

## Panda Hill Gaining Size and Appeal

### Investment Highlights

Since our last update, Cradle Resources (CXX) has increased the Niobium resource at its flagship Panda Hill Niobium project in Tanzania (49% owned with a right to acquire the balance) by 50% (by metal) to 81.8Mt at 0.52% Nb<sub>2</sub>O<sub>5</sub> for 423,000t of contained Nb<sub>2</sub>O<sub>5</sub>. This is a solid result with both improved tonnage and grade estimates, based on a 13-hole diamond drilling program. The resource and the metallurgical testwork (expected shortly) will be used in a scoping study due in March 2014. We believe there is good potential based on the new resource for a higher grade starter pit which should enhance the economics of the project. We retain our Speculative Buy rating with a price target of \$0.52/sh.

- Significant Resource Upgrade:** CXX has significantly increased the resource at Panda Hill through drilling a 13-hole diamond drill program. The main area of expansion was at depth in the primary carbonatite and through further drilling of the now identified weathered carbonatite zone which is higher grade than the primary carbonatite (10.7Mt at 0.8% Nb<sub>2</sub>O<sub>5</sub>). Notably, Hole 10 in the program proved that some of the old drilling did not sample the weathered mineralisation properly.
- Targeting higher grades Upfront:** CXX does not suffer from a lack of tonnage with sufficient ore for a +30 year mine life based on the current resource. Therefore, we expect CXX will target higher grades upfront to improve the attractiveness of the project. There is potential for a number of high grade starter pits with more drilling needed to determine the extent of the weathered mineralisation. The weathered zone is likely to yield lower recoveries when compared to the primary carbonatite zone due to the higher clay content which will require desliming. Further Metallurgical testwork is required.
- Further Exploration Upside:** The resource also highlighted the significant exploration potential of the project with upside from a continuation of the primary carbonatite, beyond the current resource. This will likely be drilled in the next round of drilling which is expected following the release of the scoping study in early 2014.
- Niobec Margins Increasing; Indicating Higher Niobium Prices:** Based on the latest quarterly report from IAMGold, its Niobec mine in Quebec Canada achieved a higher operating margin of \$19/kg in the September Q which is above guidance of \$15-17/kg. This implies that niobium prices are potentially increasing, which is positive for the economics of the Panda Hill project.
- Valuation:** Our valuation increases slightly to \$0.52/sh (from \$0.47/sh) due to lower dilution associated with an assumed equity raise to build the project. In addition, we have conducted an upside scenario whereby we have assumed a slightly higher throughput of 2.2-2.4Mt, 10-20% higher grades and slightly lower recoveries due to the processing of the weathered material. This equates to a potential value of \$0.70/sh or \$1,047m (NPV @ 12%).
- Catalysts:** 1) Pit optimisation potentially improves the strip ratio. 2) November/December: Initial results from metallurgical testwork 3) Early 2014 Scoping Study 4) Mid-2014 Second Phase exploration

27 November 2013

12mth Rating

SPEC BUY

Price	A\$	0.23
Target Price	A\$	0.52
12m Total Return	%	135

RIC: CXX.AX

BBG: CXX AU

Shares o/s	m	91.2
Free Float	%	45%
Market Cap.	A\$m	21.0
Net Debt (Cash)	A\$m	-1.7
Net Debt/Equity	%	Na
3m Av. D. T'over	A\$m	
52wk High/Low	A\$	0.32/0.12
2yr adj. beta		

Valuation:

Methodology		DCF
Value per share	A\$	0.52

Analyst:

Rob Brierley

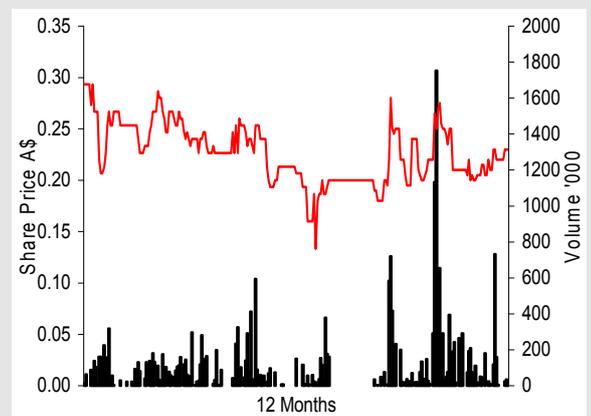
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### 12 Month Share Price Performance

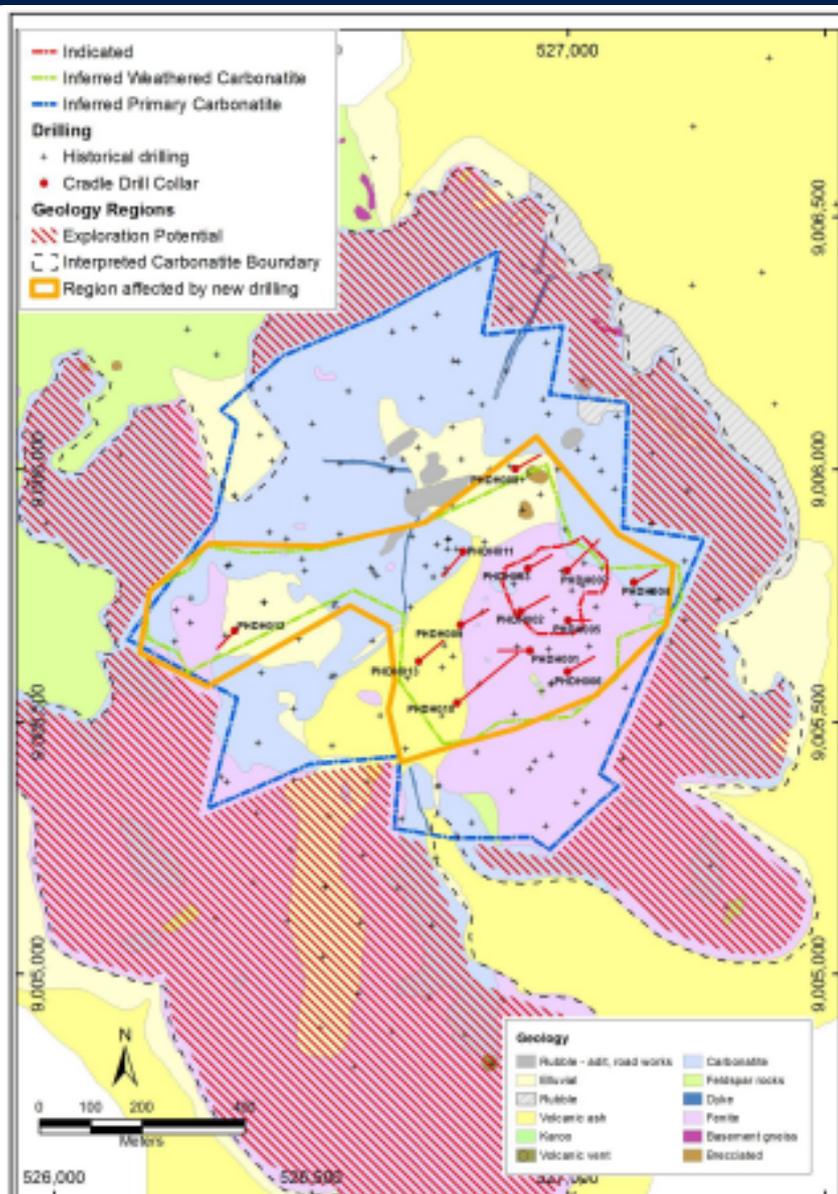


Performance %	1mth	3mth	12mth
Absolute	12.2%	4.5%	-6.8%
Rel. S&P/ASX 300	12.9%	0.0%	-27.1%

## Investment Highlights

**Panda Hill Resource Upgrade above Expectations: 50% Increase:** CXX's recent resource upgrade at the Panda Hill Niobium project was significantly above expectations in terms of tonnage and grades (Figure 1). The updated resource contains 81.8Mt at 0.52% Nb<sub>2</sub>O<sub>5</sub> for 423,000t Nb<sub>2</sub>O<sub>5</sub>. This represents a 50% increase to the 2012 resource estimate of 56Mt at 0.50% Nb<sub>2</sub>O<sub>5</sub> for 280,000t Nb<sub>2</sub>O<sub>5</sub>. The increase in the updated resource was from depth extensions (Primary Carbonatite) and better understanding of the weathered mineralisation from the new drilling. Notably, Hole 10 proved that some of the old drilling did not sample the weathered mineralisation properly. In addition, the fenite material appears to be much lower in the updated resource than previously thought, due to poor core logging from previous owners. This is a positive given that the fenite material was identified as metallurgically more challenging than the primary carbonatite. Furthermore, it is apparent that there is significant potential to continue to increase the resource which could allow for additional feed.

**Figure 1: Resource Regions and Exploration Potential**

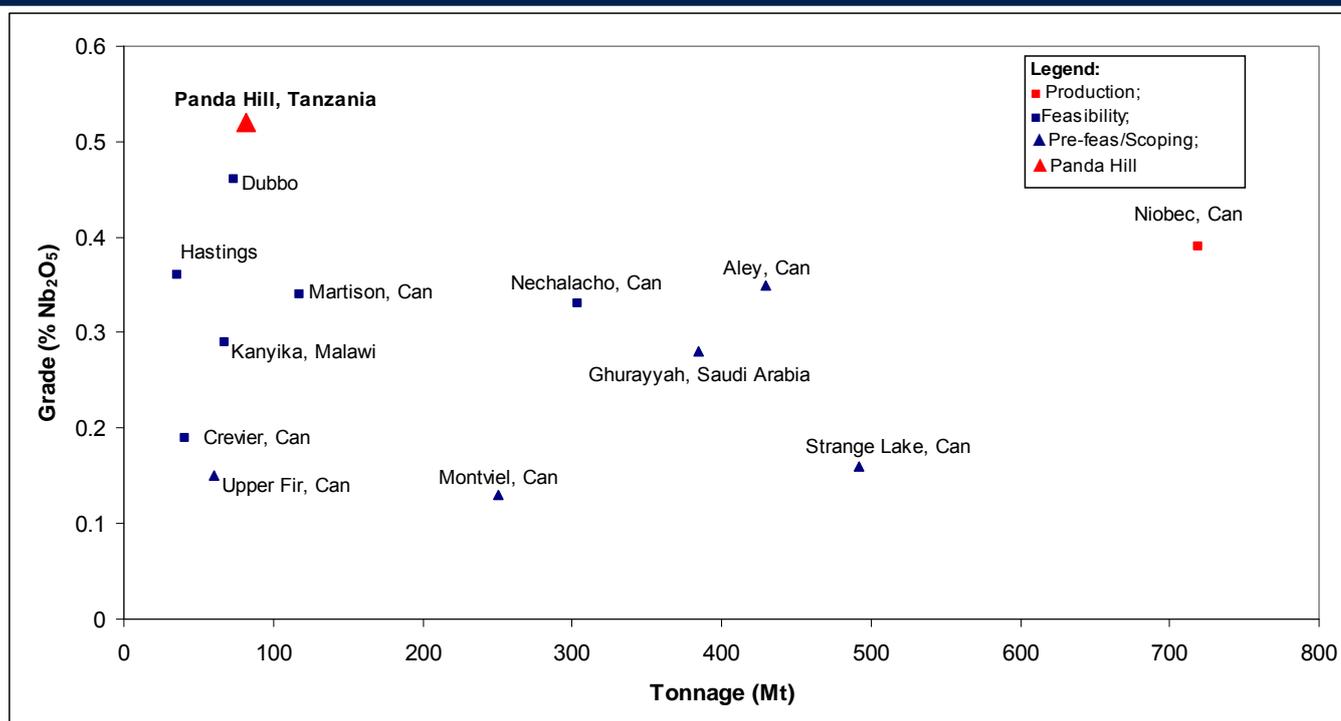


Source: Cradle Resources: ASX Announcement 8 November 2013

**Targeting Higher Grade Material:** Given that CXX has already defined a significant resource, it will now focus further drilling on improving the resource confidence in higher grade areas in order to optimise any starter pits.

**An Economically Feasible Project outside of Brazil :** The Panda Hill Niobium project is one of the higher grade Niobium development projects outside of Brazil at 0.52% Nb<sub>2</sub>O<sub>5</sub> (Figure 2) that actually has potential for production. The project compares favourably to other global Niobium development projects. We estimate once Panda Hill is de-risked it has the potential to be worth circa \$1b (see valuation section for more detail). The projects grade compares favourably to the operating underground Niobec mine (0.53%) in Quebec, Canada owned by IAMGold (IMG-T). We believe there is good potential to create a large scale, long life mining project at Panda Hill, which would have a meaningful impact on the Niobium market (5% to world supply). The project is on granted mining leases with CXX aiming for a rapid move toward development.

**Figure 2: Global Niobium Projects Resource (Mt) vs Grade (% Nb<sub>2</sub>O<sub>5</sub>) Selected Projects**



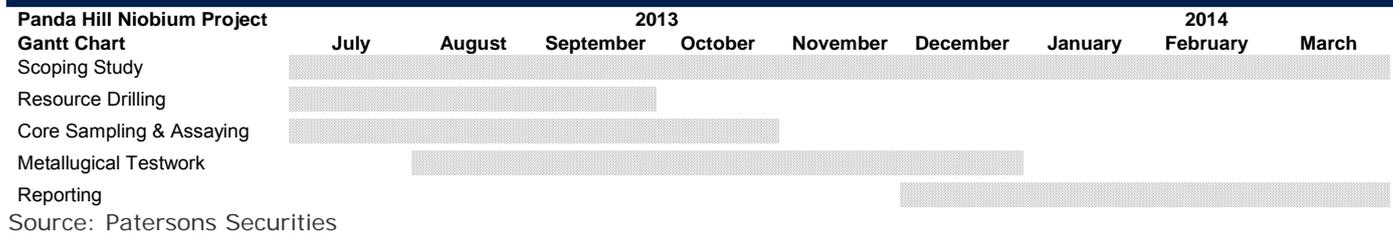
Source: Patersons Securities

**Good Infrastructure:** The project is well located being in close proximity to established infrastructure (Power, Rail, International Airport, and an Industrial Area). This is advantageous for the development of the project whereby capital costs should be relatively low when compared to more remote projects. In addition, it will provide employees, management and investors easy access to site.

**Strong Management Team:** CXX is in the process of building a strong management team which is headed up by Managing Director Grant Davey. Mr Davey is a highly credentialed mining engineer with over 20 years of operational experience in Africa, Australia, South America and Russia.

**Active Newsflow:** CXX has planned an active 2013/14 at the Panda Hill Niobium project. Phase 1 drilling has been completed with 13 diamond holes drilled to determine the updated resource estimate and to provide material for metallurgical testwork. We would expect metallurgical testwork results shortly. Scoping study results are expected by March 2014. In Figure 3, we outline CXX's timeline.

**Figure 3: Panda Hill Niobium Project Activities**



## Valuation

### Base Case

Our valuation for CXX increases to A\$0.52/sh (from A\$0.47/sh) as a result of CXX share price increasing 15% since our last update as this results in lower dilution for the assumed equity raise to build the project. For simplicity, we have conservatively assumed that the project is financed using 100% equity at a 10% discount to the current share price. We acknowledge that the final debt/equity mix will be very different; however, this will become clearer as CXX de-risks the project. The Panda Hill Niobium project is at an early stage of development and a scoping study is expected to be released in March 2014. We currently have calculated an NPV for Panda Hill of A\$495m based on a 12% discount rate. The higher discount rate is used due to the stage of development and we would anticipate moving towards a lower discount rate (8-10%) once the project is at Definitive Feasibility Study (DFS) stage. In our model, we have assumed that CXX exercises its four year option to acquire 100% of Panda Hill.

**Figure 4: Cradle Resources – Base Case Sum-Of-Parts Valuation**

Sum-Of-Parts Valuation	US\$m	A\$m	A\$/sh
Panda Hill Project (@12%)	\$446	\$495	0.34
Exploration	\$0.0	\$0.0	0.00
Cash	\$2.4	\$2.7	0.00
Debt	0	0	0
Payment Remaining 50% (US\$9m cash + US\$5m in shares)	(9)	(10)	(0)
Unpaid Capital (To Decision to Mine)	\$14	\$15	0.01
Unpaid Capital (100% Equity)	\$227	\$252	0.17
<b>Net Asset Value (NAV)</b>	<b>\$679</b>	<b>\$755</b>	<b>0.52</b>

Source: Patersons Securities

For the Panda Hill Niobium project, we have assumed that it commences open cut mining in 2017 at the rate of 2Mtpa for a mine life of 28 years. Higher grades are expected upfront (0.88-0.58% Nb<sub>2</sub>O<sub>5</sub>) before settling at circa 0.40%. Recoveries are estimated to be around 65% based on historical metallurgical testwork with the potential to optimise these estimates from testing samples from the recently completed 1,500m drill program. We estimate upfront capital at US\$227m, which we believe is reasonable given the projects excellent infrastructure. Sustaining capital is estimated at \$6m per annum. We estimate operating costs of \$35.00/t which is based on mining costs of US\$5/t, processing of US\$24/t and general administration at \$6/t. We assume that CXX sells a Niobium concentrate with the first five years of production averaging 12,000t of Ferroniobium concentrate sold. Based on these assumptions we conclude that the project is valued at US\$446m (at a 12% discount rate). As CXX de-risks the project and moves the project towards DFS, we see the potential for a value of approaching \$1b (Figure 5).

The financials appear particularly attractive with strong sales revenue of \$248-\$340m pa with an EBITDA of \$172-\$260m pa over the first five years. Tax rate is 30% and royalty rate is 3%.

## Upside Case

We have conducted an upside case to demonstrate the potential of defining higher grade starter pits. We have assumed slightly higher upfront capital (+\$10m) to US\$237m which is to pay for a larger desliming circuit and allow a throughout of 2.2-2.4Mtpa. We have also assumed 20% higher grades which would be the result of further drilling and resource updates to define higher grade starter pits. Finally, we have assumed that the recoveries are lower (55%) for the first 4 years of production due to targeting the weathered zone, which has a higher clay content and therefore needs to be deslimed. The result is a potential for a valuation of \$0.70/sh (based on a 12% discount rate). At an 8% discount rate the project value increases to over \$1/sh.

**Figure 5: Cradle Resources – Upside Case Sum-Of-Parts Valuation**

<b>Sum-Of-Parts Valuation</b>	<b>US\$m</b>	<b>A\$m</b>	<b>A\$/sh</b>
Panda Hill Project (@12%)	\$700	\$777	0.52
Exploration	\$0.0	\$0.0	0.00
Cash	\$1.5	\$1.7	0.00
Debt	0	0	0
Payment Remaining 50% (US\$9m cash + US\$5m in shares)	(9)	(10)	(0)
Unpaid Capital (To Decision to Mine)	\$14	\$15	0.01
Unpaid Capital (100% Equity)	\$237	\$263	0.18
<b>Net Asset Value (NAV)</b>	<b>\$943</b>	<b>\$1,047</b>	<b>0.70</b>

Source: Patersons Securities

## Niobium Market

**Major Uses:** Niobium adds significant value to steel products which include: additional strength, durability, anti-corrosion properties, heat resistance and reduced weight. Steel production accounts for 90% of Niobium applications. The US lists Niobium as a strategic metal; however, they do not currently have a stockpile.

The principal Niobium products are:

1) **Standard Grade Ferroniobium** (~66% Nb) makes up 90% of the market. This product is used in stainless steels, heat resistant steels and high strength low alloy steel. Major Industries: Automotive, Heavy engineering, petrochemical, power plants and oil and gas pipelines.

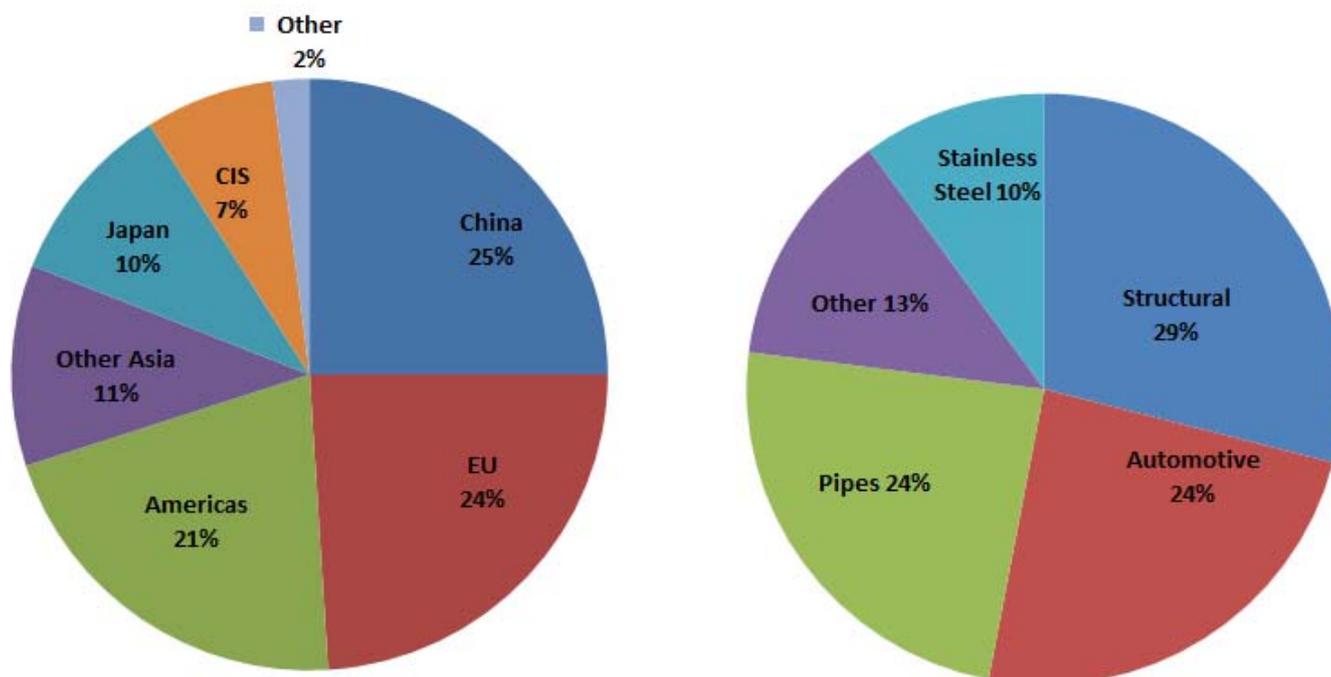
2) **Vacuum Grade Ferroniobium** (99% Nb) makes up 3% of the market and is used in super alloys eg, Aircraft engines, power generation and petrochemical sector.

3) **Niobium Metals and Alloys** (50-60% Nb) makes up 3-4% of the market and is used in partial accelerators, MRI etc.

4) **Niobium Chemicals** which are used in catalysts and ceramics and makes up 3-4% of the market. Used in optical and electronics.

Major consumers are shown in Figure 5 with China, EU, America's and Japan/Other Asia all above 20%.

Figure 6: Global Consumption by Country (left) and Uses (right)



Source: CBMM

**Supply:** Primary world supply of Niobium stands at 69,000t Nb with annual average increase of 6.5%pa over the past decade (Figure 7).

**Figure 7: World Mine Production and Reserves of Niobium**

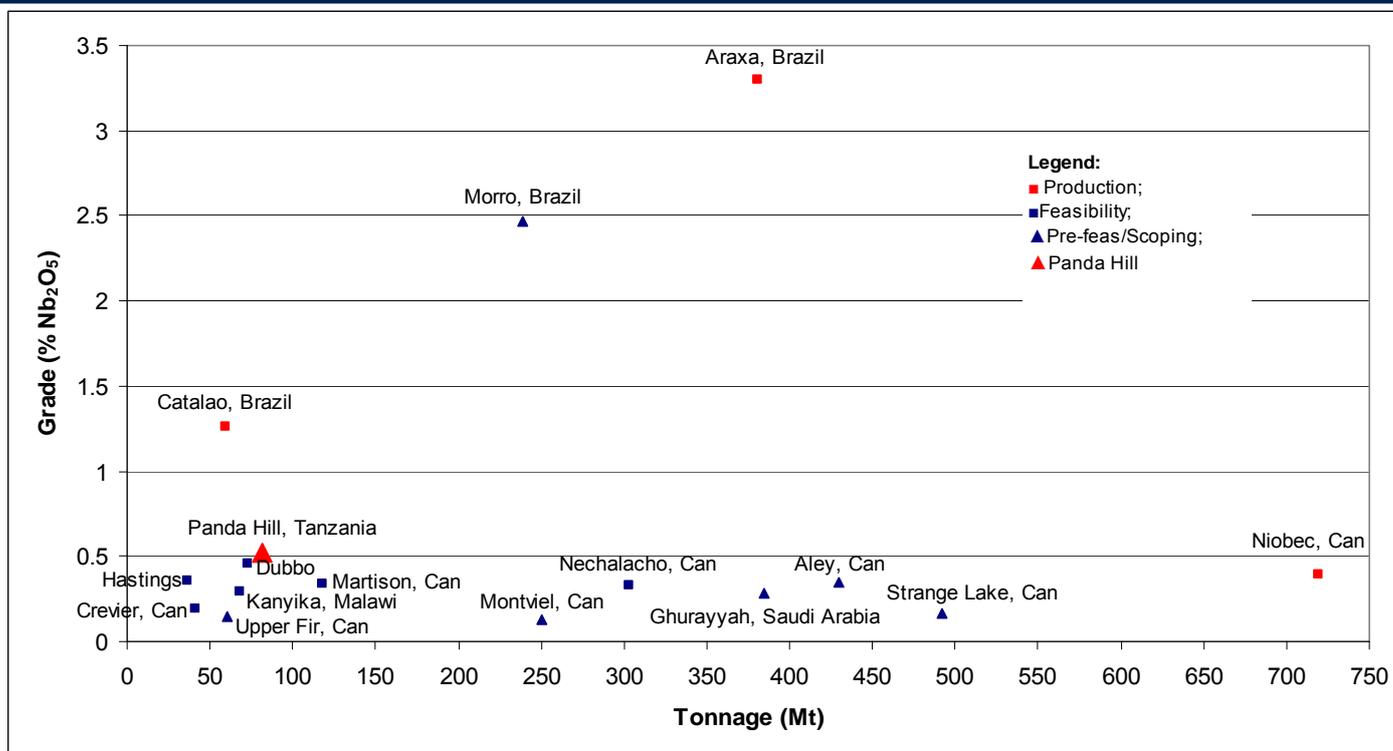
**World Mine Production and Reserves:**

	Mine production		Reserves <sup>B</sup>
	2011	2012 <sup>a</sup>	
United States	—	—	—
Brazil	58,000	63,000	4,100,000
Canada	4,630	5,000	200,000
Other countries	732	700	NA
World total (rounded)	63,400	69,000	>4,000,000

Source: USGS 2013 Niobium Mineral Commodity Summary

There are three existing producers (CBMM, IAMGOLD, Anglo America) all of which produce from a carbonatite, which is the same mineralisation as Panda Hill is hosted. Brazil is the largest Niobium producer in the world, accounting for over 90% of the world's output, where production is estimated to increase by a further 33% from 2016 (Figure 8 – red squares Araxa and Catalao). Most Niobium deposits were discovered in the 1960s with no new producers since 1976 (although the market has grown substantially). Undeveloped Niobium deposits are characterised by low grade, difficult metallurgy and/or high capital costs. CXX's Panda Hill project (Figure 8 – large red triangle) is the highest grade development prospect (outside of Morro, Brazil). It currently has a lower tonnage than many of the other potential projects, however, it is near surface and is an open cut development proposition with good potential to significantly expand the resource.

**Figure 8: Global Niobium Projects Resource (Mt) vs Grade (% Nb<sub>2</sub>O<sub>5</sub>) Selected Projects**



Source: Patersons

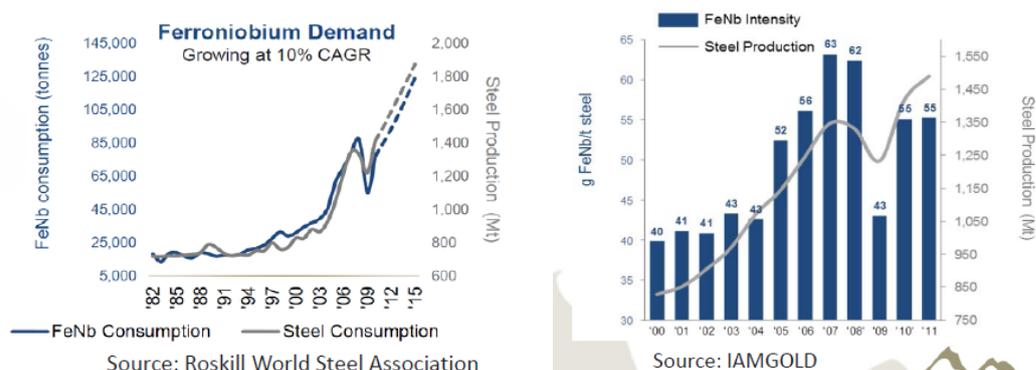
**Demand:** The demand for ferroniobium has grown at a compound annual growth rate (CAGR) of 10% per annum over the last decade and is expected to continue at a similar rate. This has been driven by increased global demand for steel as well as the demand for high quality steel. The demand is being driven by the construction, automotive, oil and gas as well as shipbuilding sectors. High strength low alloy steel is used in applications where lightweight steel is required and is subject to high stress. Typically, Niobium content is a small proportion of the overall costs to steel production, typically less than 0.5% of the total cost of structural steel with less than 0.1% Nb. Therefore according to producer IAMGold, Niobium demand is considered relatively insensitive to changes in price. Major importers of ferroniobium are China, Netherlands, Singapore and the US. Major HSLA steel manufacturers are: Arcelor Mittal, CMC Steel, Gallatin Steel (joint venture between ArcelorMittal and Gerdau Long Steel North America), Nucor Steel, SSAB (Sweden and USA), Steel Dynamics, WCI Steel, US Steel.

The following materials can be substituted for niobium, but a performance or cost penalty may ensue: molybdenum and vanadium, as alloying elements in high-strength low-alloy steels; tantalum and titanium, as alloying elements in stainless and high-strength steels; and ceramics, molybdenum, tantalum, and tungsten in high temperature applications.

**Pricing:** The Niobium price is circa US\$40,000/t, about five to six times the Copper price. Pricing has remained relatively stable from 1990's to mid-2006 with significant recent growth due to a concerted effort to market the benefits of Niobium to steelmakers. Long term Niobium pricing indicates a price of circa US\$45,000/t. Niobium growth is expected to increase by 10% per annum, however there has been a short term decrease in Niobium exports from Brazil. According to data, Brazil exported 5,120 tonnes of ferroniobium in June 2012, reducing by 25% month on month (MoM). Among them, 1,203 tonnes were exported to China, decreasing by 37.8% MoM; 1,261 tonnes were to Netherlands, falling by 33.9% MoM; 1,072 tonnes were to Singapore, rising by 15.4% MoM; 560 tonnes were to Japan, declining by 21.1% MoM; 524 tonnes were to the US, down by 44.8% MoM and 130 tonnes were to South Korea, soaring by 94% MoM. In June 2012, Brazil's average export prices of ferroniobium were at US\$25,536/t, falling by 0.4% from US\$25,631/t in May 2012

**Outlook:** The outlook for prices is promising considering the past demand growth of 10%pa CAGR expected from the use of Niobium in steel (Figure 9). For the purposes of our financial model we use \$24.20/kg of ferroniobium concentrate.

**Figure 9: Ferro Niobium Demand**



Source: Cradle Presentation

## Company Overview

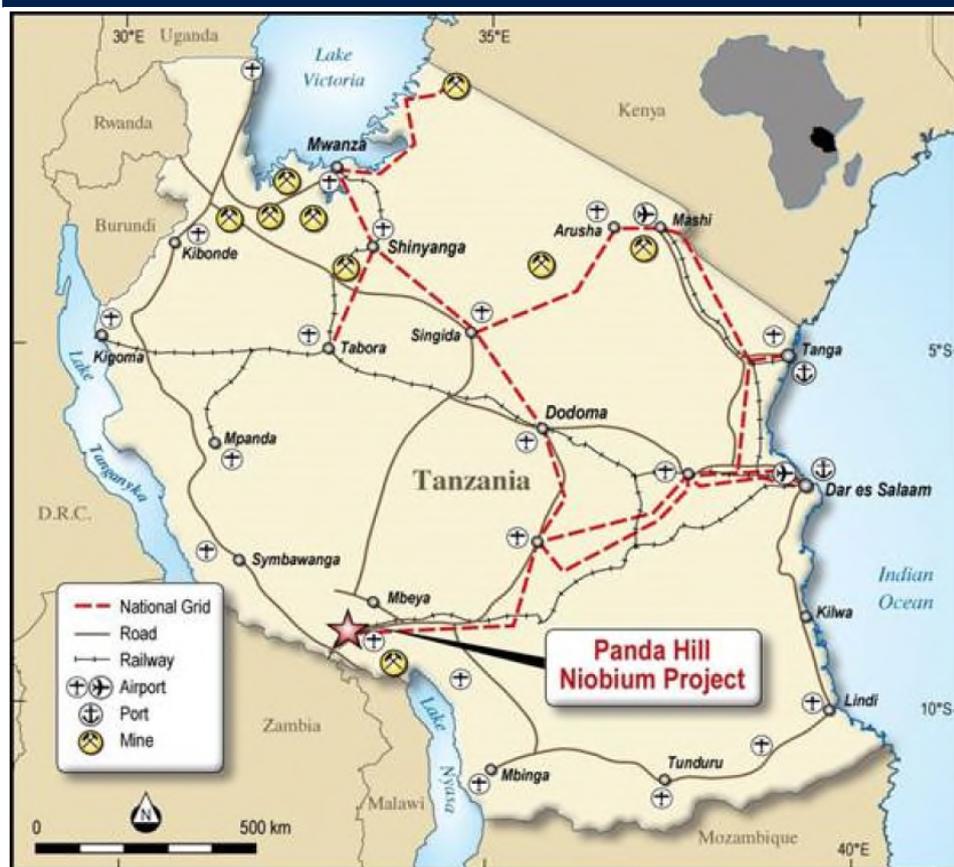
In July 2013, CXX completed a transaction to acquire a 49% interest (with a right to acquire the balance within four years) in the Panda Hill Niobium Project in Tanzania. The acquisition of the Panda Hill project makes CXX one of the few Niobium developers in the world with the market tightly controlled by three large producers and 90% of supply coming from Brazil. The outlook for Niobium is robust given its unique characteristics of strengthening steel while reducing its mass as well as being anti-corrosive. Main areas of growth are in the construction, automotive, oil and gas as well as shipbuilding and aeronautics industries.

## Panda Hill Niobium Project

### Background

The Panda Hill Niobium project is located 26km from the district capital Mbeya in south west Tanzania (Figure 9). The project was first identified by the Geological Survey of Tanzania (GST) who conducted significant exploration work from 1954 to 1963 including excavating numerous pits, development of two shafts and trial mining and construction of a trial gravity and flotation plant on site. Several other companies also completed drilling and metallurgical work in the 70's, 80's and early 2000's. Most recently, the project has been locked up by a single private owner from 2005 who missed the opportunity to realise value during the commodities boom. In June 2012, Panda Hill Mines Pty Limited acquired an option over the project and arranged an initial JORC resource calculation, a preliminary mine plan and project costs. CXX has acquired 49% of the project from Panda Hill Mines Limited, which includes three granted mining licences. As shown in Figure 10, the project is well located being in close proximity to established infrastructure (Power, Rail, International Airport, and an Industrial Area).

**Figure 10: Panda Hill Location and Infrastructure**



Source: Cradle Resources - Independent Geologists Report May 2013

## Transaction Details

On 25 July 2013, CXX completed the acquisition of a 49% interest in the Panda Hill Niobium project with rights to acquire the balance. The consideration paid to Panda Hill Pty Ltd (owned by Verona Capital Pty Ltd) was 37.5m CXX shares (escrowed) and 37.5m performance shares (Figure 11). CXX has a 4 year option to acquire an additional 1% for US\$30k (for tax purposes) and a further 4 year option to acquire the balance of the project for approximately US\$14m, of which US\$9m is payable in cash and US\$5m in shares or capped royalty.

The 37.5m performance shares owned by the vendors are convertible to ordinary shares in the following two stages:

- **18.75m Convertible at the Completion of a Scoping Study:** This includes metallurgical test work and confirmatory drilling to the reasonable satisfaction of the independent Directors of Cradle. The scoping study is expected to be completed in Q1/CY2014.
- **18.75m Convertible at Completion of a Definitive Feasibility Study with >US\$400m NPV (10%):** If the NPV (10%) of the feasibility is >US\$400m then the full 18.75m performance shares convert. Between the range of US\$300-US\$400m a pro-rata conversion applies.

In October 2013, CXX agreed to issue 2.625m performance rights to certain employees and consultants. The principal terms and conditions of the performance rights include continuous employment with or provision of services to the Company, and the fulfilment of specific project-related milestones.

CXX has also agreed to issue 2m listed options (CXXO) at an issue price of 5 cents each (\$100,000). These are to be issued to third party consultants, partly by way of incentive. The issued share capital of the Company is shown in Figure 11.

Figure 11: Cradle Resources – Capital Structure					
Class of Security	Code	Number of Issued	Tradeable or Restricted	Period of Restriction	
<u>Shares, Performance Shares and Performance Rights</u>					
Ordinary Shares	CXX	53,675,017	Tradeable	n/a	
Escrowed Ordinary Shares	CXX	37,500,000	Restricted	Ends 31 July 2015	
Class A Performance Rights	n/a	18,750,000	Restricted	Ends 31 July 2015	
Class B Performance Rights	n/a	18,750,000	Restricted	Ends 31 July 2015	
Performance Rights	n/a	2,625,000	n/a	n/a	
		<b>Total</b>			<b>131,300,017</b>
<u>Options</u>					
Listed Options (ex \$0.2667 exp 24/1/15)	CXXO	17,962,506	Tradeable	n/a	
Unlisted Options (ex \$0.2667 exp 31/5/16)	n/a	7,687,500	Unlisted	n/a	
		<b>Total</b>			<b>25,650,006</b>

Source: Cradle Resources Sept Q report

## Resource

The Panda Hill deposit is hosted within the Panda Hill carbonatite, an alkaline igneous intrusion of approximately 1.3km in diameter composed primarily of coarse crystalline calcite with broad zones containing the Niobium mineral pyrochlore. The Panda Hill carbonatite intrudes gneisses and amphibolites and is interpreted to have formed in the vent of an alkaline volcano which has been almost completely eroded exposing the crystalline plug. The three active Niobium mines in the world are all hosted in carbonatite.

The updated Resource contains 81.8Mt at 0.52% Nb<sub>2</sub>O<sub>5</sub> for 423,000t of contained Nb<sub>2</sub>O<sub>5</sub> at a 0.30% Nb<sub>2</sub>O<sub>5</sub> cut off (Figure 12). This represents a 50% metal increase compared to the 2012 Resource of 56Mt at 0.50% Nb<sub>2</sub>O<sub>5</sub> for 280,000t of Nb<sub>2</sub>O<sub>5</sub>.

The 2013 Resource incorporates a Weathered Carbonatite zone. This zone is characterised by near surface material which has been enriched relative to the underlying primary carbonatite material.

**Figure 12: Panda Hill Updated Resource Estimate**

Table 1 2013 Panda Hill 2013 Resource – Reported Above a 0.3% Nb <sub>2</sub> O <sub>5</sub> Lower Cut-off			
Combined			
Lower Cut-off (Nb <sub>2</sub> O <sub>5</sub> %)	Million Tonnes	Nb <sub>2</sub> O <sub>5</sub> %	Nb <sub>2</sub> O <sub>5</sub> Content (KT)
Indicated	5.4	0.62	33
Inferred	76.4	0.51	390
<b>Total</b>	<b>81.8</b>	<b>0.52</b>	<b>423</b>
Weathered Carbonatite			
Lower Cut-off (Nb <sub>2</sub> O <sub>5</sub> %)	Million Tonnes	Nb <sub>2</sub> O <sub>5</sub> %	Nb <sub>2</sub> O <sub>5</sub> Content (KT)
Indicated	2.1	0.77	16
Inferred	8.6	0.81	69
<b>Total</b>	<b>10.7</b>	<b>0.80</b>	<b>86</b>
Primary Carbonatite			
Lower Cut-off (Nb <sub>2</sub> O <sub>5</sub> %)	Million Tonnes	Nb <sub>2</sub> O <sub>5</sub> %	Nb <sub>2</sub> O <sub>5</sub> Content (KT)
Indicated	3.2	0.52	17
Inferred	67.8	0.47	319
<b>Total</b>	<b>71.1</b>	<b>0.47</b>	<b>336</b>

Note: Figures have been rounded.

Source: Cradle Resources

## Metallurgical Testwork

The most recent metallurgical testwork was conducted by Euromet in 2002 whereby five bulk samples were tested using a two stage flotation process to produce a concentrate that would be converted to ferroniobium (FeNb) via a pyrometallurgical step. The results indicated an effective treatment process had been developed for the carbonatite whereby recoveries of between 61% and 79% were returned. The high-iron fenite gave promising results (68%) and with further optimisation work could allow for better metallurgical recoveries. The high silica fenite and the oxide ore were refractory and did not respond well to conventional processing.

The deposit contains a number of different minerals with the two of economic interest being pyrochlore and columbite (both Niobium minerals). These niobium minerals are hosted in and associated with a variety of gangue minerals, each these gangue minerals can have a major influence on mill production results. Therefore, further metallurgical studies will be needed to optimise the process. CXX is targeting +65% recoveries in the primary carbonatite mineralisation and is investigating methods of processing the weathered material.

The recently completed 13-hole diamond drilling programme provides sufficient material to conduct testwork on representative samples. This testwork is being conducted in Canada and will be a major input into the scoping study, which is expected to be completed by March 2014.

## Risks

**Financing Risk:** CXX may from time to time need to access the equity/debt markets to finance its exploration and development activities. There can be no assurances that this capital will be available at a reasonable cost; therefore, substantial future dilution could result. Initial high level estimates suggest development of the Panda Hill project would cost >\$200m and needs ~\$18m to compete a DFS.

**Country Risk:** Changes in government policies, regulations, tax regimes and political unrest can negatively impact CXX's asset and valuation. Tanzania ranks 74/96 in the Fraser Institute mining survey (2012/2013), which is a significant fall from 44/72 in 2009/2010. In 2010, Tanzania changed its mining code and increased gold royalties to 4% (from 3%), required the Government to own a stake in any mining project and requires mining companies to list on the Dar es Salaam stock exchange. The new mining code was brought about by large tax holidays and low royalties offered to the first large gold miners (eg; Barrick Gold), which were seen as not benefiting Tanzanians. The positive for CXX is the Panda Hill project is on an approved mining license, which was granted under the old mining code.

**Renewal of Title:** Since granting of the Panda Hill Licences there have been previous delays in the development of the Panda Hill Project as a result of delays in agreeing terms with the Tanzanian authorities for the relocation of the Songwe Prison. Following meetings with the Ministry of Mines officials in Tanzania, including the Minister for Mining, CXX does not believe that this will have consequences for renewal of the Panda Hill Licences. However, any application for renewal of any licence comprising the Panda Hill Project involves the exercise of discretion by the relevant government authority. There is no assurance that such renewals will be given as a matter of course and there is no assurance that new conditions will not be imposed in connection with the renewal.

**Metallurgical Risk:** Metallurgical testwork from five bulk samples conducted in 2001 by Euromet suggested that fenite and oxide material yielded poor results using conventional processing due to the refractory nature of that particular ore. It will be important to better map this material. There is some enrichment of other metals in the deposit including rare earth elements, phosphate and their concentration should be monitored. At high enough concentrations these could impact the processing of the material.

**Commodity Risk:** The Niobium market appears to be relatively stable and appears to have a strong growth profile. However, should the world economy continue to slow then steel production may fall which could adversely impact Niobium demand.

**Foreign Exchange Risk:** The majority of CXX's cash reserves are held in Australian dollars. Therefore, with the majority of costs in US dollars, there is currency risk should the USD dollar strengthen, which could adversely affect the purchasing power of CXX's cash.

**Tenure:** The three mining licences that host the Panda Hill Niobium project are due to expire on 15 November 2016 and will therefore require renewal. The renewal should be straight forward, however, there are risks associated with this including changes to economic parameters which could be considered under the new mining code.

**Exploration Risk:** Exploration is inherently risky and there is no guarantee that an economic deposit will be delineated. Further drilling is needed to follow-up targets which may or may not result in further discoveries.

## **Cradle Management and Board**

### **Mr Craig Burton - Chairman**

Mr Burton has over 25 years experience in financing, developing, and managing resource projects and mining service businesses, with his financing work taking him to Canada and the UK for resource projects involving diamonds, nickel, copper, gold and oil and gas.

Craig is the co-founder of two ASX 200 companies: Mirabela Nickel Ltd and Panoramic Resources Ltd, and is an active investor in emerging ventures and businesses with a focus on the oil and gas, mining and resources service sectors. He is a Non-Executive Director of Capital Drilling Ltd and also Executive Chairman of Transerv Energy Limited.

Mr Burton currently owns 16.4M shares or 18.00% of CXX.

### **Mr Grant Davey – Managing Director**

Mr Davey is a mining engineer with over 20 years of senior management and operational experience in the construction and operation of gold, platinum and coal mines in Africa, Australia, South America and Russia. More recently, he has been involved in venture capital investments in several exploration and mining projects and he has been instrumental in developing the Panda Hill niobium opportunity which Cradle announced to the market on 3 April 2013.

Mr Davey is Managing Director of Panda Hill Pty Ltd and a member of the Australian Institute of Company Directors (AICD).

Mr Davey was appointed Managing Director of Cradle Resources following the completion of the Panda Hill transaction. Mr Davey currently holds 8.64m shares in CXX or 9.48%.

### **Mr Evan Cranston - Non-Executive Director**

Mr Cranston is a corporate lawyer with over 7 years experience specialising in corporate and mining law. Mr Cranston holds a Bachelor of Commerce and Bachelor of Laws from the University of Western Australia and was admitted as a barrister and solicitor of the Supreme Court of Western Australia.

He has broad experience in the areas of capital raisings, initial public offerings, tenement acquisition agreements, mineral rights agreements, joint ventures, mergers and acquisitions, corporate governance, the ASX listing rules and the Corporations Act. Mr Cranston has previously been involved in the formation of several listed and unlisted companies and is also a Non-Executive Director of Carbine Resources Limited.

Mr Cranston owns 450,000 shares or 0.49% of CXX.

### **Mr Didier Murcia - Non-Executive Director**

Didier Murcia holds a Bachelor of Jurisprudence and Bachelor of Laws from the University of Western Australia, and has over 25 years' experience in corporate, commercial and resource law, including extensive experience in African resources projects.

Mr Murcia is a Non Executive Director of Gryphon Minerals Limited, and Chairman of Centaurus Metals Limited and Alicanto Minerals Limited, all listed on the Australian Securities Exchange. He is also Chairman of Perth law firm Murcia Pestell Hillard and the Honorary Consul for the United Republic of Tanzania.

Mr Murcia directly and indirectly owns 187,500 shares or 0.21% of CXX.

### **Ms Sophie Raven- Company Secretary**

Ms Raven is a corporate lawyer with over 20 years' experience. She currently acts as company secretary of ASX and AIM listed Wildhorse Energy Limited and ASX listed companies Citation Resources Ltd and Transerv Energy Limited.

## Supportive & High Powered Shareholder Base

CXX has a solid and very supportive shareholder base. Substantial shareholders include well known and highly successful resource project acquirers and developers, Craig Burton and Ian Middlemas.

Mr Burton, who holds some 16.4 million shares or 17.99% of CXX, was recently appointed Chairman and has had a proven track record of building shareholder value through listed ventures such as Mirabela Nickel and Panoramic Resources.

Similarly Mr Middlemas, holder of around 8.7m shares or 9.54% of CXX, has built value through ASX-listed companies such as Papillon Resources and Mantra Resources.

Additionally, Brett Mitchell, who owns 6.32% of CXX, is a highly experienced corporate finance executive, with a solid track record of success.

**Figure 1: Top 20 Shareholders**

Rank	Name	Units	% of Units
1	VERONA CAPITAL PTY LTD	15,150,000	16.62%
2	ARREDO PL	8,700,000	9.54%
3	AVIEMORE CAPITAL PL	7,200,000	7.90%
4	DAVEY HOLDINGS AUS PL	4,320,000	4.74%
5	MITCHELL BRETT + M MITCHELL SPRING FA	2,880,000	3.16%
6	KAMIRA INV PL FW A/C	2,761,914	3.03%
7	WESTORIA RESOURCE INV LTD	2,475,000	2.71%
8	KINGSLANE PL CRANSTON S/F A/C	2,454,601	2.69%
9	ALBA CAPITAL PL BURTON S/F A/C	2,000,000	2.19%
10	J P MORGAN NOM AUST LTD	1,500,000	1.65%
11	ABLETT PL DAVID EDWARDS FAM	1,425,000	1.56%
12	NEFCO NOM PL	1,375,000	1.51%
13	TUCKER ANTHONY WAYNE L	1,200,000	1.32%
14	ZENIX NOM PL	1,125,000	1.23%
15	IVORYROSE HLDGS PL ASHFORTH S/F A/C	1,125,000	1.23%
16	PAGANIN DAVID ARTHUR D A PAGANIN FAM NO	950,000	1.04%
17	PROSPERO CAP PL PROSPERO GROWTH FU	860,625	0.94%
18	POVEY GRANT	813,273	0.89%
19	PHILLIPS STUART L + F J SL & FJ PHILLIPS S	753,750	0.83%
20	WALTA PATRICK	750,000	0.82%
<b>Totals</b>	<b>Top 20 Shareholders</b>	<b>59,819,163</b>	<b>65.60%</b>

Source: Cradle Resources

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