



**Breakaway
Research**

September 2015

Grant Craighead | Research Manager
gcraighead@breakawayinvestmentgroup.com

Mark Gordon | Senior Research Analyst
mgordon@breakawayresearch.com

www.breakawayresearch.com

Company Information

ASX Code	SGQ
Share Price (24 Sept 2015)	A\$0.074
Ordinary Shares	137.4m
Options	24.89
Performance Shares (equiv)	10.0m
Market Cap – undiluted	A\$10.17m
Cash (24 Sept 2015)	~A\$2.10m
Total Debt	A\$0.00m
Enterprise Value	A\$8.07m

Directors and Management

Executive Chairman	John Prineas
Technical Director	Tim Hronsky
Non-Executive Director and Company Secretary	Sarah Shipway
Exploration Manager	Matthew McCarthy

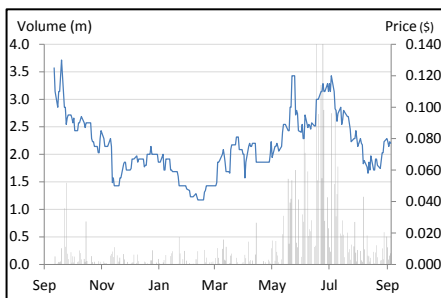
Company Details

Address	Level 1, 115 Cambridge Street West Leederville WA 6007
Phone	+618 9322 6600
Web	www.stgm.com.au

Top Shareholders

Impulzive Pty Ltd	8.56%
John Prineas	7.43%
Oceanic Capital Pty Ltd	5.51%
HSBC Custody Nominees (City Resources High Yield Trust)	4.26%
Top 20	49%
Directors and Management	10%

1 Year Price Chart



Source: IRESS

St George Mining (SGQ)

Quality Western Australian Nickel Ground

Recommendation: Speculative BUY

Key Points

- **Highly prospective massive nickel sulphide tenement package**
- **Covers Western Australian komatiite belts**
- **Only limited historic exploration**
- **Work to date has shown geological and geochemical similarities to the highly productive Agnew-Wiluna Belt**
- **Board, Management and consultants with extensive nickel and gold experience, and a track record of discovery**
- **7,000m fully funded reverse circulation drilling due to start in early October**

In the East Laverton Project, St. George has a quality tenement package, considered highly prospective for komatiite-hosted nickel sulphide mineralisation, over an underexplored greenstone belt. This prospectivity is backed up by work to date, which has demonstrated that the geology is similar to that in the Agnew-Wiluna belt, and has also intersected nickel sulphides. East Laverton and the adjoining Lake Minigwal Gold Project are also considered prospective for orogenic gold mineralisation, similar to that in the Laverton district some 230km to the northwest.

The newly acquired Hawaii and Mt. Alexander North Projects SW of Leinster also exhibit good potential – they are interpreted as being in a similar geological and structural setting to the high grade Cosmos complex some 150km to the north, and limited historical exploration by BHP Billiton Nickel West has returned promising results.

Exploration is operated and managed by staff and consultants with extensive experience in Western Australian nickel and a track record of discovery. With the upcoming exploration programme being fully funded and excellent leverage to success, we rate St. George as a SPECULATIVE BUY.

Company Overview

St. George Mining Limited is an Australian based junior explorer focussing activities on nickel sulphide and gold in the Yilgarn Craton of Western Australia. The key project is East Laverton, located over greenstones in the North-eastern goldfields, 230km southeast of Laverton, and hitherto relatively under-explored for komatiite hosted nickel sulphide mineralisation.

The adjacent Lake Minigwal Project is primarily a gold project; however it is also prospective for nickel. Hawaii and Mt. Alexander North were very recently acquired from BHP Billiton Nickel West, and are located southwest of Leinster which is in the prolific Agnew-Wiluna Belt.



Investment Thesis

Western Australian Nickel Sulphide and Gold Explorer

Concentrating on Ni and gold

St. George Mining (ASX: SGQ, “St. George” or “the Company”) has concentrated activities on the 100% held East Laverton and Lake Minigwal nickel sulphide and gold projects centred approximately 230km southeast of Laverton in the North-eastern Goldfields of Western Australia.

Under-Explored...

Focus on under-explored belts

The projects are located over covered areas of Archaean granite/greenstone belts that have had only limited historic exploration due to the younger cover and the remoteness of the areas.

...but Highly Prospective Belts with the Right Geology

Prospectivity confirmed by work to date

Work to date at East Laverton has demonstrated both the nickel sulphide and gold potential, with geology similar to the world class Agnew-Wiluna Belt. The lithology includes high MgO komatiites similar to those at Agnew-Wiluna and other productive belts, and also sulphidic units considered essential as a sulphur source for massive nickel sulphide development.

Nickel Sulphides Intersected

A key pointer to the prospectivity includes the intersection of nickel sulphides in a number of holes over a number of prospects.

VMS Potential...

VMS potential confirmed from drilling

Work to date has also indicated the potential for volcanogenic sulphide (“VMS”) base and precious mineralisation, with drilling intersecting Zn and Cu-anomalous sulphide rich units that are interpreted as distal exhalative facies to this style of mineralisation.

...and Gold Potential

As is gold

The gold potential has been confirmed by soil geochemistry, fresh rock intersections of Au with broad zones of alteration, and geology similar to that seen at the multi-million ounce Laverton Gold Field.

Second String to the Bow

New acquisitions in Agnew-Wiluna area

St. George has recently acquired the Hawaii and Mt. Alexander North Projects on what could be considered as extensions to the Agnew-Wiluna Belt along the Mt Ida Fault within 120km of BHP Billiton Nickel West’s (“BHP”) regional nickel base at Leinster.

Similar Geology to Cosmos?

Limited historic work on these tenements has indicated the presence of komatiites adjacent to the Ida Fault, a geological and structural setting similar to that at Western Area’s (ASX: WSA) Cosmos complex 150km to the north.

Intensive and Funded Exploration Programme

Upcoming exploration fully funded

The Company has an upcoming intensive exploration programme, including 7,000m of reverse circulation (RC) drilling over a number of its projects, which should lead to a steady news flow. The targets to be drilled include Desert Dragon and Windsor at East Laverton, Hawaii and Lake Minigwal.



With ~\$2.1m in the bank the upcoming programme is more than adequately funded.

Strong, Committed and Incentivised Team

The Board, Management and consultants have extensive industry experience, including in Western Australian nickel and gold, where they have been involved in a number of major discoveries. In addition Directors and Management have holdings in the Company, and thus will be motivated to producing strong returns for shareholders.

Experienced principals with skin in the game

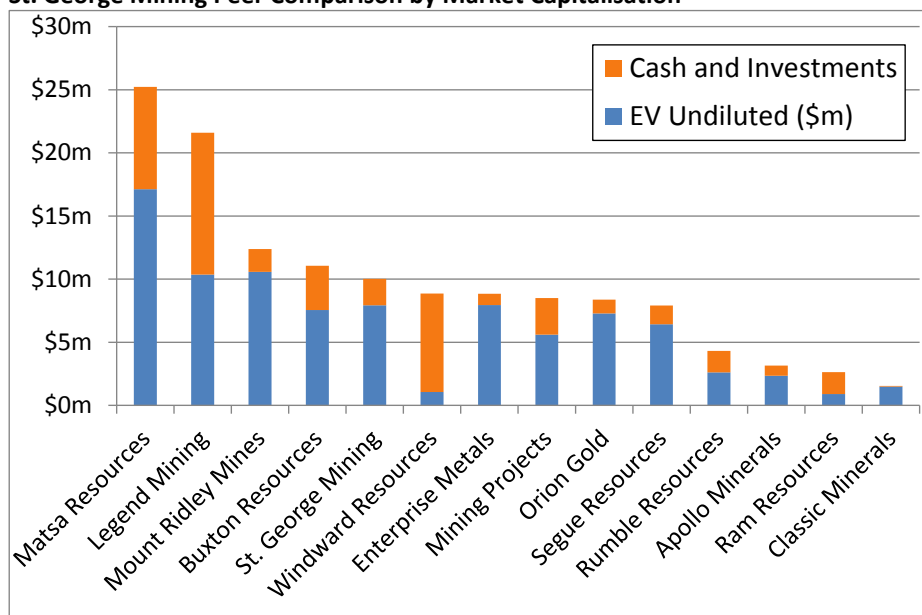
Peer Comparison

St. George is one of a number of ASX-listed junior nickel explorers, most of whom are concentrating activities on the Fraser Range area unlike St. George which has projects in the North Eastern Goldfields which has a rich history of nickel and gold mining. The table below compares the undiluted enterprise value and cash and investments – given none have any significant debt the sum of the two represents the undiluted market capitalisation.

St. George is one of a number of ASX-listed junior nickel explorers, most of whom are operating in the Fraser Range

We have considered cash as that held on June 30, 2015, and added or subtracted significant movements as subsequently announced. We have not taken into account depletion due to subsequent normal expenditure. Investments are those as highlighted by companies in presentations, and largely include holdings in listed companies. We have not taken into consideration the potential value of non-nickel exploration projects.

St. George Mining Peer Comparison by Market Capitalisation



Source: IRESS, Company reports

What can be seen that St. George has an enterprise value of around \$8 million, broadly in line with a number of the other explorers, and has cash in the order of \$2.1 million, more than sufficient to fund upcoming exploration programmes.

The Company is well leveraged to exploration success

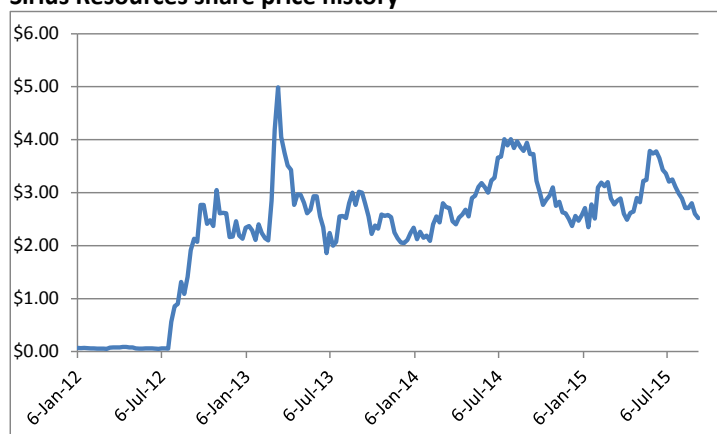
The Company is well leveraged to exploration success. A commonly cited case history on what can happen with a discovery here is Sirius Resources. At the time of the Nova discovery in July 2012, Sirius Resources had a share price of \$0.05 and a market capitalisation of around \$9 million, with \$1.5 million in the bank, similar to the current position of St. George.

Between the discovery and friendly takeover by Independence Group (ASX: AGO) in 2015, Sirius reached a peak of \$5.00, and generally traded between \$2.50 and \$4.00, as shown in the graph below.



A good case history is Sirius Resources

Sirius Resources share price history



Source: IRESS

Risks

As in any resources stock there are a number of risks involved – the ones pertinent to St. George’s current situation are given below.

Exploration risk is the key risk

- **Exploration** – This is the key risk for any junior explorer. However this is partly mitigated given the prospectivity of the tenements as demonstrated by work thus far, and the experience of the personnel involved in the projects.
- **Funding** – The Company is not hampered by lack of funding at the moment, with current cash in the order of \$2.1 million, more than sufficient to fund immediate activities. We note that the total spend was ~\$3 million in FY2015 (with 70% on direct exploration activities) – we would expect that this will be higher in the upcoming year given the additions to the tenement portfolio, so there will be the need to go to the market sometime in that period. The Company has demonstrated that it has the ability to raise funds at a reasonable price in the current difficult capital and metals markets.
- **Permitting and Sovereign Risk** – Given the known mining jurisdiction, and with the majority of tenements granted, we consider these as low risk in the case of St. George.



Project and Activities Review

Introduction

St. Georges focus is primarily on nickel in the under-explored NE Goldfields of WA

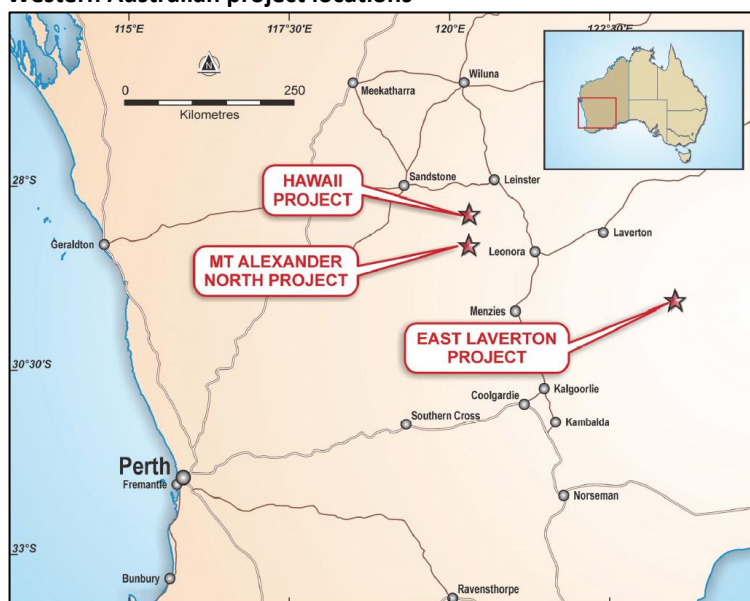
St. George’s initial focus, since listing on the ASX in 2010, has been on exploration in the relatively under-explored North-eastern Goldfields of Western Australia centred approximately 130km southeast of the gold mining centre of Laverton. The primary target is komatiite hosted nickel sulphide mineralisation, similar to that in the Agnew-Wiluna Belt; however work has also highlighted the gold and VMS-hosted base metal prospectivity.

Recent expansions into the Leinster area

They have recently expanded their tenement portfolio, acquiring underexplored tenements from BHP to the south-west of the productive Agnew-Wiluna Belt, and located over identified high MgO ultramafics adjacent to the Mt. Ida Fault; areas originally thought to be granites. The Hawaii and Mt. Alexander Project tenements have been augmented by concurrent tenement applications made by St. George.

All projects are located over greenstones of the Archaean Yilgarn Craton, a world class mineral province, and Australia’s, and one of the world’s largest nickel and gold producing regions.

Western Australian project locations



Source: St. George Mining

East Laverton Project – SGQ 100%

Introduction and Tenure

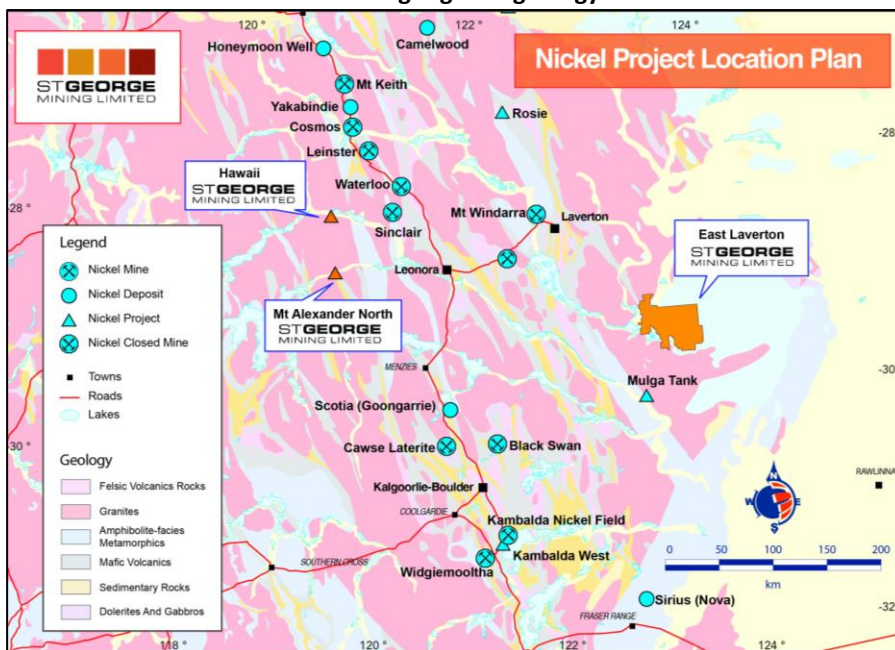
East Laverton is held 100% by St. George

The East Laverton Project includes 27 granted Exploration Licences and one Exploration Licence Application covering some 2,150km². The tenements are held through Desert Fox Resources Pty. Ltd, a wholly owned subsidiary of St. George. The tenement package includes a number acquired from A1 Minerals (now Stone Resources Australia Ltd., ASX: SHK), in which there is a 2% net smelter royalty (“NSR”) in relation to minerals produced from these tenements. The remainder of the package has been subsequently applied by and granted to St. George.

The topography is flat, with the area accessible by unsealed roads and tracks from Laverton or Kalgoorlie.



East Laverton location with showing regional geology and nickel occurrences



Source: St. George Mining

Exploration History

St. George was attracted to the area following work carried out by Government funded co-operative research between Geoscience Australia, various universities and exploration companies. Given the relative remoteness, and the presence of appreciable Permian and lesser Cainozoic cover units there has only been intermittent previous exploration.

Previous work at East Laverton concentrated largely on gold

This has included gold exploration by major companies, including Dominion Mining, Western Mining Corporation (“WMC”) and Plutonic Resources. There was no dedicated nickel exploration until the area was picked up by A1 Minerals as their Narnoo Gold and Nickel Project.

The previous work identified a number of prospects (largely gold), including Desert King, Desert Knight, Regent and Crown. Others included Jubilee, Victoria and Grand Cross. This work gave St. George a solid database to work with and to develop an exploration strategy from.

Geology and Mineralisation

The Project is located over the Narnoo Greenstone Belt

The tenement package is situated largely over the northwest trending, 35km long Narnoo Greenstone Belt, near the eastern edge of the Archaean Yilgarn Craton. The craton rim forms a convergent margin with the Proterozoic terrane to the east; however the boundary is not well defined, being approximated by the complex Albany-Fraser Mobile Zone. The Albany-Fraser Zone has been the site of two recent major discoveries; the Tropicana Gold Mine and Sirius’s Nova-Bollinger nickel discovery.

There is little outcrop in the area – the Archaean units are variable masked by Permian to Cainozoic cover, laterite and duricrust, and are mostly weathered to >50m depth.

Interpreted rift setting with bi-modal volcanism

The Narnoo belt includes a metamorphosed and complexly folded sequence of northwest striking bi-modal mafic and ultramafic volcanics (some limited dacitic volcanics have also been mapped) and siliciclastic sediments, and is marked by strong northwest and northeast trending crustal scale structures, which controlled the original depositional architecture. The structures are interpreted as representing rift parallel (northwest) and rift normal transfer (northeast) zones. The northeast structures include the Tropicana



Trend, which continues some 80km to the craton margin near the Tropicana Gold Mine. The area has also been intruded by syntectonic Archaean granites and Proterozoic dolerite dykes.

Three komatiite belts in the Project

A key factor to the nickel prospectivity is the presence of three parallel northwest striking komatiitic ultramafic belts with a total strike length in the order of 130km, and with thicknesses up to 800m. These are (from west to east) the Stella Range, Central and Minigwal belts.

These are considered fertile for nickel mineralisation, given their high magnesium contents, reflecting high melt temperatures, and are compositionally similar to those hosting nickel mineralisation in other Western Australian belts, including the Agnew-Wiluna belt which hosts a number of world class nickel deposits.

Narooma satisfies a number of criteria considered positive for nickel sulphides

The Narooma belt satisfies a number of criteria considered positive for nickel sulphide mineralisation:

- Located near a major crustal boundary
- Intersections of crustal scale structures, which promote higher magma flow
- High MgO komatiitic ultramafic units
- Sulphur rich sediments, required to provide the sulphur for nickel sulphide formation.

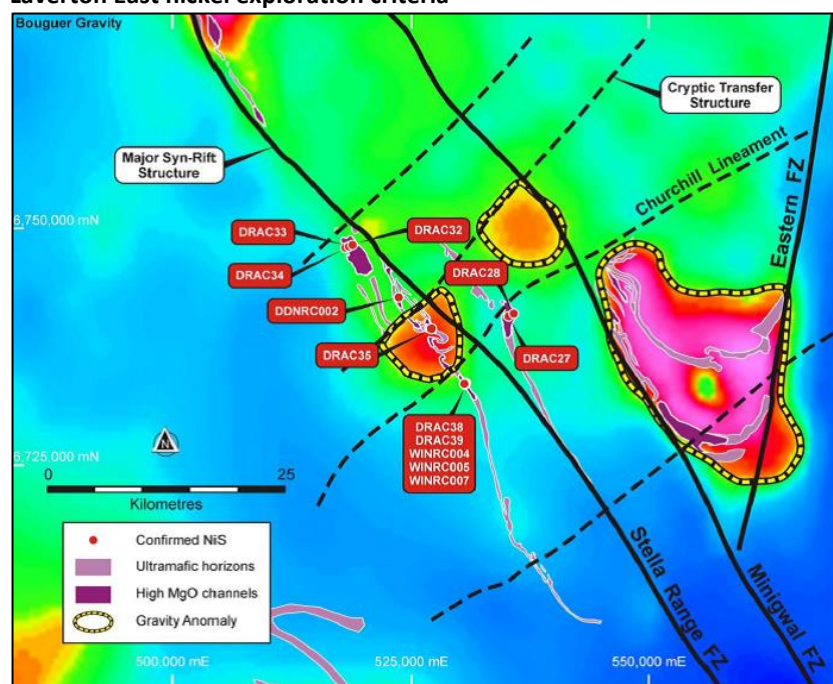
In addition, the deep crustal faults are also considered as important district controls for shear hosted orogenic gold mineralisation, for which the package is also considered highly prospective.

Work to date has confirmed the nickel sulphide prospectivity

The nickel prospectivity has been confirmed, with work to date by St. George (and previous farm-in partner BHP) identifying multiple komatiite ultramafic bodies and nickel sulphides. Although no significant gold has been intersected, drilling has intersected broad zones of intense alteration consistent with gold mineralising fluids associated with anomalous bedrock gold values.

Drilling has also intersected exhalative sulphide zones anomalous in zinc and copper, possibly reflecting distal VMS mineralisation.

Laverton East nickel exploration criteria



Source: St. George Mining



Work Completed by St. George and Partners

Since listing in November 2010, St. George has carried out a comprehensive exploration programme. Initial work included a 500m grid base mobile metal ion (“MMI”) soil sampling programme, with areas of interest infilled on a 50m grid. This work identified a number of nickel and gold prospects, with the key gold prospects including Balmoral and Desert Dragon, and Aphrodite showing nickel anomalism. The Aphrodite Prospect is also co-incident with a geophysical conductor identified by WMC.

Significant work has been completed by St. George and previous JV partner BHP Billiton Nickel West

The Company entered into a farm-in agreement for the nickel rights only with BHP in early 2011, whereby BHP could earn 70% of the project by sole funding to a bankable feasibility study (“BFS”). On 29 May, 2013 BHP exercised its option to proceed with the farm-in arrangement and to continue funding exploration. On 3 October 2013, BHP withdrew from the Project as part of cost cutting measures, and returned their earned equity in the Project to St. George.

Drilling has intersected nickel sulphides

Work by BHP included a 35 hole, 8,560m RC drilling programme which tested seven targets. 28 of the holes intersected komatiitic ultramafics, with two holes (DRAC35 and DRAC38) intersecting disseminated nickel sulphide mineralisation. These intersections included **18m @ 0.40% Ni from 100m in DRAC35, and 30m @ 0.31% Ni from 108m (including 2m @ 0.62% Ni from 132m) in DRAC38.**

Although sub-economic, these intersections, both in the western Stella belt, indicate the prospectivity of the package. A number of other holes also had elevated nickel and MgO grades representative of adcumulates and mesocumulates, typical host rocks for nickel mineralisation.

Concurrent with the BHP work, St. George carried out gold exploration over the package and nickel exploration over tenements outside the JV area, however it has concentrated on nickel exploration following the BHP withdrawal.

Work completed by St. George subsequent to the initial BHP farm-in has included:

- Further MMI soil sampling
- Airborne magnetics/radiometrics
- Comprehensive moving loop, fixed loop and downhole EM surveys
- Detailed gravity surveying
- RC and diamond drilling
- Technical reviews of exploration activities

2015 Diamond Drilling

The latest work, completed in mid-2015, included a seven hole, 3,182.7m diamond drilling programme at the priority Desert Dragon Central prospect, and drilling at other prospects including Aphrodite (one hole), Cambridge (two holes) and Desert Dragon North (one hole).

Encouraging results from 2015 diamond drilling

This work confirmed the prospectivity of Desert Dragon Central (detailed below), and also intersected thick zones of high nickel and MgO komatiites at Cambridge, which are more extensive than originally thought, and are similar to the central dunite lens at the +1.4Mt contained Ni Perseverance mine at Leinster.

Drilling at Aphrodite intersected a 30m wide magnetite zone (interpreted as the cause of the targeted EM anomaly), and a shear zone with pervasive variable silica-chlorite-carbonate-sericite alteration with associated pyrite, and anomalous molybdenum throughout the hole.



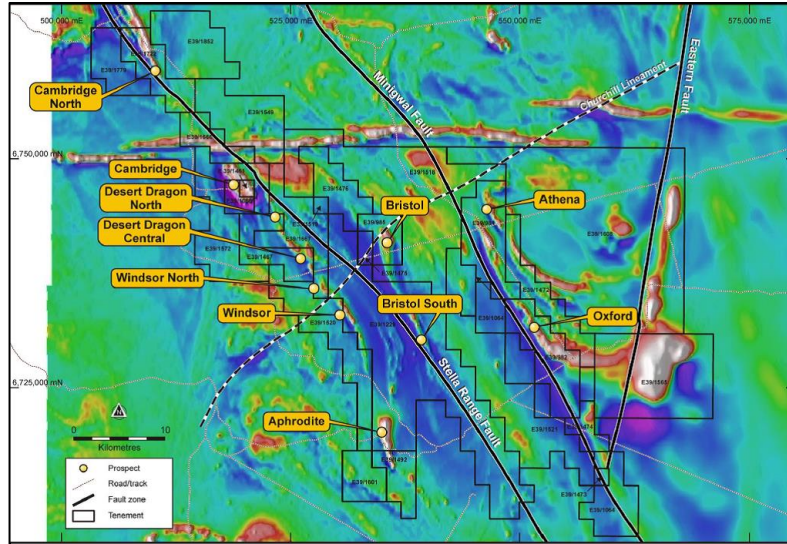
Target Generation

Ongoing work is now concentrated on drill target generation, including down hole and fixed loop EM surveying, and a gravity survey covering the ultramafic belts.

All work to date has resulted in the delineation of a pipeline of key prospects which require further follow up as shown below.

Key Prospects

Drill target generation has identified a pipeline of priority targets



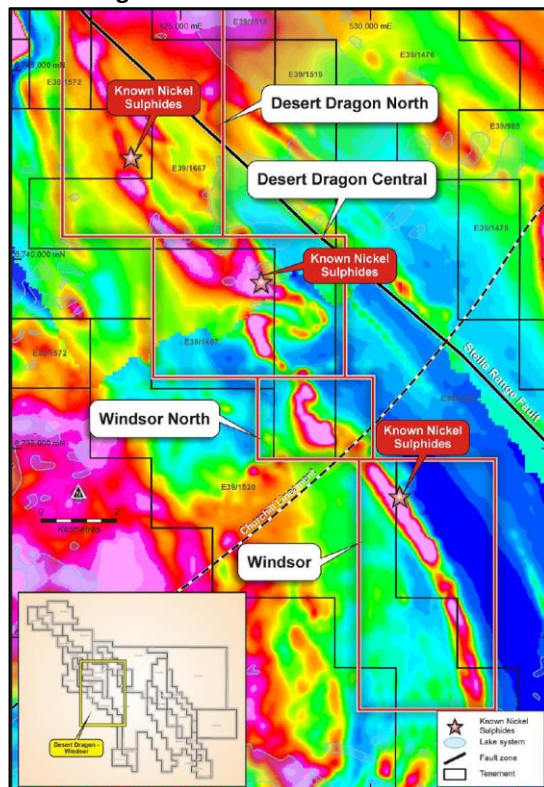
Source: St. George Mining

Priority Prospects

Activities in the near future will be concentrated on the 18km strike section of the Stella Range trend extending from Desert Dragon in the north to Windsor in the south as shown below. These are included in the ~7,000m of drilling programme due to commence in early October.

Stella Range Trend

Activities to be concentrated on the Stella Range Trend



Source: St. George Mining

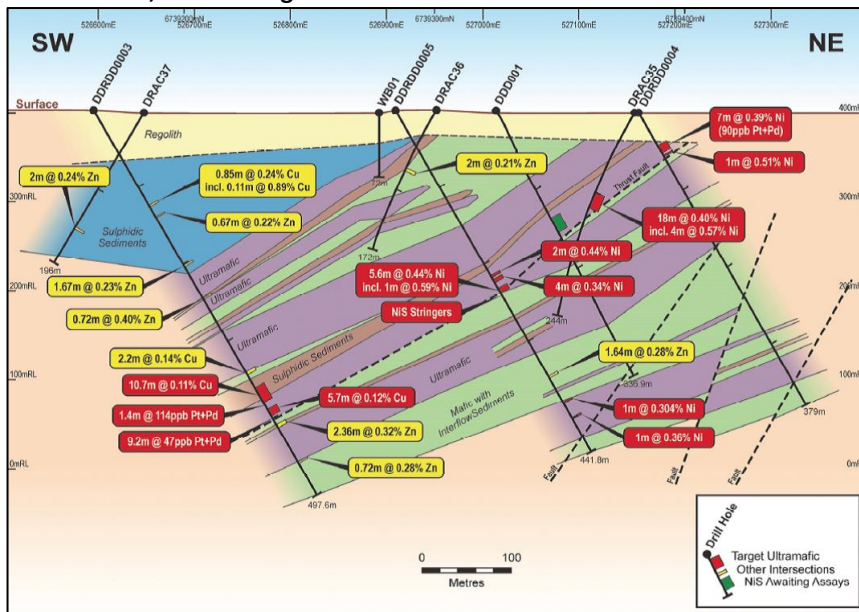


Desert Dragon Central

The potential of Desert Dragon Central was first identified in BHP hole DRAC35, and the geology comprises intercalated ultramafic units, mafic volcanics and sulphide rich sediments as shown in the section below. The sulphidic sediments, which are anomalous in copper and zinc, may represent the distal part of a VMS exhalative mineral system.

Cross section, Desert Dragon Central

Desert Dragon Central has returned very encouraging results



Source: St. George Mining

Nickel sulphides have been intersected at this key prospect

Drilling to date has identified a continuous zone of nickel sulphides intersected in most holes and in two of the ultramafic units, with intersections of up to 18m @ 0.40% Ni, and with a number of holes exhibiting anomalous platinum group elements (Pt and Pd, "PGE's"). Downhole EM surveying has also identified strong off-hole conductors in holes DDRDD0004 and DDRDD0005.

The results of the drilling to date are very encouraging, showing the potential for both massive nickel sulphide and VMS mineralisation, which can occur together in Archean rift environments with trans-lithospheric structures.

Desert Dragon North

Initial RC drilling at Desert Dragon North intersected 2m @ 1.08% Ni, with sulphide stringers being interpreted as having a local source, either remobilised along a shear zone or related to basal mineralisation. There is also an extremely strong DHEM conductor in hole DDNDD0001, which is a priority target, and will be drilled in the upcoming programme.

Windsor

Windsor is another high priority target, with nickel sulphides being intersected

Exploration at the Windsor prospect has also returned very promising results. Nickel sulphides were first intersected in BHP hole DRAC38, which returned 30m @ 0.31% Ni from 108m. Subsequent drilling has shown the geology to be broadly similar to that at Desert Dragon Central, with intercalated mafic and ultramafic volcanics, black shales and sulphidic sediments being intersected.

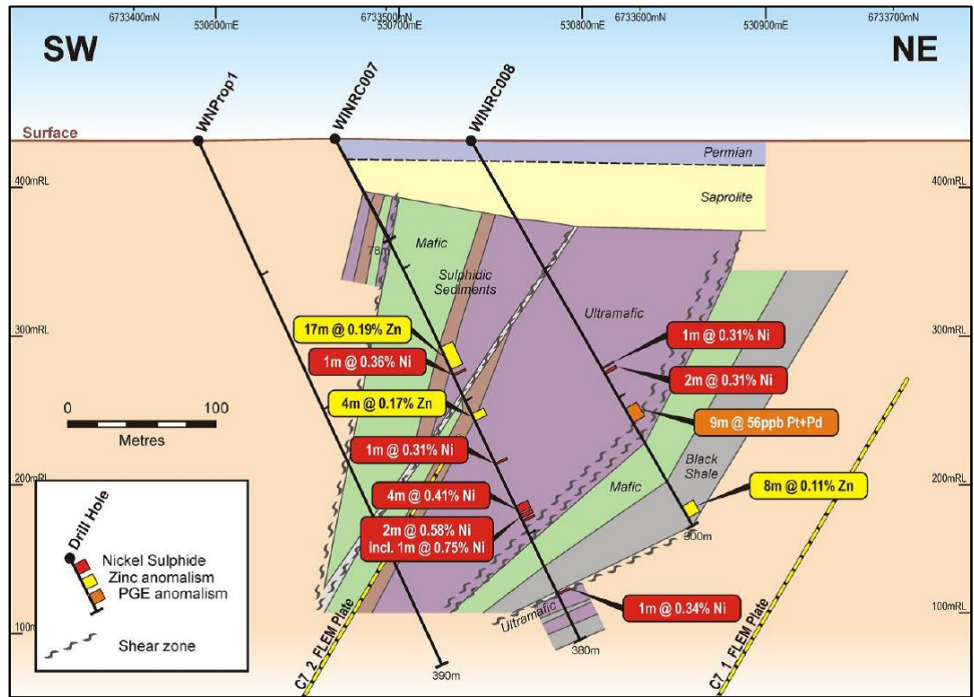
Drilling in 2014 included six holes, five of which intersected nickel sulphides, including intersections of 4m @ 0.41% Ni from 280m and 2m @ 0.58% Ni from 286m in WINRC007. The drilling also intersected anomalous PGEs and Zn, with the Ni and PGE intersections largely near the eastern basal contact of the ultramafic.

The sub-vertically dipping, funnel shaped ultramafic adcumulate is interpreted to extend over a strike length of 2km, with only 200m of this being tested by drilling to date.

4,000m of drilling is planned at Windsor

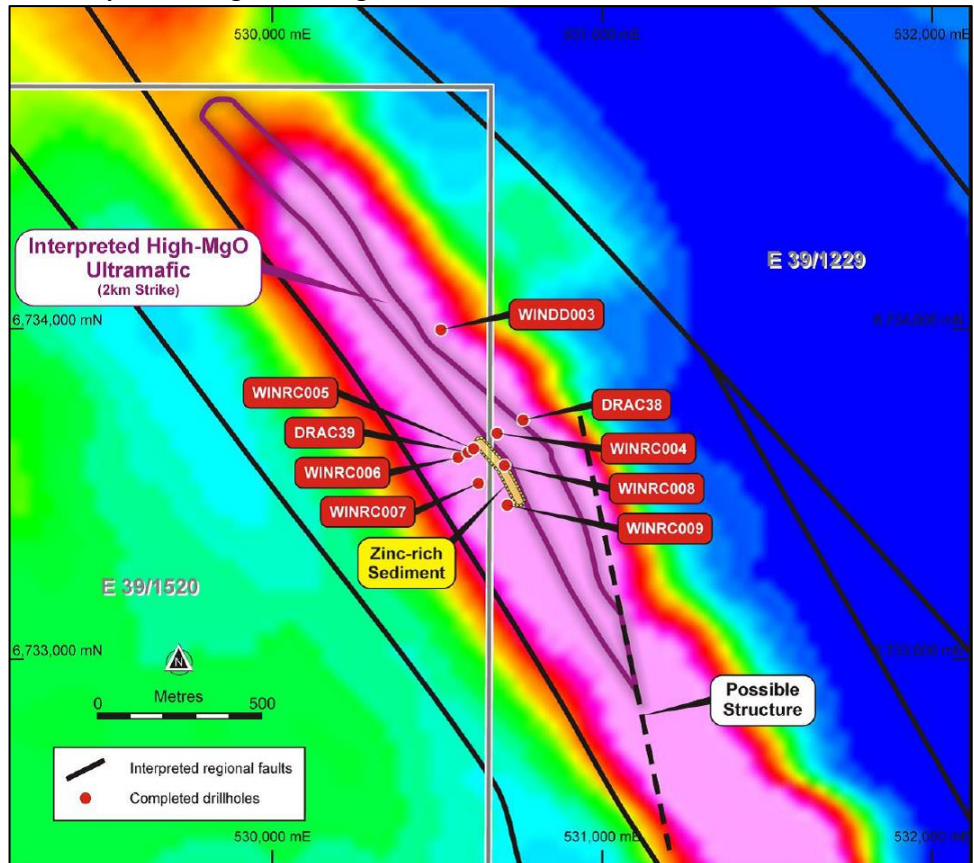
It is planned to drill 4,000m of RC drilling as part of the upcoming programme, which will largely test the prospective eastern basal contact along strike from the known nickel sulphide occurrences. The Company will also complete down hole EM on selected drillholes.

Windsor section



Source: St. George Mining

Windsor plan on magnetics image



Source: St. George Mining



East Laverton Gold

Although the current focus is on nickel exploration, the East Laverton Project is still considered very prospective for gold mineralisation. The Company concentrated on gold exploration over the BHP JV tenements during 2012, with the focus reverting back to nickel when BHP exited the JV.

The most recent gold focussed drilling was in late 2012, when St. George drilled the Desert Dragon Central and Athena gold prospects, both marked by strong gold soil geochemical anomalies. Previous drilling was also carried out on the Balmoral group of prospects.

Although no significant gold was intersected, the programmes, targeting shear zones at Desert Dragon Central and Athena intersected broad zones of silica-albite-chlorite alteration and disseminated sulphides, consistent with oxidised and alkaline fluids typical of those associated with much of the gold mineralisation in the Laverton region.

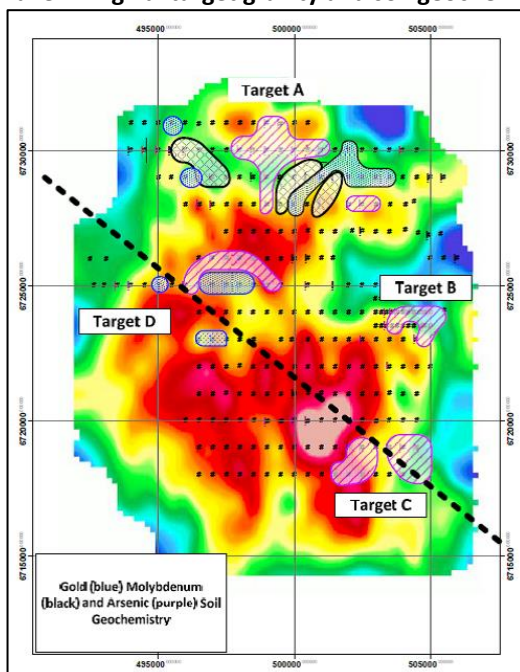
The gold drilling and surface geochemistry has recognised different gold prospective geochemical associations, with the Company still considering that the project is highly prospective despite the focus on nickel.

Gold drilling has returned alteration indicative of that associated with mineralisation in the region

Lake Minigwal Project – St. George 100%

The Lake Minigwal Project comprises two Exploration Licences and one application for ~500km². This previously unexplored area, considered prospective for nickel and gold, is over what is interpreted to be greenstone, possibly an extension of the Minigwal and Wongatha belts to the south, which host Impact Minerals' (ASX: IPT) Mulga Tank nickel sulphide mineralisation. The area is covered by recent sands; hence there are no outcropping Archaean units.

Lake Minigwal target gravity and soil geochemistry



Work at Lake Minigwal has identified a number of geophysical and geochemical targets

Source: St. George Mining

Regional surface geochemical surveying by the GSWA in 2010 identified a large and strong gold anomaly to the immediate southwest of the East Laverton Project, which was the catalyst for the initial Lake Minigwal application.

Work to date by St. George has included a gravity survey and 1,000m x 500m grid soil geochemical sampling over key areas of the project. The results are very encouraging, with



the geochemistry defining a 5,000m long composite gold-molybdenum-arsenic anomaly at the northern contact between mafic/ultramafic volcanics and sediments, and with gold anomalism further constrained along a NW trending structure. This position at the sediment contact may be significant – the major deposits in the Laverton area are hosted in the sediments rather than volcanics.

The work also confirmed the geology as interpreted from the gravity surveying, indicating the presence of mafic and ultramafic volcanics and sediments.

Drilling is planned for Q4, 2015

The Company is now planning a drilling programme to be carried out in Q4, 2015, which will test the gold anomaly and the nature of the greenstone units.

Hawaii and Mt. Alexander North Projects

Introduction and Tenure

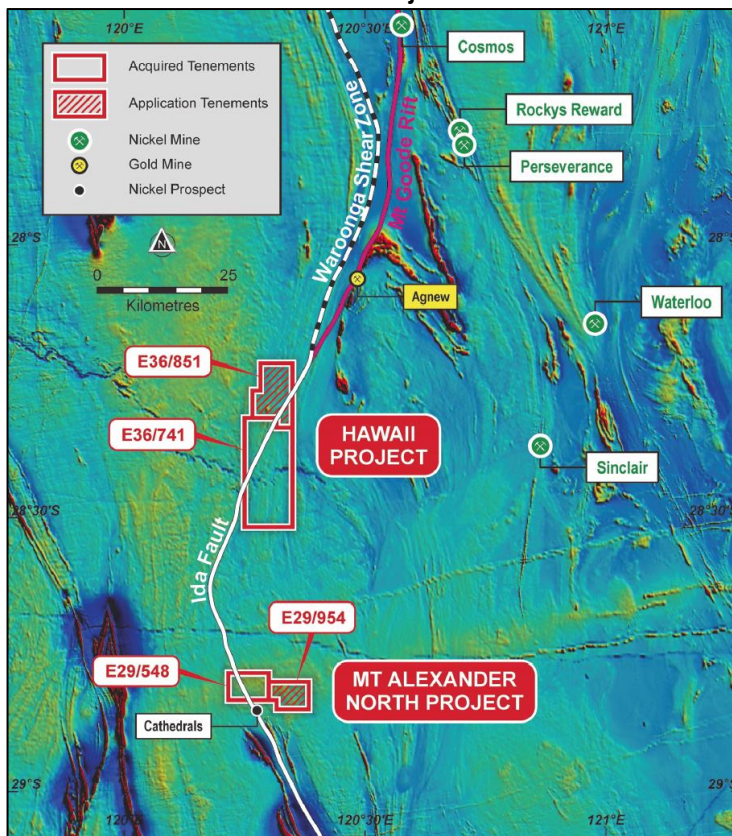
Recent acquisition of Hawaii and Mt. Alexander North SW of Leinster

St. George has recently obtained two new projects – Hawaii and Mt. Alexander North. These include two granted tenements totalling 256km² that were acquired from BHP, and two new applications totalling 128km² as shown in the figure below.

The terms of the BHP acquisition are:

- Consideration of \$40,000
- BHP has the off-take rights to any nickel produced
- BHP may charge a base royalty of 1% from any mineral production, and an additional royalty of 1% from nickel production only if a JORC-compliant resource of at least 25,000t of contained nickel is defined, with this second royalty starting 12 months from the commencement of any production.

Hawaii and Mt. Alexander North Projects



Source: St. George Mining



Geology and Exploration

The two projects, centred approximately 70km and 120km southwest of Leinster respectively, are adjacent to the Ida Fault, a craton-scale structure that forms the boundary between the Eastern Goldfields Superterrane to the east and the Youanmi Terrane to the west.

These projects are possibly in a similar structural and geological setting to the high grade nickel at Cosmos

The Mt. Goode Rift, which hosts the Cosmos nickel complex (“Cosmos”) is interpreted as being a splay off the Ida Fault, and the Company is of the view that the two new Projects could contain the same stratigraphic package as that at Cosmos. Cosmos contains over 500,000t of contained nickel, including the high grade open cut Cosmos shoot (originally 0.4Mt @ 8.2% Ni) and the underground Cosmos Deeps (originally 0.56Mt @ 7.6% Ni), two of the highest grade nickel shoots ever discovered.

Mt. Alexander North is immediately to the north of the Mt. Alexander Project, currently held by BHP (75%) and Western Areas (25%). Drilling here has intersected high grade nickel-copper sulphides at the Cathedrals Prospect, including 4m @ 4.9% Ni, 1.7% Cu and 3.9g/t PGE from 91.4m.

There has only been limited work on the Projects. Geophysics, including EM, sub-audio magnetic (“SAM”) and magnetics surveying has been completed over parts of the tenements. Aircore drilling over the Hawaii Project intersected 5km strike of moderate to high MgO ultramafics in an area originally considered to be barren granitoids.

Planned work by St. George includes deep RC drilling targeting the ultramafics and high amplitude magnetic anomalies at Hawaii, with this to commence in early October.

Breakaway’s View

St. George has a quality portfolio of nickel sulphide and gold exploration properties in Western Australia. This is backed up by a management and technical team with extensive experience, 2nd to none in the styles of mineralisation being targeted, and with involvement in past nickel discoveries – this is a key advantage for St. George.

The Company’s strategy of exploring in previously unexplored or underexplored areas is paying dividends, with the right geological factors being identified. A steady and measured approach to exploration has also been taken.

Work to date, particularly over the East Laverton Project, has returned results confirming the high nickel, and to a lesser extent gold prospectivity, with this work confirming that the area contains the geological and geochemical criteria required for mineralisation. The area is considered similar to the Agnew-Wiluna Belt, which contains Australia’s largest komatiitic associated nickel endowment.

The Company is well-funded, and is about to commence an aggressive 7,000m RC drilling programme, with concomitant news flow. With an enterprise value of ~\$8 million (similar to that of Sirius at the time of the Nova discovery) the Company is well leveraged to exploration success.

We rate St. George as a SPECULATIVE BUY

Given the above we rate St. George as a SPECULATIVE BUY, with price movers being positive exploration results.



Komatiite Hosted Nickel 101

Geology and Petrology

Komatiite hosted nickel sulphide deposits are an important world source of nickel, comprising some 20% of global nickel sulphide endowment. By far the most prolific of these styles of deposits are in the greenstone belts of the Yilgarn Craton of Western Australia, characterised by the Agnew-Wiluna belt to the north and the Kambalda area to the south.

There is a spectrum of komatiite hosted deposits, ranging from the sub-volcanic dunite sill hosted lower grade large tonnage Mt Keith deposit in the northern Agnew-Wiluna belt, to the very high grade lava flow deposits in a number of areas, including the Kambalda area deposits and at Cosmos. The deposits also host variable copper, cobalt and PGEs.

Komatiites are high magnesian (>18% MgO) rocks formed by a high percentage of partial melting of mantle peridotite, a rock formed largely of olivine. Komatiites are formed dominantly of forsterite, the high magnesian end member of olivine, with nickel, copper and chrome also partitioning into the melt. Komatiites show a strong linear positive correlation between MgO and nickel content.

They are largely restricted to the Archaean, but with a notable exception being in the 1,883Ma Thompson Belt in Canada. Australian komatiites were all formed in a tight age range around ~2,700Ma. The tectonic setting is near an active plate margin, including continental rifts or back-arc basins.

The melting temperature of the magmas is around 1700°C, compared with modern basaltic lavas of around 1200°C. This probably reflects higher geothermal gradients at the time of formation. The high melting point and low silica content also mean that the magma is extremely viscous (close to that of water), and when erupted formed broad sheet flows.

Upon cooling the rocks form a number of distinctive textures. These include cumulates, which in the case of komatiites are olivine crystal rich rocks (dunites), and named according to the crystal content:

- Adcumulate – 93-100% crystals in a fine grained groundmass
- Mesocumulate – 85-93% crystals in a fine grained groundmass
- Orthocumulate - 75-85% crystals in a fine grained groundmass

These cumulates are formed by the crystallisation and settling out of olivine and accessory minerals in the cooling melt, with the higher crystal content cumulates generally closer to the magma source. Another distinctive texture is “spinifex” texture in olivine, a quenching texture comprised of radiating bladed crystals.

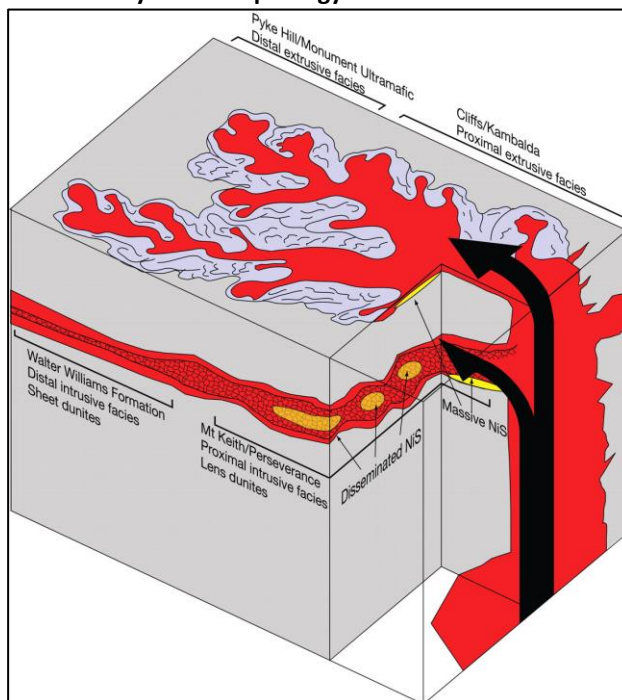
The figure below shows the morphology of a komatiitic magmatic system, and where examples of mineralisation sit in relation to various parts of the magmatic system.

One common feature of lava flows is the formation of flow channels, caused by the thermal erosion of the underlying strata. These channels are commonly flanked by thinner, lower MgO sheet flows. The bases of the channels are often the site for massive high grade nickel lenses, with examples including the Kambalda deposits. Channels (and high grade massive sulphides) can also form in the subvolcanic environment, for example in sills.



Sills are also now believed to be the host for some of the large, lower grade disseminated deposits like Mt. Keith. This was originally thought to have formed in a high flux lava channel, however more recent work has shown the sill, or proximal intrusive facies host to the mineralisation.

Komatiitic system morphology



Source: Fiorentini et al, 2012¹

Mineralisation Processes

A key to mineralisation is the presence of sulphur. Generally most primitive komatiitic magmas are sulphur under-saturated, so where does the sulphur come from to form the mineralisation? In most deposits it is understood that it is assimilated from the country rocks that the lavas are intruded or extruded into. In the Yilgarn there are wide areas of sulphidic black shales, as well as sulphide rich sediments possibly representing distal VMS exhalative facies, which are an ideal sulphur source.

Nickel, copper and iron are strongly chalcophile, and will therefore preferentially partition into the sulphide phase in a mixed silicate/sulphide melt, with sulphur saturation causing sulphides to form immiscible droplets within the melt. Given the right kinematics (and this is a key to the development of economic mineralisation), the sulphide liquid will then settle to the bottom of a flow, to form the massive sulphide deposits seen. The massive sulphide will be overlain by “net-textured” sulphide, with sulphides forming the matrix to olivine crystals, with low grade blebby and disseminated mineralisation above.

Disseminated deposits, such as Mt. Keith, are comprised of sulphides interstitial to the olivine cumulate crystals – in this case the kinematics did not allow the sulphides to settle to the bottom of the magma.

The primary nickel mineral is pentlandite ((Fe, Ni)₉S₈), with the primary copper mineral being chalcopyrite (CuFeS₂). Pyrrhotite (Fe_(1-x)S), and to a lesser extent pyrite (FeS) are the main gangue sulphides.

¹ Fiorentini, M., Beresford, S., Barley, M., Duuring, P., Bekker, A., Rosengren, N., Cas, R., and Hronsky, J., 2012. District to Camp Controls on the Genesis of Komatiite-Hosted Nickel Sulfide Deposits, Agnew-Wiluna Greenstone Belt, Western Australia: Insights from the Multiple Sulfur Isotopes: Economic Geology, v. 107, pp 781-796



Directors, Management & Technical Team

Executive Chairman **John Prineas**

John has over 25 years' experience in the banking and legal sectors, including a period as the head of a financial institution in Australia. He commenced his career as a lawyer at Allen, Allen & Hemsley, gaining extensive experience in commercial transactions and corporate advice in both Australia and Asia-Pacific. In 1994, he joined Dresdner Bank AG in Sydney and over the next 10 years occupied the roles of General Counsel, Chief Operating Officer and Country Head with a focus on project and acquisition finance for resources and infrastructure projects as well as associated capital markets and treasury products, including commodities trading. John is a founding shareholder and Chairman of St George.

Technical Director **Tim Hronsky**

Tim is a geologist with over 25 years international experience in the mineral exploration and mining industry, including 15 years with Placer Dome Inc. After graduating from the West Australian School of Mines, Tim began his career in a number of operational roles before shifting to exploration where he was the Exploration Manager (Asia) for Placer Dome. Subsequently he undertook a number of corporate roles related to business improvement, risk management and assurance. More recently, he has been providing consulting services to a range of clients in the global exploration and mining industry. Formerly, Tim was a founding director of Emmerson Resources (ASX: ERM) and a non-executive director of A1 Minerals Ltd (ASX: AAM).

Non-Executive Director and Company Secretary **Sarah Shipway**

Sarah is a Chartered Accountant with extensive experience in advising on ASX company listings, financial reporting, corporate planning and equity and debt funding. Sarah has a Bachelor of Commerce from the Murdoch University and is a member of the Institute of Chartered Accountants. She was appointed Non-Executive Director on 11 June 2015 and has been Company Secretary of the Company since 22 March 2012.

Exploration Manager **Matthew McCarthy**

Matthew is a geologist with 15 years' experience in nickel, gold and base metal exploration in Western Australia. He has a BSc (Hons) in Geology from the University of Western Australia and is a Member of the Australian Institute of Geoscientists and a Fellow of the Society of Economic Geologists.

Prior to joining St George Mining in March 2014, Matthew worked at BHP Billiton Nickel West where he was a senior member of the team that discovered the significant Venus nickel sulphide deposit (+250,000 tonnes of contained nickel) at Leinster. While at BHP Billiton Nickel West, Matthew managed exploration for the Project Dragon farm-in arrangement between St George Mining and BHP Billiton Nickel West, which made the breakthrough discovery of nickel sulphides at East Laverton in 2012.

Matthew, in addition, has strong expertise in gold exploration. He was on the exploration team at Anglo Ashanti Australia that discovered the Tropicana Gold Deposit (+8Moz Au) in 2005. He has also managed significant exploration and resource definition programs, including for Goldfields Australia at its St Ives Gold Project and delineated 400koz of gold resources at the Gidgee Project.

Geophysical Consultant **Newexco**

Newexco are leading geophysical consultants in nickel sulphide exploration. They are advisers on the Nova-Bollinger deposit for Sirius Resources NL (ASX: SIR) and the Spotted Quoll and Flying Fox deposits for Western Areas Limited (ASX: WSA).

Geological Consultant **Dr. Jon Hronsky**

Jon is a consultant geologist, globally recognised as a nickel expert with industry leading credentials in the area of exploration targeting for nickel sulphide deposits. Jon is a principal at geological firm Western Mining Services. Previously he was Manager-Strategy & Generative Services for BHP Billiton Mineral Exploration and before that the Global Geoscience Leader for WMC Resources. Dr Hronsky is currently Chairman of the Centre for Exploration Targeting in WA.

Nickel Consultant **Dr. Martin Gole**

Martin is an external nickel consultant, widely recognised as a pre-eminent and leading expert in nickel sulphide deposits. The author and co-author of numerous papers on Archaean nickel sulphide deposits, including the world-class Perseverance and Mt Keith nickel deposits in the Leinster nickel field.



Analyst Verification

We, Grant Craighead and Mark Gordon, as the Research Analysts, hereby certify that the views expressed in this research accurately reflect our personal views about the subject securities or issuers and no part of analyst compensation is directly or indirectly related to the inclusion of specific recommendations or views in this research.

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Breakaway Investment Group (AFSL 290093) may receive corporate advisory fees, consultancy fees and commissions on sale and purchase of the shares of St. George Mining and may hold direct and indirect shares in the company. It has also received a commission on the preparation of this research note.

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Breakaway Investment Group

AFSL 290093 ABN 84127962387

T+61293928010

F+61292792727

PO Box H116 Australia Square

Sydney, NSW 2001

Suite 505, 35 Lime Street,

Sydney, NSW 2000