

# QUARTERLY REPORT

For period ending 31 December 2012

Argonaut Resources NL is pleased to deliver the following report for the quarter to 31 December 2012.

## Highlights

### Lumwana West, Zambia

- Drilling confirmed a major copper-cobalt deposit at Lumwana West in the Central African Copperbelt.
- Preliminary results from analytical batches for Nyungu Central drilling include:
  - NYRD030: 22m at 0.51% copper from 143m
  - NYRD031: 32m at 0.48% copper from 26m
    - and **78m at 0.59% copper** from 217m
    - including 22m at 0.13% cobalt from 237m
  - NYRD038: **31m at 0.53% copper and 0.12% cobalt** from 258m
    - including **7m at 0.27% cobalt**
- Preliminary results from initial analytical batches for Nyungu South drilling include:
  - NYRD040: **29m at 0.53% copper** from 27m
- Argonaut completed the first earn-in under the Joint Venture Agreement to take a 51% interest.

### Alford, South Australia

- Sandfire Resources NL has the right to earn up to 75% of EL3969, Alford, by spending up to \$8M on exploration works.

### Torrens, South Australia

- The Full Court of the Supreme Court of South Australia overturned the 2011 decision by the ERD Court banning exploration on EL4296.

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# Exploration

## Zambia

### *16121-HQ\_LPL, Lumwana West (Argonaut earning up to 85%)*

The Mwombezhi Dome is located in the western extension of the Lufilian Arc which is host to the Central African Copperbelt. The Mwombezhi Dome is comprised of two northeast-southwest trending basement inliers, and is one of several domes in an area of the Copperbelt known as the 'Domes Region'.

The Domes Region is host to the new generation of Zambian Copperbelt mines including Barrick's Lumwana Mine on the eastern lobe of the Mwombezhi Dome (Figure 3) plus First Quantum's Kansanshi Mine and Sentinel Project.

### **51% Earn-in under JVA**

On 9 October 2012, Argonaut announced that it has completed the first earn-in of three under the Lumwana West Joint Venture Agreement to take a controlling interest in its flagship Zambian copper project.

In completing this initial earn-in, Argonaut's subsidiary, Lumwana West Resources Ltd (LWR), was allotted a 51% shareholding in Mwombezhi Resources Ltd (MRL).

Argonaut satisfied the terms of the JVA by spending USD1,800,000 on exploration at 16121-HQ-LPL and by paying the original Mwombezhi shareholders a milestone payment of USD600,000.

### **Nyungu Central Deposit<sup>1</sup>**

Exploration activity undertaken at Nyungu Central during the quarter has greatly increased the Company's confidence that the deposit is robust and predictable in nature. Disseminated copper sulphide mineralisation is primarily hosted in tightly folded biotite-kyanite-garnet schists (the 'Host Schist').

Drilling to date shows the north-south oriented deposit occurs over at least 1,400m with a width of approximately 250m. Mineralisation has been intercepted from shallow depths (<10m) and as deep as 435m from surface.

The folded host unit is interpreted to thicken near fold hinges and varies in true thickness from approximately 25m to 80m. A higher-grade, graphitic unit is interpreted to persist through the centre of the broader Host Schist. Due to the tight folding, **the host unit appears to be repeated 3-4 times across a typical section** (Figure 1). The folded package plunges to the north.

### **Nyungu Central Drilling**

Argonaut, via its 51% owned Zambian subsidiary, Mwombezhi Resources Ltd, drilled nine RC/diamond holes for a total of 2,100m at Nyungu Central between August and November 2012. The holes succeeded in determining the orientation of northerly extensions to the mineralisation and in outlining the geometry of mineralisation via follow-up infill holes.

#### Northerly Extension

Drill holes NYRD032, 033, 038 and 043 (see Figure 5) targeted the orientation of the northern extension of the Nyungu Central deposit.

Drill hole NYRD038 succeeded in intercepting

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<sup>1</sup> There has been insufficient exploration to define a Mineral Resource calculated in accordance with JORC Code and it is uncertain if further exploration will result in the determination of a Mineral Resource.

the mineralised Host Schist and confirmed the mineralised package was plunging gently to the north. Preliminary assays indicate that NYRD038 intercepted **31m at 0.53% copper and 0.12% cobalt from 258m**, including **7m at 0.27% cobalt**. NYRD038 was drilled to 300m and terminated in copper-cobalt mineralisation.

Results for NYRD043 are pending. Drill logs note the hole intersected the Host Schist.

#### Follow-up Infill Drilling

Drill holes NYRD030, 031 and 045 targeted the Host Schist geometry in areas adjacent to 2011 drill intercepts.

Drill hole NYRD030 targeted the eastern extent of mineralisation reported in drill hole NYU11RD021. NYU11RD021 intercepted 14m at 0.65% copper from 147m and 31m at 1.57% copper from 174m. NYRD030 was drilled to 200m and intercepted the targeted host unit. Preliminary assays returned **22m at 0.51% copper from 143m**.

Figure 2 shows NYRD031 drilled to the east at an angle of 70 degrees between two existing intercepts. This hole succeeded in intersecting significant copper and cobalt mineralisation and better defined the folded structure via measurements taken from orientated drill core.

Preliminary assays indicate that NYRD031 intercepted 32m at 0.48% copper from 26m and **78m at 0.59% copper from 217m**, including 22m at 0.13% cobalt from 237m.

### **Nyungu South Drilling**

Mwombezhi Resources drilled 10 holes at the Nyungu South target for a total of 1,728m (Figure 5) across four 400m broadly spaced traverses.

The target at Nyungu South is a broad IP anomaly (Figure 4) with associated surface geochemistry. The incomplete and preliminary results received to date show that at least 6 of the 10 holes intercepted elevated copper (Figure 6). Importantly, several drill holes intercepted the Host Schist.

Preliminary results for the RC pre-collar of drill hole NYRD040 returned **29m at 0.53% copper from 27m**. Results for the diamond tail are pending.

Given this initial significant intercept and the **potential for satellite mineralisation** proximal to the Nyungu Central deposit, detailed structural interpretation of existing drill core and further geophysical modelling is warranted for the targeting of future drill holes at Nyungu South.

### **Nyungu North and Far North Drilling**

The Company drilled two holes at Nyungu North and two holes at Nyungu Far North for a total of 410m (Figure 4). RC pre-collars did not intersect the targeted geology; consequently diamond tails were not drilled.

Despite the less favourable host rocks, drill hole NYRC37 intersected 9m at 0.17% copper from 70m at Nyungu North, indicating modest potential.

### **Preliminary assays**

Of the assay results received to date, five batches were determined to have QA/QC inconsistencies. All five batches are currently undergoing further check analysis.

### **Regional Exploration**

The Company is also aware that potential exists for additional discoveries outside of the Nyungu area but within the Lumwana West licence. To accompany the planned exploration program at the priority prospects, the Company will devote the required financial resources to the exploration of additional regional targets in 2013.

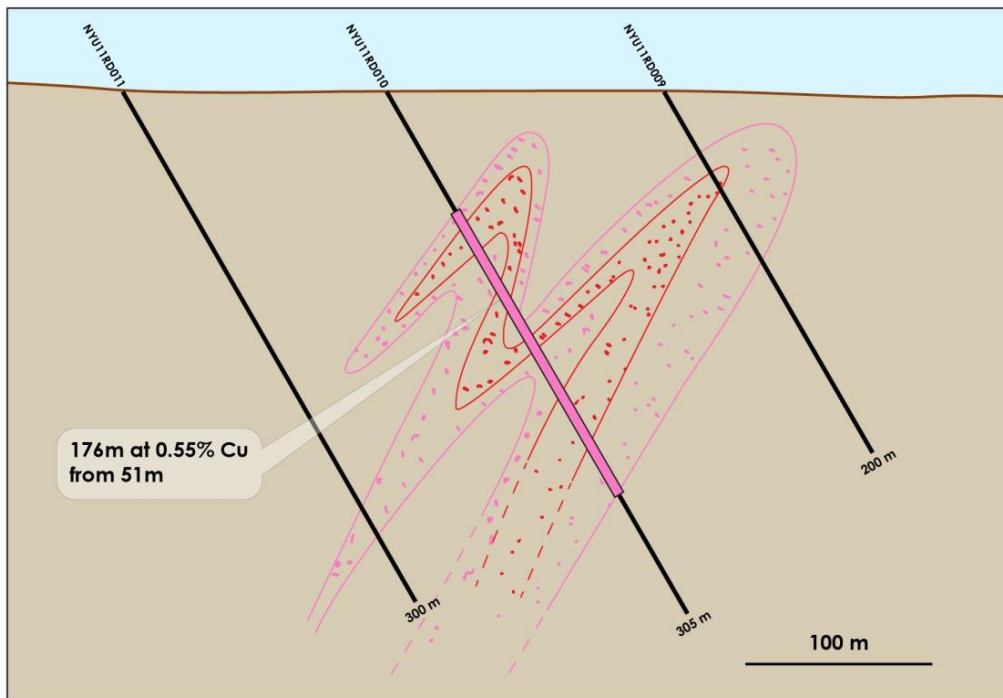


Figure 1: Schematic cross-section at 8,630,000mN looking north, showing interpreted tight folding of the Host Schist with the higher-grade graphitic unit (red stippling) and the lower-grade (0.1 to 0.7% Cu) non-graphitic schist (pink stippling). Section location shown on Figure 5.

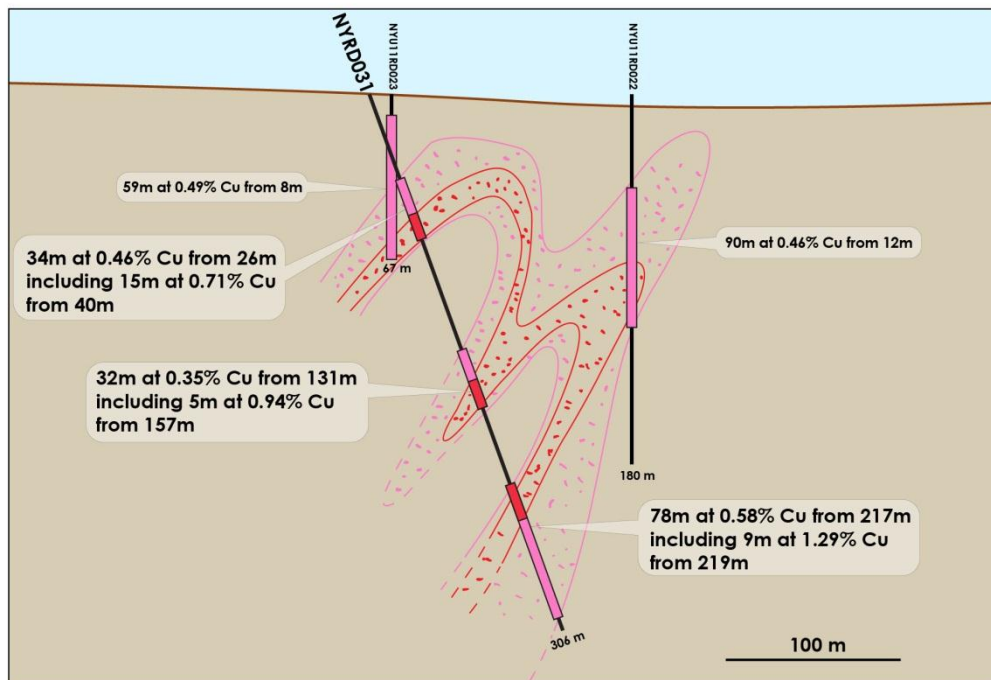


Figure 2: Schematic cross-section at 8,630,200mN looking north showing drill intercepts and interpreted folding of the Host Schist with the higher-grade graphitic unit (red stippling) and the lower-grade (0.1 to 0.7% Cu) non-graphitic schist (pink stippling). Section location shown on Figure 5.

## 2011 Drilling Program

Mineralisation intercepted by drilling completed in 2011 covers a strike length of more than 1,200 metres, in the Central Nyungu area.

Highlights of 2011 drilling at Central Nyungu include:

- **176m at 0.55% copper** and 0.04% cobalt from 51m
  - including **33m at 1.04% copper** and 0.1% cobalt from 166m in drill hole NYU11RD010
- **31m at 1.57% copper** and 0.02% cobalt from 173m
  - including **17m at 2.44% copper** and 0.03% cobalt from 174m
  - and **6m at 5.51% copper** and 0.7% cobalt and 0.3g/t gold from 174m in drill hole NYU11RD021
- **90m at 0.46% copper** and 0.7% cobalt from 12m in drill hole NYU11RD022
- **59m at 0.49% copper** and 0.02% cobalt from 8m
  - including 47m at 0.57% copper and 0.02% cobalt from 20m in drill hole NYU11RD023

The Company is satisfied that intercepts cited are representative of the mineralised body.

## Lumwana West Joint Venture

The Lumwana West Joint Venture involves large scale prospecting licence 16121-HQ-LPL. The grant of 16121-HQ-LPL was approved by the Mines Advisory Committee, a majority independent committee in July 2011. The licence was registered in the Zambian 'Flexicadastre' system in the same month.

Under the terms of the Joint Venture, Argonaut's subsidiary, LWR, can earn up to 85% of MRL, the holder of 16121-HQ-LPL, over three phases of exploration.

In earning the initial 51% interest in MRL, LWR paid a US\$300,000 signing fee, spent US\$1.8 million on exploration and paid a US\$600,000

milestone payment to the original MRL shareholders.

To earn a further 24% for a total of 75%, LWR must spend an additional US\$2.4 million on exploration and make a final cash payment of US\$1.1 million to the original MRL shareholders.

LWR can take a further 10% interest in the licence for a total of 85% by completing a Feasibility Study.

## General

As noted by the Company in an announcement dated 30 March 2012, an action was initiated by MRL in the High Court of Zambia as a precautionary measure to counter concerns raised by Equinox Zambia Ltd (EZL) in relation to an historical application for a retention licence over an area covered by 16121-HQ-LPL. During the quarter, EZL and MRL agreed to adjourn this action to allow time for discussions aimed at resolving the matter.

## Laos

### *Xekong Area (Argonaut 65%)*

Gold exploration at Xekong is focused on three main prospect areas: Ban Bak, Ban Don and Phu Tuang. The Ban Bak area includes the Ban Klong sub-prospect.

Exploration at Ban Klong is targeting gold mineralisation discovered by Argonaut in 2011. The Company is exploring for replacement style gold mineralisation analogous in nature to mineralisation found at the Sepon gold mine in Laos and at the Carlin trend in Nevada, USA.

During the quarter the Company commenced construction and unexploded ordinance clearance of a 22km access road from Ban Klong to Ban Don. The road will be used for access to drill-ready targets gold targets at Ban Don.

The Company is also currently completing follow-up stream sediment sampling in several areas in the north of the Xelong concession that were previously sampled at a low density due to access restrictions.

### ***Century Area (Argonaut 70%)***

During the period, Argonaut's Joint Venture partner, Aurum, continued wet season programs of geological and geochemical sampling at Nam Hone and Khokhe prospects at the Century concession in Laos.

#### **Century Joint Venture**

The Century tenement is subject to a Management and Shareholders Agreement with Aurum Resources Pty. Ltd.

Under the terms of the agreement, Aurum has been appointed the manager of the Century Thrust Joint Venture Agreement and will have the right to earn a 51% beneficial interest in the Century concession.

In order to acquire this interest, Aurum must spend US\$6.5 million on exploration within five years. The five year period includes an initial one year assessment period. At the completion of this earn-in Argonaut Resource's interest in the Century concession will be 19%.

Century is located approximately 70km north-west of the capital city Vientiane on the highly prospective Loei-Luang Prabang fold belt, a prominent, regionally mineralised belt, which stretches from Thailand in the south, to Laos in the north.

## **Australia**

### ***EL3969, Alford (Argonaut 100%)***

On 9 November 2012, Argonaut announced it has signed a farm-in joint venture letter agreement with Sandfire Resources Ltd in relation to the Company's 100% owned

EL3969, Alford, on the Yorke Peninsula in South Australia.

The joint venture will focus on copper (+/- silver, cobalt, gold) exploration targets on the 477km<sup>2</sup> Alford tenement. Alford is located north of the historical Moonta/Wallaroo copper mining district and north-northwest of Rex Minerals' Hillside project.

Under the terms of the letter agreement, Sandfire may earn a 49% interest in the Alford tenement by sole funding \$4,000,000 of exploration within three years (the first earn-in period). Sandfire must complete a minimum 2,000m of drilling within 12 months of the date of the Letter Agreement.

Having met the minimum commitment during the First Earn-in Period, Sandfire then has the right to form a Joint Venture with Argonaut's subsidiary, Kelaray Pty Ltd, to jointly explore the tenement or to proceed to earn an additional 26% interest in the project by spending a further \$4,000,000 on exploration within an additional three years (the Second Earn-in Period).

Sandfire identified and prioritised areas of interest during the course of the technical due diligence conducted in mid-2012 over EL3969. Initial exploration under the joint venture is expected to commence in January 2013.

### ***EL4296, Torrens (Argonaut 30%)***

#### **The Torrens Joint Venture**

The Torrens Joint Venture is between Argonaut Resources NL and Straits Resources Limited (ASX: SRL) and relates to the Torrens Project, EL 4296.

The Torrens Joint Venture is exploring for iron-oxide copper-gold ('IOCG') systems in the highly prospective Stuart Shelf region of South Australia. The Torrens Project is located near the eastern margin of South Australia's Gawler

Craton (Stuart Shelf), within 50 kilometres of Oz Mineral's Carrapateena copper - gold deposit and 75 kilometres from BHP Billiton's Olympic Dam mine.

## **Litigation**

On 5 November 2012, the Company announced that the Full Court of the Supreme Court of South Australia had overturned the decision of 14 January 2011 by the Environment, Resource and Development Court of South Australia that Mining Operations (exploration) may not be conducted on EL4296.

Argonaut is pleased to advise the respondent parties did not appeal this decision to the High Court.

The Torrens Joint Venture is considering the merits and timing of an ERD Court retrial under the Mining Act. It is important to note that in overturning the original decision, the Full Court provided considerable guidance for the purpose of an ERD Court retrial.

The Torrens Joint Venturers remain open to a negotiated settlement with regard to land access for the purposes of proposed drilling activities on Andamooka Island and Lake Torrens.

## ***Musgrave Minerals (Argonaut 2.1%)***

Argonaut's wholly owned subsidiary, Kelaray Pty Ltd, vended four mineral Exploration Licence Applications in the Musgrave Block into Musgrave Minerals Ltd. Argonaut holds 2.1% of the ordinary shares in Musgrave Minerals.

Musgrave Minerals has a large footprint in the Musgrave Block - one of the least explored geological provinces in Australia - with tenements covering an area totalling 50,000km<sup>2</sup>, approximately 5% of the State of South Australia.

## ***Kroombit (Argonaut 100%)***

No field based work was undertaken on the Kroombit project during the quarter.

## ***EL4358 and EL4153, Aroona (Argonaut 100%)***

No field based work was undertaken on the Aroona project during the quarter. These tenements are subject to a joint venture agreement with Perilya Limited.

## **Corporate**

The Company had \$2.7M cash at 31 December 2012. The cash outflow from operations for the quarter was \$1.9M.

In the quarter to 31 March 2013 Argonaut has committed to minor field activities at Xekong in Laos and non-field based, wet season activities at Lumwana West in Zambia which will result in reduced exploration expenditure. Based on that reduced exploration expenditure, the Company has sufficient funding to meet its medium term cash requirements.

## **About Argonaut**

Argonaut is an Australian Stock Exchange listed mineral exploration and development Company with projects in South Australia, Queensland, Laos and Zambia. Argonaut's projects are in the advanced exploration and feasibility stages.

The Company is exploring for gold and copper at its Alford and Torrens projects in South Australia, zinc-copper at Mt Kroombit in Central Queensland, gold in Laos and copper at the flagship Lumwana West Project in Zambia.

Argonaut has a significant investment in Cuesta Coal Ltd which listed on the Australian Securities Exchange in May 2012.

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Lindsay Owler  
Director  
Argonaut Resources NL

*Sections of information contained in this report that relate to Exploration Results were compiled or supervised by Mr Lindsay Owler*

*BSc, MAusIMM who is a Member of the Australasian Institute of Mining and Metallurgy and is a full time employee of Argonaut Resources NL. Mr Owler has sufficient experience which is relevant to the style of mineral deposits 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 for Reporting of Mineral Resources and Ore Reserves". Mr Owler consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.*



# Appendix 5B

## Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/2001.

Name of entity

Argonaut Resources NL

ABN

97 008 084 848

For the period ending

31 December 2012

### Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter	Year to date (6 months)
	\$A'000	\$A'000
1.1 Receipts from product sales and related debtors	-	-
1.2 Payments for		
(a) exploration and evaluation	(1,737)	(3,160)
(b) development	-	-
(c) production	-	-
(d) administration	(265)	(434)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received	90	141
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Other – rental income	19	19
<b>Net Operating Cash Flows</b>	<b>(1,893)</b>	<b>(3, 434)</b>
<b>Cash flows related to investing activities</b>		
1.8 Payment for purchases of:		
(a) prospects	-	-
(b) equity investments – (see section 2.1 below)	(250)	(250)
(c) other fixed assets	-	-
1.9 Proceeds from sale of:		
(a) prospects	-	-
(b) equity investments	-	-
(c) other fixed assets	-	-
1.10 Loans to other entities	-	-
1.11 Loans repaid by other entities	-	-
1.12 Other (provide details if material)	-	-
<b>Net investing cash flows</b>	<b>(250)</b>	<b>(250)</b>
1.13 Total operating and investing cash flows (carried forward)	<b>(2,143)</b>	<b>(3,684)</b>

**Appendix 5B**  
**Mining exploration entity quarterly report**

1.13	Total operating and investing cash flows (brought forward)	(2,143)	(3,684)
	<b>Cash flows related to financing activities</b>		
1.14	Proceeds from issues of shares, options, etc.	-	-
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Joint venture contributions received	84	486
1.20	Other (capital raising costs)	-	-
	<b>Net financing cash flows</b>	84	486
	<b>Net increase (decrease) in cash held</b>	(2,059)	(3,198)
1.21	Cash at beginning of quarter/ year to date	4,829	5,968
1.22	Exchange rate adjustments to item 1.20	-	-
1.23	<b>Cash at end of the period</b>	2,770	2,770

**Payments to directors of the entity and associates of the directors**  
**Payments to related entities of the entity and associates of the related entities**

		Current quarter \$A'000
1.24	Aggregate amount of payments to the parties included in item 1.2	115
1.25	Aggregate amount of loans to the parties included in item 1.10	-

1.26 Explanation necessary for an understanding of the transactions

Payment for Directors Fees (1.24)

**Non-cash financing and investing activities**

2.1 Details of financing and investing transactions which have had a material effect on consolidated assets and liabilities but did not involve cash flows

In addition to the cash consideration of \$250,000, 20 million ordinary shares and 10 million options were issued as consideration during the quarter for the purchase of Nsansala Reosurces Ltd's 20% interest in Lumwana West Resources Ltd as approved at 2012 AGM.

2.2 Details of outlays made by other entities to establish or increase their share in projects in which the reporting entity has an interest

NA

**Financing facilities available**

Add notes as necessary for an understanding of the position.

		Amount available \$A'000	Amount used \$A'000
3.1	Loan facilities	-	-
3.2	Credit standby arrangements	-	-

**Estimated cash outflows for next quarter**

		\$A'000
4.1	Exploration and evaluation	700
4.2	Development	-
4.3	Production	-
4.4	Administration	300
<b>Total</b>		<b>1,000</b>

**Reconciliation of cash**

Reconciliation of cash at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts is as follows.		Current quarter	Previous quarter
		\$A'000	\$A'000
5.1	Cash on hand and at bank	770	409
5.2	Deposits at call	-	-
5.3	Bank overdraft	-	-
5.4	Other (provide details) – short term deposits	2,000	4,420
<b>Total: cash at end of period (item 1.22)</b>		<b>2,770</b>	<b>4,829</b>

**Changes in interests in mining tenements**

	Tenement reference	Nature of interest (note (2))	Interest at beginning of year	Interest at end of 3 months
6.1	Interests in mining tenements relinquished, reduced or lapsed			
6.2	Interests in mining tenements acquired or increased			

**Appendix 5B**  
**Mining exploration entity quarterly report**

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**Issued and quoted securities at end of current quarter**

*Description includes rate of interest and any redemption or conversion rights together with prices and dates.*

	Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1 <b>Preference +securities</b> <i>(description)</i>				
7.2 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions				
7.3 <b>+Ordinary securities</b>	274,876,470	274,876,470		
7.4 Changes during quarter (a) Increases through issues  (b) Decreases through returns of capital, buy-backs	Issued 6 Dec 1,500,000  Issued 11 Dec 20,000,000	1,500,000  20,000,000		
7.5 <b>+Convertible debt securities</b> <i>(description)</i>				
7.6 Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7 <b>Options</b> <i>(description and conversion factor)</i>	7,000,000 (Exp. 31/12/2013, \$0.30)  7,000,000 (Exp. 31/12/2015, \$0.10)  10,000,000 (Exp. 11/12/2015, \$0.15)			

7.8	Issued during quarter	7,000,000 (Exp. 31/12/2015, \$0.10)			
		10,000,000 (Exp. 11/12/2015, \$0.15)			
7.9	Exercised during quarter				
7.10	Expired during quarter				
7.11	<b>Debentures</b> <i>(totals only)</i>				
7.12	<b>Unsecured notes</b> <i>(totals only)</i>				

## Compliance statement

- 1 This statement has been prepared under accounting policies which comply with accounting standards as defined in the Corporations Act or other standards acceptable to ASX (see note 5).
- 2 This statement does give a true and fair view of the matters disclosed.

Sign here: .....Date: 31 January 2013  
(Company secretary)

Print name: Andrew Bursill  
Company Secretary

## Notes

- 1 The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity wanting to disclose additional information is encouraged to do so, in a note or notes attached to this report.
- 2 The "Nature of interest" (items 6.1 and 6.2) includes options in respect of interests in mining tenements acquired, exercised or lapsed during the reporting period. If the entity is involved in a joint venture agreement and there are conditions precedent which will change its percentage interest in a mining tenement, it should disclose the change of percentage interest and conditions precedent in the list required for items 6.1 and 6.2.
- 3 **Issued and quoted securities** The issue price and amount paid up is not required in items 7.1 and 7.3 for fully paid securities.
- 4 The definitions in, and provisions of, *AASB 1022: Accounting for Extractive Industries* and *AASB 1026: Statement of Cash Flows* apply to this report.

**Appendix 5B**  
**Mining exploration entity quarterly report**

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5 **Accounting Standards** ASX will accept, for example, the use of International Accounting Standards for foreign entities. If the standards used do not address a topic, the Australian standard on that topic (if any) must be complied with.

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