



SANDFIRE RESOURCES NL

A QUALITY COPPER-GOLD COMPANY ASX Code- SFR

27 October 2016

ASX Limited
Level 8, Exchange Plaza
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Perth WA 6000

**LODGEMENT OF SEPTEMBER 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. September 2016 Quarterly Activities Report
2. September 2016 Quarterly Update Powerpoint Presentation

In addition, a teleconference and live webcast on the September 2016 Quarterly Report will be held for the investment community at 10.00am (AWST) / 1.00pm (AEST) today.

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

Live date: Thursday, 27 October 2016

Access this webcast at: <http://webcasting.boardroom.media/broadcast/58000984cf09bc4a2cca66f8>
<http://www.sandfire.com.au>

Yours sincerely,

Matt Fitzgerald
Chief Financial Officer
and Company Secretary



QUARTERLY REPORT

For the period ended 30 September 2016

Highlights

Production & Operations

Contained metal production	September 2016 Quarter	FY2017 Guidance
Copper (t)	15,610	65,000 – 68,000
Gold (oz)	9,731	35,000 – 40,000
C1 cost (US\$/lb)	1.06	0.95 - 1.05

- Strong mine production and milling rates maintained for the Quarter.
- FY2017 production guidance maintained: 65-68kt Cu and 35-40koz gold at C1 ~US0.95-1.05/lb.
- Development of Conductor 4 and 5 declines completed to current life-of-mine design, with development transitioning to accelerated level development in the C4 and C5 lenses.

Development & Exploration

- Feasibility Study continuing on the Monty Copper-Gold Project (Springfield JV), with the study on track for completion in the March 2017 Quarter.
- 16.42km² Mining Lease Application (MLA) lodged with the Western Australian Department of Mines and Petroleum for the Monty Copper-Gold Project.
- Second phase of geotechnical drilling completed for proposed Monty box-cut and decline.
- Multi-pronged exploration programs continuing at both Sandfire's Doolgunna Project and within the Springfield JV along the Monty and Homer trends including systematic drilling and geophysical programs.
- 14,517m of AC drilling completed at the Homestead Prospect, enhancing the geological model for further targeting.
- Mine Operating Permit (MOP) Application responses submitted for Tintina Resources' Black Butte Copper Project in Montana, USA, marking the start of the next stage in the permitting process for Black Butte.

Corporate

- Payment of final dividend of 9 cents per share (fully franked).
- Acquisition of remaining 65% stake in the Thaduna Copper Project from Ventnor Resources.
- Farm-in agreement with Enterprise Metals (ASX: ENT) to earn up to a 75% interest in key tenements to the south of the Company's Doolgunna Project.
- Sandfire increased its stake in North American copper development company Tintina Resources (TSX.V: TAU) from 57% to 61%, after subscribing for its full entitlement as part of a rights issue (October 2016).
- Group cash on hand totalled \$54.4M as at 30 September 2016.

1.0 SAFETY PERFORMANCE

The Total Recordable Injury Frequency Rate (TRIFR) for the Sandfire Group at the end of September was 5.0. 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).

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



Figure 1: Diamond drilling, Conductor 5 East (left); DeGrussa Solar Farm (middle); DeGrussa core yard (right).

2.0 OPERATIONS OVERVIEW

Copper production for the September Quarter was 15,610 tonnes (June Quarter: 17,827 tonnes). C1 cash operating costs for the Quarter were US\$1.06/lb (June Quarter: US\$0.85/lb).

Mine production for the Quarter was 345,144 tonnes grading 4.7% Cu. During the Quarter, production was sourced from all lenses at DeGrussa.

A total of 393,031 tonnes of ore grading 4.4% Cu was milled for the September Quarter, with copper recovery averaging 89.6%.

3.0 MINING & PRODUCTION

3.1 Overview

September 2016 Quarter – Production Statistics		Tonnes	Grade (% Cu)	Grade (g/t Au)	Contained Copper (t)	Contained Gold (oz)
Concentrator	Mined	345,144	4.7	1.7	16,171	19,183
	Milled	393,031	4.4	1.8	17,413	22,980
Production		64,285	24.3	4.7	15,610	9,731

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 mine remaining in balance between production and back-fill. 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, but is steadily being reduced in favour of the lower cost paste.

Development of both the Conductor 4 and Conductor 5 declines was completed to current life-of-mine design during the Quarter. With these declines now complete, development will transition to accelerated level development in the C4 and C5 lens.

3.3 Processing

Key processing metrics for the September 2016 Quarter included:

- 393,031 tonnes milled at an average head feed grade of 4.4% Cu (June Quarter: 406,237 tonnes at 4.9% Cu);
- Overall copper recovery of 89.6% (June Quarter: 90.5%);
- Concentrate production of 64,285 tonnes (June Quarter: 73,084 tonnes); and
- Metal production of 15,610 tonnes of contained copper and 9,731 ounces of contained gold (June Quarter: 17,827 tonnes of contained copper and 11,227 ounces of contained gold).

Mill throughput in the September Quarter was impacted by a campaign to treat stockpiled scats through the pebble crushing circuit. This required a series of planned shutdowns to implement a reduction in the open area of the SAG mill grates to free up capacity in the pebble crusher.

Copper recovery for the September Quarter was in line with the predicted 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.

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

Targeted copper production for FY2017 remains unchanged with production expected to be in 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\$0.95-1.05 per lb.

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 have and will be impacted by planned shuts to re-line the SAG mill and replace the trunnion liner. Refer to Sandfire's September 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 52,665 dry metric tonnes of concentrate containing 12,437 tonnes of copper (11,913 tonnes payable) and 7,482 ounces of gold (6,891 ounces payable) was sold for the Quarter. Shipments were completed from Port Hedland and Geraldton.

5.0 FEASIBILITY STUDIES & METALLURGY

5.1 Monty Copper-Gold Project

In July 2016 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 Mine. The Springfield Unincorporated Joint Venture comprises participating interests of Sandfire (70%) and Talisman Mining Limited (ASX: TLM; "Talisman") (30%).

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 16.42km² 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 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 quarter.

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;
- A preliminary mine design has been completed with stoping, ore access and ventilation work underway;
- Proposed box-cut and decline locations have been finalised;
- Design of the surface layout of infrastructure, stockpile locations, other facilities is underway; and
- A proposed haul road route between the DeGrussa operations and the Monty Project is under evaluation with design work to follow.

During the study phases to date, Sandfire has considered a number of potential mining and treatment scenarios incorporating the DeGrussa Mine and the proposed Monty mine, with ore being processed at the DeGrussa processing plant. It is now likely that the scenario to be used as the base case for the feasibility study involves the acceleration of mining of Monty given its higher grades. The study will investigate mining rates at the DeGrussa underground mine being adjusted to match the overall capacity of the DeGrussa processing plant (currently 1.6Mtpa). This will allow both mines to be scheduled to complete mining around the same time, based on the current DeGrussa Mine Plan, which optimises use of the existing DeGrussa processing plant.

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.

5.2 Oxide copper

An alternative process route for the Oxide Copper Project at DeGrussa is the use of glycine. This combined with the use of Innovat continuous vat leaching technology is being investigated with a view to developing a flowsheet that will allow the exploitation of the copper oxide resources stockpiled at DeGrussa.

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

6.0 DOOLGUNNA 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.

6.1 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 Doolgunna during the September Quarter included:

- Diamond drilling targeting down-dip extensions of massive sulphide mineralisation at the Monty deposit;
- Completion of geotechnical diamond drilling at the Monty deposit;
- RC drilling testing potential fault offsets of Monty host stratigraphy;
- Completion of diamond drill testing of eastern extensions to the DeGrussa C5 East massive sulphide mineralisation;
- RC and diamond drilling targeting down-dip extensions of anomalous geochemistry in the Airstrip South and Camp areas;
- RC drilling in the Red Bore East area targeting areas of low drilling density and geochemical anomalies;
- Continuation of aircore drilling comprising in-fill drilling at Homestead, Red Bore West, Monty North-East, and Homer East; and
- Completion of a SQUID EM geophysical programme over the Monty deposit and surrounding area.

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

Drilling	AC/RAB Drilling (m)	RC Drilling (m)	UG Diamond Drilling (m)	Surface Diamond Drilling (m)	Total Drilling (m)
Q1FY2017	42,763	8,213	-	6,594	57,570

Note: 19,431 metres of AC/RAB, 3,918 metres of RC and 3,580 metres of diamond drilling during the quarter related to the Talisman Joint Venture.

6.2 Springfield Joint Venture

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

During the Quarter a \$3.1 million budget (100% basis) was approved for the four-month period from September to December 2016. This budget is separate to expenditure for the ongoing Monty Deposit Feasibility Study (see above), and will predominantly focus on exploration activities to further identify and define the prospective exhalative horizons across the Springfield Project area.

Exploration programs planned or currently in progress in the Monty area include:

- Diamond Drilling targeting the potential down dip extensions to the Monty Deposit;
- Ongoing down-hole Electromagnetic (DHEM) surveying;
- An orientation Induced Polarisation (IP) geophysical survey over the Monty Deposit; and
- Systematic aircore drilling over the western portion of the Southern Volcanics.

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, helps to refine and target ongoing exploration programs.

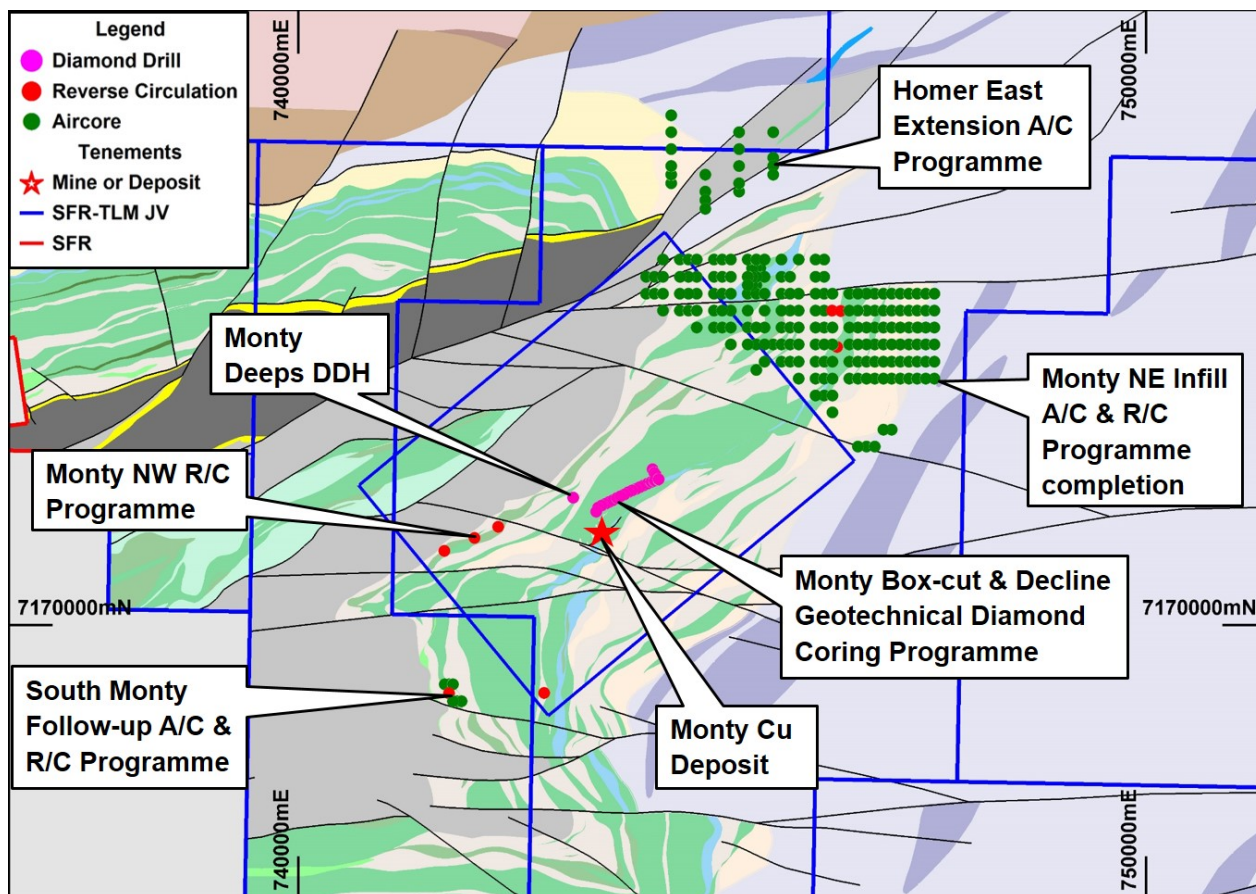


Figure 2: Completed drilling across the SFR-TLM Joint Venture tenements during the Quarter.

NE Monty Trend

RC drilling undertaken at the Monty North East trend was designed to test the interpreted host sediments along strike from Monty, as well as associated copper anomalism intersected in AC drilling. Interpretation of this drilling is ongoing and further drilling is planned to continue testing the surrounding area. The drilling intersected dolerite, basalt, siltstone and sandstone and minor magnetite and magnetite-hematite exhalite material.

One diamond drill tail on an RC hole was completed (TLRC0046). This hole intersected the interpreted host sediment package and will be utilised as a platform for a DHEM survey.

Regional RC and AC Geochemistry Programme

RC drilling at the Monty South prospect was designed to test two sediment horizons with anomalous VMS geochemistry and provide further platforms for DHEM surveying in the immediate area. Minor magnetite-rich exhalite was intersected with siltstone, sandstone, breccia and dolerite and basalt. The interpretation is ongoing and a number of assays are pending.

AC drilling continued at the Springfield Project, with a total of 209 holes completed and over 19,000m drilled. Drilling was primarily targeted the Monty North East prospect (above) plus minor in-fill drilling at Monty South and first-pass drilling at Homer East.

Monty

One hole was completed to the south-west of Monty. This hole was designed to determine if the Monty host sediment horizon could be identified in an offset position to the south of an interpreted east-west fault. Drilling intersected the interpreted sediment horizon. Additional work in this area will occur following completion of a detailed review.

A deep hole was commenced to target the area down-dip of Monty, and had reached a depth of 688m down-hole at the end of the reporting period. The hole was drilled to test the stratigraphic package as it is currently interpreted, and will provide a robust DHEM platform from which to test the near Monty environs. The hole was completed subsequent to the end of the quarter at a depth of 1,213m.

6.3 Doolgunna Project – 100% Sandfire

Diamond drilling in the near-mine environment focused on the C5 East prospect area. All three holes drilled in this area intersected lithologies and alteration that are consistent with being proximal to VHMS mineralisation.

Diamond and RC drilling was also completed to test geochemical anomalies and the prospective volcano-sedimentary host horizons in the Airstrip South, Camp and Homestead prospect areas.

An update of the geological model through the Homestead and Red Bore prospect areas is ongoing, incorporating the information being gathered by the completed and continuing AC drilling in these areas.

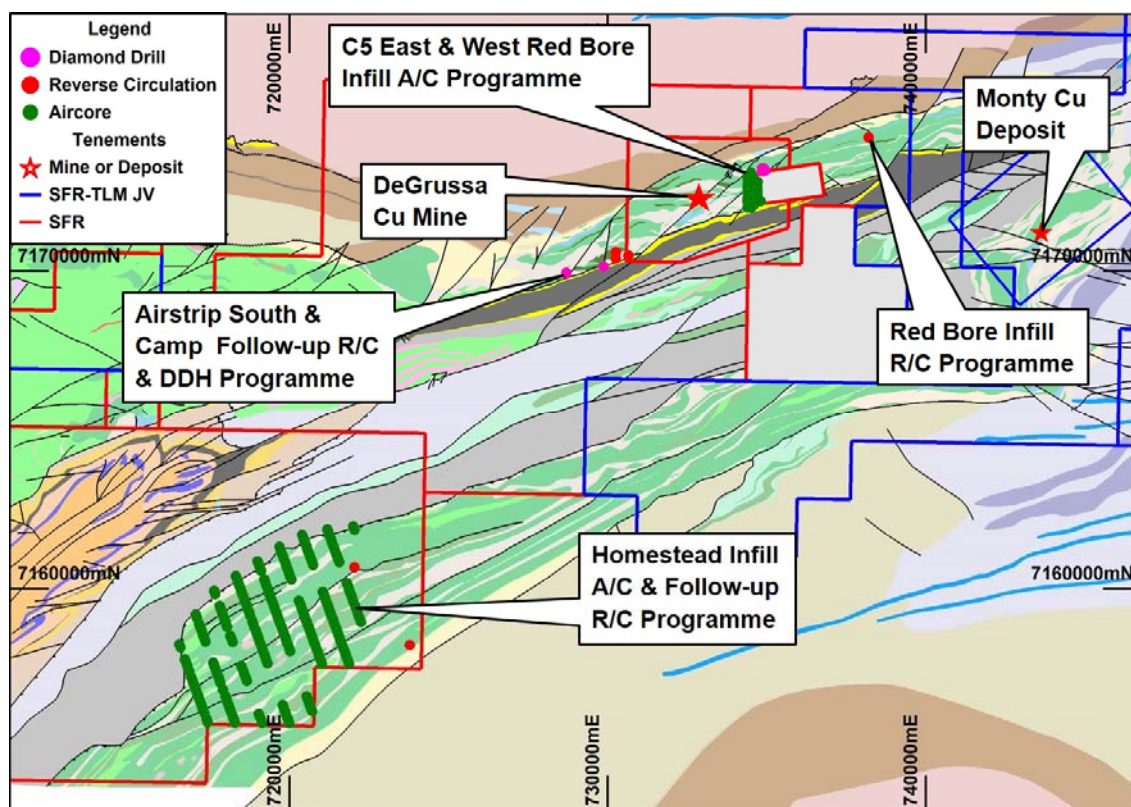


Figure 3: Completed drilling across the SFR Doolgunna tenements during the Quarter.

6.4 Thaduna Project

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).

During the Quarter, Sandfire executed an agreement with Ventnor Resources Limited (ASX: VRX) and Delgare Pty Ltd (a wholly owned subsidiary of Ventnor) to purchase the remaining 65% of the Thaduna/Green Dragon Copper Project, increasing the Company's stake to 100%. The purchase was completed on the following terms:

- On settlement, a transfer of Sandfire shares to Ventnor or its nominee to a value of \$2,000,000;
- A further payment of \$1,000,000 if Sandfire proceeds with a decision to mine from the Project; and
- A 2.0% Net Smelter Royalty (NSR) payable up to 90,000 tonnes of recovered copper production and an ongoing NSR of 1.0% on further production.

6.5 Ned's Creek Project

The Ned's Creek Project comprises over 900km² of prospective geology and surrounds the historic Thaduna Project.

Drilling at Ned's Creek will commence in the December 2016 Quarter, with all approvals now in place. The drilling will target structurally-hosted copper, based on the interpretation of the recently acquired detailed magnetic survey. Initial drilling will be completed by the aircore rig with any required follow-up drilling to be completed utilising the RC drill rig.

6.6 Farm-in agreement with Enterprise Metals

Subsequent to quarter end, Sandfire entered into a Farm-in Agreement with Enterprise Metals Limited (ASX: ENT) to earn up to a 75% interest in Enterprise's Doolgunna Project, which adjoins Sandfire's Doolgunna tenements to the south.

Under the terms of the agreement, the Company issued Sandfire shares to the value of \$300,000 to Enterprise, based on the volume weighted average price of Sandfire shares on the ASX during the 5 day period prior to the date of execution of the Agreement.

Sandfire must spend a minimum of \$1.5 million on exploration within two years, and may withdraw at any time after it has satisfied the Minimum Expenditure Condition. Sandfire then has the option to sole fund exploration to define a JORC 2012 compliant Mineral Resource of 50,000 tonnes of contained copper or copper equivalent resource, to earn a 75% interest in the Tenements. There is no time limit for Sandfire to satisfy the earn-in.

The Company considers that the Enterprise tenements offer the potential for new copper-gold discoveries.

7.0 AUSTRALIAN EXPLORATION

Sandfire has a number of exploration joint ventures around Australia exploring for base and precious metals. The exploration programs are focussed on prospective terranes with potential for discovery of a significant new deposit that can be developed.



Figure 4: Sandfire Eastern Australian Projects with orebody types and minerals sought.

7.1 Borroloola Project

The Borroloola Project is located north of the McArthur River Mine (Xstrata), and is prospective for base metals and sedimentary manganese. 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 a contributing 49% JV partner.

At the Batten Trough JV, MMG completed one diamond hole at Berjaya NW, which intersected minor zinc mineralisation within favourable stratigraphy. Drill testing of the Rosie Creek prospect is ongoing with a number of holes remaining to be drilled.

7.2 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 Joint Venture is held over the Altia project with Minotaur Exploration Ltd (ASX: MEP) with the right to earn 80%.

The regional aeromagnetic survey currently underway across the majority of the Queensland project areas is 95% complete. Preliminary data is showing a significant improvement in resolution and a commensurate increase in targeting confidence.

At the Altia JV, a follow-up diamond hole drilled at the Capricorn North prospect to target an off-hole conductor intersected narrow zones of copper mineralisation. A follow-up moving loop EM survey did not identify any prospective anomalies. A deep diamond hole targeting the down-plunge extension of the Altia resource intersected similar grades and thicknesses to those within the resource area, indicating that the ore zone extends at depth.

At the Breena Plains Project, a moving loop EM survey was completed at a number of targets and identified weak conductors at BRLZ01 and BRCG03, coincident with magnetic highs. Two diamond holes tested the BRLZ01 anomaly and intersected ironstones that hosted a thin zone of anomalous gold. One diamond hole and one RC hole was completed testing the BRCG03 magnetic and EM anomaly. No significant mineralisation was identified; minor chalcopyrite was intersected and assays have not yet been received.

Significant rains have hampered exploration activities throughout Queensland and have restricted access to the Wilgunya prospect. As a result, the planned EM and drilling campaign has been postponed until next year.

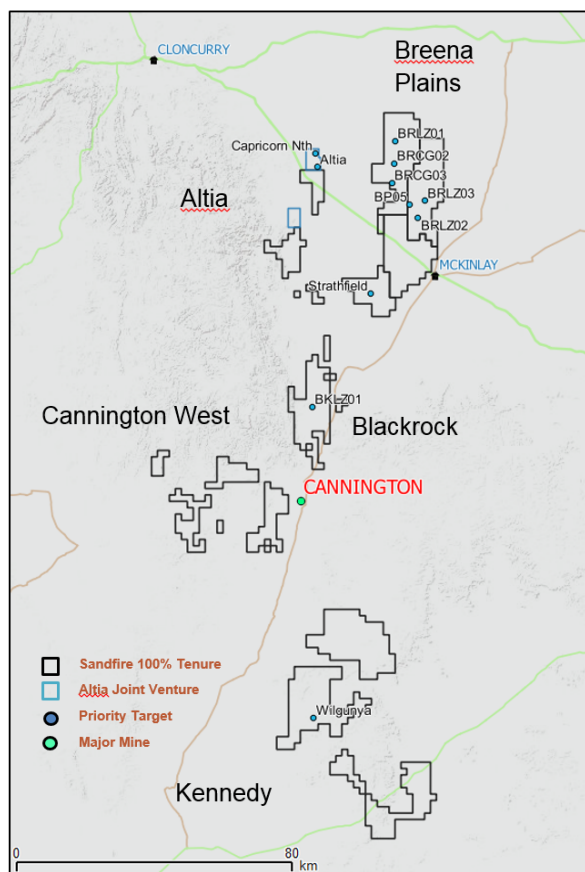


Figure 5: Sandfire's Queensland tenure showing the five main project areas and the 2016 high priority targets.

7.3 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.

A record amount of rainfall has fallen across the Lachlan this season, culminating in widespread flooding. It is likely that this event will delay the onset of the drilling season for several months and potentially into 2017.

7.3.1 Temora Exploration

Target generation work at the Temora Project has identified several very strong pathfinder trends to potential mineralised porphyry systems. A program of geophysics will commence shortly to confirm the final targets. Aircore, RC and diamond drilling is planned to test the most significant of these as soon as access can be gained on the ground.

7.3.2 Wingrunner Exploration

A program of combined RC and diamond drilling has been planned to drill test the large geophysical and geochemical anomaly outlined at the SE Bogan Prospect. These will be completed once access to the ground can be achieved.

7.4 Alford Project

The Alford Project on the Yorke Peninsula lies 20km NE of Wallaroo, South Australia. 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 strategic decision has been made to withdraw from exploration on the Yorke Peninsula. Sandfire has given notice to Argonaut that it has withdrawn from the Joint Venture, and the Company is in the process of divesting its 100%-owned tenure.

8.0 INTERNATIONAL PROJECTS

8.1 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 0.7g/t Au), Ok Tedi (1.7 billion tonnes @ 0.7% Cu and 0.6g/t Au), Golpu (1 billion tonnes @ 0.9% Cu and 0.6g/t Au) and Panguna (1.4 billion tonnes @ 0.5% Cu and 0.6g/t Au) (Production + Resources, Interra 2014).

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

8.2 Tintina Resources – Black Butte Copper Project, USA

Sandfire holds a 61% 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.

Subsequent to the end of the Quarter, Sandfire increased its stake in North American copper development company Tintina from 57% to 61%, by subscribing in full for its entitlement as part of a rights issue. The proceeds will be used to continue to progress permitting and development plans for Tintina's flagship Black Butte Copper Project in Montana, USA.

Tintina's rights offer was undertaken on a 5-for-9 basis to raise up to C\$7.4 million at a subscription price of C\$0.06 per share. Sandfire subscribed for its full entitlement under the rights offer of approximately C\$4.2 million. Electrum Global Holdings L.P., Tintina's second largest shareholder, also subscribed for its full entitlement of approximately C\$1.2 million.

Sandfire's support of the rights issue is consistent with its long-term strategy of supporting Tintina's development strategy for the Black Butte Project, which is one of the world's premier high-grade undeveloped copper deposits. Sandfire views the Black Butte Project as an excellent and complementary strategic fit with its flagship DeGrussa Copper-Gold Project in Western Australia and a key part of its longer term growth pipeline – and will continue to support Tintina both financially and by contributing its project development and operational expertise to assist with the permitting, financing and development of the project.

Tintina submitted a Mine Operating Permit (MOP) application for the Johnny Lee copper deposit to the Montana Department of Environmental Quality (DEQ) late last year. This application is a comprehensive document detailing the development plan for this high grade project as a state-of-the-art underground mine. This thorough review of the MOP includes detailed studies by third-party consultants which have been peer-reviewed to ensure the most robust and complete application possible.

Tintina recently advised that it has now submitted responses to questions from the Montana Department of Environmental Quality (DEQ) in relation to the MOP application.

Key aspects of the original MOP remain unchanged and are designed to protect the Smith River Watershed, with key elements including:

- The proposed location of all openings and entry points to the underground mine well above the water table to prevent water from ever leaving the mine;
- The proposed use of a reverse osmosis water treatment plant to treat water on-site from construction through to reclamation to ensure that all water involved in the operation will meet Montana's non-degradation water standards in reclamation and closure;
- The deposition of mill tailings that are not returned underground as cemented tailings (~55%) into a double-lined surface facility where they will harden. This eliminates the need for a tailings ponds, eliminates windblown dust and prevents any acid run-off. All un-milled rock brought to surface will also be stored in this facility; and
- During reclamation, the cemented tailings facility will be sealed with another liner, covered with several feet of cover including the original top-soil. After reclamation, the entire site will be returned to the traditional use of cattle-grazing.

Once the DEQ has reviewed the responses and declared that the Black Butte Copper Project is "complete and compliant", the permitting process will advance to the next stage, which involves the preparation of an Environmental Impact Statement and further engagement with the local community and key stakeholders.

9.0 CORPORATE

9.1 Final dividend and cash position

Sandfire has maintained its strong commitment to shareholder returns, declaring a final fully-franked dividend of 9 cents per share during the Quarter which, combined with the interim dividend, takes the full-year 30 June 2016 payout to 11 cents per share.

The record date to determine the entitlement was 12 September 2016, and dividend payments commenced on 26 September 2016 via electronic funds transfer.

Cash and deposits as at 30 September 2016 totalled \$52.5 million. Group cash on hand (including Tintina Resources and the Springfield Joint Venture) as at 30 September 2016 totalled \$54.4 million.

9.2 Management changes

Sandfire's Chief Operating Officer, Mike Spreadborough, left the Company at the end of September to pursue new opportunities in the resource sector. Mr Spreadborough joined Sandfire in August 2013 and has made a strong contribution to the Company over the past three years, overseeing the continued efficient, consistent and safe operations of the DeGrussa Copper-Gold Mine in Western Australia. During his tenure, Mr Spreadborough oversaw the completion of a number of enhancement projects at the DeGrussa Concentrator, the development of the Conductor 4 and 5 deposits (both now on stream) and the successful construction and commissioning of the DeGrussa Solar Farm.

Martin Reed has been appointed interim Chief Operating Officer.

In addition, Tintina Resources recently announced the appointment of John Shanahan, an experienced international mining executive with a strong track record working in Montana, as its President and Chief Executive Office. He will oversee all aspects of the completion of permitting and development of the Black Butte Copper Project. Mr Shanahan replaces Mr Bruce Hooper, who has returned to Australia to resume his role as Sandfire's Chief Business Development Officer.

Prior to joining Tintina, Mr Shanahan was the President and CEO of the Revett Mining Company, Inc. (2008 to 2015), which operated the 4,000tpd underground Troy copper and silver mine in Montana. The Troy Mine was the 2014 and 2015 recipient of the National Mining Association Sentinels of Safety Award for outstanding safety for small underground mines. Whilst at Revett Mining, he was also instrumental in progressing permitting of the Rock Creek Copper-Silver Project.

Mr Shanahan commenced his professional career in Australia with CRA Limited and its various subsidiaries (now part of the Rio Tinto Group) and spent over ten years in mine finance and commodity trading in New York City with companies such as Rothschild Inc., and Barclays PLC.

Sandfire's Chief Financial Officer, Mr Matthew Fitzgerald, has also joined the Tintina Board as a non-executive Director.

9.3 Investor Call and Webcast

A teleconference on the Quarterly results will be held for the investment community on 27 October 2016 commencing at 10.00am (AWST) / 1.00pm (AEDT). 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:	419771

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 www.sandfire.com.au. 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.boardroom.media/broadcast/58000984cf09bc4a2cca66f8>

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.

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. Whilst the main aim of the exploration at Doolgunna 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 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. 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 6: Sandfire's Greater Doolgunna area.

