ALIGN
RESEARCH

Cradle Arc

(formerly Alecto Minerals)

Transformational deal acquiring key copper mine at a low price

24th January 2018

CONVICTION BUY – price target 28.00p

Cradle Arc originally listed on AIM in 2006 as Cue Energy, with the company's focus switching from energy to gold in 2011. Over the last two years, under the name of Alecto Minerals, the company has been transformed from a gold exploration play into a highly compelling, diversified African miner by acquiring the Matala gold project and now the economically robust Mowana Copper Mine.

Copper production capacity expected to double within 18 months

The acquisition of the Mowana Copper Mine looks like an exceptional deal. **A 60% stake is being bought for £12.3 million, while more than US$170 million was invested in the mine to originally get it commissioned.** Reassuringly, project debt is down to a manageable level, with upgrades to allow nameplate production capacity to double in 2019.

Low risk entry into gold mining which could now be funded

The company has been working with potential financing partners to secure the funding to bring a 30,000oz per annum gold mine at Matala into production. **The acquisition of Mowana, with its cash flow and assets, provides the security for the financing, which had previously been a stumbling block.**

Value to be added to gold exploration portfolio by JV partners

The move into mining production has seen Cradle Arc stop funding basic exploration work. **Now, the gold exploration projects are being funded to key milestones with well-established joint-venture partners including Randgold Resources and Kola Gold.**

Our analysis suggests a very conservative risked target price of 28.00p

We have prepared a valuation based on the combined NPVs for the expanded Mowana Copper Mine, the Matala Gold Mine and exploration assets, and calculate a fair value of 28.00p per share on a fully diluted basis. **We continue our coverage of Cradle Arc with a Conviction Buy stance.**

Table: Financial overview. Source: Company accounts & Align Research

Year to end Dec	2015A	2016A	2017E	2018E
Revenue (£m)	0.01	-	2.30	54.00
Pre-tax profit (£m)	3.33	(4.34)	(1.06)	5.71
EPS (p)	0.25	(0.18)	(4.12)	2.89

This investment may not be suitable for your personal circumstances. If you are in any doubt as to its suitability you should seek professional advice. This note does not constitute advice and your capital is at risk. This is a marketing communication and cannot be considered independent research.

Key data

EPIC	CRA
Share price	9.85p
52 week high/low	11.75p/9.75p
Listing	AIM
Re-list shares in issue	201,329,482
Market Cap	£19.83m
Sector	Mining

12 month share price chart

Analyst details

Dr. Michael Green
michael.green@alignresearch.co.uk

IMPORTANT: Cradle Arc is a research client of Align Research. Align Research holds an interest in the shares of Cradle Arc. For full disclaimer information please refer to the last page of this document.

Business Overview

Cradle Arc Projects

• **Copper mining** – Cradle Arc has acquired a 60% controlling interest in the Mowana Copper Mine in Botswana, a **previously producing copper mine where over US$170 million was originally invested to commission the mine by the previous owners. The project has a mineral inventory of 650,000 tonnes of copper in the key Measured and Indicated categories (JORC-compliant) plus an additional 932,000 tonnes of copper in the Inferred category**. The mining inventory is 26 million tonnes (Mt) @ 1.34% copper at US$2.15/lb. At full production, the mine is forecast to produce 12,000 tonnes of copper annually. Subject to agreeing financing and further due diligence, the company plans to install certain Dense Media Separation (DMS) upgrades, which will significantly enhance processing capability and almost double production. **An internal study has determined an NPV(10) of US$245 million and an IRR of 55% at an average price of US$2.81 per pound copper for an upgraded project which would double the current production capacity**.

• **Gold mining** - The historical Matala Gold Mine in Zambia could commence gold production in the coming years. **Cradle Arc holds a 100% interest in this fully permitted mining licence which covers an area of 32km².** The project has a resource of 760,000 ounces gold at an average grade of 2.3g/t gold. Already, the PenMin Definitive Feasibility Study has been completed which determined a NPV(8) of US$28.6 million with an IRR of 52%. The company has been working with potential financing partners to secure the funding to bring a 30,000oz per annum gold mine at Matala into production. **The acquisition of Mowana, with its cash flow and assets which enhance the company's balance sheet and help unlock the financing required.**

• **Gold exploration portfolio** – Cradle Arc has three gold exploration projects in Mali and Burkina Faso which are largely being financed and advanced by joint-venture partners. The repositioning of the company as a diverse Africa metals producer has seen these gold exploration projects, some with JORC-compliant resources, being funded to well-defined added-value stages by established partners.

Corporate Developments

Acquisition of the Mowana Copper Mine

The Mowana Copper Mine was acquired out of liquidation by a consortium and financed through an offtake lending agreement. The assets were transferred to a newly incorporated Botswanan company - Leboam Holdings (Pty) Limited (Leboam), which was a subsidiary of Cradle Arc Investments. ZCI Limited (ZCI) was a major creditor to Messina Copper Botswana (Pty) Limited (MCB) - the previous owner of Mowana. Prior to the liquidation proceeding, MCB had been controlled by African Copper plc whose shares were cancelled from trading on AIM on 8th June 2015.

On 21st December 2016, the company announced the acquisition of Cradle Arc Investments (Pty) Limited (CAI) for £1 million in cash and the issue of shares representing 60% of the company's enlarged share capital. Cradle Arc Investments is a holding company which, via its 100%-owned subsidiary Leboam, had conditionally acquired the Mowana Copper Mine, subject to a US$20 million payment being made to the liquidator and a restructuring of ZCI's US$110 million outstanding secured debt.

The eventual terms of the Revised ZCI Debt Restructuring means that on Admission, ZCI will convert US$79 million of its existing secured debt into a 40% shareholding in Leboam and a US$9.9 million secured loan will be booked to Leboam (the ZCI Secured Loan). On top of that, ZCI will retain its existing US$21 million term loan repayable over a ten-year term, paying interest at LIBOR (the ZCI Term Loan). Currently the ZCI Term Loan is secured but following Admission this loan will be unsecured. The ZCI Secured Loan is repayable in monthly instalments over a total of thirty-three months, with a nine-month moratorium on capital repayments and interest accruing at a rate of 13.5% per annum and payable monthly.

Basically, on admission, Leboam will credit the liquidator with a loan of US$10 million (the Liquidator Loan Facility), which will be repayable in 24 monthly instalments following Admission. There will be a 9-month moratorium on capital repayments and interest accruing at 13.5% pa payable monthly. The Liquidator Loan Facility will be secured via a share pledge from CAI over the shares it holds in Leboam backed by a guarantee issued by the company in favour of the liquidator. In addition, on admission, following the new US$9.9 million ZCI Secured Loan and the US$10 million Liquidator Loan Facility being issued, the Leboam acquisition will be complete.

Accordingly, on completion of the Leboam Acquisition the company will hold a 60% interest in Leboam and the group will have a US$9.9 million secured loan owing to ZCI, a US$3.6 million secured loan owing to Fujax from the Fujax Financing Agreement, a US$10 million secured loan owing to the liquidator and a US$21 million unsecured loan outstanding to ZCI.

Company de-listed from AIM

Under AIM rules, the acquisition of CAI was deemed a reverse takeover and so the shares were suspended on 21st December 2016, pending the publication of an admission document. As a result of delays in publishing this document, the AIM-listing was cancelled on 11th July 2017 as, whilst a short extension was granted, under AIM rules, shares that have been suspended from trading for six months become de-listed.

Acquisition of Cradle Arc Investments

On 26 September 2017, the company and the Vendor (PenMin Botswana Proprietary Limited, a PenMin group subsidiary) entered into an Amended Acquisition Agreement whereby the £1 million cash consideration was waived until the company had raised sufficient funds. Accordingly, following the passing of a Whitewash Resolution (a specific resolution that was required to be passed in order to allow the Vendor to be issued the consideration shares without the requirement to make a mandatory offer for all the company's shares it did not own) at a General Meeting of the company's shareholders held on 13th November 2017, and the subsequent issue of the consideration shares, the company completed the acquisition of Cradle Arc Investments. As in the original agreement, PenMin have been issued with sufficient shares that will result in them retaining a 60% stake in the company following a minimum £5 million fundraise on or before Admission**. With a total of £5.65 million having been raised through a combination of pre-IPO and IPO funding, PenMin have now been diluted to an interest of 57.4%.**

Re-admission to AIM

On 17th October 2017, Alecto Minerals changed its name to Cradle Arc plc. Shareholders approved the resolutions at the General Meeting on 13th November 2017, which allowed the acquisition of CAI to be completed.

In late October 2017, the company raised £3.25 million through the issue of zero coupon pre-IPO Convertible Loan Notes to investors, which converted on Admission at the placing price of 10p.

On 24th January 2018, Cradle Arc was admitted to trading on AIM raising £2.4 million in a placing at a placing price of 10p per share, with an initial market capitalisation of £20.13 million.

Copper Market

Due to its wide variety of end uses, copper is seen as a global economic bellwether, acting as a decent gauge of global manufacturing activity. The metal is mainly used in construction, power generation and transmission, manufacturing electronic products, along with the production of industrial machinery and motor vehicles.

Copper price chart. Source: Company

In early 2016, the copper price was half the level it was in 2012. However, the past five quarters have seen the price of copper increasing, with this recent rally being put down to a combination of factors including the arrival of President Trump who has stated plans to substantially increase infrastructure spending in the US, which will require a lot of copper. **There has also been a pick-up in Chinese imports, with Citi Research suggesting in early 2017 that China will help to drive a 33% increase in global copper prices by 2020. Copper closed off 2017 at its highest level since January 2014**

Unit US$	2015 actual	2016 actual	2017 actual	2018 forecast	2019 forecast	2020 forecast	2021 forecast	2022 forecast
US$/mt	5,510	4,868	6,269	6,548	6,746	6,678	7,099	7,297
US$/lb	2.50	2.21	2.85	2.97	3.06	3.07	3.22	3.31

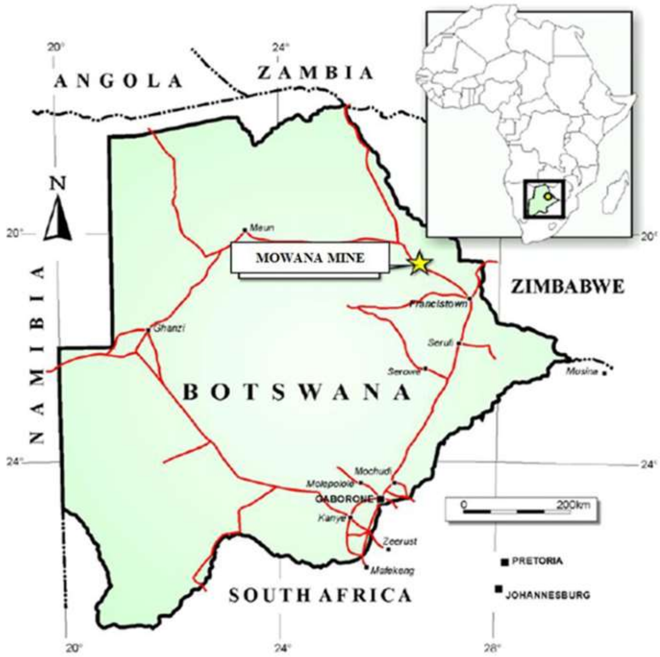
[1] forecasts in nominal dollars

Table: Copper price and median consensus forecasts. Source: Align Research and Bloomberg

Commentators have suggested that copper could be one of the top performers amongst the metals rack on the back of materially stronger fundamental developments. In early 2017, Chilean copper miner Antofagasta reported a 79% jump in annual earnings, helped by rising copper prices. Antofagasta's CEO Ivan Arriagada drew attention to stronger demand for copper in China, whilst there are fewer new copper projects coming on stream over the coming years. Mr Arriagada also highlighted that additional copper demand is emanating from big growth areas like clean energy and electric vehicles. These sorts of sentiments have started to be echoed in, what we consider to be, the fairly conservative forecasts from the World Bank. **As such, it does seem that Cradle Arc could be bringing the Mowana Copper Mine back on stream and driving copper production higher at a particularly opportune moment.**

Mowana Copper Mine

Cradle Arc has acquired a 60% controlling interest in the Mowana Copper Mine in the north east of Botswana. Mowana is a former producing copper mine, previously known as the Dukwe Copper Project, which is widely accepted as having been poorly managed. Following a slump in the copper price the mine was put into care and maintenance in 2015.



Location of the Mowana Copper Mine. Source: Company

Mowana is hosted within NNE striking and steeply dipping to the east carbonaceous and argillaceous (rock consisting of or containing clay) meta sediments (sedimentary rock that appears to have been altered by metamorphism) of the Matsitama Metasedimentary Group which are enclosed within foliated (repetitive layering in metamorphic rocks) granitoids.

Asset	Holder	Interest	Status	Expiry	Area	Comment
Mowana (ML2006/53L)	Leboam	100%	Production	2031	32.7km²	Production re-started in March 2017
Thakadu (ML2010/96L)	Leboam	100%	Development	7 December 2017'	28.5km²	Underground mining planned at Makala.
PL180/2008	Mowana	100%	Exploration	30 November 2017'	65.2km²	Further North extension of Mowana
PL33/2005	Mowana	100%	Exploration	30 November 2017'	76.5km²	North extension of Mowana

' – The company has applied for extensions for the expired licences

Table: Cradle Arc's mineral assets in Botswana. Source: Company

Background

The Mowana Copper Mine was commissioned in 2008 by MCB, a wholly-owned subsidiary of African Copper plc. Production first began at the Dukwe open pit mine, then switched to the Thakadu open pit and by 2014 had moved back to Dukwe.

Over its short life, the economic return from the mine had suffered from a variety of problems. Firstly, highly variable mineralisation and volumes were mined due to poor geological and mining models. Secondly, recoveries were negatively impacted by the variable levels of oxides in the ore and the presence of graphite. Thirdly, the lack of on-line measurement and feedback control mechanisms meant that this material, which had complex mineralogy, was being processed in a rather hit and miss fashion which led to low recovery. To cap it all, Mowana had been commissioned in a higher commodity price environment and so these problems were exacerbated by a depressed copper price.

Cradle Arc takes control

In early 2017, Cradle Arc took over the management of the existing operations at Mowana which consist of an open pit mine and a processing plant. The Mowana Copper Mine was initially re-commissioned using the existing processing plant configuration to take advantage of the improved copper price. The US$2 million cost of this work was shared between Cradle Arc and Fujax, the project's offtake partner.

Since commissioning and up until the operations were halted in 2015, the Mowana Copper Mine had processed on average 775,406 tonnes per annum at an average grade of 1.72% copper. Production recommenced in March 2017. **On 12th May 2017 the company was able to report that the production at the mine was now ongoing on a full-time basis.**

As previously stated, it has been estimated that over US$170 million was originally invested at Mowana by its previous owners, which includes commissioning, plant and equipment and a substantial amount of pre-stripping, which is highly beneficial to the company. **Through the transaction, Cradle Arc acquired the assets for less than £20 million of equity and cash.**

Two tonne bags of copper concentrate ready for dispatch. Source: Company

Copper has been mined at Mowana from two open pit mines – Thakadu and Dukwe. The Thakadu open pit mine came to the end of its mine life in 2015 and so the company will be focusing on mining the Dukwe open pit. **There are well-developed plans to extend the life of the project with a planned underground operation at Makala within the Thakadu concession, which would be accessed from the bottom of the pit.**

Resources

The deposit at Mowana has a strike length of approximately 4.7km and a resource of 161Mt at 0.84% copper. Of this total, the mining reserves equate to 26Mt @ 1.34% copper at US$2.15/lb, which lie within the current pit shells in two pre-stripped 350-metre deep pits - Mowana South and Mowana North. These two pits are part of the same continuous mineralised structure and will form the basis of production for the next eleven years.

In addition, there is approximately 20Mt with a grade in excess of 1.5% copper in the mineralisation as it plunges to the north, which offers significant underground potential. **Added up, these equate to 46Mt, which could give Mowana a mine life in excess of 20 years.**

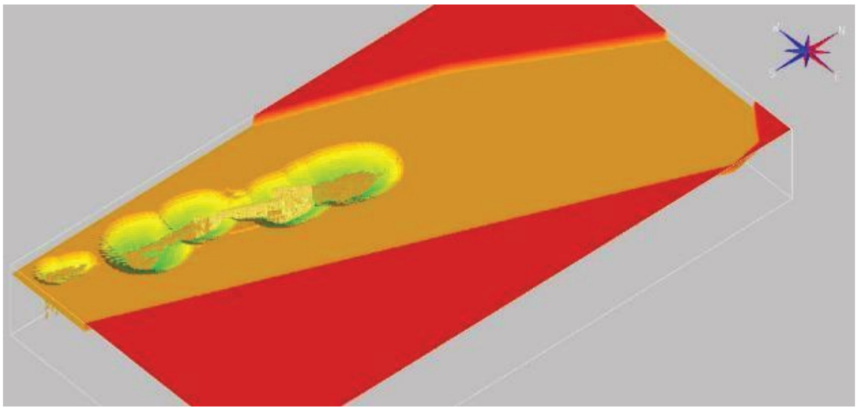
Deposit	Copper cut-off grade	Category	Tonnes (kt)	Copper grade (%)	Copper (kt)
Mowana'	0.25%	Measured	14,725	1.00	147
		Indicated	57,368	0.94	539
		Inferred	99,778	0.89	738
Grand total Mowana			**171,871**	**0.84**	**1.445**
Adjustment for overlap[2] (Company internal estimate)	0.25%	Measured	(29)	1.00	-
		Indicated	(6,675)	0.87	(58)
		Inferred	(4,087)	0.87	(26)
Total adjustment			(10,791)	0.78	(84)
Adjusted Mowana[3]	**0.25%**	Measured	**14,696**	**1.00**	**147**
		Indicated	50,693	0.95	481
		Inferred	95,691	0.76	732
Adjusted Grand total Mowana (Company internal estimate)			**161,080**	**0.84**	**1,360**
Thakadu'	0.25%	Indicated	2,268	1.11	25
		Inferred	5,380	0.63	34
Grand total Thakadu			**7,648**	**0.77**	**59**
Adjustment for depletion[3]	0.25%	Indicated	(1,085)	1.38	(15)
		Inferred	(137)	0.73	(1)
Total adjustment			**(1,222)**	**1.31**	**(16)**
Adjusted Thakadu	0.25%	Indicated	1.183	0.85	10
		Inferred	5,243	0.63	33
Adjusted Grand total Thakadu			6,426	0.67	43
Deposits not included in the Mine Plan					
Erasmus	0.25%	Indicated	1,522	0.81	12
Makala	0.25%	Inferred	11,454	1.46	167
Grand total[4]		Measured	**14,696**	**1.00**	**147**
		Indicated	**53,398**	**0.94**	**503**
		Measured + Indicated	**68,094**	**0.96**	**650**
		Inferred	**112,388**	**0.83**	**932**
Grand total			**180,482**	**0.87**	**1,582**

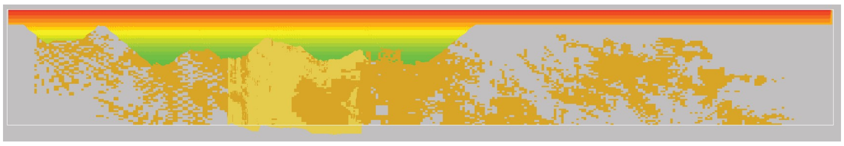
[1] Source: CPR
[2] Source: CPR, although there was an overlap in the geological models used in the September 2014 and June reports by Golder Associates. This has been adjusted by the company to eliminate double counting.
[3] Source: Internal company adjustment for depletion.
[4] On 21 December 2016, the company announced that Mowana had a mineral resource inventory of 683,000 tonnes copper in the Measured and Indicated categories with an additional 945,000 tonnes of copper in the Inferred category, the difference to the figures set out above (650,000 copper in Measured and Indicated and 932,000 tonnes of copper in Inferred) is attributable to the Nakalakwana prospect, which is located within a licence which ZCI has retained, and therefore does not form part of the Mowana assets being purchased by the company.

Table: Mowana Copper Mine JORC-compliant resource with adjustments summary. Source: Company

Operations

In Q1 2017, Cradle Arc refurbished and re-commissioned the process plant with mining and processing consultants PenMin allowing copper production to recommence in March 2017. At present, the team is seeking to increase throughput in order to achieve the current nameplate capacity of 1.2Mtpa @ 1.1% copper for 12,000 tonnes of copper per year. Production is coming from two pre-stripped pits at Mowana North and Mowana South, which may ultimately have a depth of up to 350 metres, mining transitional and sulphide ores with the oxides being treated as waste.





Optimised pit shell and cross section at US$2.15/lb copper. Source: CPR December 2017

Since production was recommenced, over 8,800 tonnes of copper concentrate have been produced and sold to Fujax, Leboam's offtake partner (which was the latest figure given in the Proposed Acquisition document). **The mine is currently continuing to ramp-up its production rate to 4,000 tonnes of copper concentrate per month.**

Mining is by a truck and shovel operation, using 40t dump trucks. The mineral processing plant employs a conventional crushing, screening, milling and flotation circuit. The run of mine (ROM) pad feeds the crushing and screening circuit which consists of a primary jaw crusher followed by secondary and tertiary cone crushers which take the feed size down to under 16mm to go into the mill. The processing circuit in the mill consists of a single F L

Smith rubber lined 160 tonnes per hour ball mill, conventional dual oxide/sulphide flotation circuit, a concentrate drying circuit including a Larox filter, concentrate bagging station and tailings dewatering equipment.

There is good infrastructure at the Mowana Copper Mine, as would be expected at an established mining operation. Power is supplied via 20MVA overhead line which comes directly from a switching station on the national grid, which lies 19km away. This is supported by a 500kVa diesel back-up generator on site. Mine accommodation is found 15km away at the Mosetse Village where there are 50 three and four bedroom houses. Process water is supplied from five boreholes in a dedicated field 7km from site. Fuel is supplied under contract with Vivo Energy Botswana.

Flotation and crushing plants at the Mowana Copper Mine. Source: Company

Moving ahead

Cradle Arc is now managing the Mowana Copper Mine and introducing technology that has been proven elsewhere to reduce costs. An important part of the new approach is to treat high oxide ores as waste. The company's future mining strategy involves treating low-oxide ores which contain less than 25% acid soluble copper to improve recovery rates and concentrate grades. The high oxide ores will be excluded due to low predicated recovery rates (30-40%) and low concentration grades (c15%) which has been achieved when treating oxides in the Mowana processing plant historically. Fortunately, the majority of the oxides, c.70-80%, have already been stripped out but future oxides will be trucked to an oxide dump with potential for subsequent treatment.

During the re-commissioning process, the team sought to incorporate a number of key plant improvements and there are more planned for the future. Overall, there seem to be three key improvements being adopted. Firstly, efficiency throughout the plant is being improved by introducing automation and controls, and which were previously lacking. Secondly, recoveries from existing transitional ores are expected to be improved by the use of a reagent called H88L, which can float both copper sulphides and copper oxides. Thirdly, a planned addition of a Dense Media Separator (DMS) unit will allow production to double.

Cradle Arc has embarked on a program of re-logging existing drill cores with the goal of developing a new geological model which will be used to redesign the mining operations. At the same time, the company will also be seeking to optimise the mineral processing plant by upgrading the crushing and ore handling equipment. Cradle Arc, along with its partners, are seeking to remodel the mine to ensure that copper can be produced at a much lower cost.

Cradle Arc has sub-contract agreements with PenMin and DigMin. PenMin provides strategic solutions for the power and mining industries throughout Africa and will manage the processing plant. The African bulk earthworks contractor DigMin will manage the mining operations. Cradle Arc has awarded the copper offtake to Fujax, a minerals and energy trading company based in South Africa.

Increasing production

The Phase 2 mine plan requires increasing production to 2.6 Mtpa of ore @ 1.35% copper to produce approximately 22,000 tonnes of copper annually. This phase involves the addition of a DMS unit which will act as a pre-concentrator sorting out gangue materials, low grade and oxidised material. **In this way, copper production is expected to be allowed to effectively double, which will result in substantially enhanced economics over an 11-year life-of-mine**.

Adding a DMS unit to the front end of the mill could double production. Mowana has oxides down to 250 – 280 metres deep and the rest is pure sulphide. In the mill, oxides only have a recovery of around 40% compared with 90%+ recovery for the sulphides. Graphite in the orebody likes to float and acts to cause a loss of copper in the flotation process. The plan is to send all the high oxide ores, graphitic material and other gangue materials to the oxide dump.

DMS unit. Source: Company

There are shoots of oxide plunging down, as well as graphite, but it is hard work to selectively mine to avoid oxides and graphite. All these minerals have different specific gravities and therefore the DMS unit can effectively separate these out from the sulphides. Moving ahead, Cradle Arc will be able to mine the mineralisation as though it was homogenous, leaving the DMS unit to upgrade the ROM.

Detailed scoping studies have been completed in the past by third parties looking at the potential installation of a new DMS pre-concentrator process and upgraded crushing plant at Mowana. The company has agreed non-binding terms for a turnkey proposal for the DMS upgrades with SGS Bateman, which are expected to be entered into following due diligence and the planned AIM re-admission. **The end result of the investment is intended to be substantially higher production, with the addition of enhanced automation and control.**

Financial models

The current mine plan assumes annual production of 1.2Mt of ore at an average grade of 1.16% for 12,000 tonnes, with a life of mine of 11 years. **The financial model for the current mine plan highlights an NPV(10) (real) of US$87.5 million and a 56% IRR based on the material assets held at Mowana (at an average copper price of US$2.84/lb and an 11-year life).** (Source: Company announcement 12 May 2017). There is also an internal valuation which takes into account the Phase 2 mine plan and the incorporation of the DMS unit. This is called the Leboam Mowana Financial Model and results of this study were announced in December 2016. It represents a detailed Scoping Study that has been completed by Minero Consulting and SENET (Pty) Ltd, a leading South African project management and engineering company.

The Scoping Study covers the introduction of the DMS as a new front end to the mill along with an upgraded crushing plant to take nameplate capacity up to 2.6Mt per annum and increased copper production to 22,000 tonnes of saleable copper annually at an average grade of 1.34% copper. The life of mine was 11 years based only on known resources, with exploration upside potential. **This internal analysis demonstrated an NPV(10) (real) of US$245 million and an IRR of 55% at an average copper price of US$2.81/lb over the life of mine.**

Financing expansion

Fujax has been awarded the copper offtake contract and has provided US$5 million as pre-payment for copper concentrate. Following completion of the Revised ZCI Debt Restructuring (see page 5), CAI has a 60% interest in Leboam, which has a US$9.9 million secured loan owing to ZCI, a US$3.6 million secured loan to Fujax from the Fujax Financing Agreement, a US$10 million secured loan owing to the liquidator and a US$21 million unsecured loan outstanding to ZCI. **Following the debt restructuring, a large amount of debt in the project has been converted into equity, so the debt burden comes down to a far lower level, which will make it a lot more manageable for Cradle Arc.**

Following admission, the company intends to enter into an EPC contract with SGS Bateman and to begin the process of installing the DMS process upgrades, with an expected cost of US$5 million. In a previous report we outlined the likely cost for a DMS unit of US$17 million however, work by SGS Bateman has got this capital cost down to US$5 million by splitting the DMS upgrade from other 'nice to have' upgrades which the company can do at a later stage when there is strong cash flow. Scoping studies by third parties have shown the potential of installing a new DMS pre-concentrator process and upgraded crushing plant at Mowana. **Importantly, the upgrades cost of US$5 million is currently expected to be financed from the mine's operational cash flows.**

Gold Mining

Matala Gold Mine

Cradle Arc is focusing on near-term production at the Matala Gold Mine in Zambia. In November 2015, the company acquired Luiri Gold Mines Ltd, which owns a 25-year renewable mining licence covering two historical open pit and underground mines called Matala and Dunrobin, along with two satellite deposits at Chosa and Shadreck.

Cradle Arc holds a 100% interest in this fully permitted mining licence that covers an area of 32km². The project has a JORC-compliant resource of 760,000 ounces of gold in the Measured, Indicated and Inferred categories at an average grade of 2.3g/t gold. Alecto acquired the project for £1.54 million, with the bulk of the consideration paid in equity and the vendors taking a then 29.9% stake in the enlarged company.

We believe that Matala has all the makings of a first-class project. There is impressive infrastructure that includes access to grid power, with the project located just 4km from a main road and 25km east of the town of Mumbwa. There is also strong local and political support in Zambia for what will be the country's first dedicated gold mine of modern times.

The Matala Gold Mine lies in south-central Zambia where the geology is dominated by the Mwembeshi Shear Zone, which acts as boundary between the late Proterozoic Katanga Supergroup basinal sediments to the north and the more highly deformed Zambezi Metamorphic Belt terrain in the south. The licence area of the project includes the geologically complex Matala dome, which is an elongated ENE dome lying roughly parallel to the trend of the shear. To date, the Matala Dome has been found to host most of the important gold occurrences identified within the project area.

Background

There is a history of mining in the licence area. Between 1927 and 1941 there was opencast and underground mining at the Dunrobin mine. The Matala deposit saw limited historical underground mining which began in 1928.

		Cut-off grade g/t gold	Tonnes 000's	Average grade g/t gold	Gold resources 000's ounces
Dunrobin	Measured	1.0	978	2.6	81
	Indicated	1.0	1,063	2	69
	Inferred	1.0	763	1.8	43
Matala	Indicated	1.0	3,204	2.7	278
	Inferred	1.0	4,525	2	290
Total	Measured	1.0	978	2.6	81
	Indicated	1.0	4,267	2.5	347
	Inferred	1.0	5,288	2	332
Grand Total		**1.0**	**10,553**	**2.3**	**760**

Table: Matala Gold Mine JORC-compliant resource summary. Source: Coffey Mining (January and November 2012)

Prior to Cradle Arc's acquisition, US$20 million had already been invested in drilling and test work on the project. This included a Scoping Study on the Matala deposit (2013) and a Feasibility Study on the Dunrobin deposit (2013) prepared by Coffey Mining Pty Ltd. Metallurgical test work carried out in 2012 by minerals processing consultants Peacocke & Simpson importantly showed that the fully oxidised resources from both these mines were amenable to gravity concentration followed by direct cyanidation.

Scoping Study & Sampling

The announcement of the acquisition in November 2015 included the results of an updated internal Scoping Study for Matala. This study was based on the JORC-compliant resource which had been determined by Coffey Mining in 2012, and highlighted impressive strong cash flows and robust economics from this project. **The initial capital cost was estimated to be around US$18 million and using a gold price of US$1,150 per ounce gave an NPV(10) of US$18 million, with an indicative IRR of 65% based on an initial mine life of three years.** In the first two years, the better gold grades in the oxides at Matala would be mined with an expected average grade of 3.1g/tonne. **The economics do look pretty compelling, with C1 cash cost (net direct cash cost) estimated at approximately US$695 per ounce, before taking into account government royalties of 6%.**

In March 2016, Cradle Arc announced excellent results from a confirmatory sampling programme conducted on surface stockpiles at this project. The plan was to validate a historic report produced in 1984 by the Zambian Industrial and Mining Corporation (ZIMCO), which had estimated that an additional 75,000 tonnes of measured non-JORC compliant minerals resources existed in recently identified historic dumps and tailings at Matala.

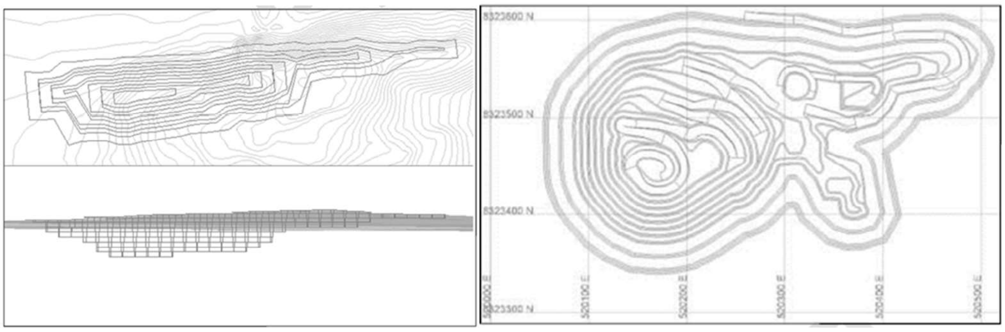
The ZIMCO report highlighted a weighted average grade of 2.83g/t gold. Grades encountered in Cradle Arc's sampling included 3.87 – 8.37 g/t gold in mill tailings dump and 0.39 – 7.96 g/t gold in scree rubble deposit. In addition, four confirmatory samples taken from the main Matala Lode and the oxidised leached cap at Matala were found similarly good grades averaging 5.59g/t gold. This served to illustrate that the company has additional high-grade tonnage on the surface. **This mineralised material could be processed with little mining cost and could significantly improve project economics in the early stages.**

Mine plan

In December 2015, Cradle Arc reported that it had entered into an agreement with mining and processing consultants PenMin to help in the development of the project. The scope of the agreement with PenMin covered: updating and finalising the historic DFS prepared by Coffey Mining, preparing the Design, Build and Operate contract for the project, preparing mining contracts, seeking to secure vendor financing and ensuring that the necessary permits and approvals were in place to commence production.

Detailed pit designs have been developed for both the Matala and Dunrobin pits based on a forecast gold price of only $1,200 per ounce. Recoveries using gravity recovery and direct cyanidation are expected to be more than 90%.

The development plan for Matala involves a single-phase pushback to pit depth. A central access ramp will be mined concurrently through each bench as the nine deepens. A 5-metre bench height is planned in both the mineralised and overburden material. The ROM minerals material will be loaded in pit by a 5.2m³ bucket excavator and transported by 40-tonne articulated dump trucks (ADTs) to the plant and the ROM pad.



Matala Pit Design (700m x 250m) and Dunrobin Pit Design (starter pit 230m x 230m). Source: Company

Financing & Feasibility Study

In April 2016, Cradle Arc was able to announce that it had signed a vendor financing agreement with mineral processing plant manufacturer Yantai Xinhai Machinery Co. Ltd (Xinhai) and PenMin for the construction and financing of a gold mine at Matala. At this time, the results of the PenMin Definitive Feasibility Study (DFS) were unveiled which showed positive economics for a 400,000 tonnes per annum oxide and transitional open pit mining ore at an average grade of 2.3g/t gold to produce 30,000 ounces of gold per annum with a mine life of just under 5 years at US$1,200 per ounce gold.

There is obvious exploration upside at both the Chosa and Shadreck historic mines, which lie close to Dunrobin, plus the underground potential. The PenMin DFS estimated capital cost for the plant and infrastructure to be US$14.4 million with an NPV(8) of US$28.6 million and an unlevered IRR of 52%. **It will not initially be a large mine but represents a low risk entry into gold production and comes with an attractively low estimated capital cost for plant and infrastructure.**

Moving ahead

Cradle Arc has been working with potential funding partners to secure the necessary funding to bring Matala into production. Good progress has been made but there has been a delay as potential funders have been unable to accept security over the assets in Zambia to date. At the heart of the problem lies the fact that the company did not have a strong enough balance sheet to support the level of borrowings required. The board has been seeking to gain third party security from a financial institution, but such negotiations and due diligence can take a while. Whilst these discussions continue however, the detailed engineering and design work has carried on and is now almost complete.

The acquisition of the Mowana Copper Mine represents a transformational move by the board in our view, and is one which is likely to have a positive knock on effect to the other projects. Now that Cradle Arc has completed the acquisition of Mowana with its substantial asset base, fast-growing revenue stream and cash flow, the balance sheet should become **sufficiently robust to strengthen the company's position in seeking to unlock the required financing.**

Gold Exploration Portfolio

While Cradle Arc is focusing on achieving profitable production from its proven copper and gold mining assets, management has secured strategic joint-venture partnerships with leading mining companies to fund exploration on its gold exploration projects. This strategy will allow the value of these assets to be maximised, but at little cost to Cradle Arc.

Moving forward, it is clear that the company is no longer prepared to invest in basic exploration and so projects in the exploration portfolio will either need to be funded by a joint-venture partner or let go.

On 17th August 2017, the company announced the sale of its non-core Kossanto East Gold Project to Ashanti Gold Corp for C$1 million, whilst retaining a 1.5% net smelter return (NSR). Ashanti has the right to purchase the NSR for US$100,000 for each 0.1%, for a maximum of US$1.5 million.

Kossanto West (Mali)

This project covers a 137km² exploration permit on the regionally significant Main Transcurrent Shear Zone. The joint-venture partner is Randgold Resources which has been granted the right to acquire a 65% stake in the project by funding exploration to a Preliminary Feasibility Study (PFS). Randgold is a leading gold mining company in West Africa which mainly operates in Mali.

Multiple high-grade discoveries have been made and the joint-venture agreement could be seen as the first phase of what could be a significant land grab in the area by Randgold. This joint-venture partner has recommenced exploration from the grass roots level which well-illustrates that company's really thorough approach.

Karan (Mali)

Karan consists of a 250km² exploration permit where the joint-venture partner is Kola Gold Ltd, which has been granted the right to earn 65% by fully funding exploration to a Bankable Feasibility Study. Kola Gold has a portfolio of gold properties in the Republic of Congo, Mali and Senegal, that includes a joint-venture with Hummingbird Resources.

Kerboulé Gold Project (Burkina Faso)

Cradle Arc has a 100% stake in this 399.5km² exploration permit which was recently extended for a further three years. The project has multiple exciting exploration targets and an independently assessed non-JORC compliant resource of 6.2Mt grading at 1.16g/t gold for 230,758 ounces of gold at a cut-off grade of 0.5g/t.

The project lies on strike with Avocet Mining's Inata Gold Mine which has really highlighted the scale of opportunities in this area. **Discussions with potential joint-venture partners are reported to be in progress.**

Financials & Current Trading

Management is in the midst of transforming Cradle Arc from being an African gold explorer to becoming a profitable African metals producer operating in some of the more stable countries in the continent. Such a strategy was put in place following a period when mining juniors were being shunned by investors who became tired of small cap explorers continuingly fund raising and diluting at a time of lacklustre metal prices.

Cradle Arc has now emerged as a copper producer. There are near-term production growth opportunities as a consequence of the upgrade of the Mowana Copper Mine along with plans for near-term gold production from the Matala Gold Mine which is expected to commence in 2019.

YE Dec £'000	2012A	2013A	2014A	2015A	2016A
Revenue	-	-	-	14	-
Pre-tax profit/loss	-1,101	-1,243	-965	3,300	(4,343)
Net profit/loss	-1,101	- 1,243	-768	3,344	(4,343)

Table: Cradle Arc's five-year trading history. Source: Company accounts

2016 finals

During the period, Cradle Arc's activity was mainly focused on the wholly owned Luiri Gold Mines Ltd and the Matala and Dunrobin gold mines in Zambia. This work involved the completion of an internal scoping study which served to move the initial focus to Matala with a plan that involved reducing capital expenditure whilst improving early cash flows. During the year, Cradle Arc also actively pursued funding options to move Matala into production. At the same time, the company successfully entered joint venture arrangements on three of its gold exploration projects in Mali.

Recent developments

In March 2017, following the appointment of a mine contractor at Mowana, the company reported that the conventional crushing and screening circuit had been successfully operating for two weeks, stockpiling crushed ore.

At a General Meeting on 31st July 2017, shareholders approved a 1-for-300 consolidation which reduced the number of shares in issue from 5,649,248,546 to 18,830,829. At the time, investors learnt that since production began at Mowana over 5,000 tonnes of copper concentrate had been produced and sold onto Fujax. The mine was, at that stage, ramping up production to approximately 4,000 tonnes of copper concentrate per month and was on track to produce and sell 12,000 tonnes to Fujax by the end of August 2007.

Late-October 2017 saw the company raise £3.25 million of pre-IPO funding through the issue of Convertible Loan Notes (October 2017 CLN), which automatically convert into shares on admission at the placing price.

On 14th November 2017, the board announced that all the resolutions proposed at the General Meeting on the previous day were duly passed. These resolutions concerned the proposed acquisition of Cradle Arc Investments, the approval of the Panel's waiver of the Concert Party's obligation to make a general offer for the company and the proposed amendments to the company's articles. This allowed 40.52 million consideration shares to be issued to PenMine (Botswana) and the acquisition of the Mowana Copper Mine to be unconditionally completed*.*

Funds ahead of the relist totalling £2.40 million was raised at a placing price of 10p leading to the issue of 24,000,000 shares. The enlarged share capital of the company on admission is 201,329,482, and which consists of: existing ordinary shares (68,679,482), placing shares (24,000,000), additional consideration shares (75,000,000), October 2017 CLN shares (32,500,000) and fee shares issued to advisers (1,150,000).

Risks

Geological risks

There are a series of technical risk factors concerning the amount of understanding of the geology of the project areas, the mineralisation style being targeted and the distribution and magnitude of the indicators that have been identified in exploration work.

Political risk

There are political risks involved with companies operating in Africa. The mining industry is arguably the most susceptible sector of the market to political risk largely due to its importance to the economies of host countries.

Metal price risks

Metal prices are highly cyclical and changes in the prices of copper and gold could have a negative or positive impact on the revenues from the sale of metals, costs and the valuation placed on the company's projects by the market. Over the past decade, the price of copper has been highly volatile, trading in the range of US$1.30 – 4.50 per pound and currently trades around the US$3.09 level. Over the same period the price of gold has traded between US$641 and US$1,900 and now sits close to the US$1,270 level.

Exchange rate risks

Movements in the value of currencies will have an effect on the company's accounts on translation from US dollars and African currencies into sterling. Fluctuations in the value of these currencies against sterling may have an effect on the valuation Alecto shares are awarded by the market.

Future funds

Some recent fund raising exercises in the resources sector have seen share prices being undermined by incoming investors demanding substantial discounts to provide the necessary capital. The market for raising funds for small cap companies may have improved from the worse conditions seen eighteen months ago, but the equity market does continue to be difficult for businesses in the resources sector, especially mineral exploration business. That might have been a problem for Cradle Arc in the past, but the company is being transformed into a diverse African mining business and has moved firmly away from mineral exploration where the hope of early cash flow can be elusive. Support from institutional investors on re-admission underline this transformation.

Board

Toby Howell – Non-Executive Chairman

Toby began his career working in the equities at UBS Warburg in London and went on to help manage the investment division of Internet Business Group plc. Since then he has specialised in smaller companies' corporate finance, undertaking transactions on the Official List and AIM as well as private equity transactions. He is a director of Blomfield Corporate Finance Limited, a subsidiary of Religare Hichens, Harrison Co. Toby is an officer in the Territorial Army and served on operations in Iraq during 2004. Toby will remain the Non-Executive Chairman.

Kevin van Wouw – Chief Executive Officer

Kevin has over 30 years' experience in the mining industry and is currently the Managing Director of PenMin. Prior to PenMin, he was the General Manager, Operations at FL Smidth (Pty) Ltd, where he introduced both its project management and risk management systems. Prior to this, he founded Minero Consulting, working as Project Director on numerous African mining projects, and was also Projects Director at LionOre Mining International Limited, where he was directly responsible for the commercialisation of its ActivoxTM technology, as well as conceptualising and implementing the Commercial DMS application for Tati Nickel Mining Company (Pty) Ltd, in Botswana. He was also Senior Project Manager for the Ngezi and Mimosa Platinum Projects while working for DRA International (Pty) Ltd. He has in-depth knowledge of the development of projects across many different currencies and sovereign regions, and the macroeconomic impact of African projects. Kevin holds an Honours degree in Metallurgy from Pretoria University and is a Fellow of the South African Institute of Mining and Metallurgy. He was appointed a Non-Executive Director on 26 September 2017 and, following the acquisition of Cradle Arc Investments, assumed the role of Chief Executive Officer.

Mark Jones – Chief Operations Officer

Mark is a graduate of the Camborne School of Mines and is a mining engineer with over 30 years' experience in mining production and associated businesses, 20 years of which have been spent in Africa. He has specific expertise in gold and base metals in Africa, Europe and the FSU. In his previous role as CEO of African Mining and Exploration plc, Mark oversaw the development of Kossanto. In the past, he has been the CEO of Aurum Mining plc and Expert Explosives Ltd. Mark was formally a non-executive director of Tulpar Gold plc and Antracor Mining Ltd.

Roger Williams – Non-Executive Director

Roger is a Chartered Accountant with over 20 years' international experience in mining finance and an honours degree in French and Spanish. He was previously CFO of Randgold Resources Limited and part of the management team that transformed it from being an exploration and development company into a major gold producer. He then went on to become CFO of JSE-listed AECI Limited. His other experience includes directorships and interim executive appointments with various mining and mining services companies. Roger is currently a Non-Executive Director of Sylvania Platinum Limited and Non-Executive Director of Digby Wells and Associates, an environmental and social consultancy to the resources sector in Africa.

Senior management

Dominic Doherty – Head of Commercial and Legal Affairs

Dominic is a retired British Army Officer with a Law Degree from the University of Exeter. He has spent over 20 years' working in Africa where he has forged strong bonds and developed a close network of relationships within some of the most inhospitable environments. With over 10 years' experience in commodity trading, mining and exploration he acted as Country Manager for African Mining and Exploration plc (now named Savannah Resources plc) in Mali and was responsible for the selection and acquisition of the Kossanto projects. At Cradle Arc, he has managed operations on the ground throughout its asset portfolio and handled M&A matters relating to the Company's various joint ventures and recent acquisitions in Zambia and Botswana.

Martthinus (Tony) Appelgryn – Chief Financial Director

Tony qualified as a Chartered Accountant (SA) in 1993 and was one of the founding partners of ARC Inc in 1996. He completed his studies at the University of Johannesburg (RAU) and his articles with international audit firm PwC. Tony served on various committees of The Afrikaanse Sakekamer and also as Chairman. In this capacity, and as an auditor in public practice and consultancy, he gained extensive experience in the business sector especially in mining and retail, both in the auditing and business managerial fields. He also serves as an independent director and as chairman of audit committees of listed companies on the Johannesburg Stock Exchange. Mr Appelgryn joined PenMin in 2015, where his current role is that of Chief Financial Officer of the PenMin group of companies.

Vincent (Paddy) Conran – General Manager, Matala Project

Paddy, a Chemical Engineering graduate, joined De Beers Centenary as a Graduate Metallurgist and spent nine years gaining metallurgical and operational management experience on many of the key mining processes at the NAMDEB Mine in Namibia. During this time, he obtained a post graduate diploma in Management and also attained Charter status with the Institute of Mining and Metallurgy. He left De Beers Centenary to work for a small independent diamond mining company in Angola. Paddy spent over 10 years in Angola working for several small diamond mining companies as a senior operations manager, including three years as Director of Metallurgy with Angola Technical Services, an exploration subsidiary of BHP Billiton. He joined Paladin Africa Ltd as Process and Metallurgical Manager on their Uranium operation in Malawi. Paddy was then appointed General Manager and held this position until the operation went into care and maintenance.

Sebele Molalapata – General Manager, Mowana Copper Mine

Sebele is a Professional Mining Engineer with over 28 years' experience in mining, of which 15 years is at senior management and executive levels. He has extensive experience in both surface and underground mining having worked for De Beers/Debswana Diamond Company and Norilsk Nickel/Tati Nickel Mining Company in Botswana. Sebele has a Bachelor of Mining Engineering, from the Technical University of Nova Scotia, a Certificate in Mining Engineering from Mount Allison University in New Brunswick and a Diploma in Business Management from the European School of Business Studies in Paris.

Thuso Dikgaka – Botswana In-country Director

Thuso is a mining engineer with over 35 years' experience in the mining industry, with expertise across a number of commodities including base metal production with Botswana Copper Limited and Tati Nickel, diamond production with Debswana Diamond Company and coal at Morupule Colliery. He spent a number of years working in Canada and South Africa, and has worked extensively in Botswana holding senior positions at Orapa and Letlhakane Mines; Burrow Binnie Botswana and the Botswana Department of Mines in legislative and regulatory capacities. Thuso is graduate of the Haileybury School of Mines and the Technical University of Nova Scotia.

Forecasts

We update our coverage of Cradle Arc with forecasts for the year to December 2017 and December 2018. As a 60%-owned subsidiary, we have consolidated the results of Mowana into the parent company's P&L accounts, adjusting for the net loss that is attributable to minority interests. Cradle Arc has the management contract for Mowana which pays a fee of 1.5% of the mine's revenue and has been included in our figures. It is expected that administration charges will increase as the business base has expanded.

As a result, we see an operating loss of £1.06 million for 2017. Following recent fund raising activity, the weighted number of shares for the year has increased substantially and we forecast a loss per share of 4.12p.

Year-ending 31st December £'000s	2015A	2016A	2017E	2018E
Revenue	14	-	2,300	54,000
Cost of sales	-	-	660	17,700
Gross profit	**14**	**-**	**1,640**	**36,300**
Mowana management fee	-	-	286	552
Total income	14	-	1,926	36,852
Operating expenses	-	-	(1,500)	(25,200)
Other administration expenses	(760)	(822)	(1,430)	(1,500)
Impairments	-	(3,563)	-	-
Total administration expenses	(760)	(4,385)	(1,430)	(1,500)
Other net gains/(losses) including exceptional items	4,076	42	-	-
Operating (loss)/Profit	3,330	(4,342)	(1,004)	10,152
Finance income	-	-	-	-
Net income attributable to minority interests	-	-	(56)	(4,440)
Profit/(loss) before income tax	3,330	(4,342)	(1,060)	5,712
Income tax expense	-	-	-	-
Profit/(loss) from continuing Operations	3,330	(4,342)	(1,060)	5,712
Discontinued operations				
Profit from discounted operations (attributable to equity holders if the Parent)	13	-	-	-
Profit/(loss) attributable to owners of the Parent	**(3,344)**	**(4,342)**	**(1,060)**	**5,712**
Basic earnings per share (pence)				
From continuing operations	0.250	(0.18)	(4.12)	2.89
From discontinued operations	0.001	-	-	-
From profit/(loss) for the year	0.251	(0.018)	(4.12)	2.89
Weighted average number of shares*	4,438,196	8,031,726	25,730,847	197,663,729
Total shares plus CLNs, management options, CLN warrants plus other options and warrants.	10,762,823	12,618,973	76,529,482	267,159,482

Table: Cradle Arc summary forecasts. Source Company accounts and Align Research
** Weighted average number of shares adjusted for the 300:1 consolidation*

Valuation

Along with its peers amongst the exploration juniors, Cradle Arc saw its share price whittled away from 2014 until its suspension from AIM despite having good drilling results and 250,000 ounces of gold JORC-compliant resources announced. In response to the poor market conditions, management went out searching for distressed assets or advanced projects, seeking to secure the right deal on which to build a mining company. This led to the acquisition of the Matala Gold Project, followed by its flagship asset, the Mowana Copper Mine, which we have sought to value along with the gold exploration projects.

Mowana Copper Mine

The Competent Persons Report (CPR) dated May 2017 was produced by Wardell Armstrong and included a review of the financial model without DMS, which the consultants deemed had the appropriate level of detail necessary for project evaluation. The model determined an NPV(10) of US$87.5 million and 56% IRR based on the material asset held at Mowana, and using an average copper price of US$2.84/lb over an 11-year life. This assumes annual production of 1.2Mt at an average grade of 1.16% for the initial 12,000 tonnes copper production scenario with a life of mine of 11 years. (Source: company announcement 12 May 2017)

There is also an internal valuation, which also takes into account the Phase 2 mine plan and the incorporation of the DMS. This is called the Leboam Mowana Financial Model and represents a detailed Scoping Study that has been has been completed by Minero Consulting and SENET (Pty) Ltd, a leading South African project management and engineering company.

This Scoping Study covers the introduction of the DMS as a new front end to the mill along with an upgraded crushing plant to take nameplate capacity up to 2.6Mt per annum and increased copper production to 22,000 tonnes of saleable copper annually at an average grade of 1.34% copper. The life of mine was 11 years and based only on known resources, with exploration upside potential. **This internal analysis demonstrated an NPV(10) of US$245 million and an IRR of 55%, at a copper price of US$2.81/lb over the life of mine.**

Wardell Armstrong has pointed out that these preliminary studies do indicate that adding a DMS plant would improve the project economics, but the CPR consultants require that additional work be undertaken to demonstrate the viability of the DMS process. What Wardell Armstrong is seeking is a Feasibility Study which would give them the appropriate level of detail required for the project valuation, and from there would presumably allow the CPR consultants to give their blessing to the validity of an NPV determined for the enlarged operation.

We believe that the inclusion of a DMS plant would have a dramatic impact on the cost of production. The incorporation of a DMS unit into the circuit is a known processing route for pre-concentrating run of mine to remove gauge and low grade and oxidised material. For this reason, we have sought to value Mowana with the increased production that the DMS plant will provide using a 10% discount rate and also repeating the analysis at a more conservative 12% discount rate.

Our model has been conservatively formulated based on studying management's plans and the CPR of May 2017 along with valuation reports. Work by SGS Bateman on the DMS plant upgrade has allowed the cost of the DMS to fall from US$17 million to US$5.5 million. Additionally, reductions in the cost of leasing equipment and some other economies have taken the capital expenditure over the next 24 months down to US$5 million. **The key assumptions made in our model include: full production achieved at the mine by the end of Q3 2018, the DMS unit commencing operation in Q4 2018, full Phase 2 production achieved in 2019 and total recovery rising from approximately 70% initially to 93% in 2022.**

US$ million	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Waste mined (Mt)	3.8	0.8	20.0	22.0	22.0	22.0	22.0	22.0
Ore mined (Mt)	1.20	1.95	2.64	2.64	2.64	2.64	2.64	2.64
Cu grade mined	1.27%	1.32%	1.33%	1.32%	1.29%	1.31%	1.32%	1.32%
Recovered copper (t)	12,700	14,500	22,000	22,000	22,000	22,000	22,000	22,000
Cu price US$/lb	2.80	2.80	2.85	2.90	2.95	3.00	3.05	3.10
Gross revenue	75.57	86.28	133.24	135.58	137.91	140.25	142.59	144.93
Treatment, refining, royalties	24.73	25.38	36.30	36.66	37.03	37.39	37.75	38.12
Gross profits	50.84	60.90	96.94	98.91	100.89	102.86	104.84	106.81
Operating costs	35.26	36.90	61.41	65.36	65.70	66.04	66.38	66.73
Debt repayment + interest	6.80	25.30	17.40	-	-	-	-	-
Operating profits	8.77	12.96	18.13	33.56	35.19	36.82	38.45	40.08
Tax	-	-	-	-	-	-	4.06	5.01
Net Income	8.77	(1.30)	18.13	33.56	35.19	36.82	34.39	35.07
Capex	5.0	0.6	0.6	0.70	0.80	0.80	0.80	0.80
Net Income less capex	3.77	(1.90)	17.53	32.86	34.39	36.02	33.59	34.27
Discount factor	1.0000	1.1363	1.2913	1.4674	1.6675	1.8949	2.1539	2.4469
NPV (12)	3.77	(1.67)	14.20	23.95	22.56	21.27	17.85	16.39

	US$ million
Total Net Present Value	107.30
Terminal value PV	33.54
NPV + Terminal Value	**140.85**

Table: Mowana Copper Mine forecast using a 12% discount rate. Source: Align Research

We have sought to adjust for risk in selecting to use the higher discount rate in our NPV(12) figure of US$140.85 million or £99.19 million, based on current FX rates, in our analysis. **Cradle Arc's 60% stake in Mowana would be valued at £59.51 million on this basis.**

Discount rate	**10%**	**12%**
NPV US$ million	159.23	140.85
NPV £ million	112.13	99.19

Table: Mowana Copper Mine Net Present Value results. Source: Align Research

Matala Gold Mine

With good grades of gold oxides near the surface and given the current gold price, the Matala Gold Mine looks as though it should be economically sound in our view. Cradle Arc has a 100% interest in Matala and we have modelled a 400,000 tonnes per annum oxide and transitional open pit with an average grade of 2.3g/t gold producing 30,000 ounces of gold per annum with a mine life of slightly less than 5 years.

Once again, our model has been conservatively formulated based on studying management's plans and the CPR of May 2017 along with valuation reports. **The key assumptions made include: production commencing in 2019, full production achieved in 2020, plant gold recovery of 85% maintained across the life of mine and using a constant current gold price.**

US$m	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**
Waste mined (Mt)	-	-	3.21	2.21	2.44	0.67	0.10
Ore mined (Mt)	-	0.03	0.39	0.39	0.39	0.40	0.22
Ore grade to processing g/t Au		2.71	2.33	3.11	2.67	2.83	2.77
Recovered ounces	-	3,867	25,428	34,006	29,139	30,906	18,995
Gold Price US$ per ounce	-	1,300	1,300	1,300	1,300	1,300	1,300
Gross revenue	--	5.03	33.06	44.21	37.88	40.18	24.69
Sales commission, royalties	-	0.31	2.62	3.47	2.98	3.16	1.94
Gross profits	-	4.72	30.44	40.73	34.90	37.02	22.75
Operating costs	-	3.01	23.08	21.56	22.61	18.81	10.05
Operating profits	--	1.54	5.82	17.19	10.55	16.36	6.73
Tax	-	-	-	-	3.76	6.59	4.82
Net Income	-	1.71	7.36	19.17	8.53	11.62	7.88
Capex		14.49	0.28	0.28	0.89	0.70	0.21
Net Income less capex	-	(12.77)	7.09	18.89	7.64	10.92	7.88
Discount factor	1.0000	1.1364	1.2913	1.4674	1.6675	1.8949	2.4469
NPV	-	(11.24)	5.49	12.87	4.58	5.76	3.56
Total Net Present Value	17.47						

Table: Matala Gold Mine forecast using a 12% discount rate. Source: Align Research

We have undertaken a sensitivity analysis using both 10% and 12% discount rates at a constant gold price of US$1,250, US$1,300 and US$1,350. **In valuing Matala we have chosen again to be very conservative and use the NPV(12) rate, combined with a gold price of US$1,300.** This produces a current value of US$17.47 million, or £12.30 million based on current FX rates. **We do point out that this figure also does not include any of the potential exploration upside nor the obvious underground potential and appreciation in the price of gold.**

Gold price	**NPV $US million at 10% discount rate**	**NPV US$ million at 12% discount rate**
$1,350	24.07	21.47
$1,300	19.73	17.47
$1,250	15.41	13.47

Table: Matala Gold Mine Net Present Value results. Source: Align Research

Gold exploration projects

The gold exploration projects in West Africa have been valued by peer comparisons. GoldStone Resources has an Enterprise Value of £4.66 million and a total 602,000 ounces of complaint resources at its Homase/Akrokerri project in Ghana.

Only one of Cradle Arc's three gold exploration projects, Kerboulé Gold Project (Burkina Faso) has a 230,758 ounce gold non-JORC compliant resource. The company has so far successfully brought in joint-venture partners to its exploration projects. The Kerboulé Gold Project is still 100%-owned and although the company recently sold off its Kossanto East project it retains a valuable NSR of 1.5%, where Ashanti has the right to purchase the NSR for US$100,000 for each 0.1%, for a maximum of US$1.5 million.

By comparison and based on the potential of Kossanto West (Mali) and Karan (Mali), which have attracted the attention of well-known gold mining companies, we have placed a valuation of £3 million on these gold exploration projects.

Conclusion

Adding together, the valuations of the three assets above result in a total valuation of £75.83 million which, **based on the newly issued share capital of 201,329,482 following the AIM re-admission, equates to 37.15p per share**. On a fully diluted basis (267,159,482 shares) the valuation equates to 28.00p per share.

Asset	Valuation
Mowana Copper Mine	£59.51m
Matala Gold Mine	£12.30m
West African gold exploration projects	£3.00m
Total	**£74.81m**
Per share (201,329,482 shares)	**37.15p**
Fully diluted (267,159,482 shares)	**28.00p**

Table: Combined valuation of Cradle Arc. Source: Align Research

In our view, management have set about creating real value with the two African mines and which look likely to generate significant news flow over the next 18 months. At the Mowana Copper Mine there is expected to be the investment decision on the DMS and rising copper production and sales, along with the new geological model and the likely redesign of the mining operations. The development of the Matala Gold Mine looks as though it will also provide timely news from the completion of financing, ground work commencing, construction, commissioning and the first gold pour.

Moving ahead, as there becomes greater visibility over cash flows and returns from the mining projects, we can afford to become less conservative in our valuation of the company's expanding asset base.

We update our coverage on Cradle Arc with a target price of 28.00p and a Conviction Buy stance.

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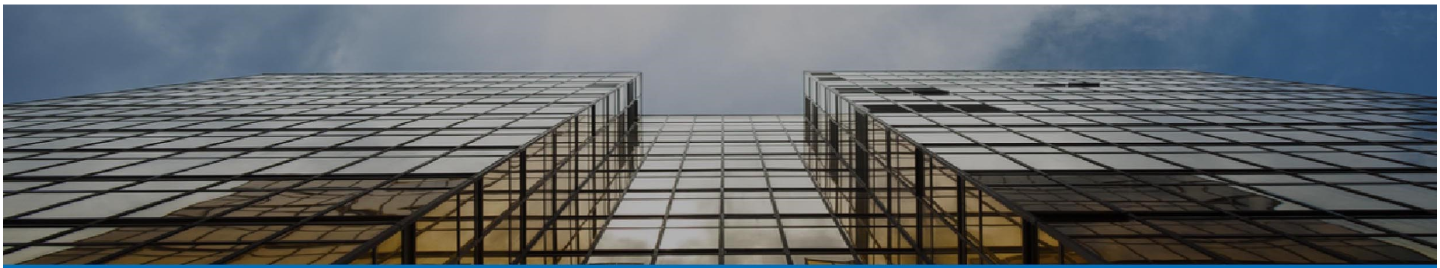

Align Research Limited
7 Moorhead Lane
Shipley
UK
BD18 4JH

Tel: 0203 609 0910
E: info@alignresearch.co.uk