

30 October 2015

ASX Release

ASX Code: CXX

## SEPTEMBER 2015 QUARTERLY ACTIVITY REPORT

### Highlights

- Tremont has paid the final tranche of US\$5 million
- Mining Licences renewed for 10 years to November 2026
- Environmental Licence granted
- Integrated pilot plant confirms flotation process
- Definitive Feasibility Study on track for Q1 2016 completion

### Licence Renewals

The Environmental and Social Impact Assessment ("ESIA") documentation was submitted to the Tanzanian National Environment Management Council ("NEMC") in May 2015 after 18 months of baseline environmental studies within the project area which included extensive community engagement and various impact studies of the Project on the surrounding areas and communities. An NEMC visit to the project site took place in July 2015, following the initial ESIA submission to the department. The Environmental and Social Impact Assessment Certificate for the Project was issued on 18 August 2015. There were no restrictions or special instructions imposed on the ESIA certification.

The three licences (ML 237/2006, 238/2006 and 239/2006) (Figure 4), have also been renewed for a further 10 year term each as per the Tanzanian Mining Act and regulations. These Mining Licences cover all of the known niobium mineralisation in the area, as well sufficient ground for the establishment of the mine infrastructure required for the estimated 30 year life of mine (see announcement 14 July 2015).

**Table 1: Panda Hill Niobium Project Licence Summary – August 2015**

License	Stated Area (km <sup>2</sup> )	Renewal from	Renewal to	Owner
ML237/2006	4.94	16 Nov 2016	16 Nov 2026	RECB Ltd*
ML238/2006	7.67	16 Nov 2016	16 Nov 2026	RECB Ltd*
ML239/2006	9.45	16 Nov 2016	16 Nov 2026	RECB Ltd*

*\*Cradle Resources and its joint venture partner hold 50% of RECB and have the exclusive right to acquire the remaining 50% by June 2017*

### Definitive Feasibility Study

The Definitive Feasibility Study ("DFS") is ongoing with the integrated pilot plant work having being completed during the period. The results confirmed the overall process for the plant, but also highlighted the importance of managing the water balance so as to control water quality within the niobium flotation circuit and the impact of crushing / milling on fines generation and the subsequent niobium losses through desliming. Piloting will continue in November and December 2015 once the bulk sample has arrived from Tanzania.

Geotechnical drilling and trenching for the plant and tailings storage facility has been completed, along with the water bore drilling for the environmental monitoring boreholes. Further boreholes were also drilled to identify the opportunity for water abstraction. The location of these holes was based on the VES resistivity study carried out in the last period. The test work at the Johannesburg laboratories on the geotechnical samples collected is nearing

completion and all interim results have been provided to the geotechnical and tailings consultants for use in the foundation designs.

The process design work is progressing with the work on the front-end (crushing and milling) and the smelter nearing completion. The results from the integrated pilot plant and the batch leach test work are being used to develop the design of the flotation and leaching circuits.

For the mine design the pit optimisations and strategic scheduling have been completed. The schedule of rates from the mining contractors for the first round of the selection process has been completed and the technical package for the second round is being developed. The final pit design and interim pushback designs are progressing in conjunction with the production scheduling.

The tailings storage facility design work is well progressed with the layouts and sizing completed. Wall design, foundation design and stability analysis is ongoing with bills of quantities also being developed.

The following additional studies and activities are ongoing:

- RoM pad and haul road designs
- Flotation plant and leaching plant sizing and layouts
- Mechanical equipment costing and material take-off for bulk quantities
- Tailings dam phasing approach
- Surface water studies to finalise the site water management requirements and strategies
- Product off-take agreements
- Project financing

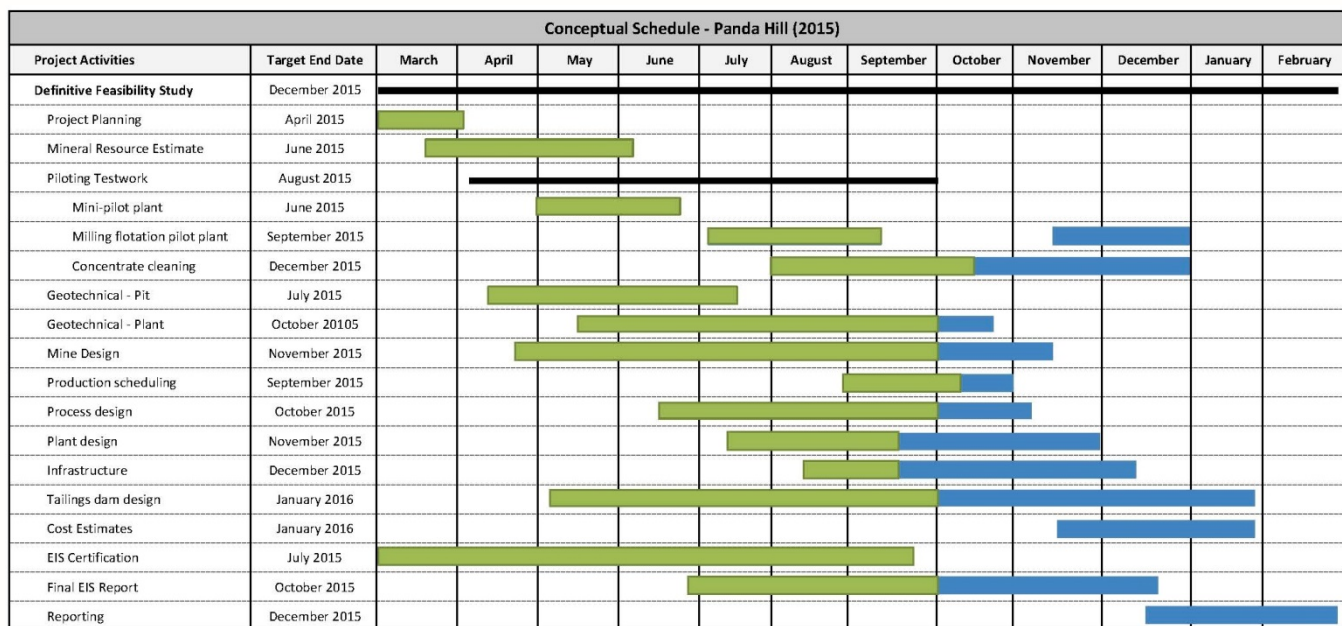


Figure 1: \*DFS Schedule Progress

\*Green – actual progress, blue forecast

## Other Technical Activity

### **Bulk Sample Collection**

Additional bulk sample (Figure 2) of the carbonatite mineralisation has been sourced from the region of the proposed 5 year start pit. A 15 tonne sample of fresh material from surface has been collected and shipped, with a further 20 tonne of oxidised to moderately oxidised material to follow.



Figure 2: Showing fresh carbonatite outcrop from the initial starter pit area (top left), rock breaker at work (top right), bulk samples collected (bottom left) and 1 tonne bagged bulk sample ready for shipment (bottom right).

### **Mining and Engineering Activity**

The work carried out in this quarter focused the continuation of the key activities associated with the DFS. Specifically the following was completed or initiated during the period:

#### Metallurgical Test Work

- The integrated pilot plant campaign was undertaken at the SGS facility in Lakefield, Canada. The pilot plant ran over a period of 3 weeks during which 13 individual runs were completed. Overall the piloting was considered successful, demonstrating that the niobium from Panda Hill can be successfully recovered. Opportunities for improved recovery were identified through improved fines management and water quality control. These points are the subject of the further piloting test work that will be carried out in November / December 2015. The results of PP13, the final run, are being used as the basis for the process design being undertaken by MDM.

#### Mining & Geotechnical

- The schedules of rates from the prospective mining contractors have been received and reviewed. Based on this, three of the contractors have been selected for a second round of evaluation using the latest schedules and layouts.
- Whittle pit optimisations have been completed with strategic schedules developed.
- The pit shells have been selected for the various pushbacks and the mine design of the ultimate pit shell is ongoing.
- The requirements for the haul road and RoM pad design are being developed and the consultant is working on the design of the reinforced wall around the primary tip at the RoM pad.
- Sizing and footprints for the waste rock dump and stockpiles are ongoing.

#### Hydrology & Hydrogeology

- All field activities have been completed and all water samples have been analysed.
- Generation of site water balance (and associated salt balance) ongoing.
- Ground water modelling ongoing.
- Geochem test work on waste rock and tailings samples is progressing.

#### Tailings Storage Facility (TSF)

- Tailings facility layouts and sizing completed.
- Modelling of TSF by phase is ongoing.
- Sizing of reclaim and storm water dams has started.
- Characterisation of waste rock material for TSF wall construction completed.
- Material take-offs, bill of quantities being developed.

#### Engineering (Plant & Infrastructure)

- Enquiry documents issued for some mechanical equipment and tender documents received.
- Plant layouts for front-end completed.
- Smelter design well progressed with sizing, layouts and equipment list completed.
- Preliminary Process Flow Diagrams (PFDs) developed.
- Mass and water balance ongoing.
- Road design consultant selected.
- Power stability study completed.
- Estimating Strategy approved.
- Design Criteria and engineering standards approved.

The activities for the next period will focus on:

- All field activities for the study will be completed and the site office closed.
- Completion of all geotechnical laboratory test work.
- Second Integrated pilot plant campaign to be completed.
- Completion of PFDs, equipment sizing and plant layouts.
- Issuing of all enquiry documents.
- Issuing of site based enquiry documents to approved list of site based contractors.
- Technical package for second round of mining contractor selection to be issued.
- Mine design and production schedules to be completed.
- Complete TSF design.
- Complete TSF material take-offs and bill of quantities.
- Site water balance completed.
- Preliminary results from geochem work received and inputted into salt balance and ground water models.

### **Social and Environmental Activities**

The Environmental and Social Impact Assessment Certificate for the Project was issued on 18 August 2015. There were no restrictions or special instructions imposed on the ESIA certification. The final ESIA document, compliant to IFC standards, is being drafted.

Dry season dust and water monitoring activities have continued during the quarter.

### **Corporate Activity**

During the quarter, 56,250,000 fully paid ordinary shares and 18,750,000 Class B Performance Shares were released from ASX imposed escrow (which ended on 1 August 2015), and the Company applied for and obtained quotation by ASX of the fully paid ordinary shares.

Tremont Investments Limited ("Tremont") has exercised its right to acquire a further 12.5% of the Panda Hill Niobium Project ("Project") for a further US\$5 million (AU\$7.15M) investment (taking Tremont to 50% in total). Tremont has now completed its investment of US\$20 million in four separate tranches of US\$5 million each. This investment has been used to de-risk the Project through an in-fill and extensional drilling program, extensive metallurgical work, a Preliminary Feasibility Study ("PFS") and a Definitive Feasibility Study ("DFS") which will be complete in first quarter 2016.

The final tranche of US\$5 million will be used to acquire 100% of the mining licences from RECB Limited and complete the pilot plant test work and the DFS (which is expected to be completed in early 2016), after which a decision to mine will be made. The DFS is progressing with the 70 tonne metallurgical pilot test at SGS Lakefield in Canada, due for completion later this year. The engineering and environmental teams have completed their field work and the initial design phase of the DFS is underway. Further to this, Tremont, who is experienced with African resource project financing, is coordinating both the offtake negotiations and the project financing process.

### **Marketing and Financing**

Discussions with potential off takers for the sale of ferroniobium and project financing continue, both of which are being coordinated by the Denham-backed Pangea team out of South Africa.

### **Tenement Summary**

As at 30 September 2015, the Company and its joint venture partner, Tremont Investments Limited, together hold the following interests in tenements, together with an option to acquire the remaining 50% interest in the tenements:

Project	Tenement Number	Percentage Interest
Panda Hill Niobium, Tanzania	ML237/2006	50%
Panda Hill Niobium, Tanzania	ML238/2006	50%
Panda Hill Niobium, Tanzania	ML239/2006	50%

### **Panda Hill Niobium Project Overview**

The Project (Figure 3 below) is located in the Mbeya region in south western Tanzania approximately 650km west of the capital Dar es Salaam. The industrial city of Mbeya (pop. 280,000) is situated only 26km from the project area and will be a significant service and logistics centre for the Project. The Project is unique in that it is located close to highly developed surrounding infrastructure including the new Songwe international airport (8 km away), the TAZARA Rail line (2km away), the Dar es Salaam - Tunduma Highway (5km away) and major power infrastructure (26km away).

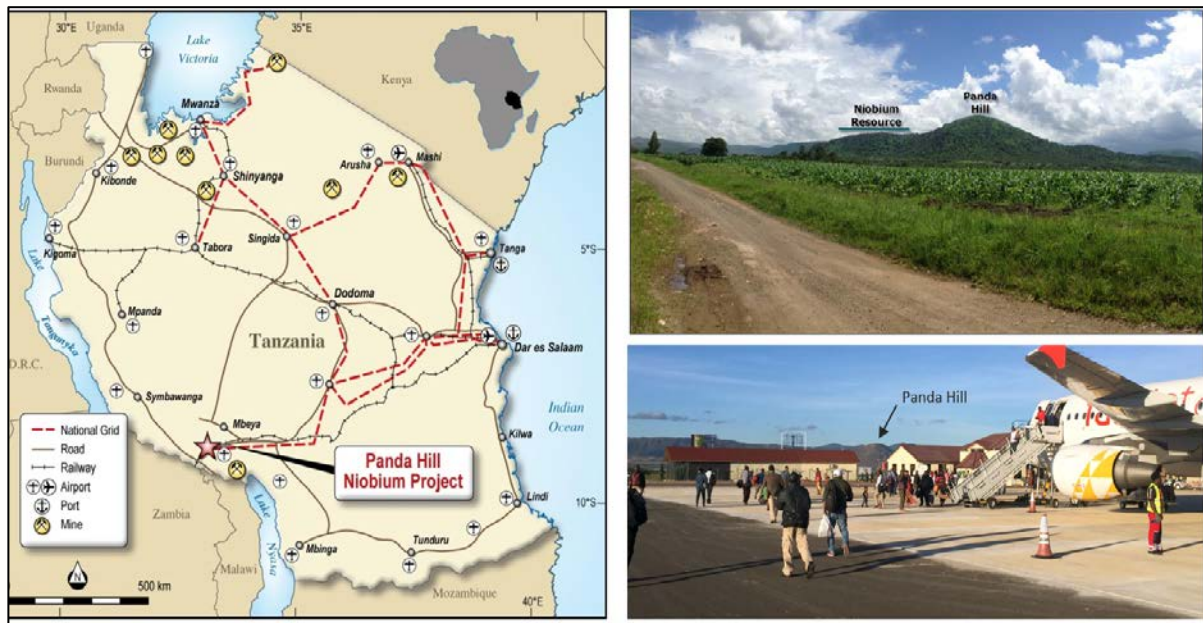


Figure 3: Location of the Panda Hill Niobium Project

The Project is located on three Mining Licences (ML237/2006, 238/2006 and 239/2006) (Figure 4) granted to Panda Hill Mines Ltd on 16 November 2006 and covering a total area of approximately 22.1 km<sup>2</sup>. Title of these licences was transferred to RECB on 18 December 2012. Panda Hill Mining Pty Ltd, a wholly owned subsidiary of Cradle, currently has a 50% shareholding in RECB with an additional exclusive right to acquire the remaining 50% of RECB by June 2017.

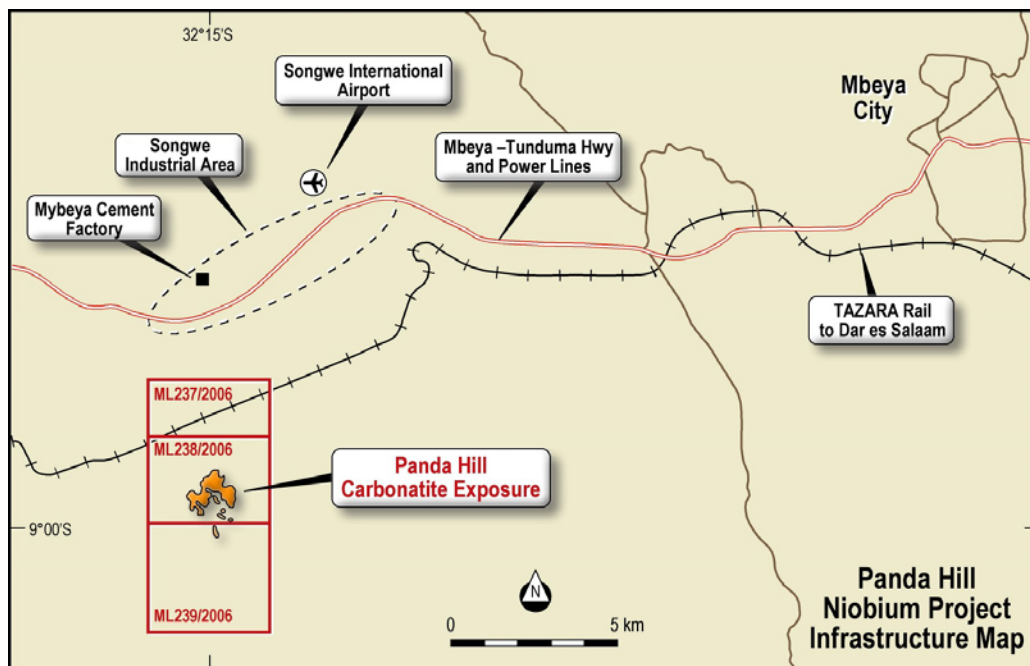


Figure 4: Mining Licences and Local Infrastructure

*By order of the Board*

### Competent Person's Statement

*The information in this document that relates to the Exploration Target, Exploration Results and Mineral Resources is based on information compiled or reviewed by Mr Neil Inwood who is a Fellow of The Australasian Institute of Mining and Metallurgy and a Member of the Australian Institute of Geoscientists. Mr Inwood 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 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Inwood consents to the inclusion in this document of the matters based on his information in the form and context in which it appears.*

*The information relating to the Mineral Resource is extracted from the report entitled 'Significant Resource Upgrade for Panda Hill Niobium Project' created on 20th January 2015 and is available to view on [www.cradleresources.com.au](http://www.cradleresources.com.au). The information relating to the Pre-Feasibility Study is extracted from the report entitled 'Positive Pre-Feasibility Study results For Panda Hill' created on 31st March 2015 and the update announcement on 14th July 2015 entitled 'Updated Panda Hill Site and Study Progress' and is available to view on [www.cradleresources.com.au](http://www.cradleresources.com.au). The information referring to the Exploration Target is extracted from the report 'Panda Hill Progress Update and Exploration Target' created on 23rd April 2015 and is available to view on [www.cradleresources.com.au](http://www.cradleresources.com.au). Other than as specified in this announcement and the mentioned announcements, the Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcements and, in the case of estimates of Mineral Resources, Exploration Target or Ore Reserves that all material assumptions and technical parameters underpinning the estimates in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcements.*

For further information, please visit [www.cradleresources.com.au](http://www.cradleresources.com.au) or contact:

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Managing Director

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## Appendix 5B

### Mining exploration entity quarterly report

Introduced 1/7/96. Origin: Appendix 8. Amended 1/7/97, 1/7/98, 30/9/2001, 01/06/10.

Name of entity

CRADLE RESOURCES LIMITED

ABN

60 149 637 016

Quarter Ended ("Current Quarter")

30 SEPTEMBER 2015

#### Consolidated statement of cash flows

		Current Quarter \$A'000	Year to Date (3 months) \$A'000
<b>Cash flows related to operating activities</b>			
1.1	Receipts from product sales and related debtors		
1.2	Payments for (a) exploration & evaluation	(835)	(835)
	(b) development	-	-
	(c) production	-	-
	(d) administration	(380)	(380)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	6	6
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Other :		
	(a) reclaim of exploration and evaluation costs	1,073	1,073
	(b) refund of research and development rebate	621	621
<b>Net Operating Cash Flows</b>		<b>485</b>	<b>485</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	-	-
1.11	Loans repaid by other entities	-	-
1.12	Other	-	-
<b>Net investing cash flows</b>		<b>-</b>	<b>-</b>
1.13	Total operating and investing cash flows (carried forward)	<b>485</b>	<b>485</b>

1.13	Total operating and investing cash flows (brought forward)	485	485
	<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	Other (capital raising cost)	-	-
	<b>Net financing cash flows</b>	-	-
	<b>Net increase (decrease) in cash held</b>		
1.20	Cash at beginning of quarter/year	2,351	2,351
1.21	Exchange rate adjustments to item 1.20	241	241
1.22	<b>Cash at end of quarter</b>	<b>3,077</b>	<b>3,077</b>

**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	174
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions.

Amounts include Directors fees and reimbursements relating to travel, corporate and administrative costs incurred during the period.

**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

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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

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### 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	-	-
3.3 Convertible note	-	-

### Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and Evaluation	
4.2 Development	
4.3 Production	
4.4 Administration	241
<b>Total</b>	<b>241</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	3,077	2,351
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
<b>Cash at end of quarter (item 1.22)</b>	<b>3,077</b>	<b>2,351</b>

**Changes in interests in mining tenements**

		Tenement Reference and Location	Nature of Interest (note (2))	Interest at beginning of quarter	Interest at end of Quarter
6.1	Interests in mining tenements held at the end of the quarter and their location	ML237/2006, Tanzania ML238/2006, Tanzania ML239/2006, Tanzania	Reflects acquisition as at Quarter end by Tremont Investments Limited of 37.5% of Panda Hill Tanzania Ltd (which holds a 50% interest in the Mining Licences, with an option to acquire the remaining 50% interest), with 62.5% of Panda Hill Tanzania Ltd held by Cradle Resources Limited as at Quarter end	31.25% 31.25% 31.25%	31.25% 31.25% 31.25%
6.2	Interests in mining tenements relinquished, reduced or lapsed and their location				
6.3	Interests in mining tenements acquired or increased and their location				
6.4	Beneficial percentage interests held in farm-in or farm-out agreements	N/A	N/A	N/A	N/A
6.5	Beneficial percentage interests in farm-in or farm-out agreements acquired or disposed of	N/A	N/A	N/A	N/A

# 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>	128,727,617	128,727,617		
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>			<b>Exercise Price</b>	<b>Expiry Date</b>
	7,687,500 Unlisted Options	Nil		\$0.2667	31 May 2016
	2,500,000 Unlisted Options	Nil		\$0.25	31 October 2018
	1,000,000 Unlisted Options	Nil		\$0.25	30 April 2018
7.8	Issued during quarter				
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>				
7.13	<b>Performance Shares</b>	18,750,000 Class B Performance Shares	Nil	Issued as part consideration for the acquisition of the issued share capital of Panda Hill Mining Pty Ltd. Escrowed until 31/7/15	Nil
7.14	<b>Performance Rights</b>	1,837,500 Performance Rights	Nil	Nil exercise price	1,050,000 expire 30/9/16  787,500 expire 30/9/17
	(a) Converted to ordinary shares during the quarter				

### 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 4).
- 2 This statement does give a true and fair view of the matters disclosed.

*Sophie Raven*

Sign here: .....  
**SOPHIE RAVEN, COMPANY SECRETARY**

Date: 30 October 2015

## 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 applies to this report.
- 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.