

**BROKEN HILL PROSPECTING LTD**  
**QUARTERLY REPORT FOR THE PERIOD TO 31<sup>st</sup> DECEMBER 2015**

Broken Hill Prospecting Limited (“BPL”) is pleased to provide the following report on corporate news and activities undertaken at the Company’s projects during the three month period ending 31<sup>st</sup> December 2015. Additional information about the Company is available at BPL’s website [www.bhpl.biz](http://www.bhpl.biz).

## Highlights

- ❖ **Scoping study for Copi North HMS Deposit commenced. Expected completion in early February 2016**
- ❖ **Ecological study of Copi North completed**
- ❖ **Aboriginal cultural heritage assessment of Copi North completed**
- ❖ **Drill planning to explore for western extensions of Copi North mineralisation have been finalised and approved with work planned to commence during the next quarter**
- ❖ **Drilling at Copi South HMS Deposit is planned for next quarter**

### **1. Heavy Mineral Sand Projects (EL8311, EL8312 and EL8385) [60% BPL]**

#### **Scoping Study Commenced at Copi North Heavy Minerals Sand (HMS) Deposit (EL8312)**

A Scoping Study was commenced to assess the potential viability of open cut mining and processing operation to exploit the Copi North HMS Deposit (Resource 11.7Mt of 6.9% HM, Table 1 and 2) which is located northwest of Wentworth in western NSW (Figure 1). The Scoping Study is being undertaken by Mineral Technologies Pty Ltd (a subsidiary of Downer EDI Limited) and is being prepared on the basis of the JORC Code 2012 edition. The study is expected to be completed in early February.

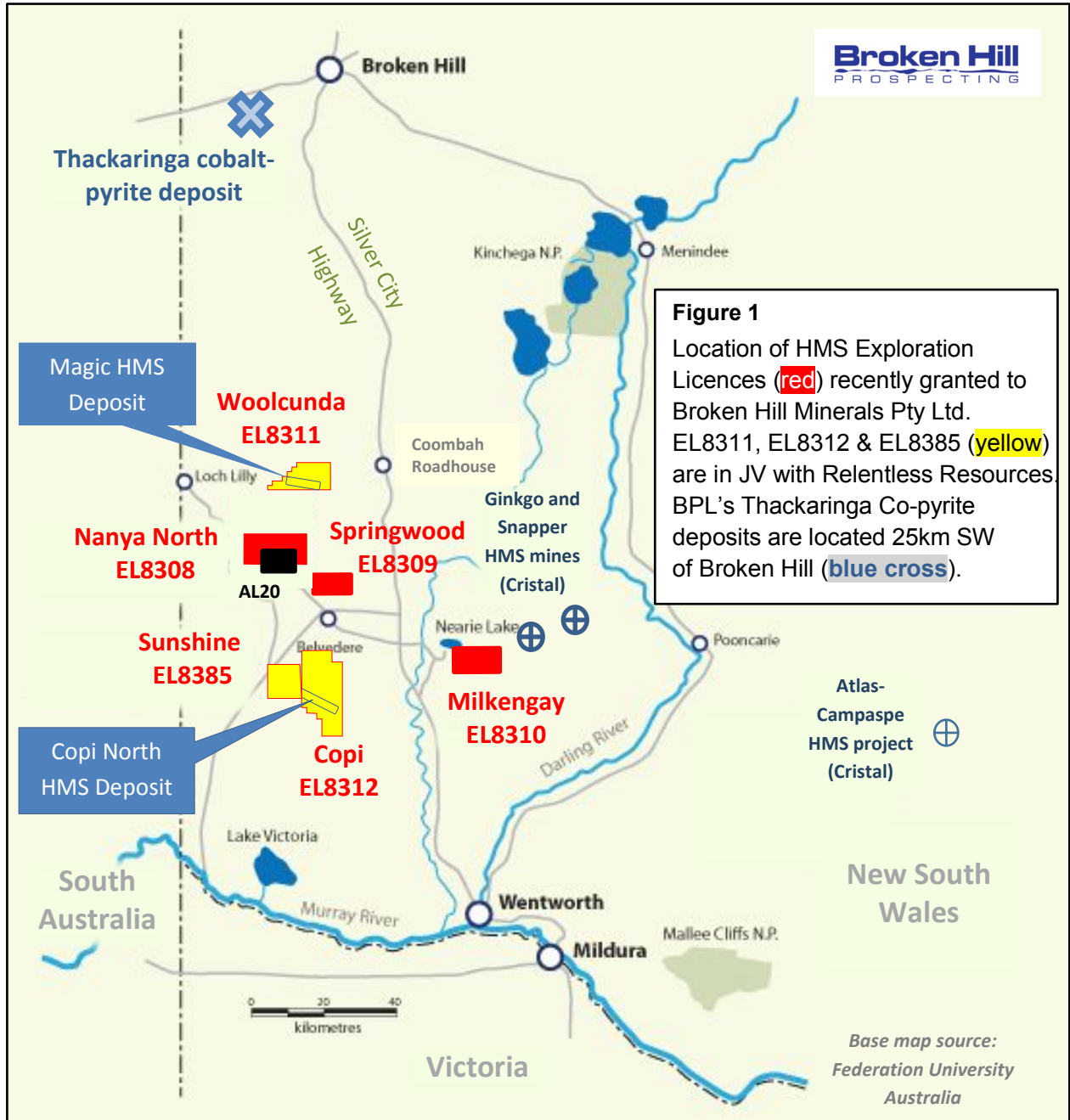
#### **Copi North Mapping survey (EL8312)**

An airborne LiDAR aerial photography survey was completed by AAM over the Copi North HMS deposit. The survey provided detailed digital orthophoto maps which will be required for project planning and assessment.

#### **Copi North Ecology Study (EL8312 and EL8385)**

Flora and fauna surveys of selected areas in Copi (EL8312) and western extension (Sunshine EL8385) were completed by Envirokey (Ecological and Biodiversity Consultants). The field study provided an early indication of the ecological constraints that need to be considered during the design of any future mining within the Copi North HMS deposit area. The study included analyses of ecological constraints and recommended mitigation measures for planned drilling to explore the western extension of the Copi North deposit in EL8385 and forms part of a series of future studies coordinated by Environmental Consultants RW Corkery & Co Pty Ltd.

Figure 1. Map of western NSW showing the location of the Magic and Copi North Heavy Mineral Sands Deposits and Exploration Leases held by Broken Hill Minerals Pty Ltd. The map also shows the locations of BPL's Thackaringa cobalt – pyrite deposit near Broken Hill and Cristal Mining's Pooncarie Mineral Sands (Ginkgo and Snapper Mines) and Atlas-Campaspe projects.



**Copi North and Sunshine Heritage Assessment (EL8312 and EL8385)**

An Aboriginal cultural heritage assessment was undertaken within a 500 metre wide corridor along the Copi North HMS Deposit. The study included a description of Aboriginal heritage constraints and recommended mitigation measures required to avoid impacts during future drilling at the western end of the Copi North resource area. No Aboriginal cultural heritage sites were found during the field inspection which was undertaken by Landskape Pty Ltd.

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ARBN: 003 453 503

Level 14, 52 Phillip Street, Sydney NSW 2000 Box 3486 GPO, Sydney NSW 2001  
P: +61 2 9252 5300 F: +61 2 9252 8400 E: info@bhpl.biz W: [www.bhpl.biz](http://www.bhpl.biz)

**Planned Drill Testing of Copi North HMS Deposit Western Extension (EL8385)**

An air-core drilling proposal to test the extension of the Copi North deposit within the recently granted Sunshine tenement (EL8385) was prepared. The work will explore the western extent of the Copi North deposit within a ten kilometer trend and could add considerable upside to the Copi North project if shallow, high-grade heavy mineral sands are defined. The drill programme has been accepted by the NSW Resources and Energy Environmental Sustainability Unit and is expected to commence during the next quarter.

**Planned Drill Testing of the Copi South HMS deposit (EL8312)**

The Copi South HMS Deposit was described in Iluka Resources exploration reports as a strandline deposit located about 700 metres to the south of the Copi North strand. Only limited drill testing was undertaken at Copi South by previous exploration parties because the Copi South strand was considered to be relatively deep. BHM have recovered the results of the previous work and are planning to drill test a high-grade (plus 10% HM) target area.

Air-core drilling of the Copi South HMS deposit is planned for early 2016. Four holes will target shallow, high-grade HM mineralisation which could add to the nearby resource at Copi North.

**Sedimentology Study of Copi North and Magic HMS deposits (EL8311 and EL8312)**

A student BSc(hons) project (University of NSW) was commenced to examine the characteristics of mineralisation of both the Copi North and Magic HMS deposits. The work will provide details of provenance and physical characteristics of both deposits and is expected to be completed in early 2016.

**Magic HMS Deposit (EL8311)**

The Magic HMS Deposit (Inferred Resource 15Mt of 3.7% HM, Table 3) is located west of the Coombah roadhouse south of Broken Hill (Figure 1). Site visits were undertaken for environmental and heritage assessment.

Reporting on EL8311 was completed.

Assessment work in EL8311, EL8312 and EL8385 is being undertaken in joint venture with Relentless Resources Limited (RRL). Broken Hill Minerals Pty Ltd (BHM), a 100% owned subsidiary of BPL, is manager of the Joint Venture. Other HMS tenements (EL8308, EL8309 and EL8310) are 100% owned by Broken Hill Minerals Pty Ltd (Figure 1).

**2. Heavy Mineral Sand Projects (EL8308, EL8309 and EL8310) [100% BPL]**

Drill targets for high-grade HM strands have been defined in each tenement and these are expected to be drill tested during 2016. Each offers the opportunity for high-grade, near surface zircon and rutile deposits with good location and access.

Several parties have expressed an interest to joint venture into these tenements and negotiations are ongoing.

Annual reports for each Exploration Licence were completed during the quarter.

**3. Thackaringa Cobalt Pyrite Deposit (EL6622, EL8143, ML86, ML87) [100% BPL]**

Discussions with parties that have expressed an interest to participate with BPL in advancing the Thackaringa Project were continued.

Planning for metallurgical test work studies was undertaken.

EL6622 and EL8143 Annual reports were completed.

#### **4. Public relations**

The Managing Director presented to the Sydney Mineral Exploration Discussion Group (SMEDG) on the 22<sup>nd</sup> October. The talk, entitled "Broken Hill Mineralisation - Observations from Outside the Box" was well attended and can be viewed at the SMEDG website.

The next edition of National Mining Chronicle is planning a spotlight feature on cobalt and this will include comment from BPL. This follows from the rising demand for cobalt to supply new lithium-cobalt ion battery technologies.

Broken Hill Minerals have been invited to present at the Mineral Sands Conference in Melbourne (15-16 March 2016). The talk, entitled "An update on the Copi North and Magic HMS Deposits" will update on recent results from the HMS projects.

#### **5. Cash Position**

The Company's consolidated statement of cash flows is listed in Appendix 5B. At the end of the quarter the Company had \$584,000 in cash (unconsolidated). In addition, the cash balance of the Heavy Mineral Sands Joint Venture was \$518,000.

Yours faithfully,



Ian J Pringle  
(Managing Director)

#### **Competent Person Statement**

*Exploration activities and sampling results contained in this notice are based on information compiled by Dr Ian Pringle who is a Member of the Australasian Institute of Mining and Metallurgy. Dr Pringle is the Managing Director of Broken Hill Prospecting Ltd and also a Director of Ian J Pringle & Associates Pty Ltd, a consultancy company in minerals exploration. He has sufficient experience which is relevant to the style of mineralisation and types of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the December 2012 edition of the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC Code). Dr Pringle has consented to the inclusion in this report of the matters based on his information in the form and context in which it appears.*

*The information in this report that relates to Mineral Resources for the Copi North HMS Deposit is based on information reviewed by Sue Border, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Sue Border has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the exploration activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Sue Border consents to the inclusion in the report of the matters based on this information in the form and context in which it appears. Sue Border is not an employee or a related party of the Company or its subsidiaries. Sue Border is a Director/Principal Geologist of Geos Mining.*

*The information in this report that relates to Mineral Resources for the Magic HMS Deposit is based on information compiled by Mr. Greg Jones who is a Member of The Australasian Institute of Mining and Metallurgy. Mr. Jones is the Principal for GNJ Consulting and was retained by Broken Hill*

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Level 14, 52 Phillip Street, Sydney NSW 2000 Box 3486 GPO, Sydney NSW 2001  
P: +61 2 9252 5300 F: +61 2 9252 8400 E: info@bhpl.biz W: [www.bhpl.biz](http://www.bhpl.biz)

Prospecting Limited to conduct Mineral Resource estimation for the Magic deposit. Mr. Jones has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the JORC Code 2012. Mr. Jones consents to the inclusion in this ASX release of the matters based on his information in the form and context in which it appears.

### About Broken Hill Prospecting Limited (“BPL”)

BPL has commenced assessment of heavy mineral sand deposits (titanium and zirconium) located south of Broken Hill in western NSW. These deposits have been extensively explored and drill tested

by other parties and provide the Company with an opportunity to progress advanced evaluation and fast-track development of several substantial high-grade heavy mineral sand deposits.

**About Heavy Mineral Sands** - Australia has the world’s largest deposits of the titanium minerals ilmenite and rutile and a substantial producer of zircon. We extract and refine Ti and Zr, but don’t process it in large quantities. Titanium is used in jewellery and alloy metals, 3D printing and heavy industrial parts, but 95% is used in an oxide form as the pure white colour crucial in products from paint to cosmetics. Titanium’s strength-to-weight ratio, corrosion resistance and biocompatibility make it perfect for aerospace, medical and sport applications. Zirconium is also a corrosion resistant metal that is used in high performance pumps and valves. It is widely used in the nuclear industry for cladding fuel elements. Large quantities of zircon are used in glazes by the tile, sanitaryware and tableware industries.

### Heavy Mineral Sands Resources

#### 1. Copi North HMS Deposit

A maiden resource estimation for the Copi North HMS deposit (11.6Mt of 6.9% HM, Tables 2 and 3), was completed in late July (ASX announcement 27<sup>th</sup> July).

Resource Status	Tonnes (millions)	THM (%)	Average Density (g/cm <sup>3</sup> )	Slimes <53um (%)	Oversize >2mm (%)
Inferred	4.6	6.5	1.82	3.0	1.8
Indicated	7.0	7.1	1.84	2.6	2.0
<b>Total</b>	<b>11.6</b>	<b>6.9</b>	<b>1.83</b>	<b>2.8</b>	<b>1.9</b>

Table 1: Copi North JORC Resource (2.5% Total Heavy Mineral (THM) cut-off)

Tonnes (millions)	THM (%)	Ilmenite (%)	Rutile (%)	Zircon (%)	Monazite (%)	Leucoxene (%)	Other HM (%)
<b>11.6</b>	<b>6.9</b>	<b>54.4</b>	<b>10.8</b>	<b>11.3</b>	<b>1.0</b>	<b>10.0</b>	<b>12.6</b>

Table 2: Copi North Resource with Heavy Mineral (HM) assemblage.

#### 2. Magic HMS Deposit

Geological modelling of the deposit determined a maiden Inferred Mineral Resource estimate of 15 million tonnes of HM (using a cut-off grade 2% HM). The new resource is presented in Table 1 and details of the resource modelling was described in an ASX announcement on the 8<sup>th</sup> September.

Mineral Resource Category	Material Tonnes (Million)	In Situ HM Tonnes (Millions)	HM (%)	Clay (%)	Heavy Mineral (‘HM’) Assemblage			
					Ilmenite (%)	Zircon (%)	Rutile (%)	Leucoxene (%)
<b>Inferred</b>	<b>15</b>	<b>0.56</b>	<b>3.7</b>	<b>4</b>	<b>62</b>	<b>14</b>	<b>6</b>	<b>10</b>

Table 3. Magic Mineral Resource, August 2015 (2% HM cut-off grade)

The resource estimation was based on existing and new infill drilling of the deposit and was completed for approximately 600 metre to 1200 metre spaced sections, using vertical holes 20 metres to 40 metres apart (across strike). Downhole samples were collected at 1 metre intervals through the mineralised zone.

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BPL is also progressing with exploration and evaluation of cobalt-pyrite deposits in the Broken Hill area within two exploration tenements (EL6622 and EL8143) and two mining leases (ML86 and ML87).

Broken Hill prospecting Limited is in an excellent position to take advantage of increasing demand for cobalt to meet growth in environmental and industrial uses including rechargeable batteries in automobiles and super alloys. As a co-product sulphuric acid could address Australian reliance on imported sulphur and provide opportunities for phosphate fertiliser and mineral processing industries.

### **Tenements**

The interests in mining tenements held by Broken Hill Prospecting Limited (and fully owned subsidiaries) at the end of the quarter and the related percentage of ownership:

#### Thackaringa Cobalt Project:

Exploration Licence 6622, Broken Hill NSW Australia - 100% (Broken Hill Prospecting Ltd)

Exploration Licence 8143, Broken Hill NSW Australia - 100% (Broken Hill Prospecting Ltd)

Mining Lease 86, Broken Hill NSW Australia - 100% (Broken Hill Prospecting Ltd)

Mining Lease 87, Broken Hill NSW Australia - 100% (Broken Hill Prospecting Ltd)

#### South Broken Hill HMS Projects:

Exploration Licence 8308, Broken Hill NSW Australia – 100% (Broken Hill Minerals Pty Ltd)

Exploration Licence 8309, Broken Hill NSW Australia – 100% (Broken Hill Minerals Pty Ltd)

Exploration Licence 8310, Broken Hill NSW Australia – 100% (Broken Hill Minerals Pty Ltd)

#### HMS Joint Venture:

Exploration Licence 8311, Broken Hill NSW Australia – (60% Broken Hill Minerals Pty Ltd, 40% Relentless Resources Ltd (earning 50%))

Exploration Licence 8312, Broken Hill NSW Australia – (60% Broken Hill Minerals Pty Ltd, 40% Relentless Resources Ltd (earning 50%))

Exploration Licence 8385, Broken Hill NSW Australia – (60% Broken Hill Minerals Pty Ltd, 40% Relentless Resources Ltd (earning 50%))

### **Contacts for further information:**

Dr Ian Pringle, Managing Director, Broken Hill Prospecting Ltd +61 408 548 767 [ipringle@bhpl.biz](mailto:ipringle@bhpl.biz)

Australian media;

Alan Deans, Partner, Last Word Corporate Communications +61 427 490 992

[alan.deans@lastwordcc.com.au](mailto:alan.deans@lastwordcc.com.au)

# Appendix 5B

## Mining exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10

Name of entity

Broken Hill Prospecting Limited

ABN

83 003 453 503

Quarter ended ("current quarter")

31 December 2015

### Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date ( 6 months) \$A'000
1.1 Receipts from product sales and related debtors*	-	-
1.2 Payments for (a) exploration & evaluation* (b) development (c) production (d) administration*	(138) - - (132)	(257) - - (363)
1.3 Dividends received	-	-
1.4 Interest and other items of a similar nature received*	5	10
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Other (provide details if material) R&D tax incentive Management fees*	- - -	- - 20
<b>Net Operating Cash Flows</b>	<b>(265)</b>	<b>(590)</b>
<b>Cash flows related to investing activities</b>		
1.8 Payment for purchases of: (a) prospects (b) equity investments (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	-	(14)
1.11 Loans repaid by other entities	14	14
1.12 Other (security deposit for Mining Exploration Licence)	-	(10)
<b>Net investing cash flows</b>	<b>14</b>	<b>(10)</b>
1.13 Total operating and investing cash flows (carried forward)	<b>(251)</b>	<b>(600)</b>

+ See chapter 19 for defined terms.

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

1.13	Total operating and investing cash flows (brought forward)	(251)	(600)
	<b>Cash flows related to financing activities</b>		
1.14	Proceeds from issues of shares, options, etc.	(16)	781
1.15	Proceeds from sale of forfeited shares	-	-
1.16	Proceeds from borrowings	-	-
1.17	Repayment of borrowings	-	-
1.18	Dividends paid	-	-
1.19	Other – Funds from Joint Venture participant (see note 2.2 below)*	-	600
	<b>Net financing cash flows</b>	(16)	1,381
	<b>Net increase (decrease) in cash held</b>	(267)	781
1.20	Cash at beginning of quarter/year to date*	1,162	114
1.21	Exchange rate adjustments to item 1.20	-	-
1.22	<b>Cash at end of quarter</b>	895	895

\* Balances in items marked “\*” have been adjusted to show the proportional interest in the transactions of the Joint Venture (JV). The JV is between Relentless Resources Ltd (RRL) and Broken Hill Minerals Pty Ltd (BHM), a 100% subsidiary of Broken Hill Prospecting Ltd. These transactions were previously reported in item 2.1 and 2.2.

**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
1.23 Aggregate amount of payments to the parties included in item 1.2	67
1.24 Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions

Salaries, fees and consulting services at standard commercial rates.

**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

n/a

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

n/a

+ See chapter 19 for defined terms.



### 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	150
4.2 Development	-
4.3 Production	-
4.4 Administration	130
<b>Total</b>	<b>280</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 \$A'000	Previous quarter \$A'000
5.1 Cash on hand and at bank*	895	1,162
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
<b>Total: cash at end of quarter (item 1.22)*</b>	<b>895</b>	<b>1,162</b>

\* The balance of the previous quarter has been amended to include the proportional interest in the JV.

### Changes in interests in mining tenements

	Tenement reference	Nature of interest (note (2))	Interest at beginning of quarter	Interest at end of quarter
6.1 Interests in mining tenements relinquished, reduced or lapsed	n/a			
6.2 Interests in mining tenements acquired or increased	n/a			

+ See chapter 19 for defined terms.

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

**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.*

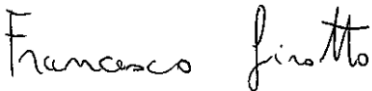
	Total number	Number quoted	Issue price per security (see note 3) (cents)	Amount paid up per security (see note 3) (cents)
7.1 <b>Preference securities</b> <i>(description)</i>	-	-	-	-
7.2 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs, redemptions	-	-	-	-
7.3 <b>+Ordinary securities</b>	124,255,771	124,255,771	n/a	n/a
7.4 Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy-backs	-	-	-	-
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>	38,650,000 35,896,111	Nil 35,896,111	<i>Exercise price</i> 20c 8c	<i>Expiry date</i> 17/2/2016 12/11/2019
7.8 Issued during quarter	-	-	-	-
7.9 Exercised during quarter	-	-	-	-
7.10 Expired during quarter	-	-	-	-
7.11 <b>Debentures</b> <i>(totals only)</i>	-	-		

+ See chapter 19 for defined terms.

7.12	Unsecured notes (totals only)	-	-
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## 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: 28/01/2016  
 (Company secretary)

Print name: Francesco Girotto

## 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 6: Exploration for and Evaluation of Mineral Resources* and *AASB 107: Statement of Cash Flows* apply to this report.
- 5 **Accounting Standards** ASX will accept, for example, the use of International Financial Reporting 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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+ See chapter 19 for defined terms.