COLLERINA
Cobalt Limited
ABN 79 106 879 690

29 January 2018

The Manager Companies
ASX Limited
20 Bridge Street
Sydney NSW 2000

(16 pages by email)

REPORT ON ACTIVITIES FOR THE QUARTER ENDED 31 DECEMBER 2017
(ASX: CLL)

COLLERINA PROJECT HIGHLIGHTS

- Successful **production** of **High Purity Alumina** sample assaying in the range of **99.984%-99.991%** demonstrating that a product applicable to the **4N HPA (99.99% alumina)** market is achievable.
- Counter Current Atmospheric Leaching (CCAL) test work achieved **90% nickel, 94% cobalt and 66% aluminium extractions** to a pregnant leach solution (PLS) with low overall acid consumption of 734 kg/tonne of ore.
- Aluminium solvent extraction test work from the PLS achieved **73.3% aluminium recovery** with excellent selectivity for aluminium and **100% scandium** recovery.
- Preliminary solvent extraction tests from aluminium depleted PLS achieved **98% nickel, 97% cobalt and 80% manganese** recoveries.
- Commencement of metallurgical testwork for the Pre-Feasibility Study.

CORPORATE HIGHLIGHTS

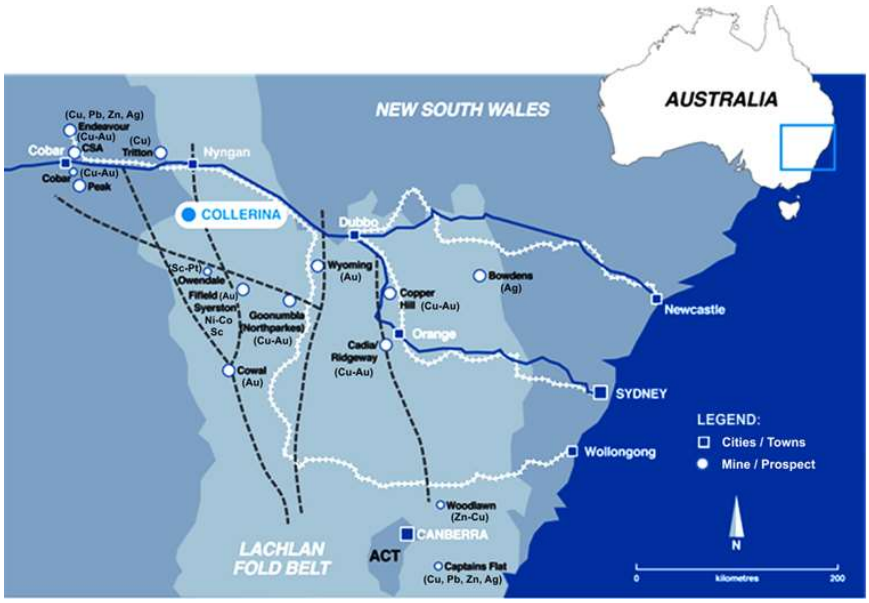
- Appointment of Messrs Rimas Kairaitis and Tony Sgro as Directors of the Company.
- Completion of a heavily oversubscribed share placement raising **$3,500,000** with funds raised to be used principally for completing a **Pre-Feasibility Study (PFS)** for the Collerina project and for general working capital purposes.

COLLERINA COBALT

Collerina Cobalt ('Collerina Cobalt' or 'the Company') is an ASX-listed mineral exploration and development company focused on advancing its 100% owned Collerina HPA-nickel-cobalt project in central NSW. The Company also has a pipeline of exploration projects in Chile and Indonesia.

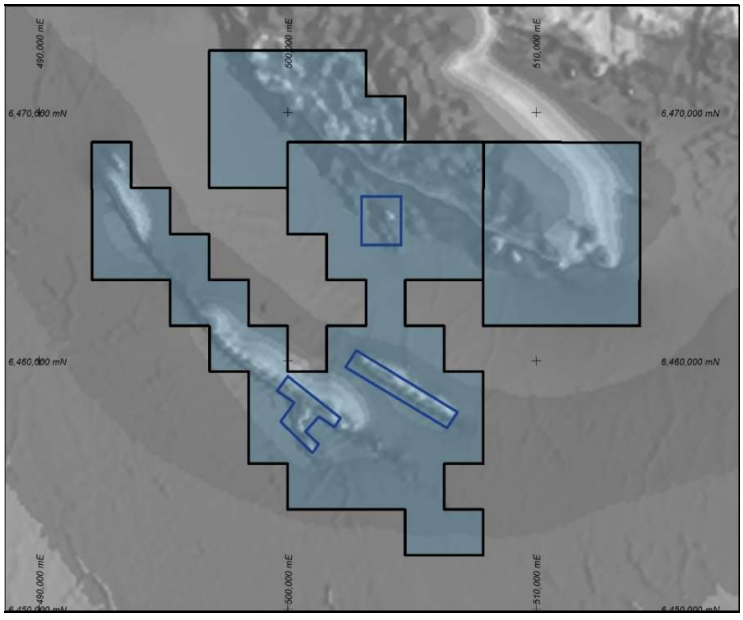
COLLERINA PROJECT – NSW (Collerina Cobalt - 100% owned and partly subject to farm-out)

The Collerina project is located 40 kilometres south of Nyngan in central NSW, covering an area of 150km^2 within the Fifield Platinum Province.



Collerina project situated about 40 kilometres south of Nyngan, NSW.

The project contains the Homeville HPA-nickel-cobalt deposit with a currently reported JORC 2012 compliant resource of 16.3 Mt at 0.93% nickel and 0.05% cobalt based on a cut-off of 0.7% nickel (4.4 million tonnes Indicated resource of 0.99% nickel and 0.06% cobalt and 11.9 million tonnes Inferred resource of 0.91% nickel and 0.05% cobalt).



Plan of the Collerina licence area (EL 6336) showing Homeville and Yathella prospect areas reflected by defined high magnetic linears and the C1 prospect to the north.

Counter Current Atmospheric Leaching Test Work

As part of a second phase of Counter Current Atmospheric Leaching (CCAL) test work, approximately 45 kg of composite feed was prepared by combining these composite ore samples. As 100% of the ore samples passed screening at 250 microns, no crushing was deemed necessary.

The assays of the test composite is summarised as follows:

	Al %	Co %	Cr %	Fe %	Mg %	Ni %	Si %
Feed Composite	4.8	0.06	0.8	23.7	6.5	1.0	14.9

Atmospheric Leach Test Work

Process

The leaching test work simulated the first and second stages of a CCAL process, using synthetic liquors.

In the first stage, fresh ore was leached in a lower free acid solution, leaching the readily leachable material and producing a pregnant leach solution with relatively low residual acidity. The leach residue solids from the first stage were washed and forwarded to the second stage of leaching in which concentrated sulphuric acid was used and the more tenacious material leached by the higher concentration of acid. The leach solution from the second stage, with a much higher residual acid concentration, was then recycled to the first stage leach as the main acid source.

Leaching Results

Four CCAL tests (two for each stage) were completed. For the first stage 1 test (LT11), ferric and magnesium sulphate were added to adjust the composition of the leach solution to represent the major metal sulphate concentrations in the recycle from stage 2, based on a prediction from the METSIM® model. For the second stage 1 test (LT13) actual filtrate from the first stage 2 test (LT12) was used as recycle liquor. The product liquor (PLS) from the second stage 1 test was used for aluminium recovery and HPA production test work.

The first stage leach achieved nickel, cobalt and aluminium extractions of 42%, 63% and 17% respectively. Residual acidity in pregnant leach solution, i.e. the stage 1 discharge solution, was reduced to 22 g/L. It is likely this would be lowered further with additional testing, resulting in lower overall acid consumption. The second stage leach, using fresh concentrated sulphuric acid, extracted a further 83% of the nickel, 84% of the cobalt and 60% of the aluminium remaining in the first stage leach residue.

Overall nickel cobalt, and aluminium extractions were 90%, 94% and 66% respectively. After accounting for the acid recycled from stage 2 to stage 1, the overall acid consumption was 734 kg/t ore which is very low when compared to co-current agitated atmospheric leaching (typically 900-1,000 kg/t ore).

The stage 1 and 2 leach test results are summarised in the following tables:

Stage 1 Leach Results

Test #	Stage Acid Addition (kg/t)	Residual Free Acid g/l	Extractions (%)				
			Ni	Co	Fe	Al	Mg
LT11*	110*	14.3	40.9	57.3	0	14.9	47.5
LT13	123*	21.9	42.2	63.0	0	16.5	49.2
	* Test included synthetic Stage 2 leach recycle solution with added acid, Fe and Mg.						

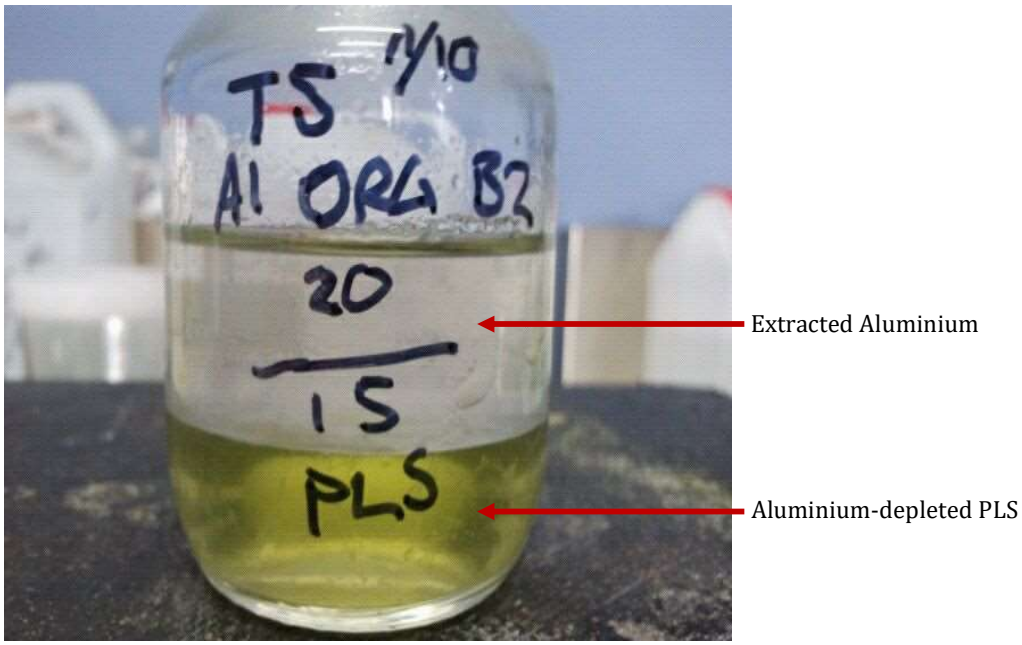
Stage 2 Leach Results

Test #	Stage Acid Addition (kg/t)	Residual Free Acid g/l		Extractions (%)			
			Ni	Co	Fe	Al	Mg
LT12	714	32.0	84.3	86.9	74.9	62.5	54.1
LT14	611	81.0	82.5	84.0	70.6	59.7	55.0

These results closely replicate previous results reported in July 2015 demonstrating the ability to consistently achieve good recoveries across differing ore grades.

Aluminium Solvent Extraction Test Work

Utilising a representative sample of Pregnant Leach Solution (PLS) generated from CCAL test work, an initial phase of aluminium solvent extraction batch test work was conducted across a number of different conditions returning recoveries of up to 73.3%, well in excess of expectations. These results were demonstrated to be consistently reproducible whilst also exhibiting excellent physical performance.



Organic phase of solvent extraction showing extracted aluminium sitting above aluminium-depleted PLS.

The outstanding results from this aluminium solvent extraction test work were a critical step in furthering the Company's ambitions to produce a marketable High Purity Alumina (HPA) product.

Successful Production of HPA Sample

Following the successful aluminium solvent extraction test work approximately 2.85 grams of HPA was produced after calcination (~1050°C) in a muffle furnace.

Photos showing the HPA produced.

Subsequent assay results for the aluminium intermediate (precursor) and calcined HPA returned purities in the range of 99.984%-99.991%, demonstrating that a product applicable to the 4N (99.99%) HPA market is achievable.

The Company's test work program used a proprietary solvent extraction technique to produce an aluminium intermediate (precursor) product that was then calcined (heated) to produce HPA. The precursor product was assayed using ICP MS technique (Inductively Coupled Plasma – Mass Spectroscopy) to confirm a 4N result of 99.991% purity. The ICP-MS technique is considered the most accurate technique available.

The check assay of the calcined HPA material was calculated at 99.984% based on a 'sum-of-oxides' check using oxide results generated by XRF (X-Ray Fluorescence). Although less accurate than the precursor result, the HPA results indicate minor chromium, sodium and potassium contamination, introduced during the calcining step.

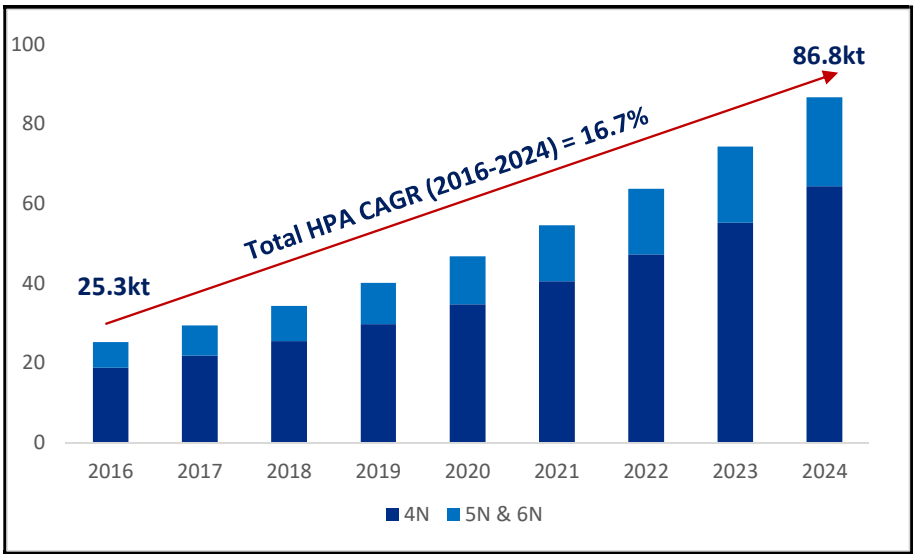
Achievement of 4N purity in the first test work program marks a significant milestone for the Company. This test work program will allow the Company to refine the HPA process and further improve upon the preliminary test results as part of its PFS. The next phase of test work will see the generation of a much larger PLS sample for treatment in solvent extraction mini-rig campaign and subsequent production of a HPA marketing sample to facilitate discussions with potential off-take partners and funding providers.

About HPA

HPA is a white, powder-form chemical that is a pure form of Aluminium Oxide Al_2O_3 and is used in the non-metallurgical alumina market across a growing range of high-performance products and applications including LED lighting, separators for lithium-ion batteries and scratch resistant artificial sapphire glass for smartphone screens and watches.

Growth in demand for HPA is dominated by the Asia-Pacific (APAC) region with more than 70% of current global demand emanating from China, Japan and South Korea. Current HPA supply is also dominated out the Asian Pacific region with China accounting for ~83% of global supply.

With global demand and supply dominated within the APAC region, Collerina Cobalt sees enormous opportunity as a focused HPA producer to become a genuine alternative supply source to the existing dominant APAC producing countries and more importantly fill an expected supply shortage as forecast HPA demand escalates over the next decade.



HPA Demand Outlook (2016 -2024).

Solvent Extraction of Nickel, Cobalt and Manganese from Aluminium-Depleted PLS

Having applied proprietary processes to extract aluminium from the PLS to produce the HPA, a further series of batch solvent extraction tests were performed on the aluminium-depleted PLS using a suitable organic extractant to demonstrate nickel, cobalt and manganese extraction.

The preliminary solvent extraction tests achieved greater than 98% nickel and 97% cobalt recovery, with 80% manganese recovery.

Optimisation test work is expected to further improve these initial results.

These tests were performed at various organic to aqueous volumetric ratios and indicate that approximately four counter-current extraction stages will be required to achieve greater than 99% nickel and cobalt recovery, and up to ~80% manganese recovery of which can be adjusted to between 25% and 80% as driven by market demand.

Two impurity removal tests employing proprietary patented technology demonstrated that greater than 99.8% nickel purity required to meet LME grade was reproducibly achievable.

Further test work is also planned to produce a nickel, cobalt and manganese precursor suitable for the electric vehicle lithium ion battery market (Li-B). Such precursor products currently command a significant premium to current LME prices with discussions having already begun with experts in this field.

Successful Recovery of Scandium

As part of the proprietary process for extracting aluminium from its CCAL-generated PLS, the Company also reported the recovery of ~100% of the contained scandium content with the potential to further process the scandium into a high purity scandium oxide (Sc_2O_3).

The PLS underwent partial neutralisation to remove most of the free acid and iron, yielding PLS that contained 13 mg/L of scandium which stayed in solution during conditioning. This conditioned PLS which was successfully tested for aluminium extraction concurrently demonstrated that ~100% of the scandium (at 13 mg/L) was extractable.

Whilst the large majority of revenue generated from the Collerina project will be from a 4N HPA product, the ability to produce a suite of highly valuable co-products such as nickel, cobalt, manganese and scandium should significantly enhance the project's economics in terms of both capex per tonne of saleable metal units and operating costs per unit as a result of the significant co-product credits on offer. The ability to generate a larger and more diversified revenue stream compared to standalone scandium, HPA and nickel-cobalt producers, places the Company in a unique situation.

Whilst the scandium market is currently small, the Company could potentially stockpile scandium as an intermediate product and, as demand warrants, further refine it into a higher value scandium oxide.

In addition to scandium within the well-defined Homeville deposit the Company is also encouraged by the scandium potential at its less developed C1 anomaly where drilling (hole COAC033) has previously recorded intersections of 28 metres at 170 ppm Sc.

Commencement of Metallurgical Program to Develop Collerina Pre-Feasibility Study

Late in the December quarter the Company submitted 368 kg of composite ore from its Homeville deposit to ALS Perth to commence further bench scale CCAL test work.

CCAL Sample

The composite ore sample from the Homeville deposit was selected with the metal content detailed in the table below. This sample closely resembles the properties of the sample used for the recently completed CCAL and solvent extraction test work and is representative of the Homeville deposit.

Composite	Al %	Co %	Cr %	Fe %	Mg %	Mn %	Ni %	Sc %	SiO_2 %
CCAL	4.32	0.06	0.70	21.89	6.17	0.50	0.64	0.001	35.94

This up-scaled CCAL process will produce approximately 160 litres of PLS which will then be used to undertake a solvent extraction mini rig campaign with the aim of:

- producing one kilogram of 99.99% High Purity Alumina (4N HPA) to begin engagement with potential offtake partners, and
- producing individual streams of nickel, cobalt and manganese to further the Company's progress towards producing sulphates and bespoke precursor products for the burgeoning lithium-ion battery market.

Data from this test work will be incorporated in the Company's PFS with the key deliverables being:

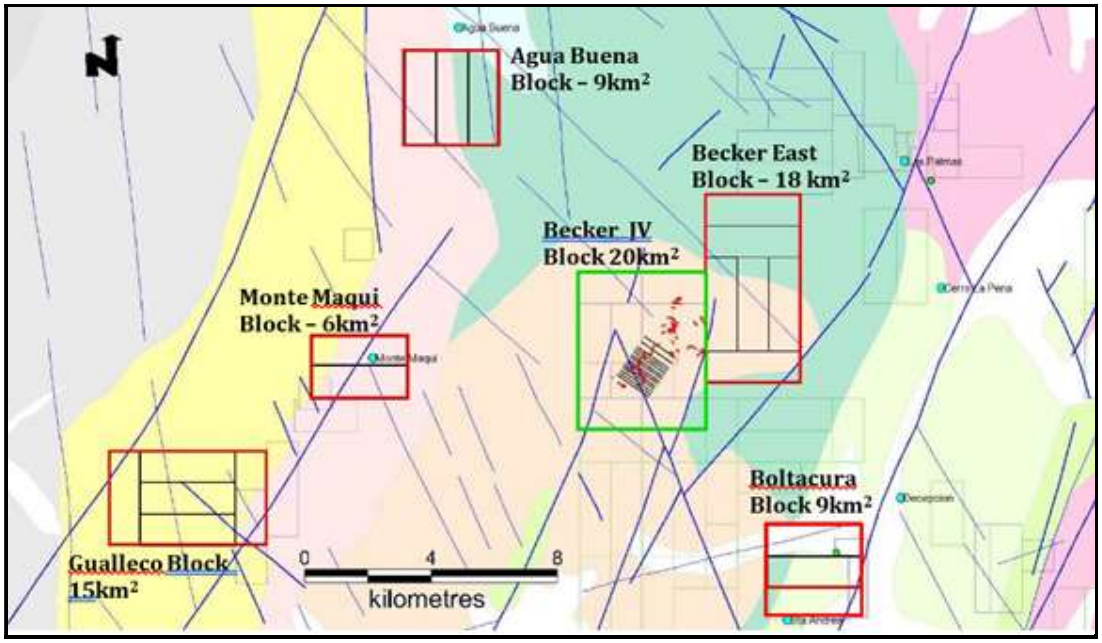
- Generation of Process Design Criteria and mass balance.
- Generate preliminary Process Flow Diagrams (PFDs).
- Provide mechanical equipment list with electrical load list.
- Produce basic site layout drawings.
- Electrical single line diagram.
- Process plant capital and operating cost estimates (±30%).

The PFS is currently scheduled to be completed in the June quarter of 2018.

BECKER PROJECT - CHILE (Collerina Cobalt - Earning up to 85%)

Becker Regional Exploration

The Company is currently finalising a March quarter 2018 work program to complete exploration of regional tenements staked in November 2017. The properties are currently in the application process which should be concluded early March 2018. The work program will include detailed surface mapping and sampling and possible trenching over exposed quartz veins and associated zones of alteration. The objective is to identify areas for later ground geophysical surveys and the delineation of drill targets for testing later in 2018.



Becker district geological map showing current structural interpretation denoted in blue lines. Areas of new tenement applications are indicated in red outline. The main Becker JV tenements (green outline) with the area of completed ground geophysical surveys are shown.

The Company is also finalising plans for initial drilling of high-grade quartz veins within the Lajuelas prospect area in the Becker JV property. A 10 hole, 1,200 metre reverse-circulation drill program is planned for the June 2018 quarter. The drilling will test for continuity of veins along strike and to approximately 100 metres depth.

WONOGIRI PROJECT - INDONESIA (Collerina Cobalt - 45%)

The Company is continuing advancement of its AMDAL study (environmental impact study) for the Randu Kuning gold-copper deposit. On acceptance of the AMDAL, the Company will be awarded a 20-year operation production IUP (with 10-year extension) for the Randu Kuning gold-copper deposit. Separately the Company is ready to initiate an Environmental Management Efforts and Environment Monitoring Efforts (UKL-UPL) report for its planned aggregate operation adjacent to the Randu Kuning deposit. Upon approval the Company will be granted an initial 5 year aggregate operation licence, which can be extended for two additional 5 year terms.

GORONTALO PROPERTIES - INDONESIA (Collerina Cobalt - 80%)

No exploration activities were completed on the Toluludu and Tapadaa IUPs during the quarter. The Company has provided property data to third parties considering a potential joint venture or acquisition.

CORPORATE

Board Appointments

Effective from 1 November 2017 the Company expanded its Board of Directors to include Mr Rimas Kairaitis as Technical Director and Mr Tony Sgro as a Non-Executive Director.

Mr Kairaitis is a geologist with over 24 years' experience in minerals exploration and resource development in gold, base metals and industrial minerals. In his most recent role, Mr Kairaitis was founding Managing Director and CEO of Aurelia Metals (ASX: AMI), which he steered from a junior exploration company IPO to a profitable NSW based gold and base metals producer.

Mr Kairaitis' technical and commercial capacity and his recent project development experience in NSW are considered to be well matched to the Company's near-term development ambitions for the Collerina project.

Mr Sgro is a Chemical Engineer, graduating from University of Sydney in 1970. His studies included an emphasis on Minerals Chlorination, which focused on the application of chlorination techniques to the extractive metallurgy of various minerals including titanium, nickel, chromium and tungsten ores.

His early career was spent with an international engineering group, including an extended period managing operations in Indonesia.

In 1979, with two partners, Mr Sgro started Kelair Pumps which grew to be the largest privately owned pumping equipment supply company in Australia. The company was sold to an international group in 2004 but Mr Sgro remained with the company as General Manager until his retirement in 2015.

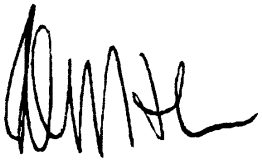
In a career spanning 45 years, Mr Sgro was deeply involved in the technical and commercial aspects of supply of specialised equipment to the major process industries including oil and gas, petrochemical, chemical and mining industries, including equipment specification, material selection, commercial and technical aspects of large tenders, contract negotiation and contract management.

Issue of Shares and Options

During the quarter the Company granted 30 million options, each exercisable to acquire one fully paid ordinary share at any time up to 31 October 2019 for 10 cents, and completed a share placement of approximately 64 million fully paid ordinary shares to professional and sophisticated investors raising $3,500,000 before costs. The funds will principally be used to:

- Advance the Homeville project drilling program and resource estimation.
- Continue the CCAL and aluminium solvent extraction metallurgical test work.
- At completion of metallurgical test work, proceed with a PFS to arrive at indicative capital and operating costs.
- Plan and scope a pilot plant.
- Map and sample the recently pegged regional area adjacent to the Becker project.
- Complete the conversion of the Wonogiri exploration IUP to a 20 year mining operation IUP.
- Fund working capital.

Yours sincerely



Peter J. Nightingale
Director

pjn9251

Statement of Compliance

Information regarding the Mineral Resource at the Collerina project was prepared and first disclosed under the 2004 Edition of the 'Australasian Code for Reporting of 'Exploration Results, Mineral Resources and Ore Reserves'. See ASX announcement 23 June 2011. It has not been updated since to comply with the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves' on the basis that the Company is not aware of any new information or data that materially affects the information and, in the case of the resource estimate, all material assumptions and technical parameters underpinning the estimate continue to apply and have not materially changed.

For further information on testwork results and processes see ASX announcements dated 8 December 2017, 30 November 2017, 29 November 2017, 24 November 2017 and 13 November 2017.

Competent Person Statement (Mineral Resources)
The information in this report that relates to Mineral Resources is based on information compiled by Collerina Cobalt staff and contractors and approved by Mr Michael Corey, PGeo., who is a Member of the Association of Professional Geoscientists of Ontario (APGO) in Canada. Mr Corey is employed by the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Corey has consented to the inclusion in this report of the matters based on his information in the form and context in which they appear.

Competent Persons Statement (Process Development Test Work)
Information in this announcement relating to the Process Development Test Work is based on test work results compiled by Mr Boyd Willis, an Independent Consultant trading as Boyd Willis Hydromet Consulting. Mr Willis is a Fellow and Chartered Professional of The
Australasian Institute of Mining and Metallurgy (AusIMM). Mr Willis has sufficient experience which is relevant to metal recovery from the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Persons under the 2012 Edition of the 'Australasian Code for reporting of Exploration Results, Mineral Resources and Ore Reserves'. This includes over 21 years of experience in metal recovery from Laterite ore. Mr Willis consents to the inclusion of the technical data in the form and context in which it appears.