

Excellent 99% graphite concentrate purities highlight June Quarter achievements



25 July 2016

Highlights

- All Mahenge mineralised zones deliver 99%-99.1% TGC flake concentrate purities – for all size fractions >75 microns.
- Comprehensive spherical and expandable graphite test programmes underway with initial results expected August 2016
- Pre Feasibility Study (PFS) progressing, results expected October 2016
- Ulanzi infill drill programme completed and drilling underway at Cascades. Upgraded JORC resource expected in September 2016
- Results further enhance potential to manufacture flake graphite products with a small environmental footprint (CO₂ and chemical) compared to peers

Black Rock Mining Limited (ASX:BKT) (“Black Rock Mining” or “the Company”) is pleased to present its June Quarterly report and provide a development update for the Mahenge Graphite Project. Metallurgical testing during the Quarter delivered exceptional results to follow up on delivery of a maiden JORC resource and positive Scoping Study in the March Quarter.

An amended flotation process provided the catalyst for improving metallurgical recoveries for all mineralisation types up to 99.1% TGC for Ulanzi oxide, Ulanzi primary and Epanko north primary mineralisation. Of particular significance, these results are weighted averages for the entire concentrate size fraction >75µ. Achieving these results indicate the presence of exceptionally pure precursor flake in the graphitic host rock.

Whilst the metallurgical team is justifiably excited about these results, the amended flotation process is yet to be optimised and additional work could deliver further purity improvements. Follow-up test work is currently underway with results expected during the September Quarter.

Chairman Stephen Copulos commented: *“The Board is delighted with the metallurgical results, which add considerable upside potential to the Mahenge Graphite Project. All credit goes to our first-class team that continues to deliver highly positive results. We expect additional positive developments over the coming months from the ongoing metallurgical initiatives, the JORC Resource upgrade in September and delivery of the PFS in October.”*

Metallurgical process optimisation

The June quarter saw a number of incremental improvements in concentrate purities to 97% TGC before an amended flotation process was trialed, resulting in a significant increase to 99.1% TGC purity for Ulanzi oxide mineralisation. This new flotation process was then applied to the primary mineralised zones at Ulanzi and Epanko north and in each instance 99% TGC was achieved. Of particular note is that the high purities are weighted averages of the entire size fraction above 75 μ .

The test material for each primary zone is a composite sample of diamond drill cores from Ulanzi and Epanko north respectively. Whilst follow-up test work is required, initial results indicate that broad zones of primary mineralisation at the Mahenge Project have uniform metallurgical characteristics and that consistent quality flake graphite can be processed from these zones. If confirmed, this would be an excellent characteristic for long term plant processing as consistent quality output is highly valued by end-users. Follow-up test work is currently underway with 11 extra diamond holes currently being drilled to collect samples from additional mineralised zones at Ulanzi and Cascades.

High purity graphite flake, particularly 99% and above, is likely to attract a price premium by graphite processors if it can be shown to make higher quality downstream products and/or result in lower processing costs. The Company is examining the potential to manufacture spherical graphite without the hydrofluoric acid purification step currently used by most spherical graphite manufacturers.

Screen Size	Mass %	TGC %	Cumulative mass %	Weighted average TGC%
Ulanzi oxide bulk sample				
+500 μ m	1.1	98.3	1.1	98.3
+300 μ m	17.9	99.2	19.0	99.1
+180 μ m	35.2	99.2	54.3	99.2
+150 μ m	9.5	98.9	63.8	99.1
+106 μ m	12.9	99.0	76.6	99.1
+75 μ m	9.3	98.9	86.0	99.1
+25 μ m	8.8	97.5	94.8	98.9
-25 μ m	5.2	81.5	100.0	98.0
Ulanzi Primary drill core composite				
+300 μ m	9.2	98.9	9.2	98.9
+180 μ m	33.3	99.0	42.5	99.0
+150 μ m	11.4	98.9	53.9	99.0
+106 μ m	15.9	99.1	69.8	99.0
+75 μ m	11.6	98.8	81.4	99.0
+25 μ m	10.9	98.0	92.3	98.9
-25 μ m	7.7	89.5	100.0	98.1
Epanko North Primary drill core composite				
+300 μ m	12.5	99.0	12.5	99.0
+180 μ m	34.7	99.1	47.2	99.1
+150 μ m	10.8	99.0	58.0	99.1
+106 μ m	14.2	99.1	72.2	99.1
+75 μ m	10.0	98.8	82.2	99.0
+25 μ m	9.4	98.2	91.6	98.9
-25 μ m	8.3	87.5	99.9	98.0

Table 1. Summary metallurgical test result table for Ulanzi Oxide, Ulanzi Primary and Epanko North Oxide zones. Assay results by size fraction and %TGC. TGC assays are by double Loss On Ignition method.

Additional test programmes

The Company has begun an extensive evaluation programme of its new high purity concentrates, utilising globally recognized graphite processing experts. Results from the initial expandable and spherical graphite test programme are expected during August.

High purity concentrates are also being processed in Perth to begin detailed spherical test work in August.

A 12-15t bulk sample has been collected from site to manufacture a high purity concentrate sample to conduct detailed scaled-up spheronisation tests. This will also provide end users with evaluation samples.

The key objectives of these additional test programmes include:

1. To demonstrate that Mahenge high purity flake concentrates can make high quality end market products
2. Provide technical specifications of spherical graphite and expandable graphite
3. Provide samples of the above for end-user validation
4. Manufacture battery test cells to determine electrical characteristics
5. Determine the potential yields of graphite using different spheronising methods
6. Determine if high purity flake graphite can be used to make battery grade spherical without acid purification

Over 1,000m of large diameter diamond core samples are being drilled at Ulanzi and Cascades to conduct variability test work. Results will be used to confirm processing characteristics of mineralised zones both across and along strike.

The metallurgical programme is expected to continue for the next six to nine months, in parallel with the Pre Feasibility and planned Definitive Feasibility Studies.

Resource upgrade

The 2016 infill drill programme is designed to increase drillhole density at Ulanzi and to drill additional portions of the Cascades resource. This should enable conversion of most of the existing Ulanzi resource and extensions of the Cascades Mineral resource into the Measured and Indicated Category, providing more confidence in resource quality.

The updated Ulanzi resource will be calculated from 85 RC drill holes totaling 6,128m and 12 Diamond holes for a total of 1,235m, drilled over 2.5km of strike.

The programme is in its final stage with drilling at Ulanzi completed and currently underway at Cascades. The Cascades drill programme is expected to be completed by mid August, in parallel with an eleven hole diamond core programme at Ulanzi and Cascades to collect additional metallurgical samples.

Following completion of the programme, the Company expects to increase the overall size of the project's resource and better define a number of coarse flake, high grade graphite mineralised zones that were identified during the 2015 exploration and drilling programme.

Figure 1. (right) shows completed drill holes in red and proposed diamond holes in yellow and blue. Green area is the mineralised footprint.

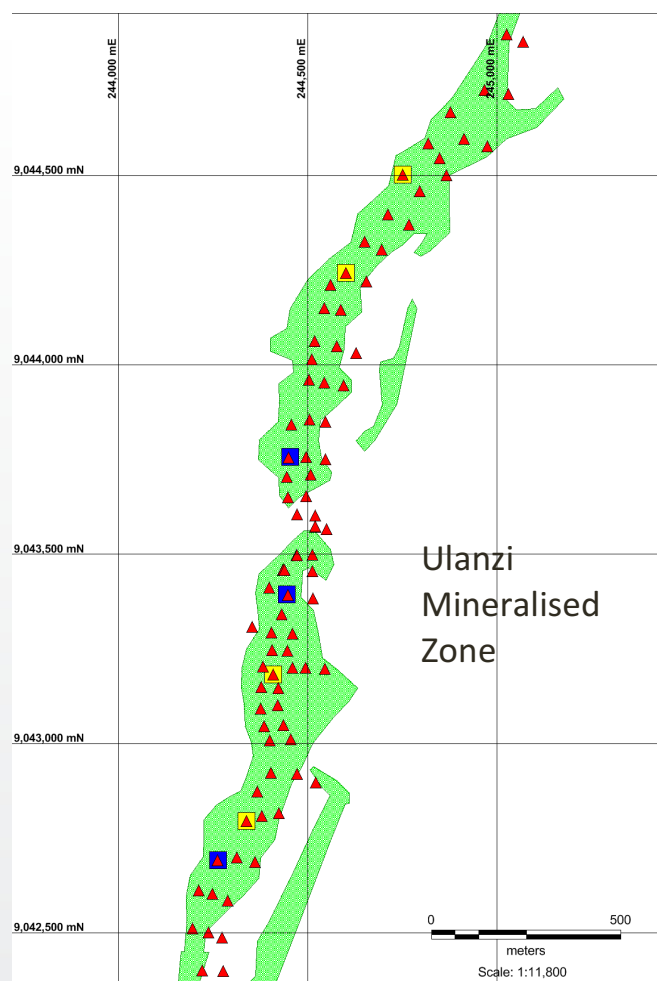


Figure 2. Ulanzi and Cascades resource areas showing drill holes

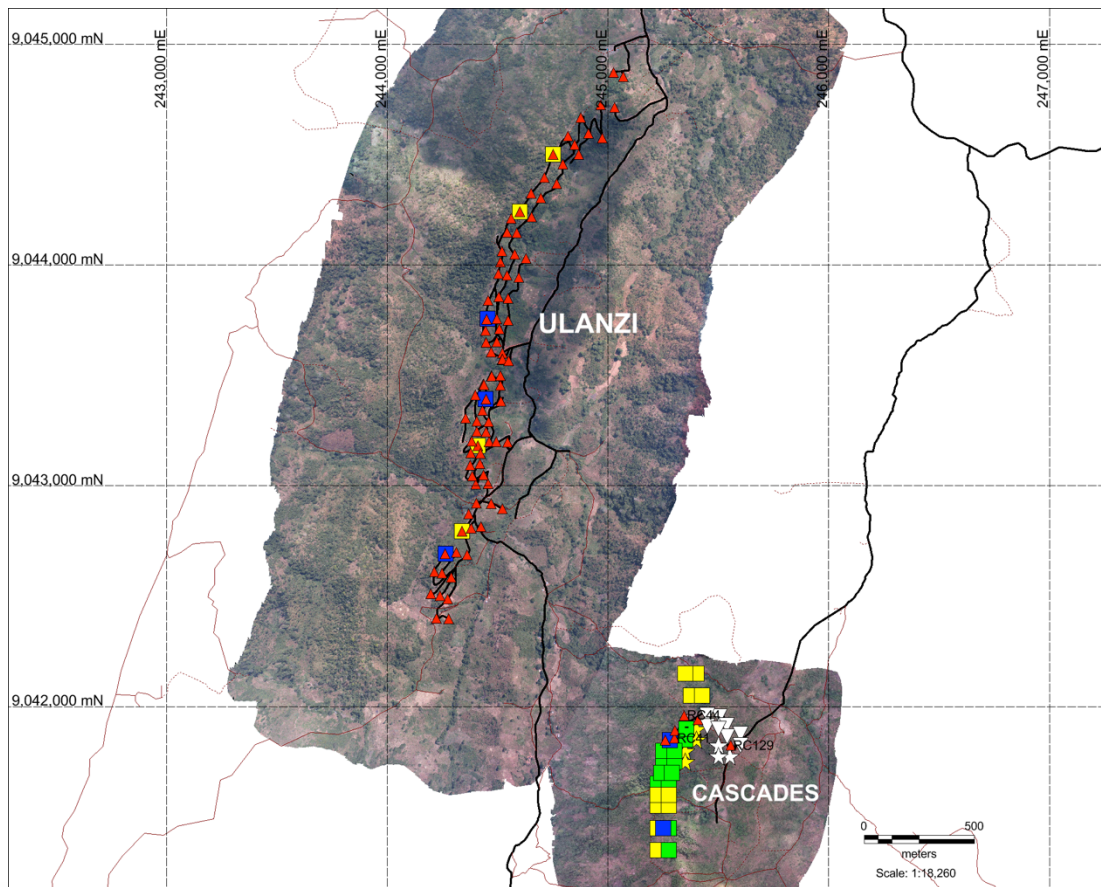
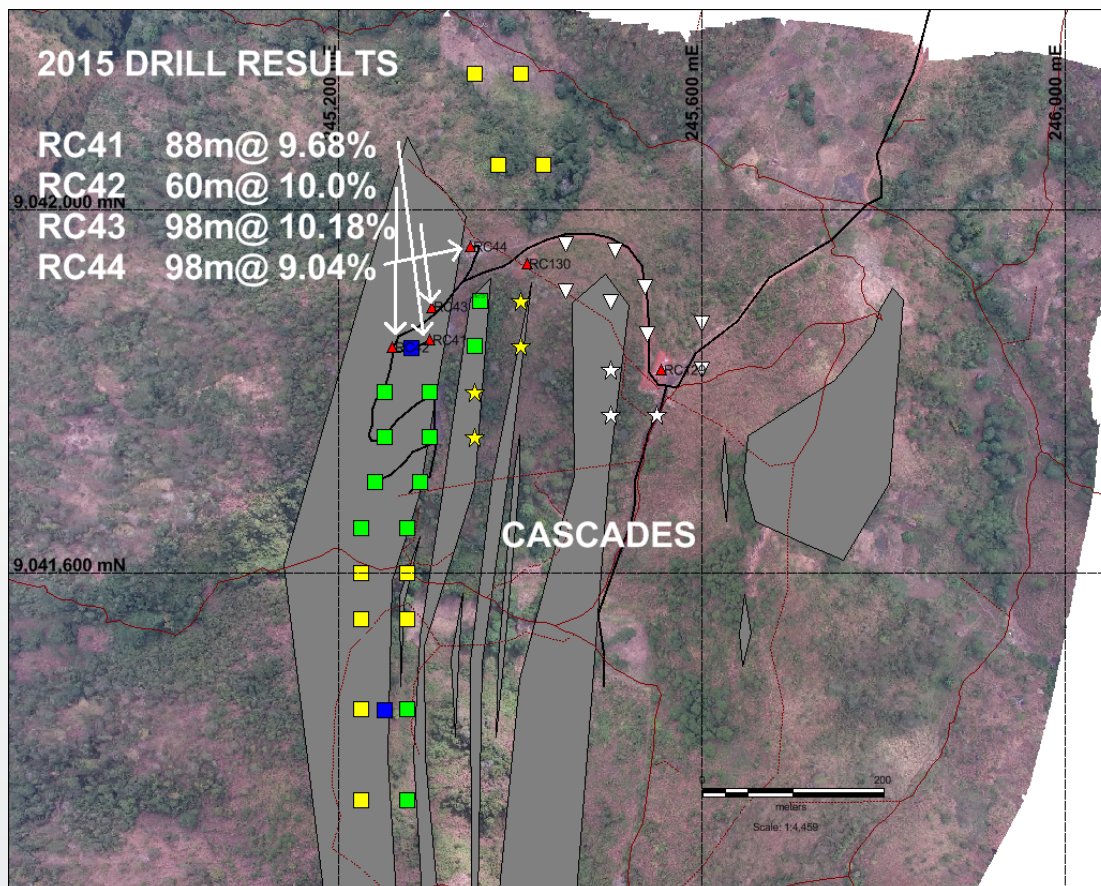


Figure 3. Cascades drill plan with grey area representing surface graphite footprint.



Marketing

The Company intensified its offtake marketing activities during the quarter, engaging with a number of potential offtake partners and presenting the company's value proposition as a secure and reliable alternative source of high purity graphite for various applications. The recent metallurgical announcements have attracted end-user enquiries.

In late June the Black Rock Mining marketing team visited major graphite customers in Japan and Korea – major global manufacturers of lithium-ion battery cells. The Black Rock Mining team were given the opportunity to present the Mahenge Project to primary decision makers in the lithium-ion battery supply chain.

Pre Feasibility Study

The PFS programme is driving the bulk of our current technical and development evaluation work. During the quarter key contractors were appointed and a site visit was organised for the Study Managers, together with mining and geotechnical engineers. The site visit confirmed the availability of sufficient surface water within the tenements for plant processing and the proposed plant and tailings storage facility areas were inspected.

The September quarter expects to have all major study deliverables completed, with the delivery of the PFS planned for October 2016. The study is based on a 50,000tpa base case of concentrate production however the design can accommodate future plant expansions to accommodate potential demand increases.

An energy and chemical audit is planned in order to benchmark the environmental performance of a mining operation at Mahenge. Upon sourcing grid power from the Kidatu Hydroelectric scheme, the Mahenge Project has potential to minimise its carbon (CO₂) footprint. High purity graphite concentrates also have the potential to minimise or possibly eliminate acid purification processing for spherical graphite. Expected high mining grades and low waste:ore ratios will assist minimising material movements and processing volumes per tonne of produced graphite concentrate. This not only lowers the cost of production, it also minimises potential environmental impact.



Photo 1. PFS field trip group inspecting outcropping mineralisation at Ulanzi ridge

Summary

- The first half of 2016 successfully delivered three critical milestones;
 1. The largest and highest grade JORC resource in Tanzania, at the time the fourth largest in the World;
 2. A positive Scoping Study* report; and
 3. Comprehensive metallurgical test work results in the 99% TGC range which clearly demonstrate the potential to produce premium graphite concentrates from a straightforward flotation circuit
- The Company has engaged an excellent technical and development team to progress the PFS and planned Definitive Feasibility Study, ongoing metallurgical testing and spherical graphite assessment

Planned work for the September Quarter

- We are targeting improvements to the recently achieved 99.1% for Ulanzi oxide and 99% for primary mineralisation. To conduct metallurgical testing of Cascades mineralised zones;
- Delivery of an upgraded Mahenge JORC resource with conversion of the majority of the current Ulanzi resource into Measured and Indicated Category and to increase the Cascades resource. This work will directly feed into the PFS;
- Completion of resource drilling by mid August and metallurgical diamond drill sampling by the 3rd week of August;
- Collection, air freighting and testing additional core and bulk samples from additional portions of the Ulanzi and Cascade mineralised zones;
- Completion of Pre Feasibility Study activities for delivery in October;
- Additional test work to determine the suitability of graphite concentrates to produce spherical graphite, expandable graphite and other applications. Determine the viability of manufacturing battery grade spherical graphite without chemical purification; and
- Marketing to graphite end-users

Managing Director of Black Rock Mining commented: *“The June Quarter continued delivering key components of the PFS and the excellent metallurgical results significantly increase the potential to manufacture premium graphite concentrates. The initial expandable and spherical graphite test programme results due in August are keenly awaited, as are ongoing results from flotation process optimisation ”*

For further information please contact:

Mr. Steven Tambanis

Managing Director

Office: +61 8 9320 7550

Email: st@blackrockmining.com.au

Mr. Gabriel Chiappini

Director

+61 8 9320 7550

Email: gabriel@blackrockmining.com.au

Cautionary Statement: The Scoping Study referred to in this report (released to ASX on 22 March 2016) is based on low-level technical and economic assessments, and is insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised.

About Black Rock Mining

Black Rock Mining Limited is an Australian based company listed on the Australian Securities Exchange. The Company has graphite tenure in the Mahenge region, Tanzania, a country which hosts world-class graphite mineralisation. Drilling of the Epanko north prospect was completed in August 2015 and infill drilling of two new graphite discoveries, the Ulanzi and Cascade prospects, is nearing completion. The Company plans to announce a Mahenge JORC compliant resource in February 2015 and then commercialise the project.

The company is building a skill and knowledge base to become an explorer, developer and diversified holder of resources. Shareholder value will be added by:

- identifying and securing projects with economic potential
- focussing on tenure that can be commercialised by converting into JORC compliant resources; and
- taking these resources into production

Our focus is on establishing a JORC resource from three advanced prospects at Mahenge, Ulanzi, Epanko north and Cascade, whilst further adding resource upside through exploration at Kituti.

Competent Person Statement

The information in this report that relates to Exploration Results and Mineral Resources is based on information compiled by Steven Tambanis, who is a member of the AusIMM. He is an employee of Black Rock Mining Limited. Steven Tambanis 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 and 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Steven Tambanis consents to the inclusion in the report of the matters based on their information in the form and context in which it appears, including the Exploration target, previously announced on 19 October 2015.

The information in this report that relates to Metallurgical test work and results is based on information compiled by Mr David Pass, a Competent Person who is a member of Australian Institute of Mining and Metallurgy. Mr Pass is a full time employee of Battery Limits Pty Ltd, a specialist metallurgical consultancy and an independent consultant to Black Rock Mining Limited. Mr Pass has sufficient experience that is relevant to the style of mineralogy and type of deposit under consideration and the typical beneficiation thereof. Mr Pass consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

Appendix 1. JORC mineral resource statement (February 2016)

Prospect	Category	Tonnes (Millions)	TGC (%)	Contained TGC (Millions tonnes)
Ulanzi	Indicated	35.0	8.3	2.9
	Inferred	<u>45.5</u>	<u>8.7</u>	<u>4.0</u>
	Sub-total	80.5	8.5	6.9
Epanko Nth	Indicated	17.6	6.4	1.1
	Inferred	<u>20.8</u>	<u>5.9</u>	<u>1.2</u>
	Sub-total	38.4	6.1	2.3
Cascade	Indicated	-	-	-
	Inferred	<u>12.3</u>	<u>9.5</u>	<u>1.2</u>
	Sub-total	12.3	9.5	1.2
COMBINED	INDICATED	52.5	7.7	4.0
	INFERRED	78.6	8.1	6.4
	TOTAL	131.1	7.9	10.4

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, 01/05/2013

Name of entity

Black Rock Mining Limited

ABN

59 094 551 336

Quarter ended ("current quarter")

30 June 2016

Consolidated statement of cash flows

Cash flows related to operating activities	Current quarter \$A'000	Year to date (12 months) \$A'000
1.1 Receipts from product sales and related debtors	0	0
1.2 Payments for (a) exploration & evaluation – graphite	(755)	(3,996)
(b) exploration & evaluation	0	0
(c) exploration & evaluation	0	0
(d) development	0	0
(e) production	0	0
(f) administration	(291)	(1,196)
1.3 Dividends received	0	0
1.4 Interest and other items of a similar nature received	1	12
1.5 Interest and other costs of finance paid	0	0
1.6 Income taxes paid	0	0
1.7 Other (provide details if material) – employee entitlement for annual leave and long service leave for redundant employee	0	0
1.8 Other (provide details if material) – research and development incentive received	0	0
Net Operating Cash Flows	(1,045)	(5,180)
Cash flows related to investing activities		
1.8 Payment for purchases of: (a) prospects	0	0
(b) equity investments	0	0
(c) other fixed assets	(4)	(4)
1.9 Proceeds from sale of: (a) prospects	0	0
(b) equity investments	0	238
(c) other fixed assets	0	0
1.10 Loans to other entities	0	0
1.11 Loans repaid by other entities	0	0
1.12 Other (provide details if material)	0	0
Net investing cash flows	(4)	234
1.13 Total operating and investing cash flows (carried forward)	(1,049)	(4,946)

+ See chapter 19 for defined terms.

Appendix 5B
Mining exploration entity and oil and gas exploration entity quarterly report

1.13	Total operating and investing cash flows (brought forward)	(1,049)	(4,946)
Cash flows related to financing activities			
1.14	Proceeds from issues of shares, options, etc.	0	5,000
1.15	Proceeds from sale of forfeited shares	0	0
1.16	Proceeds from borrowings	0	0
1.17	Repayment of borrowings	0	0
1.18	Dividends paid	0	0
1.19	Other (share issue costs)	(72)	(271)
Net financing cash flows		(72)	4,729
Net increase (decrease) in cash held		(1,121)	(217)
1.20	Cash at beginning of quarter/year to date	3,470	2,490
1.21	Exchange rate adjustments to item 1.20	3	79
1.22	Cash at end of quarter	2,352	2,352

Payments to directors of the entity, associates of the directors, 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	125
1.24	Aggregate amount of loans to the parties included in item 1.10	0
1.25	Explanation necessary for an understanding of the transactions	
Director related payments relate to both Executive and Non-Executive Director fees.		

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

+ See chapter 19 for defined terms.

- 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

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	0	0
3.2 Credit standby arrangements	0	0

Estimated cash outflows for next quarter

	\$A'000
4.1 Exploration and evaluation	750
4.2 Development	0
4.3 Production	0
4.4 Administration	195
Total	945

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	2,352	3,470
5.2 Deposits at call	0	0
5.3 Bank overdraft	0	0
5.4 Other (Funds held within Trust Account)	0	0
Total: cash at end of quarter (item 1.22)	2,352	3,470

+ See chapter 19 for defined terms.

Changes in interests in mining tenements and petroleum 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 and petroleum tenements relinquished, reduced or lapsed	-	-	Nil
6.2	Interests in mining tenements and petroleum tenements acquired or increased			

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	Nil	Nil		
7.2	Nil	Nil		
7.3	285,404,703	285,404,703		
7.4	7,800,004 300,000	7,800,004 300,000	\$0.054 \$0.054	\$421,200 \$16,200
7.5	Nil	Nil		

+ See chapter 19 for defined terms.

7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted	Nil	Nil		
7.7	Options <i>(description and conversion factor)</i>	<p>Listed Options</p> <p>35,000,000 5,145,000 10,058,444 18,158,214 2,616,662 2,500,000 2,000,000</p> <p>Total Listed 75,478,320</p> <p>Unlisted Options 375,000 3,300,003</p> <p>Total Unlisted 3,775,003</p>	<p>35,000,000 5,145,000 10,058,444 18,158,214 2,616,662 2,500,000 2,000,000</p> <p>Nil Nil</p>	<p>Exercise price</p> <p>5 cents 5 cents 0.075 cents 0.075 cents 0.075 cents 0.075 cents 0.075 cents</p> <p>0.06 cents 0.20 cents</p>	<p>Expiry date</p> <p>25 March 2017 25 March 2017 30 November 2018 30 November 2018 30 November 2018 30 November 2018 30 November 2018</p> <p>28 November 2016 19 January 2018</p>
7.8	Issued during quarter	<p>Listed Options 2,000,000</p> <p>Unlisted Options Nil</p>			
7.9	Exercised during quarter	<p>Listed Options Nil</p> <p>Unlisted Options Nil</p>			
7.10	Expired during quarter	<p>Listed Options Nil</p> <p>Unlisted Options Nil</p>			
7.11	Debentures <i>(totals only)</i>	Nil			
7.12	Unsecured notes <i>(totals only)</i>	Nil			

+ See chapter 19 for defined terms.

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 /does not* (*delete one*) give a true and fair view of the matters disclosed.

Print name: **Mr Gabriel Chiappini**
Director
25 July 2016

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 and petroleum 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 or petroleum 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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