

31 October 2016

ASX Release

ASX Code: CXX

September 2016 Quarterly Activity Report

Highlights

- **Front-end Engineering and Design (FEED) activities progressing on schedule and budget**
- **Bulk earthworks enquiry documentation issued**
- **Mechanical equipment tender submission received**
- **Mining tender information pack issued**
- **HR consultant appointed to assist with the preparation of the HR manual and HR plan**
- **Debt financing draft term sheet received**
- **Offtake negotiations progressing with a number of parties**

Front End Engineering and Design (FEED)

The FEED program has progressed well over the reporting period and is on track for completion at the end of October. The main outcomes from the work carried out by the various consultants are as follows:

- Completion of mining pit and haul road optimization work and production schedules
- The mining tender information pack was issued to potential mining contractors
- The bulk earthworks enquiry (including the tailings storage facility (TSF) requirement) was issued to the approved tenderers for pricing
- Completion of the construction camp requirements and issued for tender purposes
- Issuing of all mechanical equipment tender packages and submissions received
- Completion of the southern TSF design and related bill of quantities, infrastructure modelling, including phasing of the TSF walls and tailings deposition
- Revision of the storm water management strategy based on new layouts and phasing of layouts
- The business risk register was finalised and issued for comment
- Hazard and operability study 3 (HAZOP 3) has been scheduled for October
- A human resources (HR) consultant was appointed to assist with the preparation of the HR manual and HR plan

Marketing

Panda Hill Tanzania (PHT) is in the process of securing marketing and product off-take agreements.

Discussions are continuing with several parties covering various regions and are well progressed. It is anticipated that marketing and off take agreements will be finalized in the next few months following approval by the PHT and Cradle Boards.

Financing

The debt financing process for the project is progressing well, with essential workstreams advancing during the quarter:

- Independent Engineer (IE) engaged by the project debt arranger. The IE has substantially completed its review with no material issues identified;
- Independent marketing consultant (Roskill Consulting) engaged and delivered its report on the niobium market;
- Visit to the project site in Tanzania attended by the debt arranger together with representatives from the IE team and PHT;
- Debt financing Draft term sheet received.

PHT and the project debt arranger are targeting credit committee approval for the project finance facility by the end of 2016/early 2017 which will be subject to various conditions precedent typical for a project finance facility.

Prison Relocation

The mine surface layout has been redesigned so that the irrigation canal remains installed in such a manner that the water continues to gravitate to the farm fields.

Technical Activity during the Quarter

Mining and Engineering Activity

The work carried out in the quarter focused on the progress of the activities defined in the FEED scope. Specifically the following occurred during the period:

Engineering

The bulk earthworks enquiries were updated with revised civils, tailings storage quantities and mine access road requirements. The bulk earthworks enquiry was issued to the approved tenderers for pricing and an initial tender clarification meeting was held immediately after issuing the tender document.

Mechanical tenders were also finalised and all tender submissions were received from the various OEM equipment suppliers and are currently under tender adjudication review.

The process team continued with the leaching section review comprising safety, operability and materials of construction. Expert advice was also received on critical reagents makeup and storage requirements. Site visits were arranged to suppliers and customers to get a better understanding of the make-up of hydrofluoric (HF) and caustic. The project team reviewed the make-up, handling and storage of HF and caustic soda as well as materials of construction required.

Updating of all the process flow diagrams (PFDs) and piping and instrumentation drawings (P&IDs) are complete and are currently under review.

The plant layout has been optimised, namely

- Run of mine (ROM) pad position,
- Positioning the stockpile, laboratory, pollution control dam
- Reagent review for storage and handling
- Rearranged leach and thickener area to accommodate process changes
- Repositioning the heavy fuel oil (HFO) fuel storage facilities and power generation plant

The total mine power load schedule has been updated, including the bill of quantities, mine electrical reticulation and single line diagrams. The mine energy efficiency report will be issued in October 2016, for review.

The site test pits were visited together with the Geotechnical Engineer from SLR Consultants and it was identified as a suitable source for G5/G6 material and in sufficient quantity.

A furnace consultant was appointed and their assessment study completed. Both AC and DC furnace technologies were identified as appropriate technology. The furnace consultant finalised the furnace tender document which was issued to all suppliers in September.

An AMEC Foster Wheeler facilitator has been appointed to carry out the HAZOP 3.

Tailings and Water

- Completion of the southern TSF design and related bill of quantities, infrastructure modelling, including phasing of the TSF walls and tailings deposition
- Completion of the modelling of the TSF basin walls and reclaim dams
- Assessment of
 - Borrow material
 - Thickness of topsoil for removal, including contouring of thickness and preparation of cross sections
 - Perched water and influence on construction, including contouring of levels and preparation of cross sections
 - Depth of foundation preparation along the centre line of the northern and southern starter walls, including preparation of cross sections
- Completion of VADOSE models to determine the effect of a compacted soil liner versus no liner within the TSF basin within and outside the pool areas
- Completion of the permit approval submission document for Lake Rukwa Basin office for the extraction of water from the Songwe River. MTL is co-ordinating the application process
- The geotechnical foundation site investigation including the following areas:
 - Additional test pits within current feasibility study TSF area to include the southern TSF wall
 - East of the mining lease boundary
 - Proposed prison
 - Potential sand and gravel supply areas
- Undertaking several scenarios for the water balance by; assuming smaller return dam and storm water dams, having only one return water dam with possible ground water input, and possible input of water from the Songwe River
- Revision of the site wide water balance
- Revision of the storm water management strategy based on new layouts and phasing of layouts
- Determination of process plant pumping from water dams (raw water dam, storm water dam, pollution control dam) strategy for the water balance
- SLR ground water drilling site supervision (2 drill holes drilled by 30th September 2016)
- Generation of the application letter to National Environmental Management Council of Tanzania (NEMC) and the Commissioner of Mines for approval of the phasing of the TSF
- Tender enquiry meetings and support activities in conjunction with PHT

Mining

- Sound Mining Solutions (SMS) has completed all the pit design work for phase 1. The strategic mining schedule was also completed utilizing net present value (NPV) scheduler software, showing the production profile for life of mine
- SMS completed a cut-off grade optimization process similar to linear programming and the results from the study were imported to the mine scheduling software and confirmed by achieving the highest NPV from the production scheduler
- SMS has completed the revised mining medium term schedule of pit depletion, based on the revised higher ROM grades during the payback period, in order to maintain the correct project debt ratios

- Following the medium term schedule of pit depletion, SMS re-designed the interim ore stockpile, intermediate stockpile, low grade ore stockpile, low grade stockpile, and waste rock dump, waste rock dump, for maximum capacity. All three dumps were scheduled for both scenarios
- The design of hauling roads to the WRD, ISP and LSP were finalised. The design of the access road for opening pushbacks 1 and 2 was also finalised and cut and fill volumes for all designed roads were evaluated
- Sound Mining also provided a block model showing the block by block mining sequence to be utilised for the ROM stockpile and plant simulation studies
- The haulage routes for each pushback for the four (4) dump destinations were modelled and imported to haulage simulation software (TALPAC). Material handling was simulated assuming the use of 40t articulated dump trucks. The results of haulage simulation were used to estimate the truck complement
- The mine depletion schedules for a five (5) year mining contract was detailed. The schedules were documented in the mining tender information pack which was issued to mining contractors on 27 September 2016
- Topsoil volume and clear and grub area for ISP, LSP, access roads and pushbacks were estimated and scheduled based on the 5 year mining schedule for tendering purpose
- Design details such as: bench geometry, haul road details, pushbacks layout, production calendar and general layout of mine were prepared and included in the tender documentation

Mine Site Activities

- Completed the study of the re-routing of the prison overhead power line and received the various contractor tender documents
- Completed the surface irrigation canal global positioning system (GPS) co-ordinate exercise and passed all information to both MDM and SLR
- Prepared six (6) water borehole sites for the wellfield drilling contractor
- Various technical mine site visits in order to finalise the tender document and pricing to re-route the existing prison and potable water pump station overhead power lines from the proposed TSF and ROM pad sites
- Hosted and accompanied various delegations to visit site for FEED tender purposes. All site queries were managed by MDM through clarification meetings.

Environmental, Social and Community Activities

A major community initiative by PHT was concluded in July 2016 when 402 secondary and primary school desks were delivered to the nominated Songwe village schools. The manufacturing of the school desks was undertaken by local Songwe district carpenters. On completion of the school desks, an invitation was extended to the Mbeya Regional Commissioner, Hon Amos G Makalla and his Regional and district government Representatives consisting of the newly appointed District Commissioner, District Executive Director, Regional and Rural Administrative Secretaries, Songwe Parliamentary, council and ward representatives, PHT management and local press reporters to attend the handing over ceremony which was held on 5th July 2016.

A meeting was held with local Songwe chiefs at Idiga Kasale in order to discuss the impact of the mine on the tribe's cultural sites and customs resulting in a suitable agreement being reached on these matters.

Bi-weekly water flow sampling of the Songwe River continues for the environmental baseline assessment.

PHT continued with the various community and stakeholder liaison meetings during the period.

Corporate Activity during the Quarter

During the September quarter, Ian Middlemas stepped up from being a Non-Executive Director to Chairman of the Board, with Craig Burton continuing on as a Non-Executive Director.

Tenement Summary

As at 30 September 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 1) is located in the Mbeya region in south western Tanzania approximately 680km west of the capital Dar es Salaam. The industrial city of Mbeya is situated only 26km from the project area and has a population of approximately 280,000 people. The Project is located near the main highway to the capital Dar es Salaam and in close proximity to the Songwe Airport which has regular domestic flights from Dar es Salaam and plans for regional expansion.

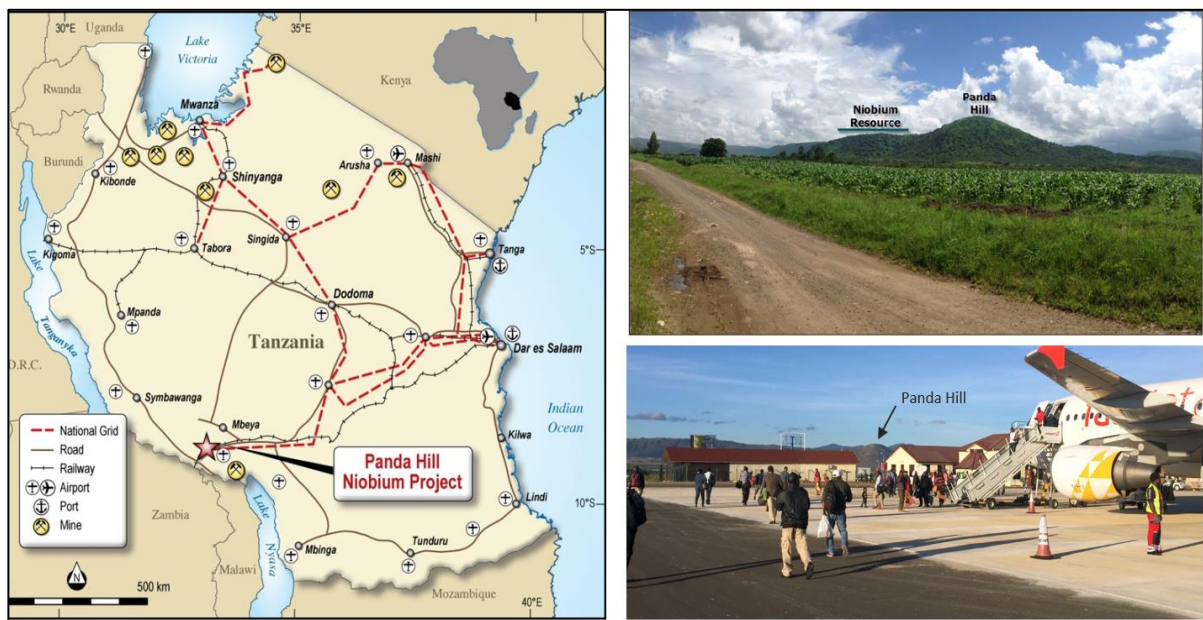


Figure 1: Location of the Panda Hill Niobium Project

The Project is covered by three granted Mining Licences (Figure 2) 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 Licences were all renewed in the December 2015 quarter for a further 10 year period (valid until November 2026).

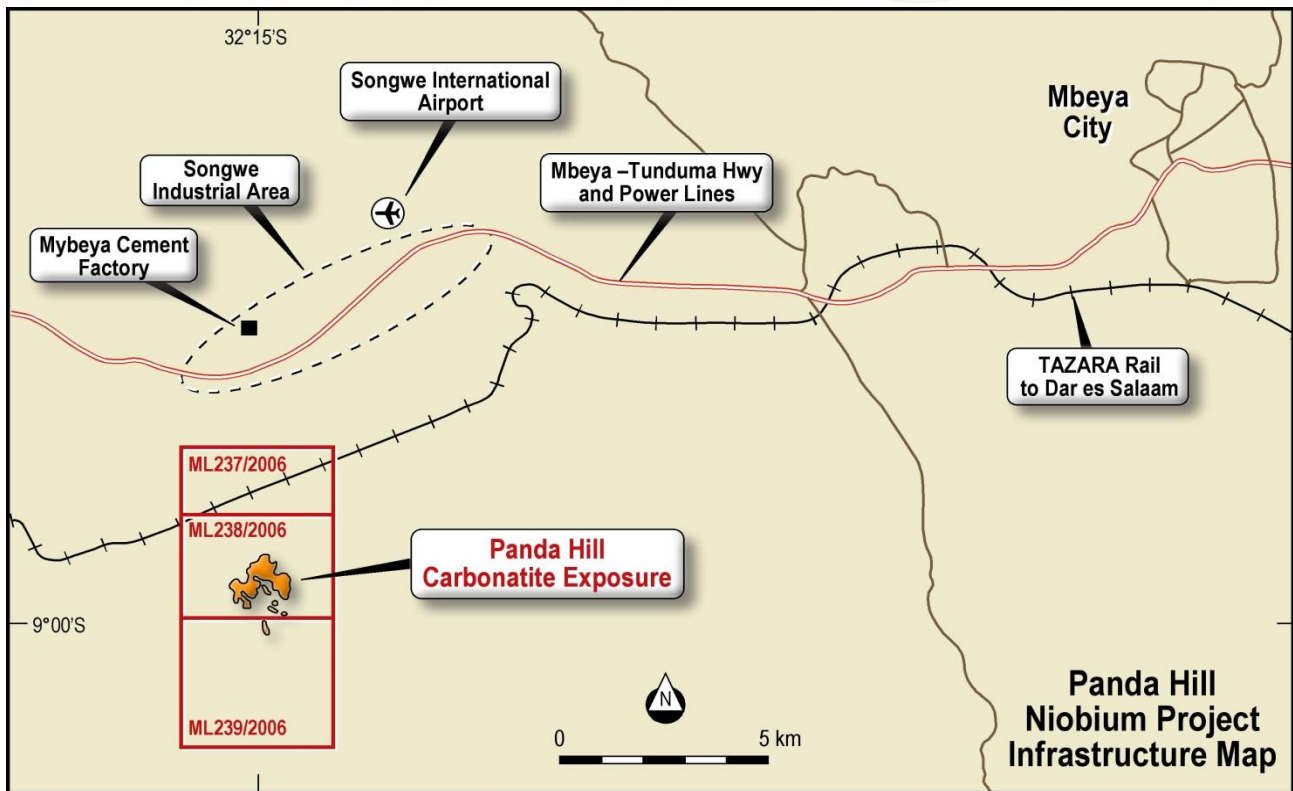


Figure 2: Mining Licences and Local Infrastructure

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 and oil and gas 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, 01/05/13, 01/09/16

Name of entity

CRADLE RESOURCES LIMITED (ASX CODE: CXX)

ABN

60 149 637 016

Quarter ended ("current quarter")

30 September 2016

Consolidated statement of cash flows	Current quarter \$A'000	Year to date (3 months) \$A'000
1. Cash flows from operating activities		
1.1 Receipts from customers		
1.2 Payments for		
(a) exploration & evaluation	(1,996)	(1,996)
(b) development	-	-
(c) production	-	-
(d) staff costs	-	-
(e) administration and corporate costs	(368)	(368)
1.3 Dividends received (see note 3)	-	-
1.4 Interest received	8	8
1.5 Interest and other costs of finance paid	-	-
1.6 Income taxes paid	-	-
1.7 Research and development refunds	-	-
1.8 Other (reclaim of exploration & evaluation costs)	69	69
1.9 Net cash from / (used in) operating activities	(2,287)	(2,287)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.2	Proceeds from the disposal of:		
	(a) property, plant and equipment	-	-
	(b) tenements (see item 10)	-	-
	(c) investments	-	-
	(d) other non-current assets	-	-
2.3	Cash flows from loans to other entities	(38)	(38)
2.4	Dividends received (see note 3)	-	-
2.5	Other (provide details if material)	-	-
2.6	Net cash from / (used in) investing activities	(38)	(38)
3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	-	-
3.2	Proceeds from issue of convertible notes	-	-
3.3	Proceeds from exercise of share options	-	-
3.4	Transaction costs related to issues of shares, convertible notes or options	(38)	(38)
3.5	Proceeds from borrowings	-	-
3.6	Repayment of borrowings	-	-
3.7	Transaction costs related to loans and borrowings	-	-
3.8	Dividends paid	-	-
3.9	Other (Monies held for onsite cash spend)	(13)	(13)
3.10	Net cash from / (used in) financing activities	(51)	(51)

Consolidated statement of cash flows		Current quarter \$A'000	Year to date (3 months) \$A'000
4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	5,571	5,571
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(2,287)	(2,287)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	(38)	(38)
4.4	Net cash from / (used in) financing activities (item 3.10 above)	(51)	(51)
4.5	Effect of movement in exchange rates on cash held	(55)	(55)
4.6	Cash and cash equivalents at end of period	3,140	3,140

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	3,140	5,571
5.2	Call deposits	-	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	3,140	5,571

6. Payments to directors of the entity and their associates

- 6.1 Aggregate amount of payments to these parties included in item 1.2
- 6.2 Aggregate amount of cash flow from loans to these parties included in item 2.3
- 6.3 Include below any explanation necessary to understand the transactions included in items 6.1 and 6.2

Current quarter \$A'000
115
-

Directors' fees and corporate administrative reimbursements

**Appendix 5B
Mining exploration entity and
Oil and gas exploration entity
Quarterly report**



7. Payments to related entities of the entity and their associates	Current quarter \$A'000
7.1 Aggregate amount of payments to these parties included in item 1.2	2
7.2 Aggregate amount of cash flow from loans to these parties included in item 2.3	-
7.3 Include below any explanation necessary to understand the transactions included in items 7.1 and 7.2	

Corporate travel reimbursement

8. Financing facilities available <i>Add notes as necessary for an understanding of the position</i>	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000
8.1 Loan facilities	-	-
8.2 Credit standby arrangements	-	-
8.3 Other (please specify)	-	-
8.4 Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.		

NIL

9. Estimated cash outflows for next quarter	\$A'000
9.1 Exploration and evaluation	(363)
9.2 Development	-
9.3 Production	-
9.4 Staff costs	(21)
9.5 Administration and corporate costs	(175)
9.6 Other (provide details if material)	-
9.7 Total estimated cash outflows	(559)

**Appendix 5B
Mining exploration entity and
Oil and gas exploration entity
Quarterly report**



10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced				
10.2	Interests in mining tenements and petroleum tenements acquired or increased				

Compliance statement

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sophie Raven

Sign here:
(Company Secretary)

Date: 31 October 2016

Print name: Sophie Raven

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 that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, 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. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.