

12 August 2014

ASX Release

ASX Code: CXX, CXXO

PRE-FEASIBILITY PROGRAM UPDATE FOR THE PANDA HILL NIOBIUM PROJECT

Highlights

- The drilling program will be completed ahead of schedule
- Carbonatite extensions mapped 150m north of existing resource outline
- Metallurgical test work on schedule
- Opex and Capex optimisation opportunities have been identified
- Possible halving of power costs (12ckW/h) due to grid power availability

Cradle Resources Limited (ASX: CXX, CXXO) is pleased to announce that the 2014 field season at the Panda Hill Niobium Project is progressing well and planned resource drilling is expected to be finished earlier than expected. The PFS study commenced with a site visit attended by management and all consultants in early August 2014. Work done to date and site discussions identified several areas where Opex and Capex costs could be optimised, particularly for reagent costs, power, mining and infrastructure.

Project General

A project kick-off meeting and site visit with the various consultants was held during the week of the 28 July to 1 August 2014. The focus of the meeting was to align all the consultants with respect to scope, budget and schedule and ensure no gaps existed in the program. This initial meeting was held at the engineering consultants' offices (MDM Engineering) in Johannesburg after which the key people from each discipline visited site where they familiarised themselves with the key issues and identified areas of project opportunity.

The timeline with progress to date for the Pre-feasibility Study is shown in Table 1. The Project study is on track for completion in Quarter 1 2015, with the environmental baseline study due for completion in Quarter 2 2015.

Table 1: Pre-feasibility Study Timeline

Proposed PFS Schedule - Panda Hill Niobium Project									
Project Activities	Target End Date	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	Q3 2015	Q4 2015
Prefeasibility Study	February 2015								
Project Planning / Contracting	May 2014								
Drilling Phase 1(indicated)	September 2014								
Drilling Phase 2 (measured)	November 2014								
Mineral Resource Estimate	January 2015								
Metallurgical Testwork	January 2015								
Option Study	November 2014								
Preliminary Mining Study	February 2015								
Preliminary Engineering	November 2014								
Environmental & Social Impact Assessment	July 2015								
Reporting	February 2015								
Definitive Feasibility Study	October 2015								

As a result of the detailed analysis carried out on the results produced in the Scoping Study the following areas were identified by management for special attention:

- Reagent Costs - specifically niobium flotation and ferroniobium production
- Power costs - review option for connecting to national grid
- Mining costs and scheduling of pit – contractor vs. owner operator
- Positioning of major infrastructure – impact on capital costs

Drilling and Exploration Program

The Company planned a drilling program (Figure 1) of 20 diamond holes (2,410m) and 58 RC holes (5,700m) to generate an updated Mineral Resource estimate targeting material for the first 10 years of potential production. The program will be used to upgrade the current JORC resource, obtain further representative samples for metallurgical test work and collecting geotechnical information for use in the mine design studies.

To date 13 diamond holes and 19 RC holes have been completed. It is estimated that the current program will finish by the middle of September 2014, ahead of the original schedule.

Geological logging of the drill holes indicates similar lithologies have been encountered as to those described by previous work done on this deposit. Some holes (e.g. PHDH014 – Figure 2) have intersected interpreted mineralisation over significantly longer intervals than indicated by the historical data. Additionally, a region of banded magnetite-rich carbonatite (Figures 1 and 7) has identified a further 150m north of the current drilling program. The style of outcrop is considered highly prospective and will be targeted in future drilling. Chip samples have been taken and analysis is pending.

Field work has also confirmed the location of 3 adits that were mined into the deposit in the 1960s. The longest of these exploration adits was mined 200m into the base of the hill, collaring in carbonatite (Sovite). This adit is located 300m north-east of our planned drilling and is some 180m vertically lower than our current drilling positions. Efforts are underway to obtain the historical sampling records for these adits.

A helicopter-borne magnetic survey has been commissioned to fly over the exploration area and is expected to start in mid-August. This survey will be used to aid in the interpretation of the flow banding structures which control mineralisation and also to target the presence of niobium-rich magnetite-carbonatite units which were shown to be highly mineralised (up to 3% Nb₂O₅) in the 2013 drilling program.

The details of the current program are summarised in Table 2 and Figure 1. Figures 2 and 3 show examples of cross sections from the current program to the north of the 2013 drill program.

Metallurgical

The phase of the metallurgical test work program currently underway at SGS Lakefield involves:

- Identifying alternative cheaper reagents for flotation process
- Gravity separation as an upgrading step prior to flotation
- Direct flotation of niobium (as opposed to two-stage flotation with gangue rejection in the first stage) to reduce capital costs and potentially operating costs
- Further development of the two-stage flotation process investigated during the Scoping Study initially focused on the fresh material types
- Alternative concentrate cleaning technologies
- Closed-circuit tests (locked cycle tests) to confirm niobium recoveries and concentrate grades. To be done at the end of this phase once the optimal circuits and conditions have been defined
- Mineralogy and comminution data will also be collected for material types not investigated in the previous work.

The work on gravity separation techniques is well advanced with indications that this concept maybe commercially applicable. The flotation test work is currently focused on the oxidised and weathered material types that were only briefly explored during the Scoping Study.

A second phase of work is planned to start in October 2014, which will focus on:

- Further optimisation of the selected process, with specific focus on reagent types and consumptions
- Investigate blending strategies for the various material types

This phase of work will be completed by the end of November 2014.

Mining and Engineering

Mining and geotechnical studies have started with reviews of the work undertaken in 2013 and the finalisation of the detailed programs of work required for the Pre-feasibility Study. Mining activities have started with discussions with contract mining companies based in Tanzania and a site visit by some of these contractors took place earlier this month.

The engineering groups have completed their reviews of the available data and have started developing detailed work packages and identifying key areas to be worked on that can provide significant upside to the Project. One of these areas is power supply and during the site visit held earlier this month discussions were held with the Tanzanian Electricity Supply Company (TANESCO) with regards to options for the Project to connect to the national grid. There is currently excess power available in the area which could potentially reduce power costs from 24c kW/h used in the Scoping Study to around 12c kW/h which is the cost of grid power in this region.

Another area identified during the site visit by the engineering group was site layout and infrastructure location. Optimising this will lead to savings in both capital and operating cost as they relate to ore and waste handling costs, access, mine and plant infrastructure requirements and onsite storage needs.

The activities for the mining, plant and infrastructure groups for the coming period will be focused on preparing the inputs for the process option study.

Environmental

MTL Consulting, a Tanzanian based consulting group, has completed the preparation for the baseline studies that are required for the Environmental and Social Impact Assessment (ESIA). The scope has been based on the Terms of Reference (ToR) documentation approved by the Tanzanian National Environment Management Council (NEMC) late last year. The various teams of specialists required for the dry season baseline study are currently being mobilised to site. This study will be completed by end September with the wet season study starting later this year when the rains arrive. The schedule shows the ESIA work will be completed by June 2015 ready for submission to the NEMC shortly afterwards. Another possible Opex saving was identified by the engineering team by optimising the positioning of key infrastructure to reduce transport and pre waste handling costs.

Grant Davey the Managing Director of Cradle commented: “I am pleased with the project progress to date, which remains on schedule and budget. The engineering team is focussed on optimising the project economics with some significant potential improvements already identified. Drilling and metallurgical test results are expected to be released regularly over the next three months as we progress the Pre-feasibility Study and continue to de-risk this world-class project. ”

Hole ID	Type	Easting	Northing	RL	Depth	Dip	Azimuth
PHDH014	DDH	526,769	9,005,935	1,531	80	-60	45
PHDH015	DDH	526,669	9,005,976	1,541	160	-60	45
PHDH016	DDH	526,777	9,006,076	1,545	102	-60	45
PHDH017	DDH	526,809	9,006,037	1,525	110	-60	45
PHDH018	DDH	526,665	9,005,905	1,525	130	-60	45
PHDH019	DDH	526,873	9,005,897	1,531	108	-60	45
PHDH020	DDH	526,945	9,005,965	1,540	130	-60	45
PHDH021	DDH	526,976	9,005,859	1,549	130	-60	45
PHDH022	DDH	527,007	9,005,747	1,555	131	-60	45
PHDH023	DDH	526,930	9,005,542	1,519	132	-60	45
PHDH024	DDH	527,042	9,005,642	1,547	130	-60	45
PHDH025	DDH	526,861	9,005,617	1,523	150	-60	45
PHDH027	DDH	526,798	9,005,762	1,514	130	-60	45
PHRC001	RC	526,853	9,005,405	1,496	60	-60	45
PHRC002	RC	526,825	9,005,440	1,496	67	-60	45
PHRC003	RC	526,784	9,005,477	1,489	104	-60	45
PHRC004	RC	526,927	9,005,471	1,501	60	-60	45
PHRC005	RC	526,722	9,005,692	1,497	100	-60	45
PHRC006	RC	526,725	9,005,762	1,498	100	-60	45
PHRC007	RC	526,755	9,005,656	1,504	100	-60	45
PHRC008	RC	526,690	9,005,729	1,485	80	-60	45
PHRC009	RC	526,752	9,005,585	1,495	100	-60	45
PHRC011	RC	526,789	9,005,619	1,505	100	-60	45
PHRC012	RC	527,006	9,005,795	1,555	97	-60	48
PHRC013	RC	526,924	9,005,795	1,550	100	-60	62
PHRC014	RC	526,939	9,005,825	1,551	100	-60	45
PHRC015	RC	526,869	9,005,827	1,533	100	-60	45
PHRC016	RC	526,893	9,005,507	1,507	100	-60	45
PHRC017	RC	526,953	9,005,995	1,540	150	-60	60
PHRC018	RC	527,010	9,005,956	1,529	100	-60	45
PHRC019	RC	526,954	9,005,297	1,485	70	-60	45
* All coordinates are in WGS 84 UTM36S							

Table 2 - Panda Hill Drill Hole Coordinates and Orientation

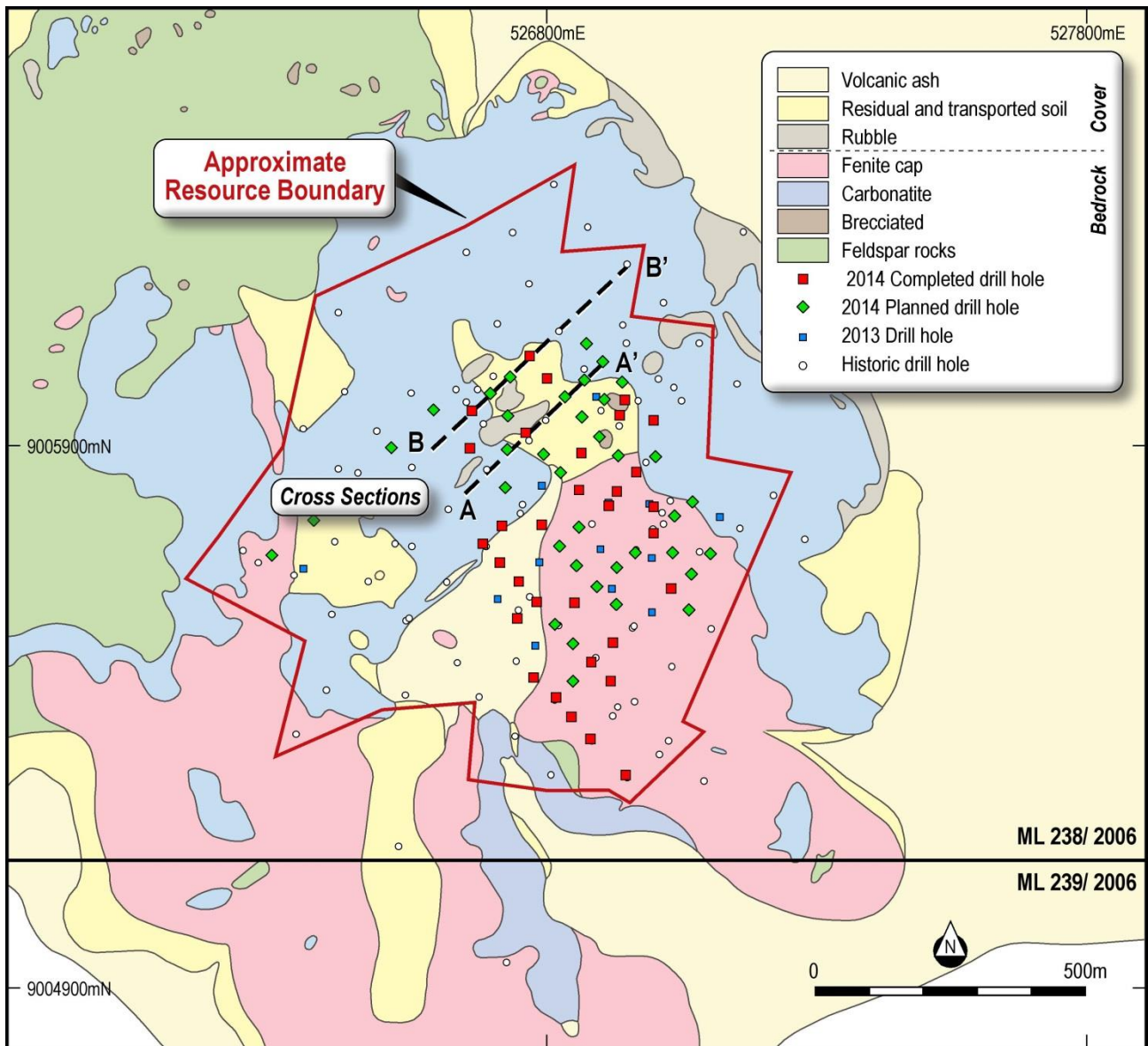


Figure 1: Local Geology of Panda Hill showing approximate boundary of 2013 Resources and the location of the 2014 drilling (squares).

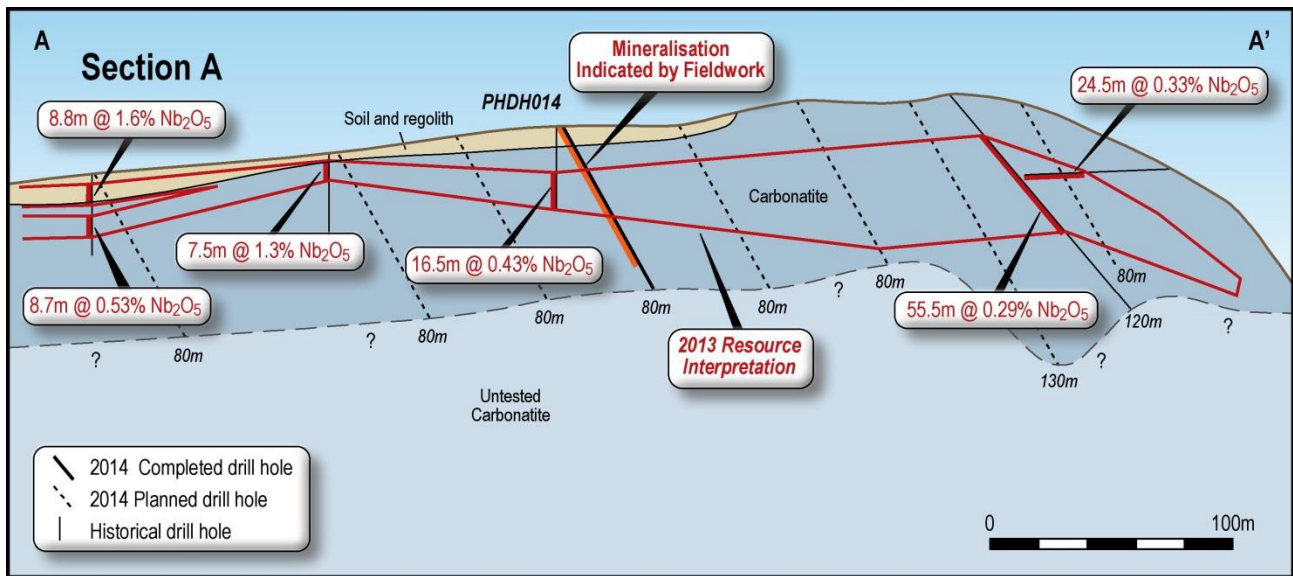


Figure 2: Section A -along PHDH014 with current drill holes (thick black lines), planned drill holes (dashed lines), geological interpretation, 2013 resource outline (red) and historical drilling (thin-black lines) and the average grade of intervals in the 2013 resource update (green lines).

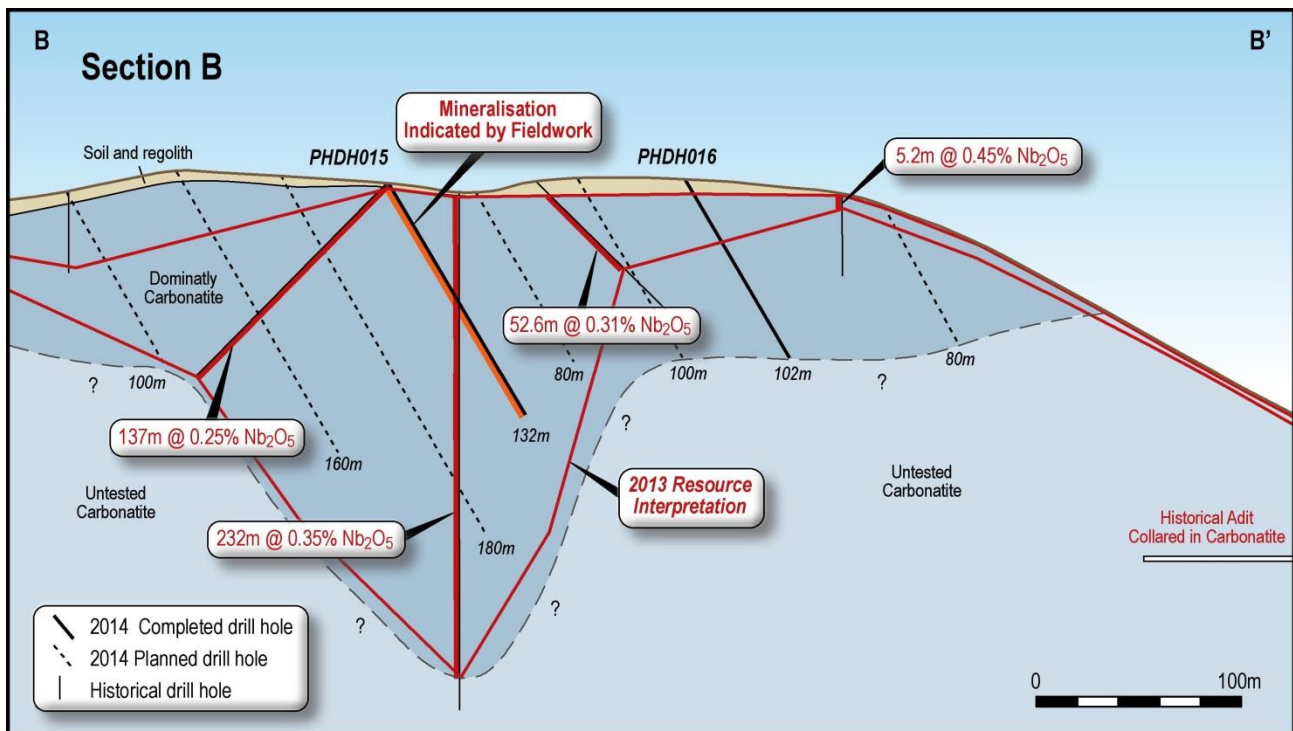


Figure 3: Section B -along PHDH015 with current drill holes (thick black lines), planned drill holes (dashed lines), geological interpretation, 2013 resource outline (red) and historical drilling (thin-black lines) and the average grade of intervals in the 2013 resource update (green lines). Note the extent of underground workings from the 1960s exploration.



Pyrochlore crystals

Figure 4: Drilling hole PHDH017 showing magnetite-rich carbonatite (top) and pyrochlore crystals within flow banding at 64.3m (bottom).



Figure 5: Drilling hole PHRC014 showing good consistent sample recovery.



Figure 6: Core processing on top of Panda Hill.



Figure 7: Exposure of a newly discovered magnetite-banded carbonatite outcrop (marked on map in Figure 1). Outcrop looking north (top left), sample traverse (top right), banded outcrop (bottom). Magnetite banding and flow banding has shown to be mineralized in the past¹.

¹ Although this style of outcrop has proven to be mineralised in the past, the field observation of the banding in sovite should only be treated as an indication of possible niobium mineralisation until such time as field sampling confirms this.

Project Background

The Panda Hill Project (Figure 8) is located in the Mbeya region in south western Tanzania 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 is completing the construction of a new international airport.

The Project is covered by three granted Mining Licenses (Figure 8) totalling 22.1km², and has excellent access to infrastructure, with existing roads, rail, airports and 220kV 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.

The Panda Hill carbonatite intrusion has been subject to multiple phases of exploration work since the 1950s. 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.

Cradle Resources completed a 13 hole (1703m) diamond drilling programme in September 2013. This confirmed historical information and enabled Cradle to produce an updated Indicated and Inferred resources estimate. The initial independent Scoping Study undertaken was supported by a Board decision to progress the Project to a definitive feasibility study level.

Cradle Resources entered into a project funding facility with Tremont through which Tremont is able to acquire 50% of the Project by investing US\$20 million to be used towards the Definitive feasibility study as well as the initial project development costs. Tremont is an African focussed mining platform backed by Denham Capital, a leading energy and resources global private equity firm. Pangea Exploration, advisors to Tremont, is based in South Africa and led by Rob Still. Over the last 25 years Pangea's team of technical and commercial experts have developed in excess of 16 projects in Southern and Eastern Africa at various stages of project de-risking from exploration through to development and operations, in a variety of commodities including gold, vanadium, copper, titanium and coal.

In November 2011 Tremont raised US\$200 million from Denham Capital to establish an African Mining Platform to target a wide range of opportunities in Africa. Denham has over US\$7.9 billion of invested and committed capital in the metals and mining, oil and gas, and power sectors.

Under the Agreement, Tremont has the right to contribute US\$20 million to acquire a 50% interest in the Panda Hill Project, by sole funding of the development expenditure in four stages.

Cradle Resources expects to complete a definitive feasibility study by 3rd Quarter 2015. The Pre-feasibility Study phase is well underway with completion on track for 1st Quarter 2015.

Panda Hill Niobium Resource

The Panda Hill Niobium Project has a global resource of 81.8Mt @ 0.52% Nb₂O₅ (above a 0.3% Nb₂O₅ lower cut-off) (see Table 3). The Resource was last updated in October 2013 by Coffey Mining and is currently the focus of an infill drilling program to increase the endowment of Indicated Resources (currently 3.2Mt @ 0.52% Nb₂O₅). The 2014 field program is expected to produce a resource with a refined lithological and grade model.

The 2013 resource was based upon information from 13 diamond holes drilled by Cradle in 2003 and 96 historical diamond holes. Lithological and niobium grade information derived from the diamond holes were used to define two broad categories of resource type: Weathered Carbonate and Primary Carbonatite. The resource was constrained within a 3D wireframe based upon a nominal 0.2% Nb₂O₅ lower cut off. Ordinary Kriging was used to estimate Nb₂O₅ using 2m down-hole composites with a 2.5% Nb₂O₅ upper cut applied.

Combined Carbonatite			
Classification	Mt	Nb ₂ O ₅ %	Nb ₂ O ₅ Content (kt)
Inferred	76.4	0.51	390
Indicated	5.4	0.62	33
Total	81.8	0.52	423
Weathered Carbonatite (Secondary)			
Classification	Mt	Nb ₂ O ₅ %	Nb ₂ O ₅ Content (kt)
Inferred	8.6	0.81	69
Indicated	2.1	0.77	16
Total	10.7	0.80	86
Primary Carbonatite			
Classification	Mt	Nb ₂ O ₅ %	Nb ₂ O ₅ Content (kt)
Inferred	67.8	0.47	319
Indicated	3.2	0.52	17
Total	71.1	0.47	336

Notes:

- The Panda Hill Project is located in south-western Tanzania, approximated 26km south-west of the town of Mbeya.
- Niobium mineralisation occurs in pyrochlore (and minor columbite) and is hosted by the Panda Hill carbonatite complex.
- The deposit is covered by diamond drill holes on a nominal 100m x 100m NE-SW oriented grid. The majority of the drill holes are vertical, with a small percentage being horizontal, drilled into the side of the hill, and the remaining holes ranging in dip from -45° to -75°. Most of the drilling was carried out in the 1950s and 1970s. Cradle Resources have drilled 13 new diamond drill holes to verify the thickness and tenor of niobium mineralisation in the historic drill holes.
- Validated data from 92 diamond drill holes has been used in the resource estimate.
- Drill-hole data was used to create wireframes of the mineralisation utilising a 0.2% Nb₂O₅ lower cut-off. The mineralisation was divided into a zone of weathered carbonatite material and a zone of primary carbonatite material. The distinction between weathered and primary material was based on drill hole logging data.
- Nb₂O₅ assays obtained from XRF Borate fusion were used in the estimation.
- QAQC consists of the insertion of certified standards and blanks into the sampling stream. A comparison was also conducted between XFR Borate fusion method and ICPMS method for 145 samples. Both methods were done by SGS Johannesburg. There is a very tight correlation between the two methods below 1% Nb₂O₅ (the upper detection limit of the ICPMS method). No potential problems were highlighted by the QAQC and the data is considered to be of sufficient standard for use in the Resource estimation.
- Recent drilling was sampled on a nominal 1m length based on geological units, though samples may be up to 3m in length in consistent non-mineralised material. Historic drilling was also sampled on geological units, with sample intervals commonly being 3 feet (0.9m) or 5m in length. The database contained several drill holes with exceedingly long intervals/one interval assigned to the entire drill hole. These were removed from the database for the Resource estimation. The raw assay data have been composited to 2m intervals for the resource estimate.
- Statistical analyses were completed on the raw sample data and the 2m composite data. A top cut of 2.5% Nb₂O₅ was applied to the weathered carbonatite material and a top cut of 2.0% Nb₂O₅ was applied to the primary carbonatite material.
- Due to the long sample intervals in the historic data, a down hole correlogram was modelled using only the 2013 drill holes to obtain the nugget variance. This was used in conjunction with directional correlograms to create the correlogram model for the primary carbonatite. An omnidirectional model was applied to the weathered zone.
- Grade estimates were generated for parent blocks of size 25m (X) by 25m (Y) by 5m (Z) with sub-blocks of size 5m x 5m x 1m. The estimation method used was Ordinary Kriging (OK).
- In situ dry bulk densities were assigned on the basis of measurements collected from the 2013 drill core using the calliper method. 667 measurements were collected from primary carbonatite material, with a mean value of 2.77 t/m³ and 189 measurements were collected from weathered carbonatite material, with a mean value of 2.24 t/m³. These average values were multiplied by a factor of 96.3% to account for the 3.7% volume of voids/cavities intersected in drilling. The factored bulk density values applied to the primary and weathered zones of the block model are 2.67t/m³ and 2.16t/m³ for primary and weathered material respectively.
- Resource classification was developed from the confidence levels of key criteria including drilling methods, geological understanding and interpretation, sampling, data density and location, grade estimation and quality of the estimates.

Table 3 - In Situ Mineral Resource (October 2013) using Preferred Cut-off (0.3%)

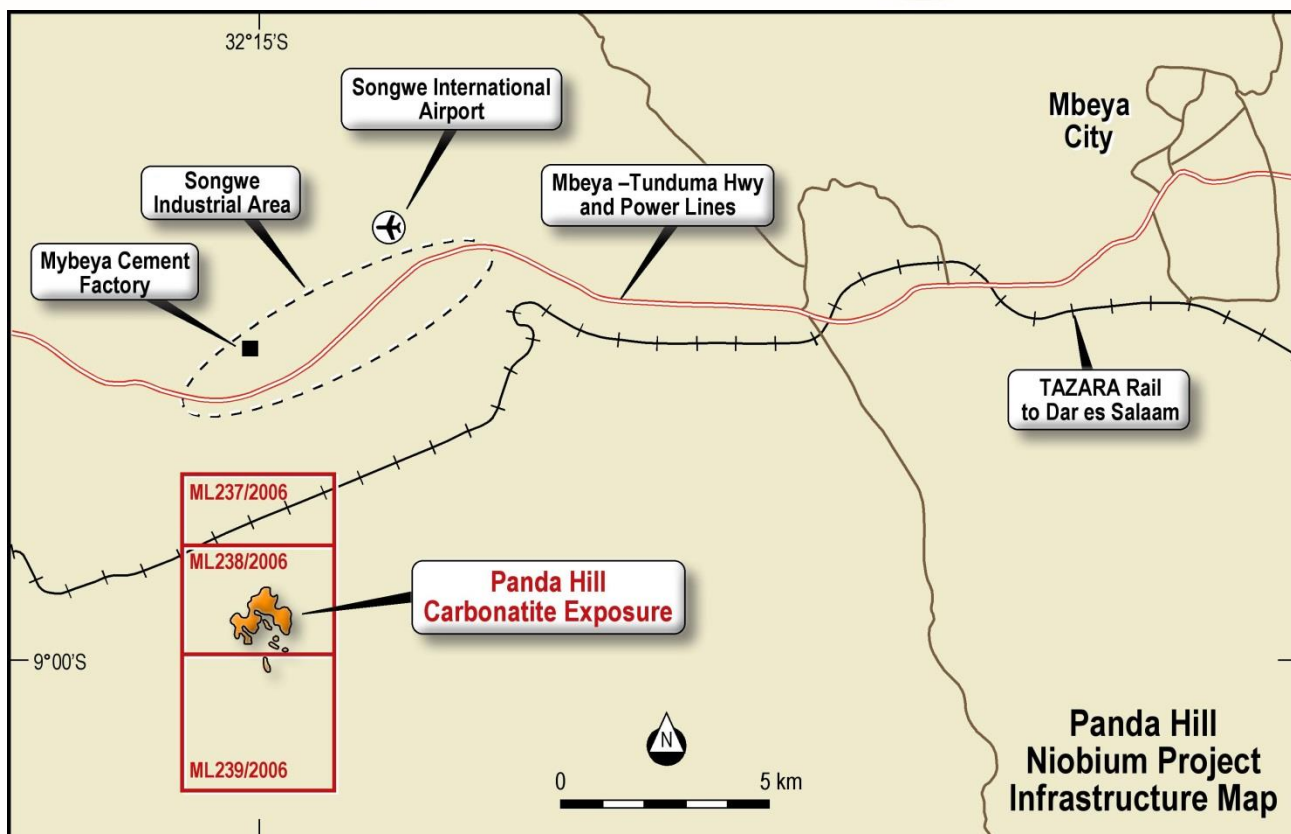


Figure 8: Location of the Project Tenure and Surrounding Infrastructure

By order of the Board

Competent Person's Statement

The information in this document that relates to Exploration Results and 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 is a full time employee of Verona Capital Pty Ltd. 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 information in this document relating to the Panda Hill Resource Estimate is extracted from the announcement entitled 'Substantial Upgrade to Panda Hill Resources' dated 8 November 2013 and is available to view on <http://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 announcement 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 announcement.

The information in this document regarding Scoping Study results is extracted from the announcement entitled 'Panda Hill Project – Highly Positive Scoping Study Results' dated 30 January 2014 and is available to view on <http://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 announcement. The Company confirms that all the material assumptions and technical parameters underpinning the production targets and the forecast financial information derived from the production targets in the Scoping Study continue to apply and have not materially changed.

Cautionary Statement concerning Scoping Study Results including Inferred Resources

The Company advises that the Scoping Study results and production targets reflected in document are preliminary in nature as conclusions are drawn from partly from Indicated Mineral Resources and partly from Inferred Mineral Resources. The Scoping Study is based on lower 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. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

For further information, please visit www.cradleresources.com.au or contact:

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