



23 July 2014

Mr Sebastian Bednarczyk  
Adviser, Issuers (Perth)  
ASX Limited  
Level 8, Exchange Plaza  
2 The Esplanade  
Perth WA 6000

Dear Sebastian,

**LODGEMENT OF JUNE 2014 QUARTERLY REPORT, QUARTERLY UPDATE PRESENTATION  
INVESTOR CONFERENCE CALL AND WEBCAST**

I am pleased to attach the following items for immediate release to the market:

1. June 2014 Quarterly Activities Report
2. June 2014 Quarterly Update Powerpoint Presentation

In addition, Sandfire's Managing Director and CEO, Karl Simich, is hosting an investor teleconference and live webcast on the June 2014 Quarterly Report at 10.00am (WST) / 12.00pm (AEST) today. Details of the call are provided in the June 2014 Quarterly Activities Report.

The webcast and synchronised slide presentation is available through the Company's website or through BRR Media.

Access this webcast at: <http://www.brrmedia.com/event/124496>  
<http://www.sandfire.com.au>

Yours sincerely,

**Matt Fitzgerald**  
**Chief Financial Officer**  
**and Company Secretary**

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Underground tag board, DeGrussa

**ASX Code:**

SFR

**Issued Capital:**

Ordinary Shares 155.6M  
Options 8.1M

**Major Shareholders:**

OZ Minerals 19.2%  
POSCO 15.3%

**Directors:**

**Derek La Ferla**  
Non-Executive Chairman

**Karl M. Simich**  
Managing Director and  
Chief Executive Officer

**Paul Hallam**  
Non-Executive Director

**W. John Evans**  
Non-Executive Director

**Soocheol Shin**  
Non-Executive Director

**Robert Scott**  
Non-Executive Director

**Management:**

**Michael Spreadborough**  
Chief Operating Officer

**Matthew Fitzgerald**  
Chief Financial Officer and  
Joint Company Secretary

**Robert Klug**  
Chief Commercial Officer and  
Joint Company Secretary

**Date:**

23 July 2014



**SANDFIRE RESOURCES NL**

**QUARTERLY REPORT**

For the period ended 30 June 2014

**HIGHLIGHTS**

**Production & Operations**

Contained metal production	Sep 2013 Quarter	Dec 2013 Quarter	Mar 2014 Quarter	Jun 2014 Quarter	FY2014 Total
<b>COPPER (t)</b>	16,446	15,492	18,098	17,654	<b>67,690</b>
<b>GOLD (oz)</b>	8,613	5,957	10,035	9,288	<b>33,893</b>

- 17,654t copper and 9,288oz gold produced; C1 US\$1.18/lb.
- FY2014 production: 67,690t copper, 33,893oz gold; C1 US\$1.18/lb.
- Underground mining and milling rates exceeded 1.5Mtpa for the Quarter.
- New contract for underground mining awarded to Byrncut Australia Pty Ltd, with the successful changeover to the new contractor completed on 1 July 2014.
- Development of C1, C4 and C5 declines progressing on schedule with good ground conditions.
- FY2015 production guidance: 65-70,000t of copper, 35-40,000oz of gold at C1 cash operating costs in the range of US\$1.15-1.25/lb.

**Exploration**

- Resource definition drilling underway to upgrade the Central and Eastern portions of the C4 orebody from Inferred to Indicated Resource status.
- Diamond drilling commenced at Springfield Project (Talisman JV) to test an EM conductor identified from a high-powered fixed loop electromagnetic (FLEM) survey. The conductor is located ~5km east of DeGrussa.
- Diamond drilling and metallurgical assessment commenced at the Thaduna Copper Project (Ventnor JV) to advance assessment of the near-surface resource for treatment at DeGrussa's proposed Oxide Copper Project.
- Deep diamond drilling scheduled to commence in the September Quarter at the key Mt Sisa target at the Misima porphyry copper-gold project (SFR: 37% of WCB Resources).

**Corporate**

- Debt repayments of \$30M completed. Facility balance reduced to \$160M at 30 June 2014 with cash reserves of \$58M at financial year-end.
- FY2014 Sales Revenue \$531M – \$18m shipment finalised 1 July 2014.

June 2014 Quarterly Report Presentation to be webcast live at 10.00am (WST) / 12.00pm (AEST) today, 23 July 2014, with a simultaneous investor conference call (details inside).



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## 1.0 OPERATIONS OVERVIEW

Copper production for the June Quarter was 17,654 tonnes (March Quarter: 18,098 tonnes) which was in line with guidance, reflecting an average ore grade of 5.0% Cu for the Quarter (March Quarter: 5.3% Cu). C1 cash operating costs for the Quarter were US\$1.18/lb (March Quarter: US\$1.08/lb), as a result of lower gold production and sales as well as a stronger AUD currency. Total production for FY2014 was 67,690 tonnes of copper and 33,893 ounces of gold at a headline C1 cash operating cost of US\$1.18/lb of payable copper.

Mining and milling throughput exceeded 1.5Mtpa for the June Quarter, demonstrating the capacity of the mine and the processing plant. At the end of the Quarter, mined ore ROM (run-of-mine) stocks exceeded 70,000 tonnes. During the Quarter, the strategy of running the SAG mill in 'scatting out' mode continued, allowing higher copper unit production. 396,077 tonnes of ore was milled for the June Quarter with a total of 1,490,954 tonnes milled for FY2014. Average copper recovery was lower at 89.5% in the June Quarter – primarily as a result of the lower ore feed grade and a lower recovery ore type than originally forecast.

Recoveries are expected to return to the targeted level of +90%. The installation of a pebble crusher, SAG mill classification screen and a column flotation cell in the September Quarter, as previously foreshadowed, will further improve the efficiency of the recycling SAG mill scats, reduce plant instability and further lift copper recovery.

Underground mining progressed on schedule with four stopes in various stages of development and production. The underground mine exceeded the targeted ore production rate of 1.5Mtpa (125,000 tonnes per month) with a total of 415,930 tonnes of underground sulphide ore mined for the Quarter. The mine remains in balance between production and back-fill. As a result, production for Q1 of FY2015 should not be constrained by either development or back-fill. The majority of paste-fill delivery for the Quarter was under gravity flow conditions with high daily filling rates achieved.

The mined grade was below plan for the quarter, reflecting lower-than-expected localised grades for the quarter.

Sandfire maintained a strong focus on underground development, with the Conductor 1, Conductor 4 and Conductor 5 declines well advanced from the junction off the Evans Decline and total underground development reaching over 22km at quarter end.



Figure 1 – Geologists examining underground diamond drill core (left) and the DeGrussa plant at dusk (right)

### 1.1 Safety

The Total Recordable Injury Frequency Rate (TRIFR) for FY2014 continued to show a steady decline to 9.1 at the end of the June Quarter, compared with 13.0 YTD at the end of the March Quarter. The TRIFR for the Quarter was 6.96. Recordable injuries include those that result in any days away from work (Lost Time Injuries) and those where an employee or contractor cannot perform all or any part of their normal shift (Restricted Work Day Injuries), as well as any injury that requires services that only a medical practitioner can provide (Medical Treatment Injuries).

The continued improvement in safety performance was an outstanding result given the significant changes and activities on site especially the change out of the mining contractor. Work continues on initiatives to improve safety performance including safety skills and leadership, standard development and risk and assurance management.

## 2.0 MINING & PRODUCTION

### 2.1 Overview

June 2014 Quarter – Production Statistics		Tonnes	Grade (% Cu)	Grade (g/t Au)	Contained Copper (t)	Contained Gold (oz)
Concentrator	Mined	415,930	4.5	1.5	18,614	19,556
	Milled	396,077	5.0	1.5	19,739	19,355
<b>Production</b>		<b>74,064</b>	<b>23.8</b>	<b>3.9</b>	<b>17,654</b>	<b>9,288</b>

**Note:** Mining and production statistics are rounded to the nearest 0.1% Cu grade and 0.1 g/t Au grade. Errors may occur due to rounding. Production Statistics are subject to change following reconciliation and finalisation subsequent to the end of the Quarter.

### 2.2 Underground Mining

Underground mining progressed on schedule with four stopes on-line during the Quarter. The targeted annualised underground ore production rate of 1.5Mtpa (125,000 tonnes per month) was exceeded with a total of 415,930 tonnes of underground sulphide ore mined for the Quarter.

The mine remains in balance between production and back-fill. Production for Q1 FY2015 will therefore not be constrained by either development or back-fill. Back-fill performance during the Quarter was impacted by a temporary failure of the paste mixer which has now been rectified and was attributed to damage during the earlier operation of the paste plant following commissioning. Since then, plant performance has achieved target rates.

The majority of paste-fill delivery for the Quarter was under gravity flow conditions with high daily filling rates achieved. Late in the month, filling changed to pump delivery to fill an upper level DeGrussa stope. The next planned campaign of filling using pump delivery will be the filling of another upper level DeGrussa stope in the September Quarter. This will be the last campaign utilising this filling method until much later in the mine life.

The mined grade was below plan for the quarter. Analysis has confirmed that localised high-grade diamond drilling intercepts did not extrapolate as widely as predicted. Mine-wide ore reconciliations remain good across the DeGrussa and C1 lenses.

The Conductor 1 Decline advanced on schedule during the Quarter, enabling the commencement of additional ventilation rises as well as down-dip drilling within the Conductor 1 deposit. The development of this decline will enable the Conductor 1 deposit to be fully developed and extracted. Conductor 4 decline development advanced 520m with the Conductor 5 decline advancing 123m.

#### 2.2.1 Award of new underground mining contract

During the Quarter, Sandfire awarded a new contract for underground mining services at DeGrussa to specialist underground mining contractor Byrncut Australia Pty Ltd. The contract, which has an estimated value of \$200 million, was awarded following a competitive tender process. The new DeGrussa underground mining contract has a three-year term, with Sandfire having an option to extend for a further two years. It is the single largest operational contract at DeGrussa, employing approximately 150 people and utilising some 30 items of underground mining equipment and associated surface support.

The implementation of the new contract is expected to reduce gross mining costs at DeGrussa by over 10 per cent. This will see a reduction in anticipated mining, decline development and underground sustaining capital. This is consistent with ongoing efforts by Sandfire's management to reduce costs, improve efficiencies and streamline all aspects of the DeGrussa Operation and also reflects the lower contract rates currently being experienced across the Australian resources sector.

Byrncut is a specialist underground mining contractor offering a diverse range of specialist mining services in Australia and overseas. It has a strong depth of experience in mine development and production techniques, combined with extensive knowledge in Occupational Health & Safety, equipment management and maintenance, purchasing and contract administration. The change-out to the new underground contractor was successfully completed by 1 July 2014 with ramp-up to target production and development rates completed.

### 2.3 Processing

Milling rates during the Quarter exceeded an annualised rate of 1.5Mtpa, confirming the capability of the processing plan when processing only underground sulphide ore to exceed nameplate capacity.



Key metrics for the June Quarter included:

- 396,077 tonnes milled at an average head feed grade of 5.0% Cu (March Quarter: 379,018 tonnes at 5.3% Cu);
- Overall copper recovery of 89.5% (March Quarter: 91%);
- Concentrate production of 74,064 tonnes (March Quarter: 74,213 tonnes); and
- Metal production of 17,654 tonnes of contained copper and 9,288 ounces of contained gold (March Quarter: 18,098 tonnes of contained copper and 10,035 ounces of contained gold).

Average copper recovery fell to 89.5% in the June Quarter as a result of the lower ore feed grade, and the impact of higher flotation tail grade due to plant instability and a lower copper-sulphur ratio.

Sandfire is in the process of implementing a number of improvement projects. These include:

- Installation of a Pebble Crusher in the September Quarter to facilitate the removal of critical sized material allowing the SAG mill performance to be optimised in terms of throughput and grind size. The Pebble Crusher, which will be installed at a cost of \$6.4 million, will efficiently re-handle and crush the critical-sized material prior to re-feeding into the SAG mill. The operation of the SAG mill in 'scatting out' mode since March has confirmed the benefits of removing this material;
- A Column Flotation Cell will be installed in the September Quarter. Pilot test work performed over the last two quarters confirms that the tails contains entrained copper as a consequence of insufficient residence time in the flotation cells. Additional cell capacity will be installed via a column flotation cell with forecast copper recovery improvement of over 1% from current performance; and
- In association with the column flotation cell, a screen arrangement will be installed as part of the SAG mill system in lieu of the current cyclones. Testwork has confirmed that the current classification arrangement is resulting in over-grinding of a portion of the ore feed resulting in low recovery of this finer copper fraction in the flotation plant. The SAG classification screen will allow better control of the feed size returned into the SAG mill, thereby preventing the formation of fine particles. The column flotation cell and SAG screen plus additional improvements in process control will cost \$6.8 million.

## 2.4 Guidance – FY2015

FY2015 targeted copper production is expected to be within the range of 65-70,000 tonnes of contained copper metal and gold production within the range of 35-40,000oz. Headline C1 cash operating costs are expected to be with the range of US\$1.15-1.25/lb.

Refer to Sandfire's June 2014 Quarterly Presentation (released today) for further detail and guidance on operating parameters and unit costs.

## 3.0 SALES AND MARKETING

### 3.1 Copper Concentrate Shipments

A total of 59,799 tonnes of plant concentrate containing 13,754 tonnes of payable copper was sold for the Quarter. Gold sales totalled 6,509 ounces for the Quarter. Shipments were completed from Port Hedland and Geraldton.

## 4.0 FEASIBILITY STUDIES & METALLURGY

### 4.1 Oxide copper

The Sandfire Oxide Copper Project at DeGrussa has been extensively tested and the project is being evaluated on the following basis:

- Existing stockpiled oxide material will be scrubbed to remove fine clays;
- The -150um material will be deposited in a purpose-built additional tailings storage facility and the +150um material will be all in crushed to -24mm for heap leaching;
- The heap leach will be a combination of a traditional sulphuric acid leach coupled with bio-leaching; and
- The pregnant liquor from the heap leach will be concentrated in a solvent extraction circuit with the strong electrolyte fed to an electrowinning circuit to produce 99.99-99.999% copper cathode.

In December 2013, Sandfire signed a joint venture agreement with Ventnor Resources at the Thaduna/Green Dragon Copper Project (see Section 5.3.2 below). Ventnor has significant oxide material which has the potential to be processed through the oxide facility being proposed for DeGrussa.

Geological investigation and metallurgical testing will be undertaken as part of the joint venture with Ventnor. Following this, the Oxide Copper Project financial analysis will be updated to reflect the potential oxide material from this joint venture being processed by the Oxide Copper facility.

The Thaduna Project has the potential to increase the copper units to the Oxide Copper Project, increasing the life of the project. Project commitment will await completion of this detailed Ventnor work.

## 5.0 DEGRUSSA EXPLORATION

### 5.1 Overview

Sandfire continues to progress a tightly focused, multi-disciplined exploration campaign to test for extensions to the known cluster of VMS deposits at DeGrussa and to unlock the broader potential of the Doolgunna region for additional VMS (volcanogenic massive sulphide) deposits or clusters of deposits.

Key components of the Company's exploration activity at DeGrussa during the June Quarter included:

- Continued U/G drilling focussing on C4 resource definition and updating the structural model of the DeGrussa deposits
- Further underground diamond drilling targeting down-dip extensions of Conductor 1
- Identification of footwall stockwork feeder zones to massive sulphide mineralisation at the DeGrussa Copper Mine
- Continued first-pass regional exploration over a number of exploration targets within the broader Doolgunna tenement holding
- Completion of metallurgical test drilling at Thaduna (808.5m)
- Commencement of core re-logging and structural interpretation of the Thaduna and Green Dragon Cu deposits
- Commencement of high-power EM surveying over the prospective sequence at Talisman and identification of a late time conductive anomaly warranting follow-up diamond drilling.
- Targeted diamond drilling at the identified conductive anomaly

The aggregate metres drilled on Sandfire Tenements for the Quarter is displayed below:

Drilling	AC/RAB Drilling (m)	RC Drilling (m)	UG Diamond Drilling (m)	Surface Diamond Drilling (m)	Total Drilling (m)
Q1FY2014	36,238	1,002	1,550	-	38,790
Q2FY2014	32,217	7,460	5,745	4,951	53,373
Q3FY2014	32,621	-	430	2,884	35,935
Q4FY2014	35,653	-	4,875	-	40,528

### 5.2 DeGrussa Near-Mine Extensional Exploration

During the period, a resource definition diamond drilling programme was undertaken to upgrade the Central and Eastern portions of the C4 orebody from Inferred to Indicated Resource status.

A total of eighteen resource definition drill holes were completed in the period. The drilling confirmed the grade and geological continuity of the C4 orebody, and identified what is interpreted to be local "ribs" of massive sulphide displaying local lithological thickening and some thinning within the ore zone.

Detailed geological analysis of footwall alteration during the period, recognised zones of intensely silicified, quartz-chalcopyrite stockwork veining which are interpreted to represent the original sub-seafloor feeder pipes to the massive sulphide mineralisation. These discrete feeder pipes will be further investigated to understand how they fit into the larger mineralised system and if they are of any potential economic significance.

A limited programme of diamond drilling was also undertaken to test stratigraphy down-dip of the C1 orebody. Two drillholes have been completed without intersecting any significant mineralisation. This programme will be concluded during Q1FY2015.

### 5.3 DeGrussa Regional Exploration

The Greater Doolgunna Project, which now includes the Talisman Joint Venture, has an aggregate area of 725km<sup>2</sup> and incorporates over 65km strike length of prospective VMS-hosting lithologies. Much of this stratigraphy is obscured beneath transported alluvium and requires systematic aircore drilling to test bedrock geochemistry and identify prospective rock-types.

During the Quarter, systematic regional geochemistry aircore drilling continued in the Homestead-South Robinson Range-Old Highway area. Significant intersections returned from this drilling include:

- DGAC4620, 15m @ 1405ppm Cu, 80-95m (Composite)
- DGAC4915, 10m @ 755ppm Cu, 725ppm Zn, 25-35m (Composite)
- DGAC4968, 10m @ 1.17ppm Au, 65-75m (Composite)
- DGAC5006, 5m @ 1010ppm Cu, 165ppm Zn, 45-50m (Composite)

Final assays were received for aircore drilling targeting the eastern extension (west of the Great Northern Highway) of the Old Highway shear zone, with better intercepts including:

- DGAC4558, 10m @ 1.17ppm Au, 35-45m (Composite)
- DGAC4561, 20m @ 4.58ppm Au, 40-60m (Composite)
- DGAC4940, 10m @ 1.02ppm Au, 105-115m & 5m @ 1.63ppm Au, 130-135m (Composites)
- DGAC4958, 20m @ 1.87ppm Au, 45-65m (Composite)

A secondary parallel zone of gold mineralisation was identified to the north of the currently identified mineralisation by this drilling.

A limited programme of infill A/C drilling was completed to test anomalous VMS geochemistry on the western extension of the Old Highway shear zone. Better results included:

- DGAC4839, 11m @ 1315ppm Zn, 105-116m (Composite)
- DGAC4844, 17m @ 2135ppm Zn, 80-97m (Composite)
- DGAC4869, 5m @ 1100ppm Cu, 150ppm Zn, 75-80m (Composite)

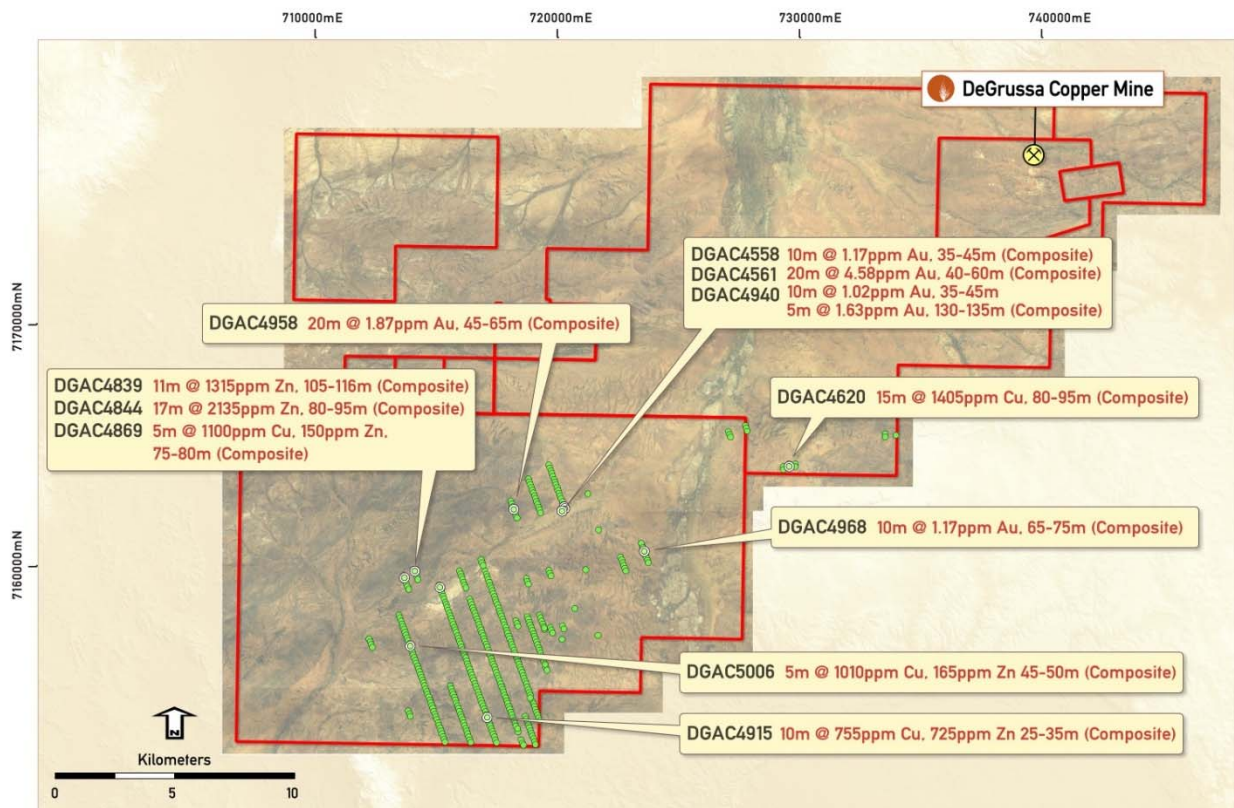


Figure 2 –Drilling completed for the period, showing anomalous intercepts in first pass A/C drilling at Homestead, South Robinson and Old Highway areas.

### 5.3.1 Talisman Joint Venture

The Talisman Projects comprise the Springfield, Halloween and Halloween West Projects, which abut Sandfire's DeGrussa-Doolgunna tenements and contain extensions of the volcanic rock package which hosts the DeGrussa VMS deposits. The projects are being explored under a Joint Venture Farm-in Agreement with Talisman Mining Limited (ASX: TLM) under which Sandfire has the right to earn up to an 70% interest by spending \$15 million on exploration over five-and-a-half years.

During the Quarter Sandfire commenced the first phase of ground-based exploration activities at the Springfield Project, comprising high-powered down-hole electromagnetic (DHEM) surveys and fixed loop electromagnetic (FLEM) surveys.

Three Diamond and one Reverse Circulation drill-holes previously drilled by Talisman at the Homer Prospect were selected by Sandfire for the application of high energy DHEM to test for the presence of conductors that may indicate accumulations of massive sulphides.

In addition, Sandfire commenced a high-powered FLEM survey at the Homer Prospect, covering approximately 1.6km of the prospective DeGrussa host horizon, to better test for conductors beyond the extent of previous ground electromagnetic surveys. Following the receipt of the initial results, data from the Stage 1 high-energy FLEM survey and the four initial DHEM surveys was integrated with existing data sets and analysed with input from the Company's geophysical consultants, Newexco.

This analysis resulted in the detection of a late-time conductor which is interpreted to sit within the extension of the prospective DeGrussa stratigraphic horizon (see Figure 3). This conductor is located approximately 5km east of the DeGrussa Copper-Gold Mine.

Following the receipt of necessary statutory approvals, a single diamond drill hole of approximately 900m commenced on 26th June with the aim of intersecting the modelled conductor at a target depth of 400m below surface. As well as testing the modelled conductor, this drill hole will also be used to establish a platform for further down-hole EM to test for additional conductors both at depth and away from this principal EM target.

The next three stages of the FLEM survey at the Homer Prospect re-commenced in mid-July.

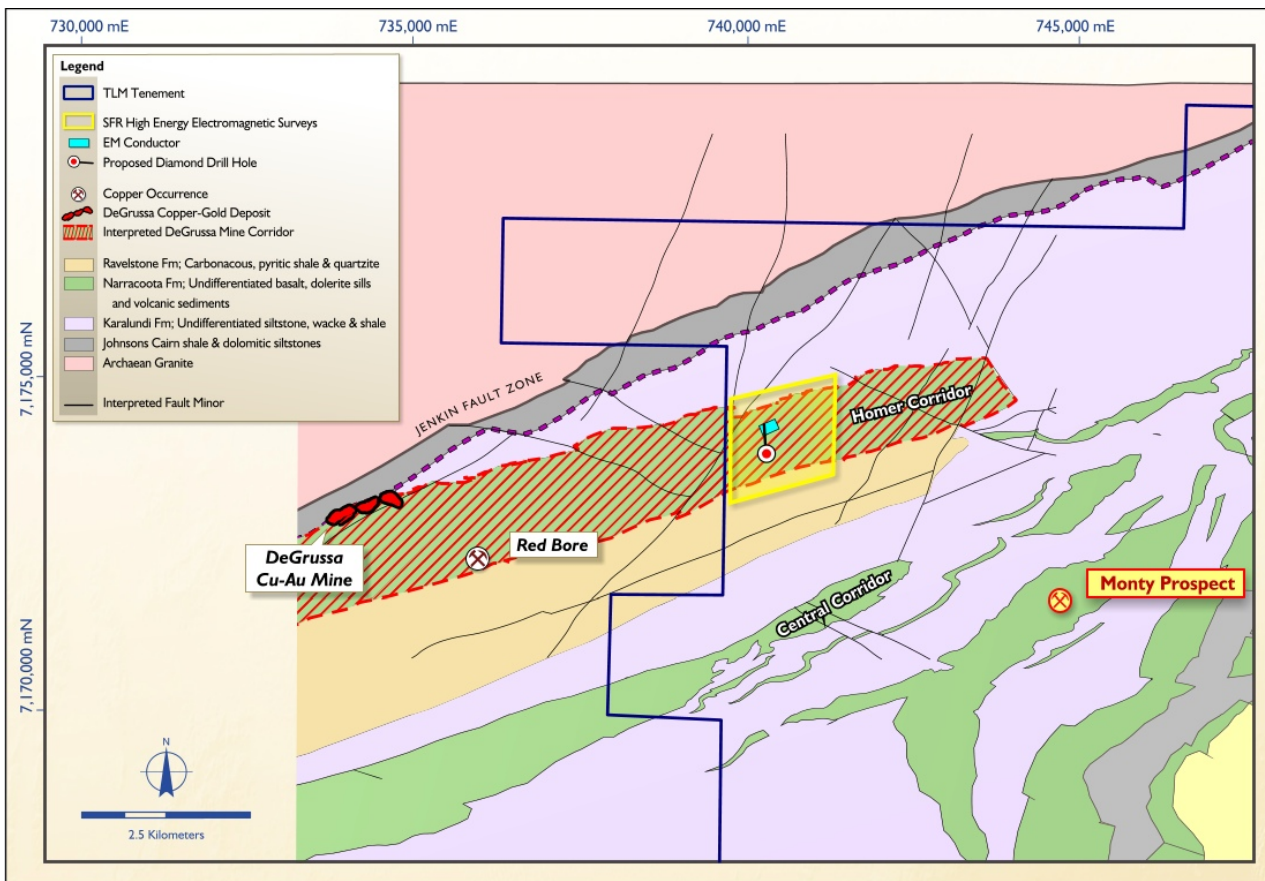


Figure 3: Springfield Project geology showing the interpreted DeGrussa Mine Corridor, approximate position of the late-time EM conductor, the diamond hole (TLD0001) and the area of EM surveying.



### 5.3.2 Thaduna Project Joint Venture

*The Thaduna Project is located 40km east of DeGrussa and represents the largest copper resource in the Doolgunna-Bryah Basin Region outside of Sandfire's DeGrussa-Doolgunna Project (7.9Mt @ 1.8% Cu for 142,000 tonnes of contained copper). Sandfire currently owns a 35% interest in the project, and has entered into a farm-in agreement to earn up to a further 45% (total of 80%) with Ventnor Resources Limited (ASX: VRX).*

Sandfire is currently assessing two development opportunities at the Thaduna Project:

- an oxide project, with ore to be treated through the proposed DeGrussa Copper Oxide Heap Leach;
- a sulphide project, with ore to be treated through the existing DeGrussa Flotation Processing Plant.

During the Quarter, Sandfire completed a diamond drilling programme at Thaduna which was designed to provide core for metallurgical testwork. The drilling programme, which comprised eight shallow-dipping PQ-sized diamond drill holes for 808.5m advance, was targeted directly beneath the existing Thaduna open pit.

Metallurgical testwork is underway examining the heap leach and flotation potential of the intersected mineralisation. The results of the testwork and the completion of a revised resource model will be used to evaluate potential mining and processing options for extraction of the copper resource.

## 6.0 AUSTRALIAN EXPLORATION

### 6.1 Borroloola Project

*The Borroloola Project is located north of the McArthur River Mine (Xstrata), and is prospective for base metals, sedimentary manganese and iron ore. Sandfire has signed two farm-out Joint Venture agreements to advance the Borroloola Project. The Batten Trough JV covering the eastern portion of the tenements is under an option and joint venture agreement with MMG Exploration Pty Ltd, which can earn up to an 80% interest. The Borroloola West JV covering the western portion is under an agreement with Pacifico Minerals Ltd in alliance with Cliffs Natural Resources, which has the right to earn up to an 80% interest.*

Field programs are underway by both Joint Venture parties with drilling programs planned for the September Quarter.

An Information Memorandum has been prepared to attract a partner to explore and develop the Hells Gate Iron Ore Project in the Roper Bar Iron Province.

### 6.2 Queensland Projects

*A number of projects are held in the eastern succession of the Mount Isa region south and east of Cloncurry in north-west Queensland which are prospective for Broken Hill style lead-zinc-silver deposits such as the Cannington deposit (BHP) and the Ernest Henry Iron Oxide copper-gold deposits (Xstrata)*

*The Altia Project includes an option to Joint Venture into two areas encompassing 43.7 km<sup>2</sup> with Minotaur Resources Limited (ASX: MEP) to earn up to 80% of the project and includes the Altia Deposit, where previous exploration has defined a shallow lead-silver resource.*

Detailed in-fill gravity surveys were completed at the 100%-owned Landsborough and Wilgunya Projects to better define the gravity and magnetic anomalies for modelling for follow-up drill testing.

Geochemical surveys have been completed on the 100%-owned Coral Reef and Australis projects. Heritage surveys have been completed prior to drilling, which is currently underway.

Planned drilling includes a regional aircore program at Landsborough, diamond drilling on the Altia Joint Venture at the Altia, Boralis and Capricorn prospects and diamond drilling at the Wilgunya prospect. Drilling has commenced subsequent to the end of the Quarter.

### 6.3 New South Wales Projects

*A number of project areas are held in the Lachlan Fold Belt of New South Wales near West Wyalong which are prospective for porphyry copper-gold mineralisation as found at Northparkes (China Moly), Cadia (Newcrest) and Cowal (Barrick).*

*Farm-in agreements to earn up to 80% are held with Straits Resources Ltd (ASX:SRQ) on the Bland Creek project and with Goldfields Australasia Pty Ltd on the Marsden South project.*

An agreement was signed with Goldfields Australasia Pty Ltd during the Quarter. Under the terms of the farm-in agreement, Sandfire has the right to earn up to 80 per cent in EL6554 and 6937 by sole funding \$7 million over seven years with the following terms:

- Sandfire may earn a 65% interest by sole funding \$3 million on exploration in respect to the tenement within a period of four years;
- After earning the minimum interest, Sandfire may elect to continue to sole fund another \$4 million within a further three years to earn an 80% interest.

A review of the historical data and drilling has highlighted a number of high priority targets in the Marsden South region for immediate follow up with in-fill aircore drilling programs to define deeper drilling targets.

The aircore drilling program at the 100%-owned Wingrunner Project is now planned for December when the crops have been harvested.

#### 6.4 Alford Project

*The Alford Project on the Yorke Peninsula lies 20km NE of Wallaroo, South Australia in the southern portion of the Gawler Craton. The tenements are prospective for iron oxide copper-gold mineralisation as found at Prominent Hill (OZ Minerals), Olympic Dam (BHP) and Hillside (Rex Minerals). The Project includes an option to Joint Venture into the Alford project (EL3969, PM268) with Argonaut Resources (ASX: ARE) to earn up to 75% of the project.*

A short program of four diamond drill holes for 1,183m was completed during the Quarter at the Alford East prospect to test the highest geochemical results and favourable gravity and magnetic anomalies. Copper and gold mineralisation was encountered associated with the magnetite alteration and a regional diopside skarn alteration system.

The anomalous intersections will be evaluated for potential for thicker and higher grades in deeper targets and in areas that could not be accessed during this program.

### 7.0 INTERNATIONAL EXPLORATION

#### 7.1 Misima Project

As reporting in the March Quarterly Report, Sandfire reached agreement to acquire an interest in WCB Resources Ltd ("WCB"; TSX-V: WCB), a Toronto-listed copper-gold explorer, by subscribing for shares in a A\$5.9M private share placement.

The proceeds from this private placement will be used to progress exploration including upcoming drilling programs at WCB's Misima Copper-Gold Project. WCB is earning a 70% interest in this project through a joint venture with Pan Pacific Copper ("PPC"), an integrated copper mining and smelting company that is jointly owned by JX Nippon Mining & Metals Corporation and Mitsui Mining & Smelting Company Ltd.

This investment provides Sandfire with exposure to a potential Tier-1 porphyry copper-gold exploration opportunity with outstanding upside. WCB has identified a substantial copper-gold porphyry target at Misima located adjacent to an historical gold mine formerly owned by Placer Dome Asia Pacific which produced 4.0Moz of gold and 20Moz of silver.

The main exploration target is the Misima Porphyry at Mt Sisa, where a very large 1km<sup>2</sup> copper soil anomaly coincides with extensive rock chips, shallow drilling and a deep strong magnetic anomaly with skarn mineralisation and halo veining at surface. WCB Resources plans to commence drilling at Mt Sisa in the September Quarter.

The Misima Project is located within a porphyry belt which contains four of the world's richest primary grade copper and gold porphyries including Grasberg (4.9 billion tonnes @ 0.8% Cu and 0.7g/t Au), Ok Tedi (1.7 billion tonnes @ 0.7% Cu and 0.6g/t Au), Golpu (1 billion tonnes at 0.9% Cu and 0.6g/t Au) and Panguna (1.4 billion tonnes @ 0.5% Cu and 0.6g/t Au)\*

The investment opportunity was identified by Sandfire's Business Development Team as part of its ongoing search for quality projects in Australia and overseas to build a pipeline of future organic growth opportunities. It is also consistent with the Company's strategy of seeking to foster and develop long-term strategic relationships with raw material end-users and traders globally.

## 8.0 CORPORATE

### 8.1 Finance Facility

Sandfire completed an accelerated prepayment against the DeGrussa Project Finance Facility of \$20 million in April 2014 and a scheduled repayment of \$10 million in June 2014. The prepayment of debt reflects the strength of the operating cash flows being generated by the DeGrussa Copper-Gold Mine and the robustness of Sandfire's business.

A total of \$220 million has now been repaid against the original \$380 million DeGrussa Project Finance Facility, with a total of \$125 million repaid for FY2014, and at the end of the reporting period the outstanding balance of the facility stood at \$160 million. The repayment schedule otherwise remains unchanged over the facility repayment period, which remains to December 2015.

Cash on hand at 30 June 2014 totalled \$58 million.

With the rapid repayment of debt achieved over the past 12 months, the achievement of steady-state operations and the recent satisfaction of the DeGrussa financing completion test, Sandfire restructured its banking arrangements with ANZ Banking Corporation to become its sole financier, replacing the previous banking syndicate.

The Company also secured a new \$50 million working capital facility with ANZ which can be drawn down against the value of saleable copper concentrate inventories held by the Company at the mine and ports. The facility is designed to reduce the potential cash flow impact of timing of concentrate shipments and cash receipts. The new facility follows usual financing conditions, terms and pricing.

### 8.2 Investor Call and Webcast

An investor conference call on Sandfire's June 2014 Quarterly Report will be held today (Wednesday, 23 July 2014) for investors and analysts, commencing at 10.00am (WST) / 12.00pm (AEST). Analysts, brokers and investors can join the conference call by dialling the following numbers:

<b>Australia Toll Free:</b>	<b>1 800 558 698</b>
<b>Alternate Australia Toll Free:</b>	<b>1 800 809 971</b>
<b>International:</b>	<b>+61 2 9007 3187</b>
<b>Audio Access Code:</b>	<b>962267</b>

The Quarterly Report and an accompanying Quarterly slide presentation will be available via the ASX Company Announcements Platform (Code: SFR), as well as at Sandfire's website: [www.sandfire.com.au](http://www.sandfire.com.au).

In addition, a live webcast of the investor call and the slide presentation will be available via the Boardroom Radio (BRR Media) service by clicking on the following link: <http://www.brrmedia.com/event/124496>.

A recording of the webcast will be available at the same link shortly following the conclusion of the conference call.

### ENDS

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### Competent Person's Statement – Exploration Results

The information in this report that relates to Exploration Results is based on information compiled by Mr. Shannan Bamforth who is a Member of The Australasian Institute of Mining and Metallurgy. Mr. Bamforth is a permanent employee of Sandfire Resources and has sufficient experience that is relevant to the style of mineralization and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 Edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Bamforth consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### Exploration and Resource Targets

Any discussion in relation to the potential quantity and grade of Exploration Targets is only conceptual in nature. While Sandfire is confident that it will report additional JORC compliant resources for the DeGrussa Project, there has been insufficient exploration to define mineral resources in addition to the current JORC compliant Mineral Resource inventory and it is uncertain if further exploration will result in the determination of additional JORC compliant Mineral Resources.

### Forward-Looking Statements

Certain statements made during or in connection with this statement contain or comprise certain forward-looking statements regarding Sandfire's Mineral Resources and Reserves, exploration operations, project development operations, production rates, life of mine, projected cash flow, capital expenditure, operating costs and other economic performance and financial condition as well as general market outlook. Although Sandfire believes that the expectations reflected in such forward-looking statements are reasonable, such expectations are only predictions and are subject to inherent risks and uncertainties which could cause actual values, results, performance or achievements to differ materially from those expressed, implied or projected in any forward looking statements and no assurance can be given that such expectations will prove to have been correct. Accordingly, results could differ materially from those set out in the forward-looking statements as a result of, among other factors, changes in economic and market conditions, delays or changes in project development, success of business and operating initiatives, changes in the regulatory environment and other government actions, fluctuations in metals prices and exchange rates and business and operational risk management. Except for statutory liability which cannot be excluded, each of Sandfire, its officers, employees and advisors expressly disclaim any responsibility for the accuracy or completeness of the material contained in this statement and excludes all liability whatsoever (including in negligence) for any loss or damage which may be suffered by any person as a consequence of any information in this statement or any error or omission. Sandfire undertakes no obligation to update publicly or release any revisions to these forward-looking statements to reflect events or circumstances after today's date or to reflect the occurrence of unanticipated events other than required by the Corporations Act and ASX Listing Rules. Accordingly you should not place undue reliance on any forward looking statement.

Figure 4 – DeGrussa Copper-Gold Project Location

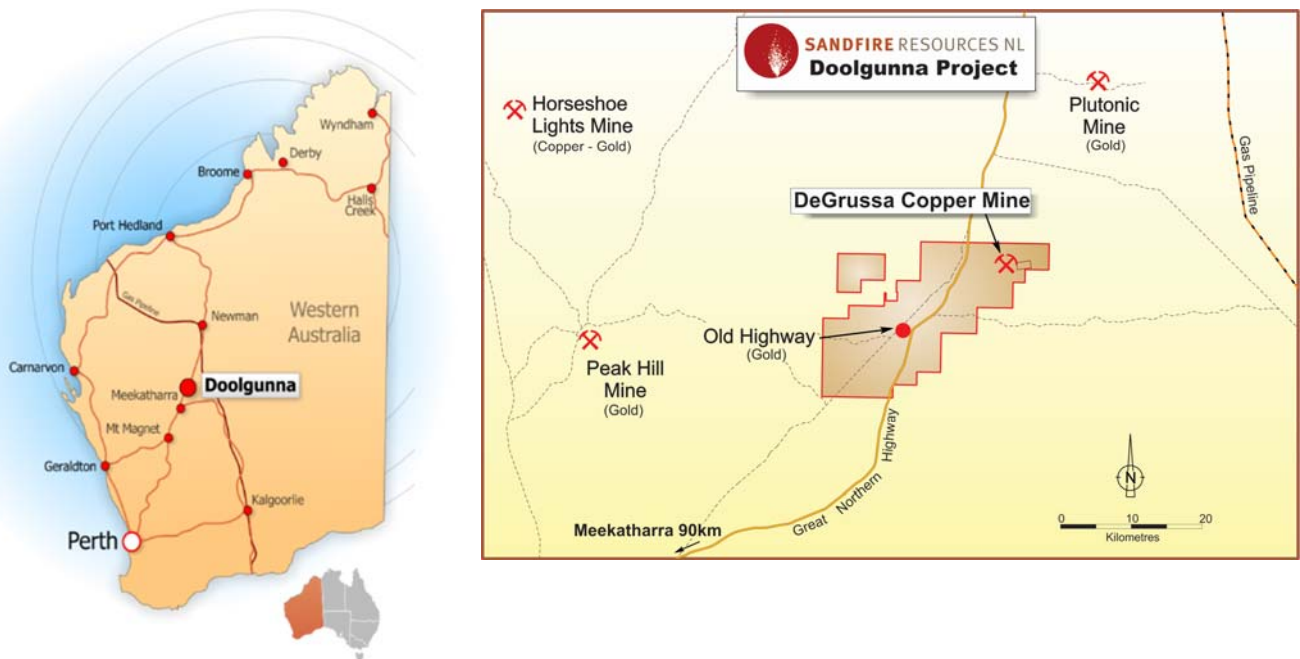




Figure 5 – Strategic location in an emerging VMS belt: Talisman and Ventnor Joint Ventures

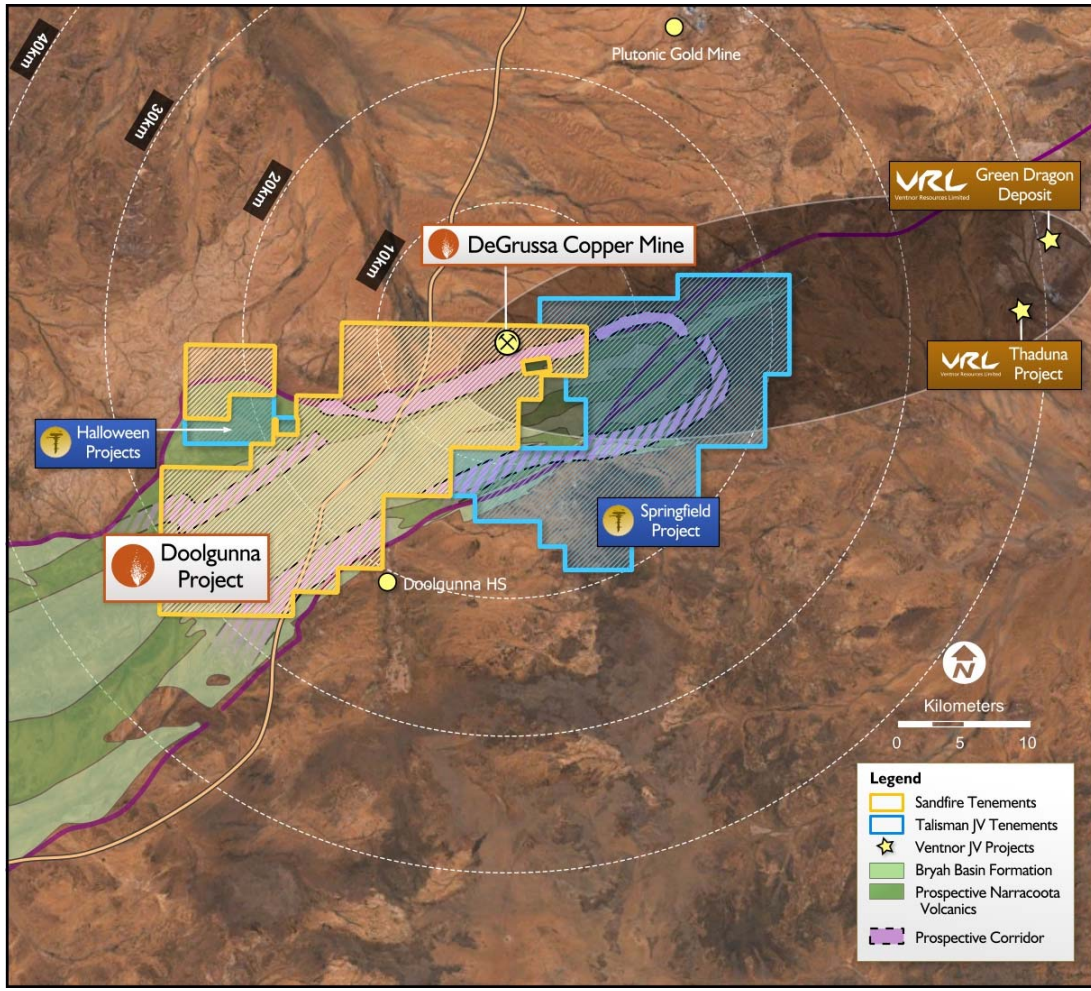
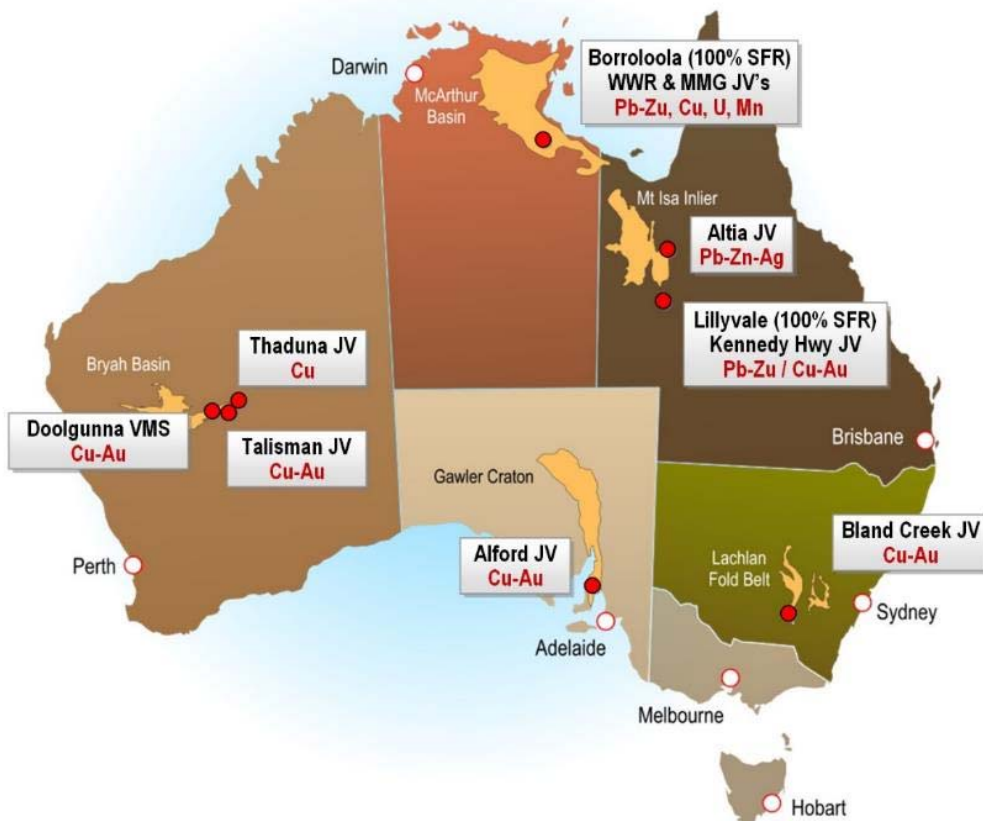


Figure 6 – Australian Joint Venture and Exploration Project Locations



### **JORC Compliance Statement**

A summary of the information used in this release is as follows.

The DeGrussa VHMS (volcanic-hosted massive sulphide) copper-gold deposit is located 900 kilometres north of Perth and 150 kilometres north of Meekatharra in the Peak Hill Mineral Field. The system is hosted within a sequence of metasediments and mafic intrusions situated in the Bryah Basin that have been metamorphosed and structurally disrupted.

The sulphide mineralisation consists of massive sulphide and semi-massive sulphide mineralisation. Primary sulphide minerals present are pyrite, chalcopyrite, pyrrhotite and sphalerite, together with magnetite. The sulphide mineralisation is interpreted to be derived from volcanic activity. The deposit shares characteristics with numerous VHMS deposits worldwide.

DeGrussa is located wholly within Mining Lease 52/1046. This tenement is subject to the Yugunga-Nya (WC99/046) and Gingirana Claims (WC06/002). A Land Access Agreement was executed with both claimant groups in November 2010. Sandfire is required to make royalty payments to the State and affected Native Title Claimants on a periodical basis.

Drilling of the DeGrussa massive sulphide lens (of which there are four defined lenses of mineralisation) and surrounding area is by diamond drill holes of NQ2 diameter core and, to a lesser extent, by Reverse Circulation (RC) face sampling hammer drilling. The nominal drill-hole spacing is less than 80m x 40m in the inferred areas of the Mineral Resource and increases in density as the classification increases to Measured where nominal 13m x 20m drill hole spacing is achieved. Drilling has been by conventional diamond drilling with a small number of holes aided by the use of navigational drilling tools. RC drilling was completed with a nominal 140mm face sampling hammer and split on a cone or riffle splitter. Drill-hole collar locations were surveyed using RTK GPS, and all holes were down-hole surveyed using high speed gyroscopic survey tools.

Sampling of diamond core was based on geological intervals (standard length 0.5 m to 1.3 m). The core was cut into half or quarter (NQ2) to give sample weights up to 3 kg. RC samples were 1.0m samples down-hole, with sample weights between 3.5kg and 7kg depending on material type. Field quality control procedures involved assay standards, along with blanks and duplicates. These QC samples were inserted at an average rate of 1:15.

The sample preparation of diamond core involved oven drying, coarse crushing of the core sample down to ~10 mm followed by pulverisation of the entire sample to a grind size of 90% passing 75 micron. A pulp sub-sample was collected for analysis by either four acid digest with an ICP/OES, ICP/MS (multi element) finish or formed into fused beads for XRF determination on base metals and a fire assay for Au.

All reported assays have been length weighted. No top-cuts have been applied. A nominal 0.3% Cu lower cut-off is applied. High grade intervals internal to broader zones of sulphide mineralisation are reported as included intervals.

The attitude of the ore bodies at DeGrussa is variable but there is a dominant southerly dip from -40 to 90 degrees flat-lying and is drilled to grid west with drill holes inclined between -60 and -90 degrees. As such the dominant hole direction is north and with varying intersection angles all results are clearly defined as either down hole or approximate true width.

Density of the massive sulphide orebody ranges from 2.8g/cm<sup>3</sup> to 4.9g/cm<sup>3</sup>, with an average density reading of 3.7g/cm<sup>3</sup>. Geotechnical and structural readings recorded from diamond drilling include recovery, RQD, structure type, dip, dip direction, alpha and beta angles, and descriptive information. All data is stored in the tables Oriented Structure, Geotechnical RQD, Core Recovery, Interval Structure as appropriate.

A suite of multi-element assays are completed on each mineralised sample and include all economic and typical deleterious elements in copper concentrates. This suite includes Cu, Au, Ag, Zn, Pb, S, Fe, Sb, Bi, Cd and As.

Regional drilling has been completed using a combination of RC and AC drilling. A majority of the drilling is preliminary in nature and starts with 800m x 100m AC drilling where the geology and geochemistry is reevaluated to determine the requirement for follow 400m x 100m drilling. If significant anomalism is identified in the AC drilling then follow up RC drilling will be conducted to determine the opportunity for delineating potentially economic mineralisation. Whilst the main aim of the exploration at Dooolgunna is to identify additional VHMS mineralisation in some areas of regional land holding it is currently interpreted that there is shear zones located on the contact between dolerite and sediments hosting auriferous quartz vein stockworks with some coincident copper.

AC and RC regional samples are prepared at Ultra Trace in Perth with the original samples being dried at 80° for up to 24 hours and weighed, and then crushed to -4mm. Samples are then split to less than 2kg through linear splitter and excess retained. Sample splits are weighed at a frequency of 1/20 and entered into the job results file. Pulverising is completed using LM5 mill to 90% passing 75µm. Assaying is completed using a Mixed 4 Acid Digest (MAD) 0.3g charge and MAD Hotbox 0.15g charge methods with ICPOES or ICPMS. The samples are digested and refluxed with a mixture of acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric acids and conducted for multi elements including Cu, Pb, Zn, Ag, As, Fe, S, Sb, Bi, Mo. The MAD Hotbox method is an extended digest method that approaches a total digest for many elements however some refractory minerals are not completely attacked. The elements are then determined by ICPOES or ICPMS finish. Samples are analysed for Au, Pd and Pt by firing a 40g of sample with ICP AES/MS finish.

## Appendix 1 – Exploration Drilling Results

## Regional Exploration Surface Drilling (AC/RC)

Hole ID	Hole Type	MGA Zone 50 Co-ordinates						Intersection				Mineralisation			
		East	North	RL	Depth (m)	Azimuth	Inclination	From (m)	To (m)	Intercept Down Hole	Approx True Width	Cu [ppm]	Au [ppm]	Zn [ppm]	Sample Type
DGAC4558	AC	718225.494	7161805.27	560.758	165	340°	-60°	35	45	10	N/A		1.17		Spear Composite
DGAC4561	AC	718148.626	7161724.09	561.000	154	340°	-60°	40	60	20	N/A		4.58		Spear Composite
DGAC4620	AC	725700.000	7163200.00	557.546	114	340°	-60°	80	95	15	N/A	1405			Spear Composite
DGAC4839	AC	712894.984	7159492.66	581.394	116	340°	-60°	105	116	111	N/A			1315	Spear Composite
DGAC4844	AC	713236.659	7159723.44	581.915	97	340°	-60°	80	97	17	N/A			2135	Spear Composite
DGAC4869	AC	714074.091	7159176.90	580.704	81	340°	-60°	75	80	5	N/A	1100		150	Spear Composite
DGAC4915	AC	715647.384	7154854.31	576.328	35	340°	-60°	25	35	10	N/A	755		725	Spear Composite
DGAC4940	AC	718208.393	7161852.26	560.782	165	340°	-60°	105	115	10	N/A		1.17		Spear Composite
								130	135	5	N/A		1.63		Spear Composite
DGAC4958	AC	716533.875	7161774.87	568.219	102	340°	-60°	45	65	20	N/A		1.87		Spear Composite
DGAC4968	AC	720874.425	7160375.00	554.500	96	340°	-60°	65	75	10	N/A		1.17	1315	Spear Composite
DGAC5006	AC	713083.613	7157220.13	581.963	132	340°	-60°	45	50	5	N/A	1010		165	Spear Composite
TLDD0001	DD	740150.000	7174150.000	590.479	183.30	360°	-60°	0	183.30	0	N/A		NSA		Half Core

NSA – No significant result

AP – Assays pending

**TABLE 1: EXPLORATION RESULTS - JORC 2012  
DEGRUSSA COPPER MINE**

*Section 1: Sampling Techniques and Data*

Criteria	JORC Code explanation	Commentary
Sampling techniques	<ul style="list-style-type: none"> <li>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</li> <li>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</li> <li>Aspects of the determination of mineralisation that are Material to the Public Report.</li> <li>In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</li> </ul>	<ul style="list-style-type: none"> <li>Sampling methods include half-core sampling of NQ2 core from underground diamond drilling (DD) , Reverse Circulation drilling (RC) samples are collected by a cone splitter for single metre samples or by a sampling spear for first pass composite samples using a face sampling hammer with a nominal 140mm hole, aircore drilling. Air Core (AC) samples are collected from spear samples for both composite and single metre samples.</li> <li>Sampling is guided by Sandfire DeGrussa protocols and QAQC procedures as per industry standard.</li> <li>Underground DD sample size reduction is completed through a Jaques jaw crusher to -10mm and all samples Boyd crushed to -4mm and pulverised via LM2 to nominal 90% passing -75µm. RC and AC sample size reduction is completed through a Boyd crusher to -10mm and pulverised via LM5 to nominal -75µm. Pulp size checks are completed.</li> <li>Pulp samples are fused into a glass bead by the combination of 0.4g of assay sample plus 9.0g flux XRF analysis. A 40g and 0.15g assays charges are used for FA and mixed acid digest respectively.</li> <li>Core samples are routinely sampled for SG determination.</li> </ul>
Drilling techniques	<p><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></p>	<ul style="list-style-type: none"> <li>Underground drilling is completed by DD rig with a core size of NQ2.</li> <li>Surface drilling is by RC with sampling hammer of nominal 140mm hole and AC drilling with a blade bit. .</li> <li>All surface drill collars are surveyed using RTK GPS. All underground drill collars are surveyed using Trimble S6 electronic theodolite with downhole survey completed by gyroscopically.</li> <li>Holes are inclined at varying angles for optimal ore zone intersection from the drilling position.</li> <li>All core where possible is oriented using a Reflex ACT II RD orientation tool with stated accuracy of +/-1% in the range 0 to 88°.</li> </ul>
Drill sample recovery	<ul style="list-style-type: none"> <li><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></li> <li><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></li> <li><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></li> </ul>	<ul style="list-style-type: none"> <li>Core is meter marked and orientated to check against the driller's blocks, ensuring that all core loss is taken into account.</li> <li>Diamond core recovery is logged and captured into the database with weighted average core recoveries of approximately 99%. Surface RC sampling is good with almost no wet sampling in the project area. AC drilling recovery is good with sample quality captured in the database.</li> <li>Samples are routinely weighed and captured into the central secured database.</li> <li>No sample recovery issues have impacted on potential sample bias.</li> </ul>



Logging	<ul style="list-style-type: none"> <li>• <i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.</i></li> <li>• <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></li> <li>• <i>The total length and percentage of the relevant intersections logged.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Geological logging is completed for all holes and representative across the ore body. The lithology, alteration, and structural characteristics of core are logged directly to a digital format following standard procedures and using Sandfire DeGrussa geological codes. Data is imported into the central database after validation in LogChief™.</li> <li>• Logging is both qualitative and quantitative depending on field being logged.</li> <li>• All cores are digitally photographed and stored.</li> </ul>
Sub-sampling techniques and sample preparation	<ul style="list-style-type: none"> <li>• <i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></li> <li>• <i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></li> <li>• <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></li> <li>• <i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></li> <li>• <i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></li> <li>• <i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></li> </ul>	<ul style="list-style-type: none"> <li>• DD Core orientation is completed where possible and all are marked prior to sampling. Half core samples are produced using Almonte Core Saw. Samples are weighed and recorded.</li> <li>• RC samples are split using a cone or riffle splitter. A majority of RC samples are dry. On occasions that wet samples are encountered they are dried prior to splitting with a riffle splitter.</li> <li>• AC samples consist of 5m composite spear samples produced from 1m drilling with weights averaging approximately 3kg. In certain locations after composite samples are received additional 1m sampling may be completed</li> <li>• At the on-site laboratory, the original sample is dried at 80° for up to 24 hours and weighed on submission to laboratory. Sample is then crushed through Jaques crusher to nominal -10mm (DD samples only). Second stage crushing Boyd crusher to nominal -4mm. Where required samples are split to less than 2kg through linear splitter. Sample splits are weighed at a frequency of 1/20 and entered into the job results file. Pulverising is completed using LM2 mill to 90% passing 75µm. Two lots of pulp packets are retained for on-site laboratory services whilst the pulverised residue is shipped to Ultra Trace in Perth for further analysis.</li> <li>• Sample preparation at Ultra Trace in Perth involves the original samples being dried at 80° for up to 24 hours and weighed. DD Samples are then crushed through Jaques crusher to nominal -10mm. Second stage crushing uses Boyd crusher to nominal -4mm. All RC and AC samples are Boyd crushed to -4mm. Samples are then split to less than 2kg through linear splitter and excess retained. Sample splits are weighed at a frequency of 1/20 and entered into the job results file. Pulverising is completed using LM5 mill to 90% passing 75µm.</li> <li>• Sandfire has protocols that cover auditing of sample preparation at the laboratories and the collection and assessment of data to ensure accurate steps in producing representative samples for the analytical process. Key performance indices include contamination index of 90% (that is 90% blanks pass); Crush Size index of P95-10mm; Grind Size index of P90-75µm and Check Samples returning at worse 20% precision at 95% confidence interval and bias of 5% or better.</li> <li>• Duplicate analysis has been completed and identified no issues with sampling representatively.</li> <li>• The sample size is appropriate for the VHMS and Gold mineralisation styles.</li> </ul>

<p>Quality of assay data and laboratory tests</p>	<ul style="list-style-type: none"> <li>• <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></li> <li>• <i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></li> <li>• <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Samples submitted to Ultra Trace in Perth are assayed using Mixed 4 Acid Digest (MAD) 0.3g charge and MAD Hotbox 0.15g charge methods with ICPOES or ICPMS. The samples are digested and refluxed with a mixture of acids including Hydrofluoric, Nitric, Hydrochloric and Perchloric acids and conducted for multi elements including Cu, Pb, Zn, Ag, As, Fe, S, Sb, Bi, Mo, Re, Mn, Co, Cd, Cr, Ni, Se, Te, Ti, Zr, V, Sn, W and Ba. The MAD Hotbox method is an extended digest method that approaches a total digest for many elements however some refractory minerals are not completely attacked. The elements S, Cu, Zn, Co, Fe, Ca, Mg, Mn, Ni, Cr, Ti, K, Na, V are determined by ICPOES, and Ag, Pb, As, Sb, Bi, Cd, Se, Te, Mo, Re, Zr, Ba, Sn, W are determined by ICPMS. Samples are analysed for Au, Pd and Pt by firing a 40g of sample with ICP AES/MS finish. Lower sample weights are employed where samples have very high S contents. This is a classical FA process and results in total separation of Au, Pt and Pd in the samples.</li> <li>• Samples submitted to the on-site laboratory have 0.4g of sample plus 9.0g flux combined and fused into a glass bead. XRF is used to analyse for a suite of elements (including Cu, Fe, SiO<sub>2</sub>, Al, Ca, MgO, P, Ti, Mn, Co, Ni, Zn, As, and Pb). Pulps are dispatched to Ultra Trace in Perth for ICPOES or ICPMS for extended elements (including Cu, Fe, As, Pb, S, Zn, Fe, Ag, Sb, Bi, Cd, Cl, F, and Hg). Au, Pt, and Pd analysed by FA/ICP AES/MS on a 40g assay charge (assay charge is variable depending on Sulphur content).</li> <li>• Sandfire DeGrussa QAQC protocol is considered industry standard with standard reference material (SRM) submitted on regular basis with routine samples.</li> <li>• SRMs and blanks are inserted at a minimum of 5% frequency rate. A minimum of 2% of assays are routinely re-submitted as Check Assays and Check Samples through blind submittals to external and primary laboratories respectively. Adhoc umpire checks are completed annually.</li> </ul>
<p>Verification of sampling and assaying</p>	<ul style="list-style-type: none"> <li>• <i>The verification of significant intersections by either independent or alternative company personnel.</i></li> <li>• <i>The use of twinned holes.</i></li> <li>• <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></li> <li>• <i>Discuss any adjustment to assay data.</i></li> </ul>	<ul style="list-style-type: none"> <li>• Significant intersections have been verified by alternative company personnel.</li> <li>• There are no twinned holes drilled for the DeGrussa deposit.</li> <li>• Primary data are captured on field tough book laptops using Logchief™ Software. The software has validation routines and data is then imported into a secure central database.</li> <li>• The primary data is always kept and is never replaced by adjusted or interpreted data.</li> </ul>

Location of data points	<ul style="list-style-type: none"> <li>• Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</li> <li>• Specification of the grid system used.</li> <li>• Quality and adequacy of topographic control.</li> </ul>	<ul style="list-style-type: none"> <li>• Sandfire DeGrussa Survey team undertakes survey works under the guidelines of best industry practice.</li> <li>• Underground drilling collar surveys are carried out using Trimble S6 electronic theodolite and wall station survey control. Re-traverse is carried out every 100 vertical meters within main decline. Downhole surveys are completed by gyroscopic downhole methods at regular intervals.</li> <li>• Downhole survey completed by gyroscopic downhole methods at regular intervals in the mine area or by electronic multishot systems in regional exploration.</li> <li>• MGA94 Zone 50 grid coordinate system is used.</li> <li>• A 1m ground resolution DTM with an accuracy of 0.1m was collected by Digital Mapping Australia using LiDAR and a vertical medium format digital camera (Hasselblad). The LiDAR DTM and aerial imagery were used to produce a 0.1m resolution orthophoto that has been used for subsequent planning purposes.</li> </ul>
Data spacing and distribution	<ul style="list-style-type: none"> <li>• Data spacing for reporting of Exploration Results.</li> <li>• Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</li> <li>• Whether sample compositing has been applied.</li> </ul>	<ul style="list-style-type: none"> <li>• UG DD drilling was at a nominal 40m x 30m grid with additional holes in areas of potential complexity to remove bias.</li> <li>• DD Data spacing and distribution are sufficient to establish geological and grade continuity. This latest drilling has not been included in the Mineral Resources.</li> <li>• No sample compositing have been applied to the Exploration Results.</li> <li>• RC drilling is at a nominal 100m line spacing at Cow Hole Bore.</li> <li>• AC drill spacing is initially at 800m x 100m line spacing with infill to 400m x 100m in areas of geological or geochemical interest.</li> </ul>
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <li>• Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</li> <li>• If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</li> </ul>	<ul style="list-style-type: none"> <li>• The majority of the DD drillholes are orientated to achieve intersection angles as close to perpendicular to the mineralisation as practicable.</li> <li>• No significant sampling bias occurs in the data due to the orientation of drilling with regards to mineralised bodies.</li> <li>• In regional exploration holes are oriented to achieve high angles of intersection. DD drilling is used as required to determine structural orientations in regional programs.</li> </ul>
Sample security	<ul style="list-style-type: none"> <li>• The measures taken to ensure sample security.</li> </ul>	<ul style="list-style-type: none"> <li>• All samples are prepared onsite under the supervision of Sandfire Geological staff.</li> <li>• Samples are transported to the Perth Ultra Trace laboratory by Toll IPEC or Nexus transport companies in sealed bulka bags, or to the onsite laboratory by company personnel.</li> <li>• The laboratories receipt received samples against the sample dispatch documents and issues a reconciliation report for every sample batch.</li> </ul>
Audits or reviews	<ul style="list-style-type: none"> <li>• The results of any audits or reviews of sampling techniques and data.</li> </ul>	<ul style="list-style-type: none"> <li>• The sampling techniques and data collection processes are of industry standard and have been subjected to multiple internal and external reviews.</li> </ul>

## Section 2: Reporting of Exploration Results

Criteria	JORC Code explanation	Commentary
Mineral tenement and land tenure status	<ul style="list-style-type: none"> <li>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</li> <li>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</li> </ul>	<ul style="list-style-type: none"> <li>M52/1046, E52/1698, E52/1699, E52/1715, E52/2208, E52/2209, E52/2358 and E52/2401 are wholly owned by Sandfire Resources NL, with no known third party ownership encumbrances.</li> <li>All tenements are current and in good standing.</li> <li>The mentioned tenements are currently subject to 3 Native Title Claims by the Gingirana People (WC06/002), the Yungunga-Nya People (WC99/046) and the Nharnuwangga Wajarri Ngarlawangga People (WC99/013). Sandfire currently has Land Access Agreements in place with the Gingirana and Yungunga-Nya Native Title Claimants which overlay the DeGrussa Copper deposit and has allowed mining and exploration activities to commence on their traditional land.</li> </ul>
Exploration done by other parties	<ul style="list-style-type: none"> <li>Acknowledgment and appraisal of exploration by other parties.</li> </ul>	<ul style="list-style-type: none"> <li>There has been no significant previous historical drilling by parties other than Sandfire Resources N.L. within the leases.</li> </ul>
Geology	<ul style="list-style-type: none"> <li>Deposit type, geological setting and style of mineralisation.</li> </ul>	<ul style="list-style-type: none"> <li>The Degrussa Copper Mine is a Volcanogenic Massive Sulphide deposit located with the Proterozoic Bryah Basin of Western Australia.</li> <li>In some area zones of regional land holding it is currently interpreted that there is shear zones located on the contact between dolerite and sediments hosting an auriferous quartz vein stockworks with some coincident copper mineralisation.</li> </ul>
Drill hole Information	<ul style="list-style-type: none"> <li>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes: <ul style="list-style-type: none"> <li>easting and northing of the drill hole collar</li> <li>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</li> <li>dip and azimuth of the hole</li> <li>down hole length and interception depth</li> <li>hole length.</li> </ul> </li> </ul> <p>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</p>	<ul style="list-style-type: none"> <li>Refer to Appendix 1 of this accompanying document.</li> <li>All DD drillholes are downhole gyroscopically surveyed at completion with Total Station survey pickup of drill collars.</li> <li>Electronic multishot downhole surveys are completed for RC drilling and with a subset of holes gyroscopically surveyed for internal checks.</li> <li>AC drill holes ore not down hole surveyed</li> </ul>



Data aggregation methods	<ul style="list-style-type: none"> <li><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.</i></li> <li><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></li> <li><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></li> </ul>	<ul style="list-style-type: none"> <li>Significant Resource intersections are calculated using a 0.5% Cu cut-off grade and may include up to a maximum of 3.0m of internal dilution, with a minimum composite grade of 1.0% Cu.</li> <li>Cu grades used for calculating significant intersections are uncut.</li> <li>Reported intersections are based on a regular sample interval of 1m or 5m composites in regional drilling subject to the location of geological boundaries.</li> <li>Minimum and maximum sample intervals used for intersection calculations are 0.3m and 1.3m respectively.</li> <li>No metal equivalents are used in the intersection calculation.</li> <li>Where core loss occurs; the average length-weighted grade of the two adjacent samples are attributed to the interval for the purposes of calculating the intersection. The maximum interval of missing core which can be incorporated with the reported intersection is 1.0m.</li> </ul>
Relationship between mineralisation widths and intercept lengths	<ul style="list-style-type: none"> <li><i>These relationships are particularly important in the reporting of Exploration Results.</i></li> <li><i>If the geometry of the mineralisation with respect to the drill-hole angle is known, its nature should be reported.</i></li> <li><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').</i></li> </ul>	<ul style="list-style-type: none"> <li>Estimated true width is presented in the Table in Appendix 1 where possible</li> <li>Underground drilling is based on the DeGrussa local mine grid.</li> <li>Where the geometry of the mineralisation is known; estimated true widths of mineralisation will be estimated and reported. Where the geometry is uncertain; no true width of mineralisation will be estimated or reported.</li> </ul>
Diagrams	<ul style="list-style-type: none"> <li><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></li> </ul>	<ul style="list-style-type: none"> <li>Appropriate maps and cross-sections with scale are included within the body of the accompanying document</li> </ul>
Balanced reporting	<ul style="list-style-type: none"> <li><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></li> </ul>	<ul style="list-style-type: none"> <li>The accompanying document is considered to represent a balanced report.</li> </ul>
Other substantive exploration data	<ul style="list-style-type: none"> <li><i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i></li> </ul>	<ul style="list-style-type: none"> <li>Other exploration data collected is not considered as material to this document at this stage. Further data collection will be reviewed and reported when considered material.</li> </ul>
Further work	<ul style="list-style-type: none"> <li><i>The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></li> <li><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></li> </ul>	<ul style="list-style-type: none"> <li>Exploration drilling will continue to target projected lateral and depth extensions of known mineralisation. Additionally regional anomalism will be investigated as required to determine the opportunity to identify economic mineralisation.</li> </ul>