

31 January 2014

ASX Release

ASX Code: CXX,CXXO

DECEMBER 2013 QUARTERLY ACTIVITY REPORT

Highlights

- **Completion of updated 2013 JORC Resource**
- **Substantial resource upgrade to 82m at 0.52% Nb₂O₅**
- **Positive flotation results achieved – testwork achieving 70% niobium recoveries from fresh carbonatite**
- **Scoping study advanced significantly**

Technical Activity

General Project Update

The study progress at the end of the December quarter shows that the activities are ahead of schedule and that the final study documentation should be completed by the end of January 2014. All major activities have been completed with no critical issues identified and the focus for the remaining period is the finalisation of the Scoping Study Report. A total of 12,862 hours have been worked on the project with “earned value” for the project at 27 December 2013 of 98%. A high level tracking schedule is shown in Figure 1.

Study costs are being well managed and are in line with budget forecasts.

Panda Hill Niobium Project.										
Study Activities	Target End Date	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March
Study Kick-off	01/07/2013	◆								
Resource Drilling Program	04/09/2013									
Core sampling & assaying	04/10/2013									
Geology & Mine Planning	30/11/2013									
Metallurgical Testwork	30/11/2013									
Engineering	19/12/2013									
Reporting	31/01/2014									
Study Complete	31/01/2014							◆		

Figure 1: Panda Hill Preliminary Economic Assessment Schedule

Exploration and Mineral Resource Activity

Activities during this period focused on the validation and analysis of the assay data from the July/August 2013 drilling program at Panda Hill and updating the resource estimate. An upgraded resource was produced by the independent

mining consultants, Coffey Mining, and was announced on the 8 November; the updated resource consisted of 81.8Mt @ 0.52% Nb₂O₅ (5.4Mt @ 0.54% Nb₂O₅ Indicated and 76.4Mt @ 0.51% Nb₂O₅ Inferred).

No other field activities were undertaken in the December Quarter.

Mining and Engineering Activity

During the December quarter the mining work focused on the geotechnical interpretation of the logs from the drill core. These were used to define the pit slope angles which were an input to generating the optimised pit shell (58Mt mill feed at 0.56%Nb₂O₅). From this pit shell a number of mine schedules were developed for a number of scenarios. The various mine schedules showed that a mill feed for the first 5 years of production of between 0.64% and 0.70% Nb₂O₅ is possible (0.59% to 0.68% Nb₂O₅ for the first 10 years)

During this quarter milling and flotation testwork on the drill core samples (primary carbonatite) was completed along with the mineralogy on the various feed samples. Mineralogy work and some preliminary testwork were also undertaken on two weathered carbonatite samples added to the program after the conclusion of the resource estimate.

The detailed mineralogy work (QEMSCAN) shows that in general the samples associated with the primary material is well liberated niobium at a relatively coarse grind with potential for high recovery at high niobium grades in the concentrate. The weathered materials are not as well liberated and will require a finer grind to achieve the high grade concentrate. Losses to slimes may also be higher than that seen in the primary materials and this could reduce overall recoveries for these materials.

The grindability tests show that the milling characteristics of the primary materials are medium to moderately soft and as such the required mill power for grinding will be low.

23 open circuit flotation tests were completed on the samples, with the majority of the work carried out on the fresh carbonatite material types which are the major niobium bearing ores in the deposit. Three locked cycle flotation tests were also carried out on these fresh carbonatites. The testwork results indicate that for the primary materials a niobium recovery of 65% can be expected with an Nb₂O₅ grade of 50% in the final flotation concentrate. Indications for the weathered material are the niobium recoveries will be 50% with a similar concentrate grade.

Concentrate cleaning, via a hydrochloric acid leach step, was also investigated and preliminary results show that the concentrate can be cleaned and further upgraded via this process.

The preliminary process engineering and plant / infrastructure design was completed during the period and this information used to generate the operating and capital cost estimates.

Engineering activities concluded during the period were:

- preliminary location studies for the tailings storage facility and process plant
- design of the tailings storage facility
- comminution circuit design
- process flow diagrams
- process mass balance
- site water balance
- process design criteria
- mechanical equipment lists
- preliminary electrical design
- general arrangement and site layout drawings
- operating cost estimate

- capital cost estimate

Social and Environmental Activities

Progress was also made during the quarter with respect to the Environmental & Social Impact Assessment (ESIA), including the completion of the preliminary field activities. As part of these activities the environmental consultant, MTL Consulting, held a series of consultative meetings with local parties to update them on the project and to obtain feedback relating to their concerns and expectations. The following parties were involved in these meetings:

- Mbeya Regional Office
- Mbeya Rural District officials
- Lake Rukwa Basin Water officials
- South Western Zone Mining officials
- OSHA - Southern Highlands Zone officials
- Government Laboratory
- Songwe Prison
- Mbozi District Council
- Mbozi District Commissioner
- Bonda la Songwe Ward
- Isuto Ward
- Songwe Viwandi, Malowe, Kasele, Idiga, Shisonto and Lusungo Villages
- Songwe Water Company
- Mbeya Cement Factory

Feedback was positive with some minor issues relating to water and access to facilities raised. All of these have been noted and activities in the next phase of the study have been included to address them.

The ESIA Scoping Study and ESIA Terms of Reference (ToR) were completed based on the information gathered from the field trip and submitted to the Tanzanian National Environmental Management Council (NEMC) for approval. Approval of this is expected in January 2014 which will allow the full ESIA study to start. The first step of this will be the dry season baseline study which will commence with the start of the Prefeasibility Study (~ Q2 2014).

Corporate Activity

During the December quarter, the Company held its Annual General Meeting, at which all resolutions were passed by shareholders, including the approval of a 10% additional placement capacity.

At the end of the December quarter, the Company had a closing cash balance of \$754,000.

Panda Hill Niobium Project Overview

The Panda Hill Niobium Project (Figure 6) is located in the Mbeya region in south western Tanzania, near the borders with Zambia and Malawi, and approximately 650km west of the capital Dar es Salaam. The industrial city of Mbeya is situated only 35km from the Project area and will be a significant service and logistics centre for the Project. Mbeya has a population of approximately 280,000 people, located on the main highway to the capital Dar es Salaam, and has recently completed the construction of a new international airport.

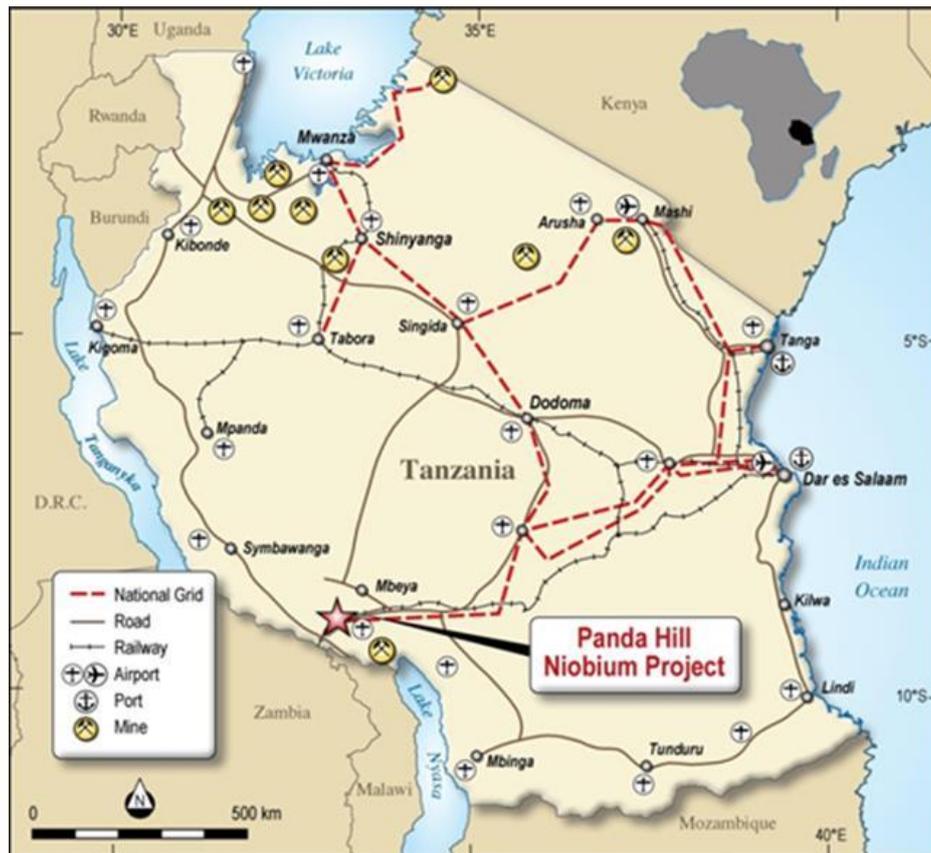


Figure 6: Location of the Panda Hill Niobium Project

The Project is covered by three granted Mining Licenses (Figure 7) totalling 22.1km², which will enable a quick transition to the study and development phases, and has excellent access to infrastructure, with existing roads, rail, airports and power available in close proximity to the Project area. The three granted Mining Licenses are due for renewal in November 2016, and under Tanzanian mining legislation can be renewed for a further 10 year period on completion of the approved work programs on the Project.

A significant historical technical database on the Project was acquired by Panda Hill, including drill core, mapping and assay data from campaigns undertaken in the 1950-1980s. This work has contributed to the resource information for an initial JORC Inferred resource estimate.

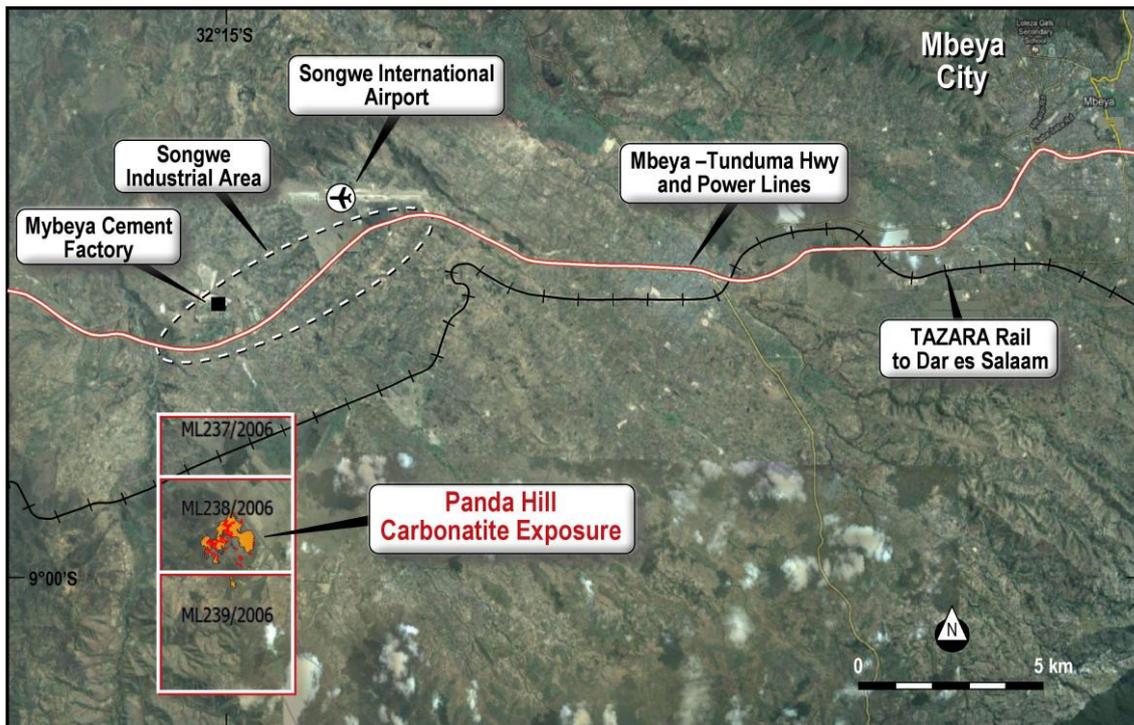


Figure 7: Mining Licenses and Local Infrastructure

Historical Work

The Panda Hill carbonatite has been subject to multiple phases of exploration work since the 1950's. This work has targeted the Niobium and Phosphate endowment of the deposit. From 1953 to 1965, the Geological Survey of Tanzania (GST) undertook mapping, diamond drilling and trenching (17 diamond holes for 1,405m) to assess the Niobium and Phosphate potential of the deposit.

From 1954 to 1963, the MBEXCO joint venture was formed between N. V. Billiton Maatschapij (Billiton) and Colonial Development Corporation, London. MBEXCO drilled 66 diamond holes for 3,708m, excavated numerous pits, sunk two shafts and undertook trial mining and constructed a trial gravity and flotation plant on site. Concentrate from site was sent to Holland for further processing, with positive early metallurgical test-work results noted.

From 1978 to 1980 a Yugoslavian State Enterprise (RUDIS) undertook a joint study in collaboration with the Tanzanian Mining Industrial Association and State Mining Corporation (STAMICO). This work included mapping, diamond drilling and pitting (13 diamond holes for 1,306m) to test the Niobium endowment of the deposit. Detailed reports have been secured from this program.

Panda Hill Niobium Resource

The 2012 resource was undertaken by Coffey Mining in Perth in July 2012 (Table 3). The Coffey Inferred Resource targeted carbonatite mineralisation and the mineralised fenite and surficial weathered material was not directly targeted. The resource estimate was based upon grade and lithological information derived from 96 historical diamond holes which was initially reviewed and validated by Verona Capital in 2012. The resource was constrained within a 3D wireframe based upon a nominal 0.2% Nb₂O₅ lower cutoff. Ordinary Kriging was used to estimate Nb₂O₅ using 2m down-hole composites with a 2.5% Nb₂O₅ upper cut applied.

Table 3 - Panda Hill Inferred Mineral Resource, 03 July 2012* (Preferred cut-off 0.3% Nb₂O₅)

Lower Cut-off (Nb ₂ O ₅ %)	Tonnage (Mt)	Grade (Nb ₂ O ₅ %)	Contained Mineral (Nb ₂ O ₅ tonnes)
0.2	72	0.45	322,000
0.3	56	0.50	280,000
0.4	38	0.58	220,000

Note: Figures have been rounded. Reported using a Dry Bulk density of 2.75t/m³ and a 2.5% Nb₂O₅ top cut. Ordinary Kriged Estimate with a 25mX by 25mY by 5mZ block size

*The Competent Person for the resource estimation and classification is Ms Ellen Maidens who is a full time employee of Coffey Mining. The Competent person for the resource database is Mr Neil Inwood, who is a full time employee of Verona Capital. Both Ms Maidens and Mr Inwood are members of the AIG and have sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which was undertaken to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. The detailed JORC Competent Persons statement is located below.

Geology of Panda Hill Complex

The Panda Hill carbonatite is a mid-Cretaceous volcanic intrusion which has intruded into gneisses and amphibolites of the NE-SE trending mobile belt. It forms a steeply dipping, near-circular plug of approximately 1.5 km diameter and is partly covered by fenitised and weathered country rocks and residual soil material. The Fenite and weathered material forms a "cap" or roof over the south of the carbonatite complex, and is partially overlain by residual and transported soils. Volcanic ash over part of the complex suggests a later stage of volcanic activity. It is apparent that portions of fenite, ash and soil cover are underlain by carbonatite and these areas are only lightly explored.

In the main exposed portion of the carbonatite historical workers suggested three stages of carbonatite activity outwards from the center of the plug. An early-stage calcite carbonatite forms the core, while intermediate and late-stage carbonatites, composed of more magnesian-rich and iron-rich carbonates, form the outer parts of the plug. Later stage apatite-magnetite rich rocks and ferro-carbonatite dykes are also found in the complex. Fenitisation of the pre-existing gneisses led to the development of potassium-rich rocks containing K-feldspar and phlogopite.

Mineralogy

The Sovite carbonatite from Panda Hill is composed mainly of calcite, which forms an average of 60-75% by volume. The fresh Sovite carbonatite may contain up to 5% Apatite, with pyrochlore, magnetite, phlogopite and quartz. Dolomite-rich carbonate (Rauhaugite) and ankerite/siderite-rich carbonatites (Beforesite) are also present and can be mineralised.

Mineralisation

The bulk of the Panda Hill niobium mineralisation is found within pyrochlore and lesser columbite. The bulk of the known mineralisation is within carbonatite, with Nb₂O₅ grades typically ranging from 0.1% to 1%. Higher-grade material is noted within flow-banding (schlieren) within the carbonatite. The weathered cap material is noted to contain elevated grades of up to 2% Nb₂O₅.

Competent Person's Statement

The information in this document that relates to Exploration Results 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 is a full time employee of Verona. 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 2004 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 competent person for the JORC Resource estimate and classification is Ms Ellen Maidens who is a Member of the Australian Institute of Geoscientists. Ms Maidens is a full time employee of Coffey Mining and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which she is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Ms Maidens consents to the inclusion in this document of the matters based on her information in the form and context in which it appears.

By order of the Board

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")

31 DECEMBER 2013

Consolidated statement of cash flows

		Current Quarter \$A'000	Year to Date (6 months) \$A'000
Cash flows related to operating activities			
1.1	Receipts from product sales and related debtors	-	-
1.2	Payments for (a) exploration & evaluation	(833)	(1,465)
	(b) development	-	-
	(c) production	-	-
	(d) administration	(224)	(491)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	6	53
1.5	Interest and other costs of finance paid	(1)	(1)
1.6	Income taxes paid	-	-
1.7	Other (provide details if material)	-	-
	Net Operating Cash Flows	(1,052)	(1,904)
Cash flows related to investing activities			
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 (cash acquired through business combination)	-	92
	Net investing cash flows	-	92
1.13	Total operating and investing cash flows (carried forward)	(1,052)	(1,812)

1.13	Total operating and investing cash flows (brought forward)	(1,052)	(1,812)
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	100	2,360
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)	-	(206)
	Net financing cash flows	100	2,154
	Net increase (decrease) in cash held	(952)	342
1.20	Cash at beginning of quarter/year	1,705	412
1.21	Exchange rate adjustments to item 1.20	1	-
1.22	Cash at end of quarter	754	754

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	15
1.24	Aggregate amount of loans to the parties included in item 1.10	-

1.25 Explanation necessary for an understanding of the transactions.

Directors salaries and 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

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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

Nil

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	251
4.2 Development	-
4.3 Production	-
4.4 Administration	178
Total	429

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	754	1,705
5.2 Deposits at call	-	-
5.3 Bank overdraft	-	-
5.4 Other (provide details)	-	-
Total: cash at end of quarter (item 1.22)	754	1,705

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	Joint Venture	49%	49%
	E08/2142, Western Australia	Wholly owned	100%	100%

6.2	Interests in mining tenements relinquished, reduced or lapsed and their location	N/A	N/A	N/A	N/A
6.3	Interests in mining tenements acquired or increased and their location	N/A	N/A	N/A	N/A
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	Preference *securities			
	<i>(description)</i>			
7.2	Changes during quarter			
	(a) Increases through issues			
	(b) Decreases through returns of capital, buy-backs, redemptions			
7.3	*Ordinary securities	91,175,017	91,175,017 (including 37,500,000 shares escrowed until 31/7/15)	

7.4 Changes during quarter
(a) Increases through issues

(b) Decreases through returns of capital, buy-backs

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7.5	*Convertible debt securities <i>(description)</i>				
7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7	Options <i>(description and conversion factor)</i>			Exercise Price	Expiry Date
	17,962,506 CXXO	17,962,506 CXXO		\$0.2667	24 Jan 2015
	7,687,500 Unlisted Options	Nil		\$0.2667	31 May 2016
7.8	Issued during quarter	2,000,000 CXXO issued on 13 November 2013	2,000,000 CXXO	\$0.2667	24 Jan 2015
7.9	Exercised during quarter				
7.10	Expired during quarter				
7.11	Debentures <i>(totals only)</i>				
7.12	Unsecured notes <i>(totals only)</i>				

7.13	Performance Shares	18,750,000 Class A 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
		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	Performance Rights	2,625,000 Performance Rights	Nil	Nil exercise price	787,500 expire 30/9/14 1,050,000 expire 30/9/16 787,500 expire 30/9/17

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.



Sign here:

Date: 31 January 2014

SOPHIE RAVEN
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 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.