28 July 2016

ASX Limited Level 8, Exchange Plaza 2 The Esplanade Perth WA 6000

# LODGEMENT OF JUNE 2016 QUARTERLY REPORT, QUARTERLY UPDATE PRESENTATION AND INVESTOR CONFERENCE CALL AND WEBCAST

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

- 1. June 2016 Quarterly Activities Report
- 2. June 2016 Quarterly Update Powerpoint Presentation

In addition, a teleconference and live webcast on the June 2016 Quarterly Report will be held for the investment community at 10.00am (AWST) / 12.00pm (AEST) today.

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

Live date: Thursday, 28 July 2016

Access this webcast at: http://webcasting.brrmedia.com/broadcast/578d8bd6fdce524636710cbb

http://www.sandfire.com.au

Yours sincerely,

Matt Fitzgerald Chief Financial Officer and Company Secretary ASX Announcement 28 July 2016

# QUARTERLY REPORT

For the period ended 30 June 2016

# **Highlights**

# **Production & Operations**

Contained metal production	September 2015 Quarter	December 2015 Quarter	March 2016 Quarter	June 2016 Quarter	FY2016 Total
Copper (t)	16,638	17,642	16,095	17,827	68,202
Gold (oz)	7,885	9,420	9,080	11,227	37,612
C1 cost (US\$/lb)	0.97	1.02	1.01	0.85	0.95

- Record annual copper production achieved for FY21016: above guidance.
- Strong mine production and milling rates maintained for the Quarter.
- FY2017 production guidance: 65-68kt Cu and 35-40koz gold at C1 ~US0.95-1.05/lb.

# **Development & Exploration**

- Feasibility Study commenced on the Monty Copper-Gold Project (Springfield JV) following completion
  of a maiden Mineral Resource estimate. Multiple work streams in progress with Feasibility Study
  targeted for completion in March 2017 Quarter.
- 16.42km² Mining Lease Application lodged with the Western Australian Department of Mines and Petroleum for the Monty Copper-Gold Project.
- Maiden C5 Ore Reserve completed as part of updated DeGrussa Mine Plan, Ore Reserve and Mineral Resource Statement, cementing mine life through until 2021.
- Multi-pronged exploration programs continuing at both SFR's Doolgunna project and within the Springfield JV along the Monty and Homer trends including systematic drilling and geophysical programs.
- Diamond drilling commences to test for extensions of the Altia base metal resource at the Altia JV in Queensland, with drilling also planned to test a new DHEM conductor at the Capricorn North prospect.

#### Sustainability

• DeGrussa Solar Farm successfully commissioned and in steady-state operating mode, having achieved full generation capacity. The project is expected to supply ~20% of DeGrussa's power requirement and will reduce its carbon emissions by ~12,000 tonnes of CO<sub>2</sub> per annum.

# Corporate

- Amortising Debt Facility with ANZ Banking Corporation fully repaid ahead of schedule, following a \$20M payment at the end of the June 2016 Quarter.
- Total outstanding debt reduced to \$50M (Revolver Facility) as at 30 June 2016, with \$62M in Company
  cash and deposit holdings (Group \$66M), Sandfire was in a net cash positive position at financial yearend.

#### 1.0 SAFETY PERFORMANCE

The Total Recordable Injury Frequency Rate (TRIFR) for the Sandfire Group for the June Quarter was 6.3. 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).

This safety performance reflected two injuries during the Quarter, one of which involved an exploration driller sustaining serious crush injuries when his leg was trapped by the hydraulic 'breakout' and the spin cage on the drill stand.

Safety systems development and critical control management continues to improve with ongoing focus being applied to improved safety leadership and culture and particular emphasis being applied to assuring controls associated with principal hazards are in place and effective.



Figure 1: Diamond drilling at the Monty Copper-Gold Project, located within the Springfield Joint Venture 10km east of DeGrussa

#### 2.0 OPERATIONS OVERVIEW

Copper production for the June Quarter was 17,827 tonnes (March Quarter: 16,095 tonnes) at an average ore grade of 4.9% Cu (March Quarter: 4.7% Cu). C1 cash operating costs for the Quarter were US\$0.85/lb (March Quarter: US\$1.01/lb).

Mine production for the Quarter was 421,218 tonnes grading 5.1% Cu, providing total production for FY2016 of 1.59 million tonnes. During the Quarter, production was sourced from all lens at DeGrussa with the C5 lens now in production.

A total of 406,237 tonnes of ore was milled for the June Quarter, with copper recovery averaging 90.5%. Recoveries were impacted by the treatment of one particular stope which accounted for around 30% of mill feed for the quarter. This stope exhibited poor liberation, requiring a finer grind.

#### 3.0 MINING & PRODUCTION

### 3.1 Overview

June 2016 Qua Production Sta		Tonnes	Grade (% Cu)	Grade (g/t Au)	Contained Copper (t)	Contained Gold (oz)
Concentrator	Mined	421,218	5.1	2.0	20,669	25,698
	Milled	406,237	4.9	2.0	19,706	26,631
	Production	73,084	24.4	4.8	17,827	11,227

**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.

#### 3.2 Underground Mining

Mining performance reflects a continued focus on production scheduling, reliable stope design and excavation, as well as improving mining fleet productivity. Opportunities to further enhance mine production will continue to be explored.

During the Quarter, production was sourced from all lenses at DeGrussa with the C5 lens now also in production. The mine remains in balance between production and back-fill. Paste reticulation has been extended in the C4 and C5 production levels during the Quarter. Opportunities to replace paste back-fill in some stopes with mine waste continue to be identified, thereby reducing overall waste haulage to the surface and allowing a focus on ore haulage. Cemented rock-fill is being used to supplement the paste-fill to ensure the production schedule is maintained.

Total underground development had reached 37km at Quarter-end. The Conductor 1 decline was not advanced during the Quarter with the focus on development of the Conductor 4 and 5 declines. The development of the Conductor 1 decline will recommence as required for the extraction of the lower Conductor 1 ore.

During the Quarter, Conductor 4 decline development advanced 129m and Conductor 5 decline development advanced 189m, with all development advance occurring in good ground conditions. It is expected that both the C4 and C5 declines will reach their lowest designed position during August 2016 with development then transitioning to accelerated level development in the C4 and C5 lens.

### 3.3 Processing

Key processing metrics for the June 2016 Quarter included:

- 406,237 tonnes milled at an average head feed grade of 4.9% Cu (March Quarter: 374,955 tonnes at 4.7% Cu):
- Overall copper recovery of 90.5% (March Quarter: 91.7%);
- Concentrate production of 73,084 tonnes (March Quarter: 66,024 tonnes); and
- Metal production of 17,827 tonnes of contained copper and 11,227 ounces of contained gold (March Quarter: 16,095 tonnes of contained copper and 9,080 ounces of contained gold).
- Mill throughput achieved an annualised rate of 1.57Mtpa for FY2016.

Mill throughput in the June Quarter was impacted by a planned 40-hour shutdown for preventative and corrective maintenance, including the replacement of the SAG mill motor, as well as several unplanned maintenance issues including a large rip on CV03, which necessitated its replacement. In addition, the pebble crusher was offline for 15 hours towards the end of the Quarter to modify the feed chute in order to better distribute feed into the crusher hopper. Additional operational changes have also been made to the pebble crusher circuit to improve reliability and performance with a direct impact on milling rates.

Copper recovery for the June Quarter averaged 90.5%, which is in line with the global average recovery based on the resource copper grade and Cu:S ratio. Each mining area undergoes geo-metallurgical laboratory testing prior to processing, including grinding simulation and copper liberation testing to understand the impact of primary grind and the downstream circuit parameters on copper recovery and copper grade. This work is used to predict copper recovery performance compared with what would be expected from global macro indicators such as copper grade and Cu:S ratio and is used to optimise ROM blending and processing tactics.

Following the successful commissioning of the major enhancement projects completed during FY2015, Sandfire is continuing to investigate opportunities for further improvements in copper recovery. These include examining additional flotation capacity, further improvements in grind optimisation and operating tactic optimisation.

# 3.4 **Guidance - FY2017**

FY2017 targeted copper production is expected to be within the range of 65-68,000 tonnes of contained copper metal with gold production within the range of 35-40,000 ounces. Headline C1 cash operating costs are expected to be within the range of US\$0.95-1.05lb.

Mine production is forecast at 1.55Mt with the processing of 1.63Mt of ore achieved via the pull-down of ROM stocks. First and third quarter production will be impacted by planned shuts to re-line the SAG mill and replace the trunnion liner. Refer to Sandfire's June 2016 Quarterly Presentation (released today) for further detail and guidance on operating parameters and unit costs.

#### 4.0 SALES AND MARKETING

### 4.1 Copper Concentrate Shipments

A total of 72,260 dry metric tonnes of plant concentrate containing 17,484 tonnes of copper and 10,275 ounces of gold was sold for the Quarter. Shipments were completed from Port Hedland and Geraldton.

A total of 282,012 tonnes of concentrate were sold for FY 2016 containing 68,653 tonnes of copper and 36,042 ounces of gold.

#### 5.0 INFRASTRUCTURE

### 5.1 Solar Power Project

During the Quarter, the new solar power facility at DeGrussa achieved full generation capacity after successfully attaining key milestones during commissioning. The facility is currently generating approximately 7MW of power, which is in line with seasonal expectations. Solar generating output will ramp up during the summer months to achieve the full 10MW functional capacity.

The solar array covers a total area of over 20 hectares at the site, which is located immediately adjacent to the DeGrussa underground mine and processing plant.

Commissioning of the \$40 million project commenced in March 2016 following installation of the last of the 34,080 solar photovoltaic (PV) panels. The project required electrical infrastructure to be installed including inverters to change the electric current from DC to AC, transformers and other electrical accessories and control systems.

Testing has confirmed that the plant can perform in accordance with contractual specifications and validates the power purchase agreements covering the facility. The innovative DeGrussa Solar Power Project is expected to set a new benchmark for the use of renewable energy at remote mine sites in the resource sector, reducing diesel consumption and cutting carbon emissions at DeGrussa by more than 12,000 tonnes of CO<sub>2</sub> annually.

#### 6.0 FEASIBILITY STUDIES & METALLURGY

#### 6.1 Monty Copper-Gold Project

During the Quarter, Sandfire, as Manager of the Springfield Joint Venture, submitted a Mining Lease Application (MLA) to the Department of Mines and Petroleum of Western Australia (DMP) over the Monty VMS Copper-Gold Project, located 10km east of its DeGrussa Copper-Gold Mine. Sandfire is manager of the Springfield Unincorporated Joint Venture, which comprises participating interests of Sandfire (70%) and Talisman Mining Limited (ASX: TLM; "Talisman") (30%).

The decision to proceed with a Mining Lease Application follows the completion of a high-level study to identify the primary value drivers for the Monty deposit and determine the development pathway for the project.

This study identified no fatal flaws and investigated the optionality of various project elements including surface infrastructure locations, site access, mining methods and permitting and approval pathways. This study has identified the preferred location of surface infrastructure including the box-cut and decline entrance portal.

A maiden JORC 2012 compliant Indicated and Inferred Resource of 1.05 million tonnes grading 9.4% copper and 1.6g/t gold was completed for the Monty copper-gold deposit in April 2016 (see ASX Announcement – 13 April 2016), providing the foundation for a potential new satellite mining operation located 10km east of the DeGrussa Copper-Gold Project.

The area of the Mining Lease Application is approximately 16.42km<sup>2</sup> and covers the footprint of the known mineralisation of the Monty VMS deposit as well as the surrounding area which will be required for a box-cut and decline portal and other supporting mine infrastructure and services such as an electrical sub-station to provide power to the underground mine, workshops and offices.

Given the proximity of Monty to the existing DeGrussa Copper-Gold Mine, it is envisaged that a number of mining, administrative and support services will be provided by the existing mining and infrastructure services and facilities at DeGrussa.

The Mining Lease Application process will be progressed in parallel with consultations and negotiations with relevant stakeholders and preparations for future mining activities. In addition, a Feasibility Study on the Monty Project also commenced during the reporting period.

Several work streams are in progress as part of this Feasibility Study, including:

- Metallurgical testwork is now underway with specific focus on comminution and flotation test work;
- Geotechnical and structural geology studies are well advanced following completion of targeted geotechnical diamond drill holes through the Monty ore body;
- Mine design engineering has commenced following release of the Mineral Resource with stoping, ore access and ventilation work underway;
- A preferred box-cut location has been selected with follow-up geotechnical drilling to commence shortly; and
- A proposed haul road route between the DeGrussa operations and the Monty Project is under evaluation with design work to follow.

In parallel with the Feasibility Study activities, negotiations are continuing to progress formal agreements between Sandfire and Talisman relating to Monty construction and mining activities, as well as potential ore process routes and terms.

# 6.2 Oxide copper

The Sandfire Oxide Copper Project at DeGrussa has been extensively tested and a Scoping Study undertaken on the basis of a traditional sulphuric acid heap leach combined with a solvent extraction circuit with a strong electrolyte fed to an electro-winning circuit to produce 99.99-99.999% copper cathode.

The investigation of Innovat continuous vat leaching technology as an alternative to heap leaching and glycine as a potential alternative to a sulphuric acid environment continued during the Quarter.

It is expected that the next step in the development of this process flowsheet will be the completion of pilot plant testing to allow confirmation of project economics prior to consideration of a full-scale plant with a decision within the next six months.

#### 7.0 DEGRUSSA EXPLORATION

## 7.1 Overview

Sandfire continues to progress a tightly focused, multi-disciplinary 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 and structurally-hosted copper deposits. Key components of the Company's exploration activity at DeGrussa during the June Quarter included:

- Diamond drilling targeting down-dip extensions of massive sulphide mineralisation at the Monty deposit and investigating major geological structures affecting the Monty deposit;
- Completion of metallurgical diamond drilling at the Monty deposit;
- Reverse Circulation (RC) drilling to systematically target the untested portion of the interpreted C5 host horizon within the Homer area;
- Completion of a SQUID EM geophysical programme over the Monty deposit and surrounding area;
- Continuation of aircore drilling comprising in-fill drilling at Monty, and exploration drilling at Monty North-East and the Southern Volcanics.
- RC drilling at the Red Bore East prospect targeting areas of low drilling density and geochemical anomalies.

The aggregate exploration metres drilled on Sandfire's wholly-owned and JV tenements during the June 2016 Quarter are summarised below:

Drilling	AC/RAB	RC	UG Diamond	Surface Diamond	Total Drilling
	Drilling (m)	Drilling (m)	Drilling (m)	Drilling (m)	(m)
Q4FY2016	32,277	7,849.5	8,500	3,286	51,912

Note: 32,277 metres of AC/RAB, 6,529 metres of RC and 3,286 metres of diamond drilling during the quarter related to the Talisman Joint Venture.

# 7.2 DeGrussa Regional Exploration

The Greater Doolgunna Project which includes the Talisman Joint Venture and the Ned's Creek Project, provides an aggregate contiguous exploration area of 1,600km². This includes over 65km of strike extent in VMS lithologies. Much of this stratigraphy is obscured beneath transported cover and requires systematic aircore (AC) drilling to test the bedrock geochemistry and identify prospective areas.

### 7.2.1 Monty Copper-Gold Project – Springfield Joint Venture

The Springfield JV Project comprise the Springfield, Halloween and Halloween West Projects, which abut Sandfire's DeGrussa-Doolgunna tenements and contain extensions of the lithological sequence which hosts the DeGrussa VMS deposits. The projects are being explored under a Joint Venture agreement with Talisman Mining Limited (ASX: TLM) under which Sandfire has now earned 70%, all exploration expenditure at the Talisman Projects is now being jointly funded by Sandfire and Talisman on a 70:30 basis.

In addition to the commencement of a Feasibility Study for the Monty deposit (outlined above), exploration programs planned or currently in progress in the Monty area include:

- Systematic aircore drilling to accurately delineate the interpreted VMS host horizon;
- Reverse Circulation (RC) drilling (with diamond tails if required) within the interpreted VMS horizon along strike from Monty to inform the interpretation of the host stratigraphy;
- · DHEM surveys of all RC and diamond drill-holes; and
- Development of a structural geology model to provide additional context regarding the location and geological setting of Monty.

In addition, the Company has completed a SQUID ("Super-Conducting Quantum Interference Device") EM geophysical survey over the Monty deposit and surrounding area.

# 7.2.2 Regional Exploration – Talisman Joint Venture

The discovery of the high-grade Monty deposit represents a major breakthrough for the ongoing exploration of the Doolgunna region, providing a focal point for exploration activities and opening up a highly prospective new corridor with excellent potential for additional VMS discoveries.

The discovery and delineation of the Monty deposit has provided invaluable information and insights to Sandfire's geological team which, together with the extensive bank of information accumulated over the past five years, will help to refine and target ongoing exploration programs.

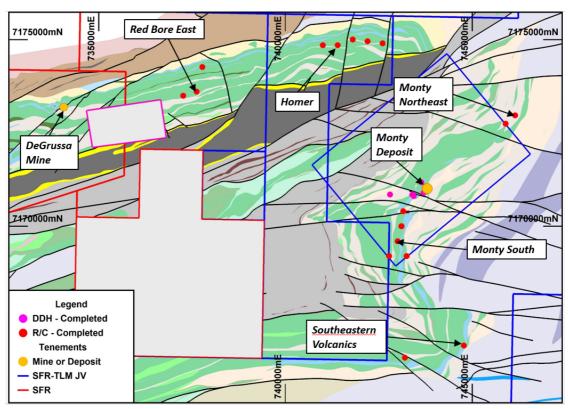


Figure 2: Completed drilling across the SFR Doolgunna and SFR-TLM Joint Venture tenements in the Quarter.

#### **NE Monty Trend**

Sandfire has completed an additional two Reverse Circulation drill holes along the NE Monty Trend. The programme was temporarily suspended during the quarter due to inclement weather. Prospective host lithologies have been confirmed along this stratigraphic trend. Interpretation of DHEM survey and assay results will continue when all data has been returned.

### **Regional RC Geochemistry Programme**

Reverse Circulation drilling continued within the Springfield Project area; testing anomalous geochemistry and prospective host stratigraphy. Eight drill holes have been completed during the Quarter (Monty South, Southeastern and Southern Volcanics areas) for which a number of assays are pending. Drilling geochemical anomalies identified by first pass AC drilling will continue.

#### **Homer Trend**

During the Quarter there were five RC drill holes completed along the Homer Trend, located ~8km east of DeGrussa (within the Springfield JV), where a thick exhalative package has been intersected in previous drilling. Although no significant mineralisation was intersected; the interpreted extension of the DeGrussa C5 host horizon was confirmed. Further exploration will be undertaken on the Homer trend after the completion of DHEM and a review of all results has been completed.

### 7.2.3 Doolgunna Project

Three drill holes were drilled within the Red Bore East programme targeting areas of low drilling density, where prospective stratigraphy and geochemistry anomalies were present. Assays are pending for this drilling.

In addition, 29 historical holes were flushed by the diamond rig for the Doolgunna down-hole electromagnetic (DHEM) programme targeting areas along strike from DeGrussa and some zones higher in the sequence where some of the key VMS indicators had been identified. This work program is ongoing

The Homestead prospect is located in the south-west of the Company's 100%-owned Doolgunna Project, ~18km from DeGrussa. The project is interpreted to contain the VMS prospective host sequence seen elsewhere in the Company's tenements. Previous first-pass AC drilling has identified anomalous VMS-style geochemistry within favourable geology. Additional RC and AC drilling is planned in this area in the coming quarter.

#### 7.2.4 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 (ASX: VRX).

#### 7.2.5 Ned's Creek Project

The Ned's Creek Project comprises over 900km<sup>2</sup> of prospective geology and surrounds the historic Thaduna Project.

Heritage surveys over the Ned's Creek Project commenced during the reporting period, with drilling expected to commence in Q1FY2017. This drilling will target structurally hosted copper based on the interpretation of the recently acquired detailed magnetic survey. This will commence once relevant approvals are received and access is established.

#### 8.0 AUSTRALIAN EXPLORATION

Sandfire has a number of exploration joint ventures around Australia. The Company recognises that its activities impact directly and indirectly on the local environments and communities in which we operate. Sandfire is committed to conducting its activities in a sustainable and socially responsible manner to minimise and mitigate these impacts. In order to achieve its sustainability objectives, Sandfire applies the same high standards and commitment to safety in the workplace, environmentally sound practices and transparent social responsibility at its exploration joint ventures as it does at its DeGrussa Copper Mine in Western Australia.



Figure 3: Sandfire Eastern Australian Projects with orebody types and minerals sought.

### 8.1 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 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, which has now earned a 51% interest in the Project and Sandfire are now a contributing JV partner.

Pacifico intends to commence a drilling program which will include Reverse Circulation ("RC") drilling of established targets at the Four Mile, Mariner, Berjaya, Coppermine Creek and Johnstons prospects for zinc and copper mineralisation within the next quarter.

At the Batten Trough JV, MMG completed an airborne gravity survey over an area of approximately 1,200km², encompassing the Mt Young and Rosie Creek prospects in the northern portion of the tenement area. MMG intends to commence drill testing targets from these prospects as well as the Berjaya NW target to the west of the Teena Deposit with a 10-hole diamond program in September.

# 8.2 Queensland Projects

A number of projects are held in the eastern succession of the Mount Isa region south and east of Cloncurry in northwest Queensland which are prospective for Broken Hill type (BHt) lead-zinc-silver deposits such as the Cannington deposit (South 32) and the Ernest Henry Iron Oxide copper-gold (IOCG) deposits (Xstrata).

A regional aeromagnetic survey is currently underway across the majority of the Queensland project area. Preliminary data is showing a significant improvement in resolution and a commensurate increase in targeting confidence. In particular, the prospectivity of the northern Breena Plains Targets (see Figure 3) has been upgraded with the identification of short strike length anomalies as distinct from the regional stratigraphic trends.

These anomalies may be characteristic of both IOCG and BHT-style mineralisation within this field and represent a step change in Sandfire's understanding of the area. To complement this, a Moving Loop Electro-Magnetic (MLEM) survey using a high sensitivity receiver is currently deployed at the Breena Plains Project to further define the targets prior to drill testing.

Heritage surveys were completed during the Quarter to ensure that the drill programs can commence at the Breena Plains Project. The MLEM technique will also be utilised at the Wilgunya Project (with follow-up work planned where a conductor had previously been identified) and the Kennedy Project.

Drilling at the Capricorn North prospect within the Altia Joint Venture (with Minotaur Exploration, SFR earning up to 80%) intersected minor anomalous copper mineralisation over short intervals as identified from core observations. A Down-Hole Electromagnetic (DHEM) survey of the hole has identified an off-hole conductor coincident with this mineralisation and extending 200m below the hole. Further drilling is planned to target this conductor.

A single diamond hole has commenced, testing the down-plunge extension of the Altia resource.

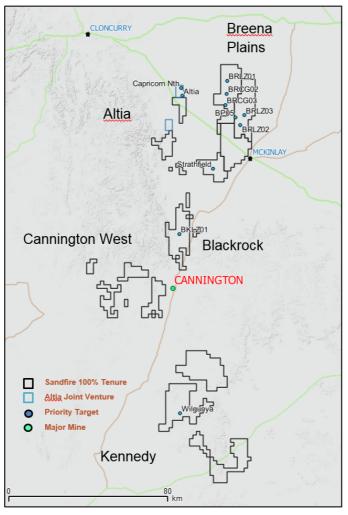


Figure 4: Sandfire's Queensland tenure showing the five main project areas and the 2016 high priority targets.

# 8.3 New South Wales Projects

A number of project areas are held in the Lachlan Fold Belt of New South Wales which are prospective for porphyry copper-gold mineralisation as found at Northparkes (China Moly), Cadia (Newcrest) and Cowal (Evolution). A farm-in agreement to earn up to 80% is held with Gold Fields Australasia Pty Ltd on the Marsden South Project.

### 8.3.1 Temora Exploration

A systematic data gathering and logging program over the entire mineralised Temora belt, which commenced in earnest in January, is delivering unique insight into the mineralisation and allowing for targeting of prospective areas. Aside from the critical compilation and geological re-logging by experts in porphyry systems, new technologies including Short Wave InfraRed (SWIR) logging and re-assaying using modern multi-element techniques are building a comprehensive understanding of the known porphyry copper-gold mineralising systems in the belt.

This information, combined with the remodelling and compilation of geophysical datasets, has led to the identification of multiple drill-ready targets. A continued focus on stakeholder engagement is being maintained as land access agreements are negotiated to facilitate the commencement of drilling of these targets once the crops are harvested in mid-November.

# 8.3.2 Wingrunner Exploration

During the Quarter, two geophysical surveys (Induced Polarisation or IP and Ground Magnetics) were carried out at the SE Bogan Prospect, 8km north-west of Peak Hill. This work was designed to follow-up on porphyrystyle alteration and geochemistry identified in previous Aircore (AC) drilling, with the recent IP survey identifying a strong chargeable anomaly.

The IP survey was complemented by a close-spaced ground magnetics survey which identified four potentially mineralised apophyses, one of which is coincident with the chargeable anomaly. Further IP surveys will cover these anomalies with drill testing planned when ground conditions allow access for drilling.

During the Quarter, two diamond holes were completed at the Canyon prospect, located on the Marsden South Project. While some porphyry-style alteration was identified, no significant mineralisation was encountered.

# 8.4 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 Project (EL3969, PM268) with Argonaut Resources (ASX: ARE) to earn up to 75%.

Work continues on gaining access to prospective ground on the Yorke Peninsula.

# 9.0 INTERNATIONAL EXPLORATION

## 9.1 WCB Resources – Misima Copper Project, PNG

Sandfire holds a 38.38% interest in WCB Resources Ltd ("WCB"; TSX-V: WCB), a Toronto-listed copper-gold explorer, which it acquired by subscribing for shares in a A\$5.9M private share placement. WCB is earning a 70% interest in the Misima Island exploration lease 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. 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 0.6g/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)<sup>1</sup>.

Further details can be found in WCB's News Releases, which are available at the WCB Resources website, www.wcbresources.com.

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<sup>&</sup>lt;sup>1</sup> Production + Resources, Intierra 2014

# 9.2 Tintina Resources - Black Butte Project, USA

Sandfire holds a 57% interest in Vancouver-based copper development company, Tintina Resources (TSX-V: TAU). Tintina's key asset is a 100% interest in the premier, high-grade Black Butte Copper Project, located near Helena in the State of Montana in the United States. The project is located close to existing road, power and rail infrastructure, with the ability to access a residential workforce located nearby and competitive sources of materials and power.

Located on private ranch land in central Montana, the Black Butte Project copper resource consists of three flat-lying sedimentary hosted copper deposits which have been extensively drilled by Tintina (over 53,000m of diamond drilling).

An Updated Technical Report and Preliminary Economic Assessment (PEA) completed by Tintina in July 2013 was based on reported NI 43-101 Measured and Indicated Resources totalling 15.7 million tonnes grading 3.4% Cu, 0.1% Co and 14g/t Ag for 533,600 tonnes of contained copper and Inferred Resources totalling 2.3 million tonnes grading 2.8% Cu, 0.09% Co and 14g/t Ag for 63,500 tonnes of contained copper (calculated using a 1.6% copper cut-off grade) for the Johnny Lee Upper Zone and Lowry deposits, and a 1.5% Cu cut-off for the Johnny Lee Lower Zone).

The PEA confirmed that the deposit has the potential to underpin a robust underground mining operation with forecast life-of-mine production of ~30,000tpa of copper-in-concentrate over a mine life of ~11 years, based on total mill throughput of 11.8 million tonnes at an average head grade of 3.1% Cu.

#### 10.0 CORPORATE

# 10.1 DeGrussa Finance Facility

During the Quarter, Sandfire fully repaid its Amortising Facility with its financier, ANZ Banking Corporation ("ANZ"), ahead of schedule, following a \$20 million payment at the end of the June 2016 Quarter. The Amortising Facility was previously scheduled to be repaid over the next 18 months to 31 December 2017.

This repayment reduced the Company's total outstanding debt to \$50 million as at 30 June 2016 (under its Revolver Facility). With \$62 million in company cash and deposit holdings (Group \$66 million), Sandfire was in a net cash positive position at financial year-end. This is a significant milestone for Sandfire which sees the Company net debt-free for the first time since development of the DeGrussa Copper-Gold Project commenced in 2011.

Sandfire has now repaid a total of \$330 million against the original \$380 million project finance facility drawn to fund the construction and development of the DeGrussa Mine.

The \$85 million Revolver Facility (currently drawn to \$50 million) can be paid down or redrawn as required, subject to facility terms, and is repayable in full by 31 December 2017. The Company also retains a \$25 million working capital facility with ANZ, currently undrawn, which can be drawn down against the value of saleable copper concentrate inventories held by the Company at the mine and ports.

# 10.2 Annual Issue of Performance Rights to Executives

In line with the terms and conditions of the Company's Long Term Incentive Plan (LTIP), aimed at incentivising its senior executives to drive the next phase of the Company's growth (see ASX Announcement – 21 April 2015), during the Quarter Sandfire issued 469,092 Performance Rights to Sandfire senior executives.

The quantum of Performance Rights issued was calculated by dividing the LTIP Grant Opportunity by the 5-day VWAP of Sandfire's shares immediately prior to the date of grant of the rights, being 30 June 2016, which was \$5.08 per Performance Right.

The Performance Rights will be able to be converted into shares if Sandfire satisfies performance conditions relating to total shareholder return tested against an industry index on a three-year period.

Of the 469,092 Performance Rights issued, 216,175 were issued to Managing Director and CEO, Mr Karl Simich. The grant of these rights to Mr Simich is subject to approval by shareholders at the Company's Annual General Meeting in November 2016.

#### 10.3 Investor Call and Webcast

A teleconference on the Quarterly results will be held for the investment community on 28 July 2016 commencing at 10.00am (AWST) / 12.00pm (AEST). Investors, brokers, analysts and media can join the teleconference by dialling the following numbers:



Within Australia (Toll Free): 1 800 558 698
Alternate Australia Toll Free: 1 800 809 971
International: +61-2 9007 3187

Conference ID: 351934

The Quarterly Report and an accompanying slide presentation will be available via the ASX Company Announcements Platform (Code: SFR) as well as at Sandfire's website at <a href="https://www.sandfire.com.au">www.sandfire.com.au</a>.

A live webcast of the teleconference and synchronised slide presentation will also be available via the BRR Media service by clicking on the following link:

# http://webcasting.brrmedia.com/broadcast/578d8bd6fdce524636710cbb

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

#### **ENDS**

**Media Inquiries:** 

#### For further information, please contact:

Karl Simich – Managing Director/CEO Nicholas Read – Read Corporate:

Office: +61 8 6430 3800 Mobile: +61 419 929 046 (Nicholas Read)

#### 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.

#### Competent Person's Statement - Mineral Resources

The information in this report that relates to Mineral Resources is based on information compiled by Mr. Ekow Taylor who is a Member of The Australasian Institute of Mining and Metallurgy. Mr. Taylor is a permanent employee of Sandfire Resources NL and has sufficient experience that is relevant to the style of mineralisation 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 Taylor consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

#### Competent Person's Statement - Ore Reserves

The information in this report that relates to Ore Reserves is based on information compiled by Mr Neil Hastings who is a Member of The Australasian Institute of Mining and Metallurgy. Mr Hastings is a permanent employee of Sandfire Resources NL and has sufficient experience that is relevant to the style of mineralisation 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 Hastings 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.

#### **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 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/cm3 to 4.9g/cm3, with an average density reading of 3.7g/cm3. 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 revaluated 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. Whist the main aim of the exploration at Doolgunna is to identify additional VHMS mineralisation in some areas of regional land holding it is currently the 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 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 75%µm. 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.

Figure 5: Sandfire's Greater Doolgunna Project, showing the Springfield Project (Joint Venture) and location of the Monty and Homer prospects.

