

29 July 2016

ASX Release ASX Code: CXX

# June 2016 Quarterly Activity Report

#### **Highlights**

- Cradle Definitive Feasibility Study (DFS) announced
- Strategic Board restructuring Ian Middlemas and Robert Behets appointed as non-executive directors
- Capital raising of \$2.76M to sophisticated and strategic investors completed
- Panda Hill maiden Ore Reserve Estimate declared
- Front-end Engineering and Design (FEED) activities have commenced
- Debt financing and negotiation of off-take agreements in progress

#### **Definitive Feasibility Study**

The results of Cradle's DFS on the Panda Hill project were announced on 20 April 2016. The DFS assumes that the Project commences at a throughput of 1.3 million tonnes per annum (Mtpa) and is ramped up to 2.6 Mtpa after four years production, with this ramp up funded by Project cash flows. The total mine life is 30 years with total throughput being 72.4 Mt of ore at a strip ratio of 1.5 to 1.

The estimated initial construction capital cost including pre-production requirements is US\$196M (excluding working capital). Average life of mine operating costs for the process are estimated at US\$21.34/kg Nb including royalties and marketing. Positive financial metrics are generated for the Project with a projected NVP $_8$  (after tax) of US\$542M, a pre-tax IRR of 32%, and a nominal pay-back period of only 4.75 years (from fully funded and inclusive of the expansion capital).

#### **Ore Reserve Estimate**

The maiden Ore Reserve Estimate for the project was announced on the 13 June 2016. The Ore Reserve statement declared 20.6 Mt of Proven and Probable Reserves at an average grade 0.68% Nb<sub>2</sub>O<sub>5</sub>. Importantly, all mill feed within the first 10 years of the planned production schedule are now classified as Ore Reserves. The details concerning the Ore Reserve Estimate are presented in the announcement entitled 'Ore Reserves for Panda Hill Declared' which is available to view on www.cradleresources.com.au.

#### Front End Engineering and Design (FEED)

A comprehensive FEED program was developed and the accounting and cost reporting system finalised. The FEED program was accepted by the Board of Panda Hill Tanzania Ltd (PHT) and a revised FEED budget approved.

The following consultants have been appointed to support the FEED program:

- MDM (Amec Foster Wheeler) FEED Management and detailed engineering design
- Sound Mining Services Mining and Mineral Resource Management activities
- SLR Consulting tailings dam design and water management
- ProProcess Consultants leaching design



• Minopex – plant operation and maintenance

#### Marketing

Marketing and product off-take agreements are being coordinated by the Denham-backed Pangea team out of South Africa.

Marketing and off take discussions are underway with parties across four separate regions. It is anticipated that the off take agreements will be finalized in the next few months subsequent to review by the lenders and the PHT Board.

#### **Financing**

Debt financing for the project is also being coordinated by the Pangea team. The PHT Board approved the budget proposed to obtain the financing for the project.

The PHT Board also approved the appointment of a project debt arranger in respect of senior loans of up to approximately US\$100M. The work has commenced on the process which is to be executed in three phases being (1) the submission of a detailed indicative term sheet, (2) the agreement of a final term sheet, and (3) the application and approval process.

An independent engineer has been appointed to execute the lenders' due diligence. Site visits by the Environmental, Social, Mining and Resource consultants were undertaken at the end of June. Legal and other advisers will be appointed at the appropriate stage.

PHT will continue to work with other potential financiers to develop a fall-back position should the current process not be concluded successfully.

#### **Prison Relocation**

Discussions and meetings continue between PHT and the Ministry of Energy and Minerals and the Tanzanian Prison Services in order to relocate the Songwe Prison.

#### **Technical Activity during the Quarter**

#### **Mining and Engineering Activity**

The work carried out in the quarter focused primarily on the planning and initiation of activities associated with the FEED process. Specifically the following occurred during the period:

#### Engineering

The FEED proposal from MDM has been received and accepted. MDM have identified and mobilized a project manager and dedicated team of processing, engineering and civil staff to work on the project.

Initial activities are focused on the bulk earthworks and civil designs and front end of the plant. A site visit was done to finalise ROM pad layout design, including primary crusher and surface stockpile layouts. Identification of adequate sources for aggregate, sand and cement were also undertaken.

Long lead mechanical equipment tender documents are under review and will be finalized for issuing in the next period.

#### Tailings and Water

The FEED proposal from SLR has been received and accepted. Specifically the following work has been undertaken during the period:

• Feasibility Study TSF optimisation



- Geotechnical foundation site investigation
- Continuation of conceptual TSF layout modelling
- Start of the high level costing of the conceptual TSF layouts
- Discussions with geotechnical laboratories with respect to samples being delivered to the laboratory
- Inclusion of the TSF supernatant water pool variation over LOM utilising HydroCad in the design of the TSF wall.
- Start of the collapse potential modelling based on the PFS, FS and FEED geotechnical investigational work.
- Start of the modelling of the perched water table and foundation conditions.
- Further discussions with regards to water abstraction from Songwe River and a ground water well field.
- Liaison with MDM with regards to the mine water balance.
- Modelling of a conceptual plant PCD within the allocated MDM area.

#### Mining

Sound Mining Solutions have been engaged to act as the owner's team for the project execution. During the period the geological model was reviewed. Planning has started for the optimisation of the pit as well as the haul road. This will result in a tactical mine plan for implementation as well as for the final mining contractor tender.

#### Mine Site Activities

A site visit was conducted by a surveying company to set out all pillar beacon positions for construction purposes. A total of five beacons were constructed at required positions.

A site visit was arranged for MDM project personnel, to familiarize themselves with the site and to finalise the ROM pad, primary crusher layout and surface stockpile position, identify suitable borrow pit material for terracing construction.

Additional FEED test pits were identified within the TSF and east of the mining lease area to obtain a better understanding of the material across these two areas. A total of twenty test pits were excavated in both areas. In addition, twenty two test pits were excavated in the new prison area for civil design and construction purposes.

The independent engineer visited site as part of the lenders due diligence process and met with the required governmental departments, including Songwe ward and council members.

Site preparation for the water bores was completed. The drilling contractor will mobilize equipment to site after all approval processes have been completed. Six water bores are planned.

#### **Environmental, Social and Community Activities**

Water flow sampling was conducted. All dust sampling has been stopped as the base line has now been determined and this will not be affected until construction commences.

Various community and stakeholder meetings were held during the June quarter, including meetings with the Mbeya National Environmental department, and various Mbeya local government, ward and council representatives so as to continue PHT's social and community involvement.

#### **Corporate Activity during the Quarter**

During the June quarter, the following corporate activity took place:

➤ Following release of the Cradle DFS results on 20 April 2016, of which one of the key financial results demonstrated was an NPV<sub>10</sub> (post-tax) of US\$404M, 18,750,000 Class B Performance Shares and 1,050,000 Performance Rights were converted into ordinary shares.



- On 6 May 2016, Cradle agreed to issue 750,000 unlisted options exercisable at 25 cents each on or before 31 October 2018 for part remuneration of services.
- ➤ Ian Middlemas and Robert Behets joined the Cradle board as Non-Executive Directors, bringing extensive skills and experience to the Board, and James Kelly moved from being a Non-Executive Director to an Executive Director. As part of the Board restructure, Evan Cranston and Didier Murcia stepped down from the Board.
- The Company completed a capital raising of \$2,160,000 through the issue of 8,000,000 ordinary shares at 27 cents each to sophisticated investors, and further raised an additional \$600,000 through the issue of 2,000,000 ordinary shares at 30 cents each to a strategic investor who will assist the Company with its future international marketing and development capital raising endeavours. As part of the placement terms, the Company agreed to issue at no additional cost 2,000,000 unlisted options exercisable at 30 cents each on or before 30 June 2018. This capital raising ensures that Cradle is sufficiently funded to meet its likely working capital requirements until the Panda Hill project secures expected debt and equity funding and a decision to mine, including the final instalment of consideration owed to the project vendor due to be paid in September 2016 (Cradle's 50% share is US\$1.5M).

#### **Tenement Summary**

As at 30 June 2016, Panda Hill Tanzania Ltd, the joint venture company owned 50% by Cradle and 50% by Tremont Investments Limited, held the following interests in tenements:

Project	Tenement Number	Percentage Interest	
Panda Hill Niobium, Tanzania	ML237/2006	100%	
Panda Hill Niobium, Tanzania	ML238/2006	100%	
Panda Hill Niobium, Tanzania	ML239/2006	100%	

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

The Panda Hill Niobium Project (Figure 2) 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 and has recently completed the construction of a new international airport.



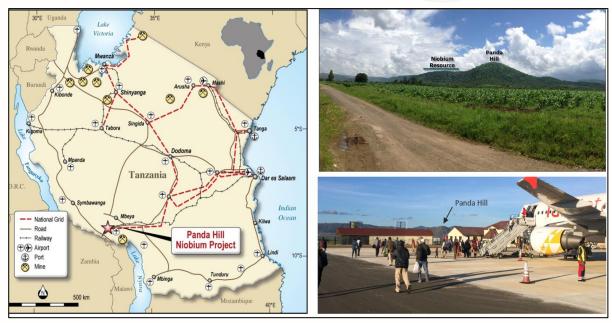


Figure 2: Location of the Panda Hill Niobium Project

The Project is covered by three granted Mining Licences (Figure 3) totalling 22.1km², which will enable a quick transition from the study and development phases, through construction and into operation. The area has excellent access to infrastructure, with existing roads, rail, airports and power available in close proximity. The three granted Mining Licenses were all renewed in the December 2015 quarter for a further 10 year period (valid until November 2026).

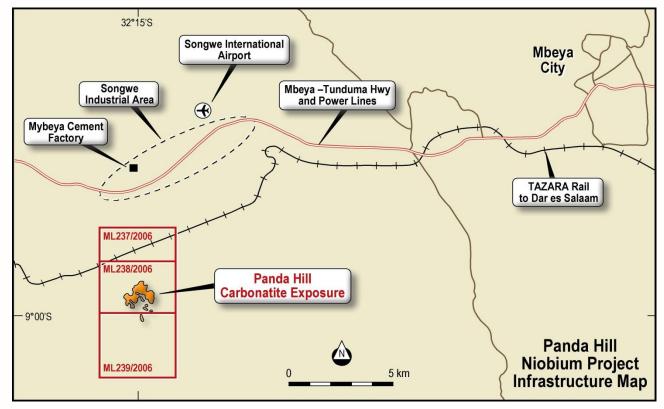


Figure 3: Mining Licences and Local Infrastructure



#### **Competent Person's Statement**

The information in this document relating to the Panda Hill Mineral Ore Reserve is extracted from the announcement entitled 'ORE RESERVES FOR PANDA HILL DECLARED" dated 12 June 2016 and is available to view on www.cradleresources.com.au. The information in this document relating to the Panda Hill Definitive Feasibility Study is extracted from the announcement entitled 'DEFINITIVE FEASIBILITY STUDY ON PANDA HILL" dated 20 April 2016 and is available to view on WWW.Cradleresources.com.au. The information in this document relating to the Panda Hill Mineral Resources is extracted from the announcement entitled 'Significant Resource Upgrade for Panda Hill Niobium Project' dated 30 April 2015 and is available to view on www.cradleresources.com.au. 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 that, in the case of Mineral Resources or Ore Reserves, all the 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.

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.

CRADLE RESOURCES LIMITED				
Quarter Ended ("Current Quarter")				
30 June 2016				

# Consolidated statement of cash flows

		Current Quarter	Year to Date
Cash flows related to operating activities		\$A'000	(12 months)
			\$A'000
1.1	Receipts from product sales and related debtors		
1.2	Payments for (a) exploration & evaluation	(68)	(1,670)
	(b) development	-	-
-	(c) production	-	-
	(d) administration	(573)	(1,296)
1.3	Dividends received	-	-
1.4	Interest and other items of a similar nature received	2	10
1.5	Interest and other costs of finance paid	-	-
1.6	Income taxes paid	-	-
1.7	Other:		
	(a) reclaim of exploration and evaluation costs	102	2,708
	(b) refund of research and development rebate	534	1,155
	Net Operating Cash Flows	(3)	907
	Cook flours valeted to investing activities		
1.0	Cash flows related to investing activities		
1.8	Payment for purchases of: (a) prospects	-	-
	(b) equity investments	-	-
1.0	(c) other fixed assets	-	-
1.9	Proceeds from sale of: (a) prospects	-	-
	(b) equity investments (c) other fixed assets	-	-
1.10	` '	- (FO)	(200)
-	Loans to other entities for project costs  Loans repaid by other entities	(50)	(398)
1.11	•	15	-
1.12	Other: Monies held for onsite cash spend	15	8
	Net investing cash flows	(35)	(390)
1.13	Total operating and investing cash flows (carried		
	forward)	(38)	517



1.13	Total operating and investing cash flows (brought		
	forward)	(38)	517
	Cash flows related to financing activities		
1.14	Proceeds from issues of shares, options, etc.	2,760	2,760
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)	(78)	(85)
	Net financing cash flows	2,682	2,675
	Net (decrease) increase in cash held	2,644	3,192
1.20	Cash at beginning of quarter/year	2,865	2,351
1.21	Exchange rate adjustments to item 1.20	62	28
1.22	Cash at end of quarter	5,571	5,571

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 Aggre	ate amount of payments to the parties included in item 1.2
1.24 Aggre	ate 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 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

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



# 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	(274)
	Total	(274)

#### **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	5,571	2,865
5.2	Deposits at call	-	-/
5.3	Bank overdraft	-	-
5.4	Other (provide details)	•	-
	Cash at end of quarter (item 1.22)	5,571	2,865



# 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		50% 50% 50%	50% 50% 50%
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	ML237/2006, Tanzania ML238/2006, Tanzania ML239/2006, Tanzania		50% 50% 50%	50% 50% 50%
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 farmin 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 (description)				
7.2	Changes during quarter (a) Increases through issues (b) Decreases through returns of capital, buy- backs, redemptions				
7.3	<sup>+</sup> Ordinary securities	164,727,617	164,727,617		
7.4	Changes during quarter (a) Increases through	8,000,000	8,000,000	\$0.27 per share	\$0.27 per share
	issues	2,000,000	2,000,000	\$0.30 per share	\$0.30 per share
		1,050,000	1,050,000	Conversion of 1,050,000 Performance Rights on satisfaction of relevant milestone	Nil
		18,750,000	18,750,000	Conversion of Class B Performance Shares (issued as part consideration for the acquisition of the issued share capital of Panda Hill Mining Pty Ltd) on satisfaction of relevant milestone	Nil
	<ul><li>(b) Decreases through returns of capital, buy- backs</li></ul>				
7.5	*Convertible debt securities (description)				



7.6	Changes during quarter (a) Increases through issues (b) Decreases through securities matured, converted				
7.7	Options (description			Exercise Price	Expiry Date
	and conversion factor)	3,250,000 Unlisted Options	Nil	\$0.25	31 October 2018
		1,000,000 Unlisted Options	Nil	\$0.25	30 April 2018
7.8	Issued during quarter	2,000,000 Unlisted Options	Nil	\$0.30	30 April 2018
		750,000 Unlisted Options	Nil	\$0.25	31 October 2018
7.9	Exercised during quarter				
7.10	Expired during quarter	7,687,500 Unlisted Options	Nil	\$0.2667	31 May 2016
7.11	<b>Debentures</b> (totals only)				
7.12	Unsecured notes (totals only)				
7.13	Performance Shares				
7.14	Performance Rights	787,500 Performance Rights	Nil	Nil exercise price Nil exercise price; converted on satisfaction of relevant milestone	30 September 2017 30 September 2016
	(a) Converted to ordinary shares during the quarter	1,050,000	1,050,000 quoted on conversion to ordinary shares		



# **Compliance statement**

- 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 Raver

Sign here: Date: 29 July 2016

SOPHIE RAVEN, COMPANY SECRETARY

#### Notes

- 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.
- 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.
- 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.
- The definitions in, and provisions of, AASB 1022: Accounting for Extractive Industries and AASB 1026: Statement of Cash Flows applies to this report.
- 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.