



View of the flotation cells at the 1.5Mtpa DeGrussa processing plant

**ASX Code:**  
SFR

**Issued Capital:**

Ordinary Shares 153.7M  
Options 8.4M

**Major Shareholders:**

OZ Minerals 19.5%  
POSCO 15.4%

**Directors:**

**Derek La Ferla**  
Non-Executive Chairman

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

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

**Soocheol Shin**  
Non-Executive Director

**Robert Scott**  
Non-Executive Director

**Management:**

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

**Robert Klug**  
Chief Commercial Officer

**Date:**

17 April 2013



**SANDFIRE RESOURCES NL**

**QUARTERLY REPORT**

for the period ended 31 March 2013

**HIGHLIGHTS**

**Production & Operations**

Contained metal production	Dec 2012 Quarter	Mar 2013 Quarter	FY 2013 to date	Project to date
<b>COPPER</b>				
Concentrator	7,962	11,632	19,594	19,594
DSO	8,430	2,051	30,656	35,180
<b>Total copper (t)</b>	<b>16,392</b>	<b>13,683</b>	<b>50,250</b>	<b>54,774</b>
<b>GOLD</b>				
Concentrator	3,938	6,287	10,225	10,225
DSO	6,241	3,167	15,569	17,907
Oxide gold	4,516	2,609	8,299	9,264
<b>Total gold (oz)</b>	<b>14,695</b>	<b>12,063</b>	<b>34,093</b>	<b>37,396</b>

- Stage 2 of the open pit completed in April 2013.
- Ramp-up of underground mine on schedule to complete the transition to wholly underground operations.
- Plant ramp-up and optimisation continuing: on track for nameplate production rates from mid-CY2013. Strong performance so far in April with some 3,000 tonnes of copper-in-concentrate recovered for the month to date (15 days).
- Quarterly copper sales of 12,297 tonnes (Q2FY2013: 22,454 tonnes) and gold sales of 10,115oz (Q2FY2013: 13,184oz).
- Final high-grade DSO shipment completed in early January 2013, with further lower grade DSO shipments to be completed during the June 2013 Quarter.
- First shipment undertaken from newly-completed port facility at Port Hedland.

**Exploration**

- Outstanding assay results received from drilling targeting Conductor 5 orebody:
  - 26.1m @ 7.2% Cu and 3.1g/t Au (DGDD376)
  - 28.3m @ 5.3% Cu and 2.7g/t Au (DGDD379)
  - 15.2m @ 8.6% Cu and 2.3g/t Au (DGDD381A)
- Ore Reserve and Mineral Resource upgrade underway including recently drilled extensions to Conductor 4 & 5.
- Exciting new near-mine and regional exploration targets being progressed.

**Corporate**

- First \$50M debt repayment completed, with funds deposited for next \$45M payment scheduled for June 2013.



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## 1.0 OVERVIEW

The ramp-up of the DeGrussa Concentrator continued during the March Quarter, together with the ramp-up of the underground mine towards the targeted ore production rate of 1.5Mtpa (125,000 tonnes per month) from mid-CY2013 (calendar year).

The Stage 2 open pit was completed in mid-April 2013, marking the completion of open pit operations and the final transition of the DeGrussa Copper Mine to a wholly underground mining operation.

Underground mining progressed on schedule with three stopes – P1, P2 and P3 – now developed and in production. The Evans Decline has advanced to 340m below surface while total underground development reached 12.8km at Quarter-end.

Mill throughput and recovery continued to increase steadily during the Quarter, with recoveries constrained in the short term by the treatment of transitional open pit sulphide material (scheduled to continue until mid-CY2013) and the head grade of the initial underground stopes in Conductor 1 (in the lower range of stoping grades at around 4% Cu).

Copper production from the Concentrator increased by 46% to 11,632 tonnes (Q2FY2013: 7,962 tonnes), with overall quarterly copper production lower than the December Quarter at 13,683 tonnes due to the scheduled completion of the DSO crushing campaign. Further ramp-up of the concentrator in the June Quarter will see the operation on track to achieve its targeted annualised nameplate production capacity of 77,000tpa of copper and 36,000ozpa of gold from mid-CY2013.

The operation has delivered a strong performance so far in April (first 15 days), demonstrating continued excellent progress towards achieving its nameplate targets.

The following key production statistics have been achieved for the month of April to date:

- In excess of 50,000 tonnes of sulphide ore hauled from underground to surface, including over 35,000 tonnes of stope ore at an average grade of 6.5% Cu and more than 15,000 tonnes of development ore at an average grade of 4% Cu;
- 67,000 tonnes processed through the mill at an average head grade of 5.6% Cu and mid-80% recovery; and
- Over 3,000 tonnes of copper-in-concentrate produced.



**DeGrussa Open Pit, which was mined out in mid-April 2013**

Surface diamond drilling targeting the Conductor 4 and Conductor 5 deposits achieved excellent results during the Quarter, with the results of this work being incorporated in an upgrade to the DeGrussa Mineral Resources and Ore Reserves. This update is planned to be completed and announced in the coming weeks.

Encouraging progress was also achieved at near-mine and regional exploration targets such as the DeGrussa Offset target, Airstrip South and Cow Hole Bore. Follow-up target drilling is planned in the coming months.

### 1.1 Safety

Further improvements in safety performance were achieved for the Quarter and, despite one lost time injury, the lost time injury frequency rate (per million worked hours) was 2.6 at the end of the Quarter, compared with 3.0 at the end of the December Quarter and 3.8 at the end of the September Quarter.

The total recordable injury frequency rate was steady during the Quarter, in line with the targets established in the Company's Safety Management Action Plan.

## 2.0 MINING & PRODUCTION

### 2.1 Overview

March 2013 Quarter – Production Statistics		Tonnes	Grade (% Cu)	Grade (g/t Au)	Contained Copper (t)	Contained Gold (oz)
DSO	Mined	-	-	-	-	-
	Crushed	19,925	10.3	4.9	2,051	3,167
	DSO sales	17,649	16.9	3.7	2,989	2,072
Concentrator	Mined	447,425	5.2	1.6	23,442	23,488
	Milled	310,727	4.7	1.7	14,540	17,442
	Concentrate produced	48,085	24.2	4.1	11,632	6,287
	Concentrate sold	38,418	24.2	4.4	9,308	5,434
Oxide gold	Mined	-	-	-	-	-
	Milled (toll treatment)	25,251	-	3.5	-	2,882
	Gold production	-	-	-	-	2,609
	Gold sales	-	-	-	-	2,609
Total	Mined	447,425	5.2	1.6	23,442	23,488
	Crushed/Milled	355,903	4.7	2.1	16,591	23,491
	Copper production	68,010	20.1	4.3	13,683	9,454
	Gold production	-	-	-	-	2,609
	<b>Contained metal production</b>	-	-	-	<b>13,683</b>	<b>12,063</b>
	Copper and gold sales	56,067	21.9	-	12,297	10,115

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

### 2.2 Open Pit

Mining of the Stage 2 open pit continued during the March Quarter to extract massive sulphide and copper and gold oxide material. Stage 2 was completed in mid-April 2013, with a total of 5.4Mbcm of material extracted.

The Stage 1 open pit was completed in December 2012, with a total of 7.7Mbcm of material extracted.

### 2.3 Underground

Underground mining is proceeding on schedule, with the Evans Decline advancing to over 2km from the portal by the end of the Quarter. Total development for the underground mine to date is 12.8km. Three stopes have been developed and are currently in production. A total of 487,718 tonnes of sulphide ore has been mined and delivered to the ROM to date.

Commissioning of the paste plant commenced in March 2013 with trials carried out and specification paste close to being produced by Quarter-end. First paste was produced and delivered underground in early April. The paste plant operations are currently ramping up.

Underground mining will continue to progressively ramp up, with current underground mining rates at ~100,000 tonnes per month (1.2Mtpa) delivering ore to the concentrator. Full production rates of 125,000 tonnes per month (1.5Mtpa) are expected to be achieved from mid-CY2013.

### 2.4 Processing

The ramp-up of the DeGrussa Concentrator continued during the Quarter, with steady increases in key metrics achieved including:

- a 24% increase in tonnes milled for the Quarter to 310,727 tonnes at an average head grade of 4.7% Cu (Q2FY2013: 251,016 tonnes at 4.9% Cu);
- increased overall recoveries to 80% for the Quarter from 64% last Quarter;
- a 31% increase in concentrate production to 48,085 tonnes (Q2FY2013: 36,578 tonnes); and
- a 46% increase in contained metal production to 11,632 tonnes of contained copper (Q2FY2013: 7,962 tonnes).

As announced during the March Quarter, overall concentrator recoveries have been constrained in the short term while concentrator feed is being supplemented by sulphide ore from the open pit. This material, which is expected to contribute around 25% of plant feed during the June 2013 Quarter, constrains overall copper recoveries to around 80%.

As noted previously, primary sulphide ore from underground mining by itself achieves pleasing recoveries of 85-90% and on-spec copper concentrate.

The head grade from the initial stopes in Conductor 1 mined during the Quarter was approximately 4% Cu, with underground mining operations now progressing into higher grade stopes in the Conductor 1 and DeGrussa deposits. Natural variation in feed grade occurs between different stopes (generally ranging from 4-6% Cu) with related variation in targeted copper recovery (generally ranging from 88-93%) expected to occur from month to month, resulting in monthly production targets ranging from 4,500-7,000 tonnes of copper.

As underground development and stoping progresses further, blending of ore from different mining fronts will minimise variation in the medium and long-term – underpinning the Company's target recovery of over 90% and production at the upper end of monthly targets (6,400 tonnes per month) for its first three years of operations.

Overall, concentrate quality is continuing to improve, achieving the targeted 25% level, with an overall average concentrate grade of 24% achieved for the March 2013 Quarter.

A two-day plant shutdown was completed in late February to enable a number of identified improvements and modifications to the plant to be completed. Results following this shutdown have been positive, with 85-90% recoveries achieved on underground sulphide ore and increasing plant throughput.

Further optimisation programs, in line with plant ramp-up, are continuing and are expected to continue to build on operating improvements to date.

The focus of processing operations in the short and medium term will be to continue to optimise plant feed rates and recoveries on primary sulphide ore from underground and the remaining sulphide ore from the open pit while achieving on-spec concentrate. Plant ramp-up will continue into the June 2013 Quarter and the Company expects that nameplate production levels will be achieved from mid-CY2013.

## 2.5 Production Guidance

With the lower recoveries for transitional open pit ore and lower initial head grades (see above), contained metal production for FY2013 is expected to be around 65,000 tonnes of copper and 44,000oz of gold. Project-to-date production guidance is 69,000 tonnes of copper and 47,000oz gold, including DSO and oxide gold production from 2H FY 2012.

Concentrator production guidance for FY2013 has been maintained at 35,000 tonnes of copper and 17,000oz of gold. The slight reduction compared with the previously announced FY2013 full-year guidance (see December 2012 Quarterly Report) is due to final sales results for prior quarter DSO sales, which has reduced total DSO production for the year-to-date. DSO production was completed during the March 2013 Quarter.

Updated production guidance is provided below:

Contained metal production	Q1-Q3FY2013: Actual		Q4FY13: Guidance		To June 2013: Guidance	
	Cu(kt)	Au(koz)	Cu(kt)	Au(koz)	Cu(kt)	Au(koz)
Concentrator	20	10	15	7	35	17
DSO	30	16	-	-	30	16
Oxide gold	-	8	-	3	-	11
<b>Total – 2012/2013</b>	<b>50</b>	<b>34</b>	<b>15</b>	<b>10</b>	<b>65</b>	<b>44</b>
DSO	4	2			4	2
Oxide gold	-	1			-	1
<b>Total – 2011/2012</b>	<b>4</b>	<b>3</b>			<b>4</b>	<b>3</b>
<b>Total – Project to date</b>	<b>54</b>	<b>37</b>	<b>15</b>	<b>10</b>	<b>69</b>	<b>47</b>

Operating cost levels continue to track in line with expectations during the ramp-up period. Sandfire will commence reporting of C1 cash operating costs once plant ramp-up activities have completed. We maintain life-of-mine C1 cash cost guidance at around US\$1.20 per pound of payable copper production at full production rates.

### **3.0 SALES AND MARKETING**

Sales of copper metal for the March 2013 Quarter totalled 12,297 tonnes (Q2FY2013: 22,454 tonnes), while gold sales totalled 10,115oz (Q2FY2013: 13,184oz).

#### **3.1 DSO Shipments**

Two shipments of DSO chalcocite material totalling 17,649 tonnes grading 17% Cu containing 2,989 tonnes of copper were completed during the March Quarter, including the last of the high grade DSO shipments in early January 2013. A total of 124,735 tonnes of DSO grading 26% Cu containing 32,012 tonnes of copper has been shipped Project to Date.

In addition, a further ~30,000 tonnes of lower grade DSO material, grading +10% Cu, remains to be shipped during the June Quarter, at lower payability than the higher grade DSO.

#### **3.2 Copper Concentrate Shipments**

The first concentrate deliveries were made to Sandfire's new facility at the Port Hedland port in January 2013, with the first shipment from this facility completed in February.

A total of 38,418 tonnes of plant concentrate grading 24% Cu containing 9,308 tonnes of copper was shipped for the Quarter. On a Project to Date basis, 67,390 tonnes of plant concentrate grading 23% Cu and containing 15,434 tonnes of copper has been shipped.

DeGrussa copper concentrate is being sold under four separate sales contracts – each for up to 3-year terms – with international trading companies and smelters. Sandfire's marketing strategy is for sales contracts covering up to 85 per cent of annual copper concentrate production from DeGrussa, with the remainder available for delivery into the spot market and production variances.

### **4.0 FEASIBILITY STUDIES & METALLURGY**

#### **4.1 Oxide copper**

During the Quarter, GR Engineering Services advanced the engineering study of the oxide copper crushing-scrubbing plant. In addition, a scoping study has been completed and a draft report prepared on the viability of a heap leach / solvent extraction and electrowinning (SX/EW) recovery option for copper oxide ore.

These studies indicate improved costs and copper recovery compared to previous work and an indicative project timeline for copper production commencing during FY2015.

### **5.0 DEGRUSSA EXPLORATION**

#### **5.1 Overview**

Sandfire has implemented a disciplined scientific approach to exploration at DeGrussa, underpinned by an aggressive \$20 million annual exploration budget and drawing on some of the most sophisticated and leading-edge technologies available and some of the most accomplished technical experts in the field of VMS exploration.

Structural interpretation from mapping within the underground mine and open pit has proved to be invaluable in improving Sandfire's understanding of the lithological sequence, structural setting and, consequently, the positioning of potential accumulations of VMS mineralisation, giving the geological team a unique level of insight into the most likely areas where ore zones could occur.

The structural complexity of the VMS environment at DeGrussa represents both a significant challenge and an opportunity given the impact of vertical and lateral displacement and faulting combined with the obscuring effect of transported cover.

The Company continues to be very encouraged by the prospectivity of the DeGrussa and surrounding Doolgunna Projects for additional VMS discoveries. This view has been reinforced by some of the encouraging results achieved during the Quarter from drilling in the immediate near-mine environment, as well as at key regional targets such as South Airstrip and elsewhere.

Sandfire has continued to implement extensive drilling programs during the past three quarters, comprising a mix of Aircore/RAB drilling (regional geochemistry/lithology), RC drilling (target generation drilling) and diamond drilling (structural and target drilling).



The breakdown of metres drilled is shown below:

Drilling	AC/RAB Drilling (m)	RC Drilling (m)	Diamond Drilling (m)	Total Drilling (m)
Q1FY2013	21,789	9,168	-	30,957
Q2FY2013	17,210	7,187	2,985	27,382
Q3FY2013	32,430	8,742	3,220	44,392
<b>FY2013 – year-to-date</b>	<b>71,429</b>	<b>25,097</b>	<b>6,205</b>	<b>102,731</b>

## 5.2 DeGrussa Mine Corridor

Diamond drilling completed during the Quarter focused on increasing the definition of the Conductor 5 massive sulphide orebody as well as testing the interpreted displaced position of the DeGrussa orebody south of the Shiraz Fault.

Drill-hole DGDD376 intersected the main Conductor 5 orebody while drilling an exploration target stratigraphically below Conductor 5. As this hole penetrated the Conductor 5 horizon, it intersected a 26.1m portion of the Main Conductor 5 orebody. The current resource model predicted that there should have been 11.8m of massive sulphide at the DGDD376 intersection.

The resulting intersection of **26.14m @ 7.2% Cu and 3.1g/t Au** returned from this drill-hole signalled the potential to materially increase the resource in this area. Based on this, two additional diamond drill-holes were completed to define the extent of the thickening in this area.

Hole DGDD379 returned the thickest intersection recorded to date for the Conductor 5 orebody: **28.3m @ 5.3% Cu and 2.7g/t Au**. The existing resource model interpretation predicted the thickness of the Conductor 5 Main Zone mineralisation in this position to be 8m.

Hole DGDD381A intersected **15.2m @ 8.6% Cu, and 2.3g/t Au** of massive sulphide in the Conductor 5 position. The existing resource model interpretation predicted the thickness of Conductor 5 Main Zone mineralisation in this position to be 7m. All results are provided in Appendix 4 below.

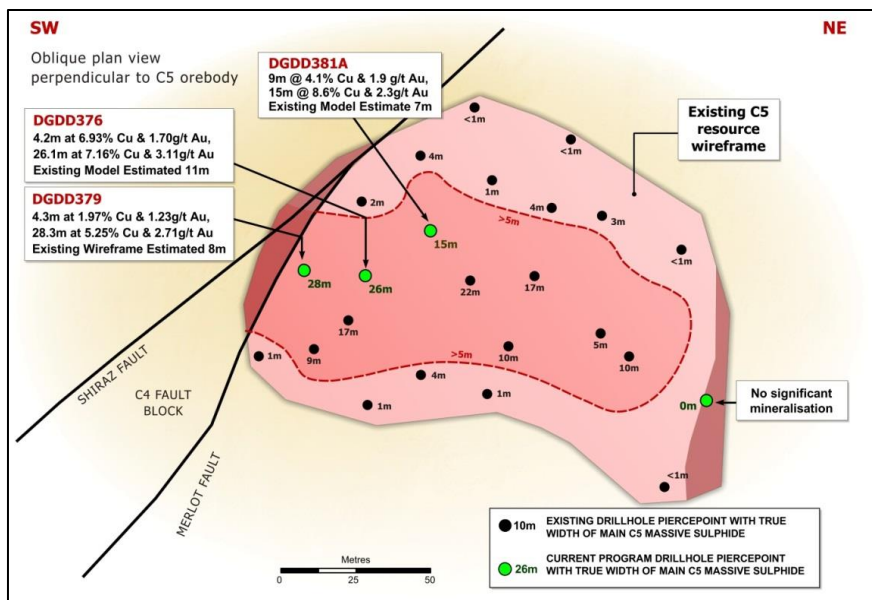
For the location of the pierce points of the holes see Figure 1 below.

In the process of drilling these three holes, a smaller upper horizon was identified sitting approximately 4m to 10m above the main Conductor 5 horizon.

This horizon was intercepted in all three holes with the following intercepts of massive to semi massive sulphides

- DGDD376 **4.2m at 6.9% Cu and 1.7g/t Au**
- DGDD379 **4.3m at 2.0% Cu and 1.2g/t Au, and**
- DGDD381A **9.0m at 4.1% Cu and 1.9g/t Au**

(All intercept widths are approximate true thickness).



When reviewed with historical data a relatively small new upper C5 horizon has defined. The zone is well constrained by historical drilling

A revised wireframe for the C5 ore body including all of this new information was completed during the Quarter and will be used in the estimation of an updated resource model.

**Figure 1 – Plan projection of Conductor 5 highlighting recent drill intercepts**

Additional drilling was also completed to further test the DeGrussa Offset target. Diamond drill-holes DGDD375 (completed in December 2012), DGDD377A and DGDD378 were designed to test the interpreted displaced position of the DeGrussa orebody south of the Shiraz Fault and 120-250m above the Conductor 4 and Conductor 5 orebodies.

Assay results from these holes included the following intercepts (see Appendix 4 below) and can be seen in Figure 2 below.

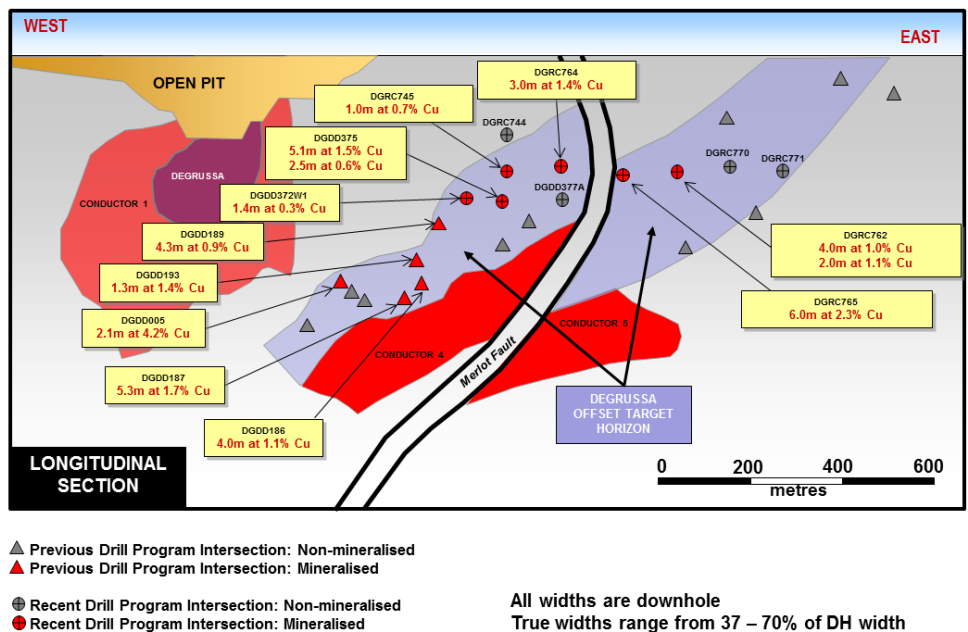
- DGDD375: 5.1m at 1.5% Cu (approximate true width 2.1m) and 2.5m at 0.6% Cu (approximate true width 1.0m)
- DGRC765: 6m at 2.3% (approximate true width 4m).

Holes DGDD375 and DGDD377A are interpreted to have intersected the DeGrussa offset position above the Conductor 4 orebody. Holes DGRC762 and DGRC765 are interpreted to have intersected the DeGrussa offset position above the Conductor 5 orebody, reinforcing the development of the understanding of the structural geology at DeGrussa.

A program of RC drilling was subsequently completed, which indicated that the zone of mineralisation is restricted to the area above the Conductor 4 and Conductor 5 ore bodies.

All drilling for the current program has been completed. Once assay results have been received, and geological modelling is complete, an appropriate follow-up strategy shall be determined for the DeGrussa Offset target. The gap between the Conductor 5 ore body and the pierce-points from DGRC762 and DGRC765 is considered particularly prospective.

**Figure 2 – “DeGrussa Offset” conceptual target position**



### 5.3 Doolgunna Regional Exploration

Following the completion of a 3D seismic surface survey of the area above the Conductor 5 orebody during 2012, further work was conducted by HiSeis during the Quarter to acquire additional data with the aim of producing a seismic model that accurately reflects the drill-proven sub-surface geology. Processing and interpretation of this data is currently being undertaken by HiSeis.

Drilling during the Quarter included the completion of RC drilling at the DGRC672 VMS Anomaly. This drilling was a part of the systematic program aimed at evaluating more distal extensions of the prospective NE-SW trending stratigraphy in conjunction with interpretation of geophysical and geochemical anomalism. The geology model of this anomaly is evolving.

RC drilling at Red Bore East consisted of a sequence of six holes for a total of 1,380m, targeting a prominent magnetic anomaly abutting the southern margin of the Shiraz Fault trace to the east-northeast of C5. The magnetic anomaly is coincident with both a gravity feature as well as copper anomalies previously discovered by air core drilling. No mineralisation was encountered in this program.

Assay results were also returned from a program of 61 aircore drill-holes completed as part of the Gascoyne West In-fill Geochemistry Program during the Quarter, with a number of anomalous intersections returned. The lithological and geochemical information gained from these aircore programs is crucial in redefining the detailed interpreted geology of this section of the Bryah Basin and defining target areas for future field testing.

## **6.0 AUSTRALIAN AND INTERNATIONAL EXPLORATION**

### **6.1 Borroloola Project**

*The Borroloola Project comprises a total area in excess of 10,000 square kilometres of tenements and tenements under application in the Northern Territory. The tenements are located north of the McArthur River Mine (Xstrata), the second largest SEDEX base metal deposit in the world. The McArthur River deposit initially contained 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 (BHP) in the Gulf of Carpentaria, uranium and iron ore.*

Planning for the 2013 field program is underway to allow Sandfire to focus on its highest priority regional base metals exploration targets.

Sandfire intends to complete a shallow drilling program at the Hells Gate iron ore prospect during the field season.

### **6.2 Kennedy Highway Project**

*The Kennedy Highway Project includes five exploration licences in the Eastern Succession of the Mount Isa Block, south of Cloncurry, Queensland. The tenements are prospective for Broken Hill Type lead-zinc-silver deposits similar to the high grade Cannington mine (BHP) to the north and Iron Oxide Copper-Gold deposits similar to the Ernest Henry Mine (Xstrata). An option agreement for a Joint Venture is in place on EPM15948 with Global Resources Corporation Ltd, where Sandfire can earn up to an 80 per cent interest by funding exploration. Tenements EPM19418 and 19453 are 100% owned by Sandfire and a further two tenement applications are expected to be granted this year.*

Planning continues for a ground geophysical survey in the June Quarter prior to a drilling program on the Lilleyvale tenement, EPM12345, in the September Quarter to test further high priority targets in the region.

### **6.3 Altia Project**

*The Altia Project is located 70km south-east of Cloncurry in north-west Queensland. The project includes an option to Joint Venture into two areas encompassing 43.7 km<sup>2</sup> with Breakaway Resources Limited (ASX: BRW) to earn up to 80% of the project. The tenements are prospective for Broken Hill style lead-zinc-silver deposits such as the nearby Cannington deposit (BHP) to the south and the Ernest Henry Iron Oxide copper-gold deposits (Xstrata) to the northwest. The Joint Venture area includes the Altia Deposit, where previous exploration has defined the deposit and a number of regional targets.*

Detailed interpretation of the previous drilling program completed in the December Quarter is being used to further define the 2013 exploration program. Heritage surveys are being organised to finalise the drill sites for a drilling program planned to commence in the June quarter.

The minimum expenditure under the Joint Venture has been completed.

### **6.4 Bland Creek Project**

*The Bland Creek Project lies 50 kilometres south-east of West Wyalong, in the Lachlan Fold Belt of New South Wales. The tenements are prospective for porphyry copper-gold mineralisation as found at Northparkes (Rio Tinto), Cadia (Newcrest) and Cowal (Barrick). The granted exploration licence, EL 5792, is held under a farm-in agreement to earn up to 80% with Straits Resources Ltd (ASX:SRQ) and the surrounding tenements are 100% owned by Sandfire.*

Exploration continued through the Quarter with a program of aircore and diamond drilling.

Aircore drilling continued throughout the Quarter with ~80 holes for ~10,000m completed on a broad regional spacing. This drilling has further defined the copper and gold anomaly at the Monaco prospect and identified a new 4km x 2km copper mineralised zone to the west. The drilling has delineated an anomalous gold zone at the Hockenheim prospect, where deeper drill testing is planned for the June Quarter. Further aircore drilling is continuing.



Diamond drilling focussed on testing the Monaco and Silverstone porphyry copper targets, with a total of 4 holes completed for ~2,000m. Weak copper and gold mineralisation was encountered in potassic altered volcanics on the margins of a porphyry intrusive centre. Further diamond holes are planned during the June Quarter to follow up these anomalies prior to cropping commencing.

The minimum drilling commitment in the Joint Venture has been completed.

## **6.5 Alford Project**

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

Drilling commenced during the Quarter with a regional aircore program underway to define the most prospective projects and define the highest ranking deep drill targets. The aircore program is continuing with 235 holes for ~17,000 metres completed during the quarter.

Ground geophysical Induced Polarisation (IP) surveys were completed during the Quarter covering the Alford East and Glenrae prospects. Several targets were identified potentially associated with sulphides at depth.

A program of diamond drilling has commenced since the end of the quarter to test these geophysical, geochemical and geological targets.

## **6.6 South America**

*Project generation is focused on Chile and Peru, targeting large-scale mineralisation systems prospective for copper.*

Negotiations are continuing on a number of projects in the region.

## **7.0 CORPORATE**

### **7.1 Finance Facility**

In accordance with the DeGrussa Project loan facility, Sandfire made its first \$50 million debt repayment at the end of the March Quarter, reducing its project facility balance to \$330 million. A further \$45 million has been deposited for the next scheduled payment due in late June 2013.

The Company's cash reserves at the end of the March Quarter totalled \$110.5 million, of which \$70 million was held in accounts relating to Sandfire's Finance Facility.

### **7.2 Management Changes**

During the Quarter, Martin Reed resigned as Chief Operating Officer to pursue another opportunity in the Western Australian mining sector. Sandfire has commenced an executive search process to recruit a new COO with a strong background and experience in operational management. This process is advancing well and the Company expects to announce a new appointment during the June Quarter.

**ENDS**

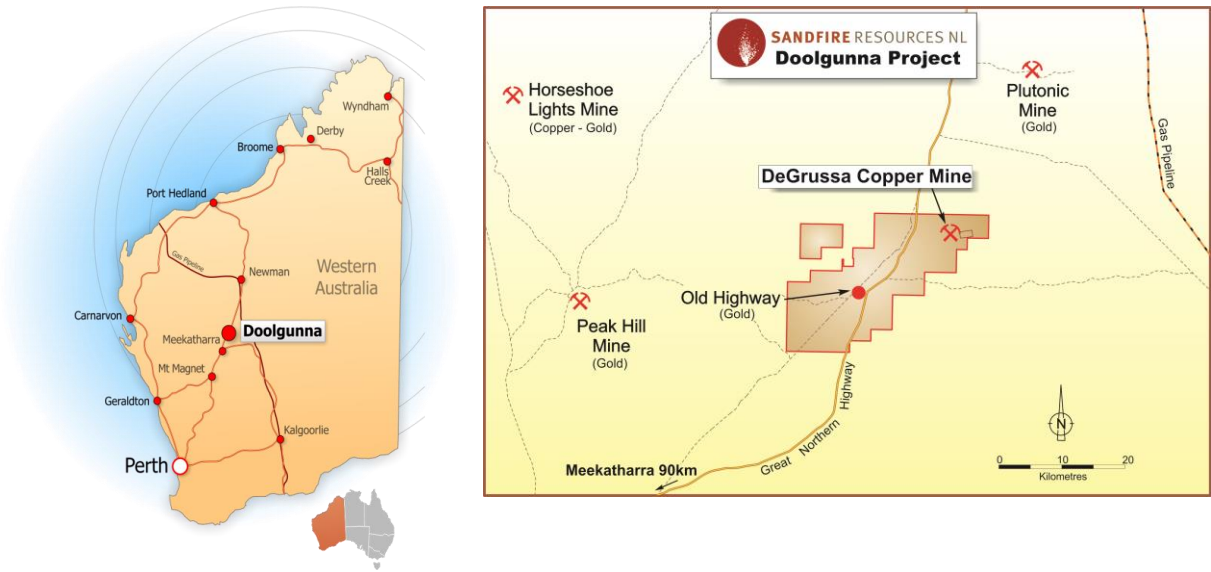
#### **For further information, please contact:**

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Office: +61 8 6430 3800

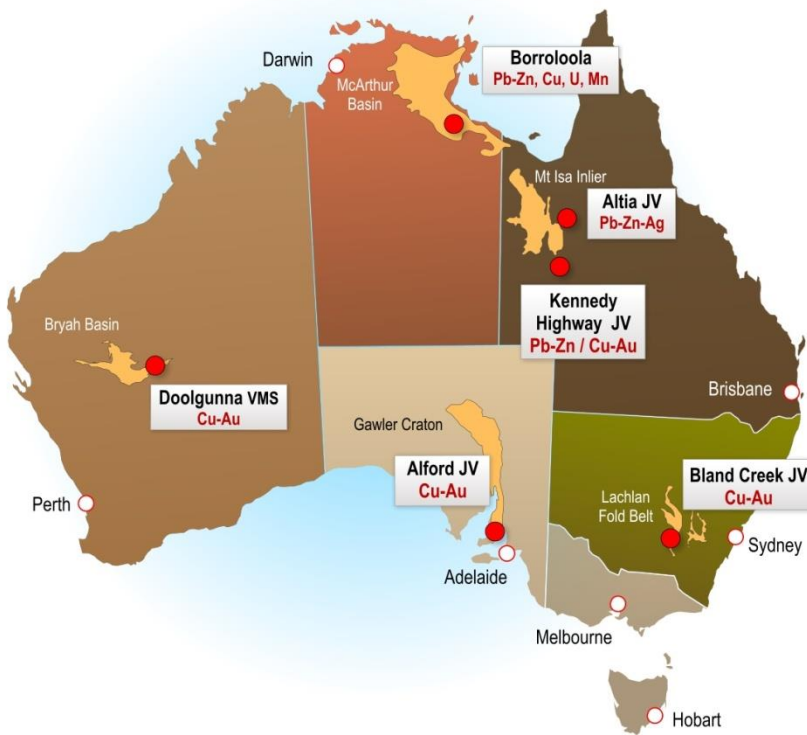
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**Figure 3 – DeGrussa Copper-Gold Project Location**



**Figure 4 – Australian Joint Venture and Exploration Project Locations**



## Appendix 1: DeGrussa Copper-Gold Project Mineral Resource Statement as at 31 March 2012

### Total in situ Mineral Resources stated as at 31 March 2012:

Zone - in situ	Resource Category	Tonnes (mt)	Copper (%)	Gold (g/t)	Contained Copper (t)	Contained Gold (oz)	Competent Person
Au Laterite	Measured	0.04	-	1.2	-	2,000	1
Copper Oxides	Measured	0.23	0.8	0.1	2,000	1,000	1
	Indicated	1.06	1.6	0.5	17,000	16,000	1
Supergene Chalcocite	Indicated	0.23	17.9	2.6	42,000	19,000	2
	Inferred	0.19	4.4	1.2	8,000	7,000	1
Primary Massive Sulphides	Indicated	7.84	5.8	2.0	456,000	502,000	1
	Inferred	2.31	4.4	2.0	102,000	146,000	1
<b>Total</b>		<b>11.91</b>	<b>5.3</b>	<b>1.8</b>	<b>627,000</b>	<b>693,000</b>	

### Total Stockpiles stated as at 31 March 2012:

Stockpile	Resource Category	Tonnes (mt)	Copper (%)	Gold (g/t)	Contained Copper (t)	Contained Gold (oz)
Laterite Gold	Measured	0.17	0.2	2.2	-	12,000
Copper Oxide	Measured	1.42	1.1	0.3	16,000	16,000
Supergene Chalcocite	Measured	0.01	34.2	2.7	2,000	-
<b>Total</b>	<i>Measured</i>	<b>1.59</b>	<b>4.4</b>	<b>1.2</b>	<b>18,000</b>	<b>28,000</b>

Resources are stated inclusive of Ore Reserves.

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 Ore Reserve Statement as at 31 March 2012\*

Deposit	Reserve Category	Mining Method	Tonnes (Mt)	Copper (%)	Gold (g/t)	Contained Copper (t)	Contained Gold (oz)
Laterite Gold	Proved	Open Pit	0.10	-	3.0	-	9,000
Copper Oxide	Proved	Open Pit	0.52	2.0	0.7	10,000	11,000
Copper Oxide	Probable	Open Pit	0.52	2.5	0.4	13,000	7,000
DeGrussa	Probable	Open Pit - DSO	0.15	25.9	2.5	38,000	12,000
DeGrussa/C1/Chalcocite	Probable	Open Pit	0.34	5.3	2.2	18,000	25,000
DeGrussa	Probable	Underground	1.50	6.6	1.9	99,000	90,000
Conductor 1	Probable	Underground	5.70	4.9	1.8	281,000	333,000
Conductor 4	Probable	Underground	0.76	4.4	1.2	33,000	30,000
<b>Total</b>	Proved		<b>0.62</b>	<b>1.7</b>	<b>1.0</b>	<b>10,000</b>	<b>20,000</b>
<b>Total</b>	Probable		<b>8.97</b>	<b>5.4</b>	<b>1.7</b>	<b>482,000</b>	<b>497,000</b>
<b>Total</b>	<b>Proved &amp; Probable</b>		<b>9.59</b>	<b>5.1</b>	<b>1.7</b>	<b>492,000</b>	<b>517,000</b>

## Appendix 3: DeGrussa Copper Mine DSO Chalcocite Ore Reserve reconciliation

DSO Chalcocite	Tonnes (t)	Copper (%)	Contained Copper (t)
Ore Reserve – Probable	144,736	25.9	37,549
DSO mined	147,297	24.9	36,622
Reconciliation (%)	102	96	98

**Note \*** Ore Reserves contained in this table have been updated from the Ore Reserve Statement disclosed by the Company on 29 March 2011. Mining activities, including stockpiling, and sale of product have continued since 31 March 2012.

**Note 1** A cut-off grade of 8.5% Cu is applied on the Chalcocite to provide a targeted 26% Cu direct sale product. 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. The in-situ Ore Reserves occur within an open pit design containing 14Mt of total material, resulting in a waste to ore strip ratio of 12:1. Low grade laterite gold stockpiles not included in reserve.

**Note 2** A 1.0% Cu lower cut-off grade has been applied to the copper oxide open pit in-situ Ore Reserves. The reported copper oxide stockpiles only include existing stockpiles with an estimated average grade above 1.0 % Cu.

**Note 3** 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 Statements – Ore Reserves at the end of this release.

**Note 4** These Ore Reserves are stated as at 31 March 2012.

## Appendix 4: DeGrussa Mine Corridor – Q3FY2013 drill-hole locations and assay results

TABLE 1: RECENT DRILL-HOLES

Drillhole ID	Target	Drill Hole Type	MGA Zone 50 Co-ordinates			Azi- muth	Incli- nation	Intersection				Mineralisation		
			East	North	RL			From	To	Inter- cept	Approx True Width	Cu [%]	Au [ppm]	Zn [%]
DGDD373A_W2	Conductor 4	Diamond	734400	7173303	567	336	-76	480.10	490.73	10.63	10.6	4.46	2.02	1.89
DGDD376	Conductor 5	Diamond	734490	7173268	565	358	-69	493.62	497.84	4.22	4.2	6.93	1.70	3.63
								502.00	528.14	26.14	26.1	7.16	3.11	2.30
DGDD379	Conductor 5	Diamond	734490	7173270	565	352	-68	498.50	502.80	4.30	4.3	1.97	1.22	0.77
								506.00	534.34	28.30	28.3	5.25	2.71	1.43
DGDD380	Conductor 5	Diamond	734738	7173149	567	350	-68	No Significant Intersections						
DGDD381A	Conductor 5	Diamond	734575	7173287	567	348	-70	474.20	483.20	9.00	9.0	4.13	1.86	2.16
								492.95	508.15	15.20	15.2	8.64	2.32	1.53
DGDD372W1	DeGrussa Offset	Diamond	734342	7173229	567	350	62	307.10	308.45	1.35	0.7	0.34	0.14	0.12
								734398	7173303	567	353	-68	271.00	272.00
DGDD375	DeGrussa Offset	Diamond						274.90	280.00	5.10	2.1	1.50	0.74	0.29
								299.02	301.48	2.46	1.0	0.57	0.30	0.13
								No Significant Intersections						
DGDD377A	DeGrussa Offset	Diamond	734449	7173333	566	349	-69	No Significant Intersections						
DGRC744	DeGrussa Offset	RC	734394	7173340	566	358	-65	No Significant Intersections						
DGRC745	DeGrussa Offset	RC	734397	7173315	566	358	-65	242.00	243.00	1.00	0.5	0.73	0.29	0.04
DGRC764	DeGrussa Offset	RC	734449	7173333	566	350	-66	298.00	301.00	3.00	1.1	1.41	0.45	0.05
DGRC765	DeGrussa Offset	RC	734558	7173380	565	350	-62	280.00	286.00	6.00	4.0	2.32	0.66	0.08
DGRC762	DeGrussa Offset	RC						301.00	305.00	4.00	2.8	1.00	0.56	0.63
								314.00	316.00	2.00	1.4	1.13	0.52	0.18
DGRC770	DeGrussa Offset	RC	734813	7173425	562	350	-62	No Significant Intersections						
DGRC771	DeGrussa Offset	RC	734930	7173420	563	345	-60	No Significant Intersections						

## Appendix 4: DeGrussa Mine Corridor – Q3FY2013 drill-hole locations and assay results (continued)

TABLE 2: PREVIOUS DRILL-HOLES

Drillhole ID	Target	Drill Hole Type	MGA Zone 50 Co-ordinates			Azi-muth	Incli-nation	Intersection			Approx True Width	Mineralisation		
			East	North	RL			From	To	Inter-cept		Cu [%]	Au [ppm]	Zn [%]
DGDD005	DeGrussa Offset	Diamond	734081	7173081	563	359	-61	481.90	484.00	2.10	1.4	4.17	1.00	0.70
DGDD186	DeGrussa Offset	Diamond	734239	7173160	565	350	-66	444.00	448.00	4.00	3.3	1.06	0.53	1.07
DGDD187	DeGrussa Offset	Diamond	734204	7173084	564	350	-62	481.70	487.00	5.30	4.6	1.70	1.07	0.43
DGDD189	DeGrussa Offset	Diamond	734287	7173207	566	350	-60	344.00	348.30	4.30	1.8	0.91	0.18	0.02
DGDD193	DeGrussa Offset	Diamond	734236	7173164	565	350	-61	400.00	401.27	1.27	0.8	1.42	1.53	0.01

**Notes:**

Diamond drillcore is geologically logged and then suitable sample intervals are marked out by the geologist.

Sample intervals are typically 1m but can range between 0.3 - 1.2m in length.

These sample intervals are recorded and the geologist indicates where certified reference materials and coarse blanks are to be inserted in the sample sequence.

Each sample interval of diamond core is split into two halves using a diamond saw and half the core is placed in a pre-numbered calico bag.

The certified reference materials and coarse blanks are inserted into calico bags during the sampling process.

The sample sequence is submitted to Ultratrace Laboratories (Perth) where the sample is crushed and pulverised.

Gold grade is determined by fire assay of a nominal 30g charge (can be lower for high sulphur samples).

Copper and Zinc grades are determined by a 4 acid digest, following pre-oxidation, by ICP-AES/MS.

**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.