



**SANDFIRE RESOURCES NL**

## SEPTEMBER 2011 QUARTERLY ACTIVITIES REPORT

### HIGHLIGHTS

- Final documentation executed for \$390M financing facility.
- Construction of 1.5Mtpa processing plant underway.
- All major bulk earthworks for plant site completed.
- Underground decline development has advanced +650m from the portal, 800m to first ore
- Stage 1 open pit on schedule with 3.3Mbcm mined to date.
- 200-room Construction Camp completed and fully operational and the 400-room Permanent Mine Village to be completed during Q4 2011.
- Sales agreements for DSO product nearing finalisation.
- Discussions advanced with customers for the sale of concentrate.
- Promising preliminary results from test work on copper oxide material, with the objective of conversion of this material to ore reserves and inclusion in the production plan.
- Gold mineralisation intersected at DGAC1042 anomaly, including: 13m @ 14.3g/t Au, 26m @ 2.3g/t Au incl. 9m @ 4.75g/t, 7m @ 4.67g/t Au and 5m @ 2.94g/t Au.

#### ASX Code:

SFR

#### Issued Capital:

Ordinary Shares 150.9M  
Options 9.4M

#### Major Shareholders:

Oz Minerals 19.8%  
POSCO 15.7%

#### Directors:

**Derek La Ferla**  
Non-Executive Chairman

**Karl M. Simich**  
Managing Director and CEO

**John Evans**  
Executive Technical Director

**Jonghun Jong**  
Non-Executive Director

**Robert Scott**  
Independent Non-Executive  
Director

#### Management:

**Matthew Fitzgerald**  
CFO & Company Secretary

**Martin Reed**  
Project Manager

**Robert Klug**  
Commercial Manager – Legal

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## 1.0 OVERVIEW

During the September 2011 Quarter, Sandfire continued to make excellent progress towards its objective of becoming a leading mid-tier Australian copper-gold producer.

Construction and mine development activities at the Company's flagship 100%-owned DeGrussa Copper-Gold Project in Western Australia continued to ramp up, with the overall project approximately 40 per cent complete at the end of the Quarter.

Sandfire is undertaking concurrent development of an open pit and a longer term underground mine at DeGrussa. The Stage 1 open pit is on schedule, with a total of 3.3 million bcm (bank cubic metres) of material mined to date, while the "Evans Decline" has progressed beyond 650 metres from the portal.

Construction of the 1.5Mtpa DeGrussa Concentrator commenced towards the end of the Quarter, marking the beginning of the most significant construction phase for the Project to date.



Sandfire remains on target to achieve its key project milestones of:

- First direct shipping ore (DSO) from the open pit – Q1 2012;
- First underground ore on the ROM stockpile – Q1/2 2012;
- First ore in the SAG mill – Q3 2012.

This positions Sandfire to deliver the DeGrussa Project on schedule and budget, paving the way for it to join the ranks of Australia's leading mid-tier mining companies next year.

Other key milestones for the Quarter included the completion of the full underwritten and secured \$390 million project construction facility to underpin construction and development of the DeGrussa Project. Against the backdrop of renewed uncertainty and volatility in global markets, as well as a short-term pull-back in commodity prices, Sandfire is in a strong position with a high-grade, high-quality copper-gold project which is fully funded through to commencement of production and cash flow next year.

This combined with its outstanding exploration portfolio, both at DeGrussa and elsewhere in Western Australia and the Northern Territory, means that Sandfire is uniquely placed to continue to build shareholder value as it moves towards production.

Exploration programs are also continuing to add value to the broader Doolgunna Project, with gold mineralisation intersected during the Quarter. Further drilling is planned to define and extend the known mineralisation in the coming Quarter.

## 2.0 CONSTRUCTION & DEVELOPMENT

Construction and development activities continued to gather momentum at the DeGrussa Project during the September Quarter, with total expenditure to the end of the Quarter of \$116 million.

### 2.1 Safety

The safety performance of the construction and development teams at DeGrussa continues to be satisfactory, with one Lost Time Injury (LTI) reported for the Quarter (in July).

An emergency response exercise was held on site in September and training for the Emergency Response Team (ERT) is ongoing. No serious environmental incidents were reported during the Quarter.

### 2.2 Construction Progress

Substantial progress was achieved with infrastructure construction during the Quarter. The status of construction generally for the mine, process plant and related infrastructure summarised below:

- The 200-room Construction Camp is functionally complete and fully occupied, including the kitchen/diner, recreation and other core facilities. 340 units for the 400-room Permanent Mine Village have been delivered and 280 installed.
- Site communications have been upgraded by the connection of a fibre-optic link to Telstra's network. Next G mobile phone coverage will be extended to the site once installation by Telstra is completed.
- All major bulk earthworks for the plant site have been completed with the pads, settlement and water ponds completed. Installation of the infrastructure, including offices, change-rooms, workshops and warehouses has progressed and delivery of key buildings is underway. Approximately 80 per cent of the offices have been delivered to site.
- Construction of the sealed access road to the Great Northern Highway is approximately 60 per cent complete, with some 1.3km sealed.



- The design of the process plant has advanced with "approved for construction" drawings issued for civil works. Structural erection and mechanical installation are scheduled to commence during Q4 of 2011.
- The engineering, procurement and construction (EPC) contractor, Abesque Engineering and Construction Ltd, mobilised to site on schedule during the Quarter for the start of plant construction.
- First concrete for the plant footings has been poured. Plant construction is expected to take approximately 12 months, with practical completion and commissioning scheduled for Q3 of 2012.

- Manufacture of the major long-lead items ordered by Sandfire earlier in 2011 is progressing on schedule. Some components are currently being packed for shipping and the first items are scheduled to arrive during Q4 of 2011.



- Foundations for the powerstation have been poured while the BOO (build own operate) contractor Pacific Energy (KPS) has started assembling the equipment in Kalgoorlie.
- The contracts for construction of the DeGrussa Aerodrome and Tailings Storage Facility have been awarded and final designs for the water borefield are progressing.
- Port discussions are also progressing to secure berth capacity to accommodate exports of DeGrussa product.

### 3.0 OPERATIONS AND MINING

Mining continued in the DeGrussa Stage 1 open pit and in the "Evans Decline" during the Quarter, with excellent progress being achieved.

#### 3.1 Open Pit Mining & Ore Production

To the end of the September Quarter some 2.6Mbcm had been excavated from the Stage 1 open pit. Mining performance has steadily improved with the commissioning of new equipment. By the end of October 3.3Mbcm, or over 45% of the open pit had been completed.

To the end of the Quarter, a total of 247,000t of copper oxide material grading 0.6% Cu had been mined, plus 149,000t of oxide gold material grading 1.8g/t Au and 0.1% Cu.

### 3.3 Underground Mining

Underground mine development is proceeding on schedule, with the Evans Decline advanced to over 500m from the portal by the end of the Quarter, and currently at +650m in line with the DFS schedule.

Approximately 800m of decline development remains before the first underground sulphide ore is accessed in Q1 2012.

### 4.0 FEASIBILITY STUDIES & METALLURGY

#### 4.1 Copper oxide

Copper oxide resources, including existing stockpiled material, currently includes 3.58Mt at 1.2%Cu and 0.5g/t Au (contained 44,000t Cu and 56,000Oz Au). 2.3Mt of this material is scheduled to be extracted during Stage I of the open pit (included in DFS), with the remaining material to be mined within Stage II following successful feasibility assessment. Cost estimate for Stage II of the open pit is \$32 million.

Process test work to determine the optimal processing method for the oxide copper material is continuing with promising preliminary results received. The objective of the testing program is to convert oxide resources to ore reserves to allow inclusion of the associated revenue streams into the financial model, additional to the revenue estimates of the DFS.

Additional laboratory test work to understand the influence that scrubbing will have on the oxide material has been completed and the material will be tested for amenability to flotation in the current quarter.

In parallel with this laboratory work, a small-scale pilot testwork plan has been developed and is currently being detailed and resourced for a Q4 2011 start.

Preliminary capital cost estimates for the additional equipment are in the order of \$20 million and Sandfire is confident that the 1.5Mtpa nameplate concentrator will be able to accept this sulphidised oxide material as additional plant feed, above nameplate, to produce additional payable copper production.

### 5.0 EXPLORATION

#### 5.1 DeGrussa / Doolgunna Project

Sandfire has set an exploration budget of \$20-30 million, predominantly for the Doolgunna Project over the next 12 months, aimed at exploring for potential repeats of the DeGrussa Volcanogenic Massive Sulphide (VMS) mineralised system.

As part of ongoing regional drilling to test priority copper and gold anomalies within the Doolgunna Project, drilling at the gold anomaly located 11km southwest of DeGrussa has intersected significant widths and grades of gold mineralisation.

Results received to date from this drilling include (refer Appendix 3):

- **26m @ 2.3g/t Au** from 19m, including **9m @ 4.75g/t Au** from 26m (DGRC507)
- **7m @ 4.67g/t Au** from 108m (DGRC508)
- **5m @ 2.94g/t Au** from 181m (DGRC508)
- **7m @ 1.35g/t Au** from 137m (DGRC511A), and:
- **13m @ 14.31g/t Au** from 215m (DGRC509) (comprised of two five metre composites and one three metre composite due to wet samples. Individual metre samples have been riffle split and submitted for analysis).

Mineralisation is hosted by silicified fine grained sediments with minor sulphides and quartz carbonate veining. Structural overprinting was also evident. Additional results from this area are awaited and further drilling of this zone is planned for Q4 2011.

Other targets tested during the Quarter included an interpreted EM conductor to the north of the DeGrussa deposit and a new target north-west of Noonyeerena hill. While no economic mineralisation was intersected, the drilling confirmed the presence of favourable host rocks and intersected disseminated pyrite and chalcopyrite at the DeGrussa North target. The results of follow-up DHEM are being interpreted.

#### 5.2 Borroloola Project (Northern Territory)

*The Borroloola Project comprises a total area of 10,000+ square kilometres of tenements and tenements under application in the Northern Territory. The tenements are located near McArthur River, the second largest SEDEX base metal deposit in the world with a primary resource of approximately 230 million tonnes at a grade of + 13% combined lead and zinc.*

Sandfire's tenements cover a strike length of approximately 100km of the Emu Fault Zone, which is the controlling structure of the McArthur River deposit.

The Borroloola tenements are also prospective for sedimentary manganese mineralisation, similar to the world-class Groote Eylandt manganese deposits in the Gulf of Carpentaria, uranium and iron ore.

- **Lead-Zinc Exploration**

During the Quarter, Sandfire completed 5 holes for a total of 2,112m, testing targets along the Emu Fault Zone. No significant results were reported.

- **Copper Exploration**

Shallow test drilling of the Tawallah 1 geophysical target in 2010 intersected numerous intervals of oxide copper mineralisation over a wide area. The copper mineralisation is hosted in a flat-lying sandy dolomite unit towards the base of the McArthur Group. Typically, the malachite (copper carbonate) mineralisation ranged up to 15 metres thick and assayed between 0.5 and 1.0% copper.

During the early 2011 a coring and RC drilling program confirmed the expected nature of the carbonate mineralisation without significantly adding to the extent of the copper-in-sediments mineralisation.

- **Uranium Exploration**

The McArthur Basin is one of the great depositories of high-grade uranium mineralisation and Sandfire's Yiyintyi Prospects are highly prospective for uranium discoveries.

Two target zones have been identified along the basal contact of the basin, each of which is between 2 and 2.5km long. These targets coincide with the contact between the basal clastic unit of the McArthur Basin and an underlying sedimentary sequence, of fine-grained sandstone, dolomite and black shale. A program of RC drilling is planned for the December quarter.

- **Manganese Exploration**

No field work was carried out on the Borroloola Manganese Project during the quarter.

### 5.3 YANNARIE PROJECT (Western Australia)

*The Yannarie Project is located 250km northeast of Carnarvon on the west coast of Western Australia.*

During the Quarter, Sandfire completed processing data from an Induced Polarisation (IP) survey completed last year over the Yannarie Project.

This work has resulted in the identification of an outstanding drilling target for lead-zinc mineralisation. Modelling of the IP data has defined a 400m long target approximately 200m below the surface and dipping to the south-west at approximately 60°.

This target is coincident with a 2.8km long geochemical anomaly which has previously returned up to 3,000ppm zinc from soil sampling. A program of RC and diamond core drilling is planned to commence during the December quarter.

### 5.4 URANDY

*The Urandy Project is located in the West Pilbara region some 80km southeast of the coastal town of Onslow. The property is prospective for gold and base metals, hosted in the Paleoproterozoic Ashburton Formation.*

No work was carried out during the quarter.

## 6.0 CORPORATE

### 6.1 Project Finance Facilities

On 6 September 2011, Sandfire completed the first draw-down of funding under the \$75 million mine development facility (Facility A) announced last Quarter, with a total of \$60 million drawn to date.

On 29 September 2011, the Company announced that it had executed final documentation for a \$390 million fully underwritten and secured project financing facility (Facility B), which includes \$10 million relating to environmental bonding. Facility B is the main facility for construction and development of the company's DeGrussa Project and follows the Definitive Feasibility Study (DFS) completed in June 2011. Funds will be available for drawdown following satisfaction of conditions precedent. The syndication process for Facility B will be led by Australia and New Zealand Banking Group Limited ("ANZ"), with ANZ retaining a cornerstone position.

Repayment of Facility A is planned to coincide with the first drawdown of Facility B.

The total amount of Facility B has been increased from the \$360 million proposed facility previously announced to factor in additional contingencies, as recommended by the financier's independent technical expert, for potential capital cost overruns and slowing of the development timelines. As detailed above, plant construction, open pit and underground development all remain on, or ahead of, the DFS schedule.

There is no compulsory hedging required as part of the debt facility. However the Company will continue to consider and, if warranted, develop its hedging policies.

DFS pre-production capital for the DeGrussa Project is estimated at \$384 million, comprising \$267 million for plant, equipment and infrastructure, \$44 million for open pit mining, \$56 million for underground mine development and \$17 million of other pre-production capital. Approximately \$300 million of this expenditure is planned to be incurred during the financial year ending June 2012.

## **6.2 Cash Position and Security**

Sandfire's cash position at the end of the September Quarter was \$25 million, having expended a total of \$116 million on the DeGrussa Project since January 2011.

The finance facilities are secured by a fixed and floating charge over the assets of the Company, including the DeGrussa Project and the broader Doolgunna Project, and a mining mortgage over the Project tenements.

## **6.3 Investment in Whinnen Resources**

Sandfire has a cornerstone 17.3 per cent shareholding in South American-focused copper-gold explorer Whinnen Resources Limited (ASX: WWW). During the Quarter, Whinnen completed the acquisition of Mystic Sands Pty Ltd, a privately owned company which holds an extensive portfolio of high-quality copper-gold and gold projects in the Atacama region of Chile, and finalised a \$7.2 million capital raising. It also commenced its maiden drilling program at the Nany-Varas gold project.

## **6.4 OZ Minerals**

During the Quarter, the Company's largest shareholder, OZ Minerals Limited (ASX: OZL) increased its holding to 19.8% through on-market purchases of Sandfire shares (previous substantial shareholder notice 18.8%).

### **KARL M. SIMICH MANAGING DIRECTOR AND CEO**

31 October 2011

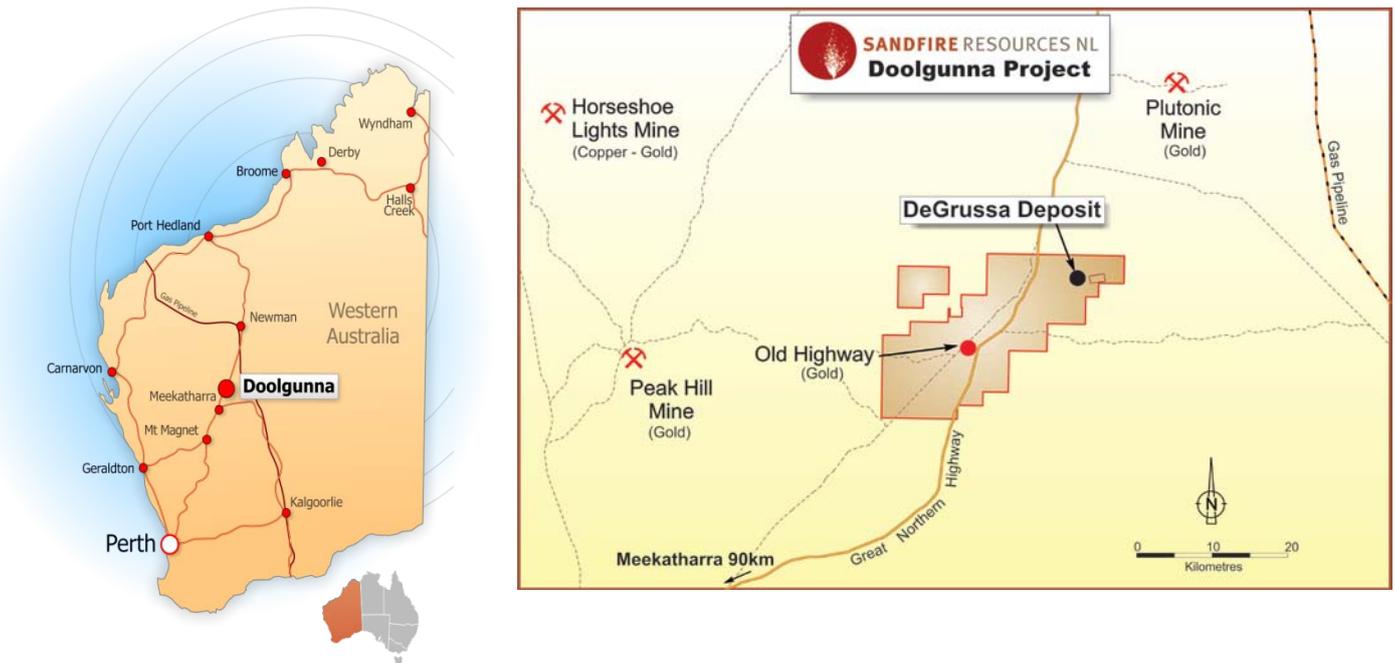
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**Figure 1 – DeGrussa Copper-Gold Project location**



**Appendix 1 – DeGrussa Copper-Gold Project – March 2011 JORC Resource Statement**

Zone	Resource Category	Tonnes (Mt)	Copper (%)	Gold (g/t)	Contained Copper (t)	Contained Gold (oz)	Competent Person
Gold Laterite	<i>Measured</i>	0.14	-	1.5	-	7,000	1
Copper Oxides	<i>Measured</i>	2.17	1.1	0.5	24,000	37,000	1
Supergene Chalcocite	<i>Indicated</i>	0.25	17.6	2.6	43,000	20,000	2
	<i>Inferred</i>	0.19	4.4	1.2	8,000	7,000	1
Primary Massive Sulphides	<i>Indicated</i>	7.80	5.8	2.0	456,000	502,000	1
	<i>Inferred</i>	2.32	4.3	2.0	100,000	149,000	1
<b>Total</b>		<b>14.33</b>	<b>4.6</b>	<b>1.6</b>	<b>652,000</b>	<b>742,000</b>	

**Note:** Refer to the Competent Person's Statements – Mineral Resources below.

- 1 Competent Person for these zones of resource was Diederik Speijers of McDonald Speijers.
- 2 Competent Person for these zones of resource was David Slater of Coffey Mining.

## Appendix 2 – DeGrussa Copper-Gold Project – March 2011 JORC Ore Reserve Statement

Deposit	Reserve Category	Mining Method	Tonnes (Mt)	Copper (%)	Gold (g/t)	Contained Copper (t)	Contained Gold (oz)
DeGrussa	Probable	Open Pit - DSO	0.14	25.6	2.5	37,000	12,000
DeGrussa/C1/Chalcocite	Probable	Open Pit	0.23	6.1	2.4	14,000	17,000
DeGrussa	Probable	Underground	1.50	6.6	1.9	99,000	90,000
Conductor 1	Probable	Underground	5.76	4.9	1.8	283,000	337,000
Conductor 4	Probable	Underground	0.76	4.4	1.2	33,000	30,000
<b>Total</b>	<i>Probable</i>		<b>8.39</b>	<b>5.6</b>	<b>1.8</b>	<b>465,000</b>	<b>485,000</b>

**Note 1** A cut-off grade of 8.5% Cu is applied on the Chalcocite to provide a targeted 26% Cu direct sale product (Achieved 25.6% Cu after dilution). All other material within the defined deposit boundaries has been included in the reporting of Ore Reserves with any sub-economic grade material being treated as internal diluents. These Ore Reserves include an overall assumption of 2.5% mining dilution at nil grade for all grade categories along with an assumed 2.5% mining loss of ore tonnes when mined. Calculations rounded to the nearest 10,000 tonnes; 0.1% Cu grade, 0.1 g/t Au grade; 1,000 tonnes Cu metal and 1,000 ounces Au metal. Errors of rounding may occur. These Ore Reserves occur within an open pit design containing 26Mt of total material, resulting in a waste to ore strip ratio of 70:1.

**Note 2** Mining recovery factor of 95% applied to diluted stoping blocks, with cut-off grade of 1.5% Cu and minimum stope size of 2,000t. Calculations rounded to the nearest 1,000t, 0.1%, 0.1g/t and 1,000 ounces; errors of rounding may occur.; assumes commodity prices of US\$7,673/t for copper and US\$1,300/oz for gold with a USD/AUD exchange rate of \$0.86; assumes 91% metallurgical recovery rate. Note: Refer to the Competent Person's Statement – Ore Reserves at the end of this release.

## Appendix 3 – Drilling results at Doolgunna gold anomaly located 11km southwest of DeGrussa

Hole ID	From	To	Width (m)	Gold (g/t)	Easting	Northing	Azimuth	Dip
DGRC507	19	45	26	2.3	724,499	7,166,504	0	-60
<i>including</i>	26	35	9	4.75				
DGRC508	108	115	7	4.67	724,499	7,166,449	0	-60
DGRC508	181	186	5	2.94				
DGRC509	215	228	13	14.31	724,600	7,166,499	0	-60
DGRC511A	137	144	7	1.35	724,406	7,166,399	0	-60

### Competent Person's Statement – Mineral Resources

The information in this report that relates to Mineral Resources (except the Indicated Resource of Supergene Chalcocite) is based on information compiled by Diederik Speijers who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Speijers is a permanent employee of McDonald Speijers and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Speijers 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 the Indicated Resource of Supergene Chalcocite is based on information compiled by David Slater who is a Fellow of the Australasian Institute of Mining and Metallurgy. Mr Slater is a permanent employee of Coffey Mining and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr Slater 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 – Open Pit Ore Reserves

The information in this report that relates to Open Pit Ore Reserves is based on information compiled by Quinton de Klerk of Cube Consulting, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr de Klerk has sufficient experience which is relevant to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr de Klerk 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 – Underground Ore Reserves**

The information in this report that relates to Underground Ore Reserves is based on information compiled by Shane McLeay of Entech Pty Ltd, who is a Member of the Australasian Institute of Mining and Metallurgy. Mr McLeay has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Mr McLeay consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

### **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.

### **Exploration and Resource Targets**

Any discussion in relation to the potential quantity and grade of Exploration Targets for the DeGrussa Project 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 resource inventory and it is uncertain if further exploration will result in the determination of additional JORC compliant Mineral Resources.