77%Ni, 1.48%Cu, 0.10%Co and 3.85g/t total PGEs from 25.4m, incl. 0.54m @ 8.59%Ni, 3.43%Cu, 0.24%Co and 6.73g/t total PGEs from 27.6m

#### **MAD40:**

1.44m @ 0.46%Ni, 0.16%Cu, 0.02%Co and 0.60g/t total PGEs from 105.35m, then 1.96m @ 5.09%Ni, 2.11%Cu, 0.16%Co and 3.46g/t total PGEs from 106.79m, incl. 1m @ 7.88%Ni, 3.11%Cu, 0.24%Co and 5.04g/t total PGEs from 107.75m



# **Metallurgical Testwork**

# **High Value Concentrate**

#### **Positive Results from Initial Test**

Preliminary metallurgical testwork on a sample of massive nickel-copper sulphide indicates that Mt Alexander will produce a high value saleable concentrate that will be sought after

### **High Recoveries from Ore**

>99% recoveries of Ni and Cu to concentrates
No deleterious elements like MgO or arsenic
(on right: copper being floated in the metallurgical test
completed by Strategic Metallurgy Pty Ltd)

### **High Grades**

Nickel grade of 18%Ni (Nova is 13.5%Ni\*)
Copper grade of 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

<sup>\*</sup> Nova Optimisation Study announced by IGO in ASX Release dated 14 December 2015



# **Aeromagnetic Survey**

### **Identifying More Targets**



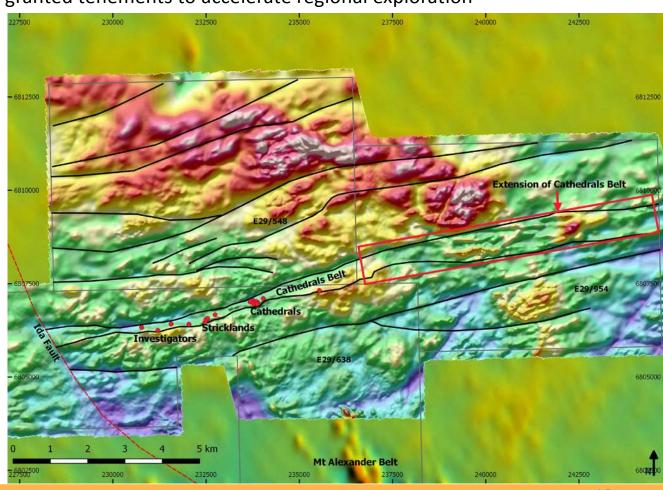
#### **New Airborne Magnetic Survey**

 4,471 line km flown on a 50m line spacing and sensor height at 40m to provide new high resolution magnetic data over all four granted tenements to accelerate regional exploration

#### **Cathedrals Belt**

- Mag data indicates that the Belt may extend for upto 8km into E29/954 (100% St George)
- EM survey extended to search for EM targets in this unexplored area
- Structural corridors parallel to the Cathedrals Belt have also been identified and may host similar mineralised ultramafics

On Right: new mag data (TMI RTP) recognises the eastern extension of the Cathedrals Belt and other parallel structures



# **Deep Search EM Survey**

# **High Powered SAMSON**



**Cathedrals Belt:** New fixed loop electromagnetic (FLEM) survey using the high powered SAMSON system

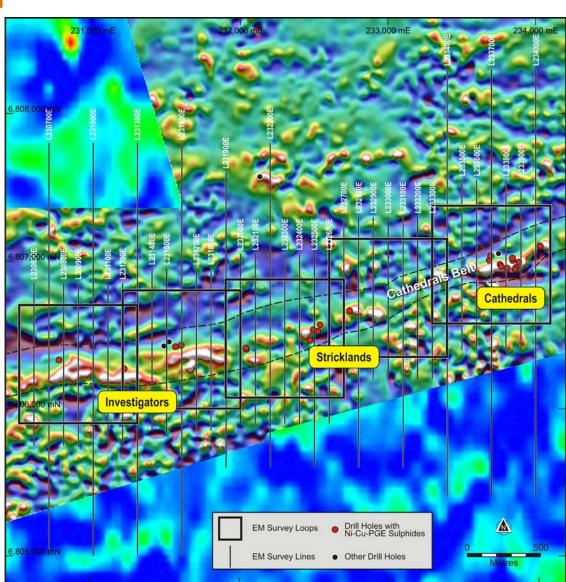
- Initially designed for the western part of the Belt where EM targeting has 100% success rate
- Extended to the newly recognised eastern extension of the Belt

#### **SAMSON**

Deep penetrating EM system (will see >500m)

- Over double the depth penetration achieved by the conventional EM surveys undertaken at the Cathedrals Belt so far
- Survey is underway: new EM anomalies have been detected with modelling of data pending

**On Right:** planned EM loops and survey lines for the new FLEM survey over the western part of the Cathedrals Belt



# **Project Value Drivers**



### **Favourable Economics and Near Term Catalysts**

### **Project Economics**

Favourable Project economics supported by:

- ✓ Shallow depth of mineralisation, likely to be amenable to low cost mining
- ✓ High grades of Ni and Cu with strong credits for Co and PGEs
- ✓ Excellent metallurgy will allow production of a high quality, smelter-friendly concentrate
- ✓ Near existing infrastructure (e.g. roads; power)
- ✓ Proximity to existing processing plants

#### **Near Term Value Drivers**

- Deep Search EM:
  - Potential to identify new high priority drill targets
- Airmag Survey:
  - Has identified an unexplored extension to Cathedrals Belt plus new targets interpreted as potential mineralised ultramafics
- Extensional and Infill Drilling:
  - To define and extend known discoveries of mineralisation along 3.5km strike length

Substantial Project value has been created with much more to come

## **Nickel Market**



### **Macro Factors Improving**

- Signs indicate nickel market is commencing an upward cycle
- Nickel price is <u>up 17% in 2016</u>

### The Producer /Trading House says:

**Glencore, 22 September 2016:** "Following years of structural oversupply, the market today is already much-improved. Consumption has been significantly stronger this year, due to higher stainless steel production, increased demand from the battery market and tightness in the scrap market."

### The Analyst says:

**UBS, 15 August 2016:** "Our price forecast is a bullish trajectory and nickel remains one of our most-preferred commodity exposures based on rising demand, deficits and a crackdown in the Philippines."

"UBS sees prices at \$11,023 next year, \$13,228 in 2018 and \$19,621 by 2020 after the market flipped from a surplus last year to what's expected to be a run of shortages."

### **New Areas of Demand**



### A Lithium Driven Boom in Nickel?

### Elon Musk, CEO of Tesla on lithium-ion batteries:

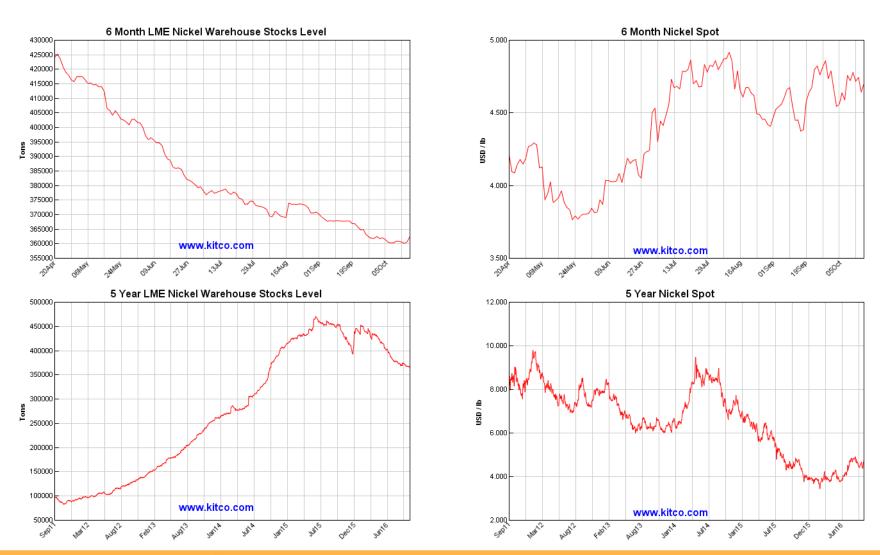
"....lithium is 2% of the cell mass of our batteries....... really, our batteries should be called nickel graphite batteries as they are mostly nickel and graphite ...."



# Nickel – Its Time to Take a Position



# **5 Year Chart Shows Reversal of Long Term Trend**



# **East Laverton Project**

## **Nickel Sulphide Targets**

#### **Favourable Geology**

Extensive strike length of high MgO ultramafics with multiple intersections of nickel sulphides

### **Favourable Structural Setting**

Major fundamental structures/faults that control mineralisation and ore deposits

#### **BHP Discovers Nickel Sulphides**

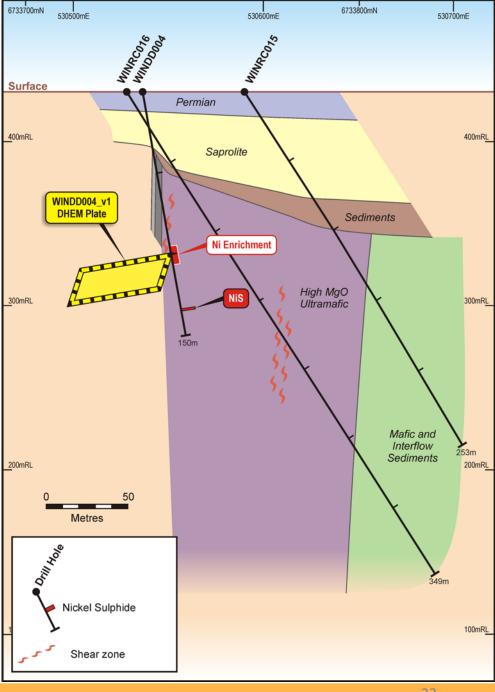
Previous farm-in with BHP discovered NiS in 2012

#### **St George Continues Exploration**

Systematic exploration by St George of EM and geological targets is ongoing

### **High Priority Target at Windsor**

Current drilling is focused on a powerful EM conductor at Windsor (+200,000 Siemens) where nearby drilling has intersected upto 1.05%Ni (pictured on the right is a cross section of Windsor)



# **Gold Exploration**

### **East Laverton Targets**

### **Important Regional Location**

Near the two most recent world class gold discoveries in WA – Tropicana +8MozAu and Gruyere +6MozAu

### **Underexplored for Gold**

Shallow drilling has identified widespread anomalous gold confirming prospectivity

#### **Favourable Structural Features**

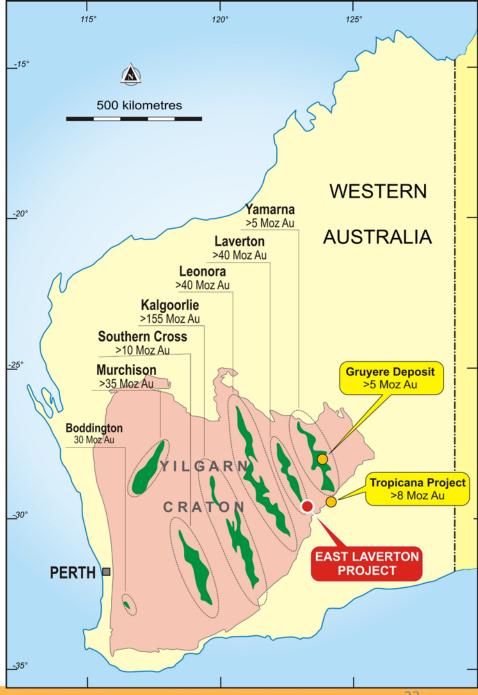
Fundamental structures/faults that control gold mineralisation are prominent

### **Large Scale Potential**

Early stage targets with 'company maker' potential

### **Pipeline of Targets**

Multiple gold targets with the highest priority targets now being tested



# **Priority Gold Prospects**

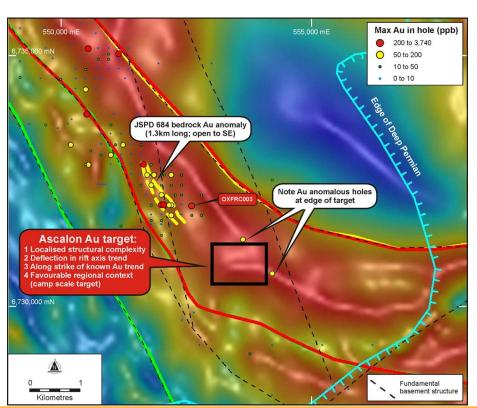
# **Follow-Up Targets for Drilling**



### **Ascalon**

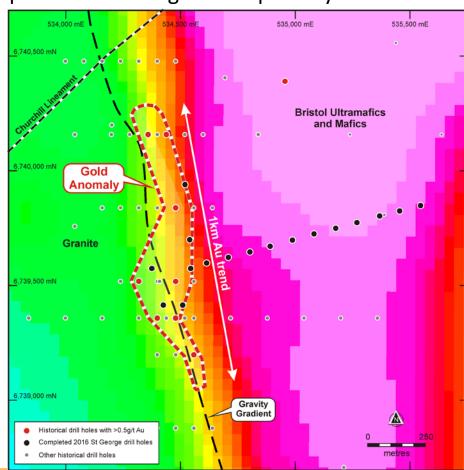
First pass drilling confirms textbook environment for gold

Large gold-anomalous zone identified for follow-up drilling



#### **Bristol**

Large supergene gold anomaly suggests potential for a significant primary source



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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
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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 Tim Hronsky, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Tim Hronsky is employed by Essential Risk Solutions Ltd which has been retained by St George Mining Limited to provide technical advice on mineral projects.

The information in this report that relates to Exploration Targets, Exploration Results, Mineral Resources or Ore Reserves regarding the Hawaii and Mt Alexander Projects is based on information compiled by Mr Matthew McCarthy, a Competent Person who is a Member of The Australasian Institute of Geoscientists. Mr McCarthy is employed by St George Mining Limited.

This ASX announcement contains information extracted from the following reports which are available on the Company's website at www.stgm.com.au:

- 11 February 2016 Nickel Sulphide Drilling at East Layerton
- 8 March 2016 More Massive Nickel Sulphide targets at Mt Alexander
- 27 April 2016 High Grade Nickel-Copper Sulphides at Mt Alexander
- 16 June 2016 Assays Confirm High Grade Mineralisation at Mt Alexander
- 29 June 2016 Nickel-Copper Sulphide Discovery at Stricklands
- 1 August 2016 Nickel-Copper Sulphides Discovered at Investigators
- 8 August 2016 Drilling Extends Nickel-Copper Sulphide Belt
- 17 August 2016 Further Nickel-Copper Sulphides at Cathedrals
- 30 August 2016 More Massive Sulphide Mineralisation at Investigators
- 22 September 2016 Assays Confirm Significant Nickel-Copper Mineralisation
- 27 September 2016 Deep Search EM Survey for Mt Alexander
- 12 October 2016 High Grade Nickel-Copper Sulphides at Mt Alexander
- 20 October 2016 Strong Results Continue at Mt Alexander
- 22 November 2012 Compelling Survey Results at Mt Alexander

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.



# St George Mining: creating shareholder wealth through exploration success