Market Update

05 Mar 2018

Cobalt Blue Holdings Ltd

A Green Energy Exploration Company

ASX Code: **COB**

Commodity Exposure:
Cobalt & **Sulphur**

Directors & Management:

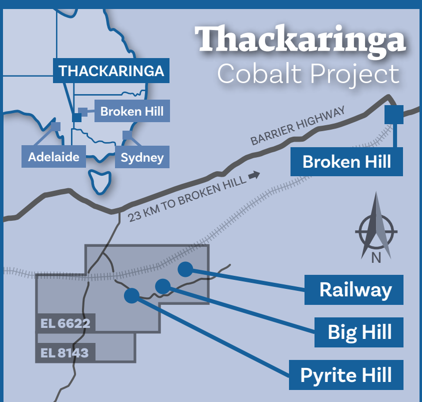
Robert Biancardi	Non-Exec Chairman
Hugh Keller	Non-Exec Director
Trangie Johnston	Non-Exec Director
Matt Hill	Non-Exec Director
Joe Kaderavek	CEO & Exec Director
Ian Morgan	Company Secretary

Capital Structure:

Ordinary Shares at 05/03/2018:	**107.2m**
Options (ASX Code: COBO):	**26.1m**
Market Cap (undiluted):	**$70.8m**

Share Price:

Share Price at 05/03/2018:	**$0.66**



Cobalt Blue Holdings Limited

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March 2018 – Highlights

PFS – Calcine and Leach Testwork Complete – Strong Results

- Over 90 kg of concentrate from Thackaringa has been treated in the furnace, producing 70 kg of calcine.
- A total of 56 leach tests have been completed on the calcine by ALS Metallurgy Tasmania.
- >95% conversion of the pyrite into pyrrhotite reliably achieved.
- 96% typical leach extraction of cobalt with optimum conditions now established.
- Cobalt Blue – mine to battery strategy – focussed upon cobalt sulphate.
- Cobalt sulphate samples produced – commercial meetings to follow.
- Thackaringa Resource Upgrade expected to be released shortly.

Pre-Feasibility Testwork Overview

The Thackaringa project is planning to mine ore from three surface deposits. The host rock (silica and feldspars) contains approximately 20% sulphides (mainly pyrite), with cobalt at 800–1000 ppm. This announcement presents the most recent results for processing of the sulphide concentrate to extract cobalt.

Diamond drill core samples were collected in late 2016. Approximately 820 kg of the ore, representing Railway Hill and Pyrite Hill deposits, was composited in August 2017, and is being used to test the preferred process for the Pre-Feasibility Study (PFS). The grade of the composite used in the testwork is only 607 ppm cobalt, which is lower than the average grade of the resource estimate. The results should therefore be considered as establishing a baseline set of data, with higher grade ore giving better recoveries and lower capital and operating costs compared to the baseline.

The PFS test work program is designed to deliver 'reliable and repeatable' results at a scale 10–50 times larger than the tests used in the Scoping Study (July 12 2017), where the 'proof-of-concept' was determined. The results will be used to conducted engineering studies and cost estimates for the PFS.

The PFS is examining the processing path shown below:

MINE → CONCENTRATE → CALCINE → LEACH → PRODUCT RECOVERY

There are four stages to the metallurgical test work (post mining):

A. **Concentrate:** Preparation of a sulphide concentrate from the ore

B. **Calcine:** Calcination (thermal treatment) of the concentrate

C. **Leaching:** Leaching of the calcine

D. **Product Recovery:** purification of leach liquor, followed by crystallisation of cobalt sulphate

Processing – Concentrate - summary of results

MINE → **CONCENTRATE** → CALCINE → LEACH → PRODUCT RECOVERY

Ore was processed by crushing to p100 @ 1.2 mm and passed through a gravity spiral circuit. The tails were screened, with the fines subjected to froth flotation. The gravity and flotation concentrates were combined into a single concentrate. Approximately 144 kg of concentrate was produced from the 820 kg of ore composite, with a recovery of 92% of the cobalt to concentrate.

Further work examining finer grind sizing was then conducted. Results indicated that varying the particle size down to 425um permitted 94% recovery of cobalt to concentrate.

Processing – Calcine and Leach

MINE → CONCENTRATE → **CALCINE** → LEACH → PRODUCT RECOVERY

A total of 90 kg of gravity-float concentrate has been calcined by ALS Metallurgy in Perth, producing approximately 70 kg of calcine. Process conditions have been varied to determine the optimum parameters for selection as design criteria set-point for the PFS engineering design study. Importantly, the target conversion of >95% of the pyrite into pyrrhotite has been repeatedly achieved, with no loss of cobalt to the sulphur collected from the off-gas. Further, the typical removal of sulphur from the head feed has increased from 35% (27 Dec 2017) to 40% in recent tests. Potential equipment vendors are presently involved with the PFS engineering study. Preliminary marketing studies have now commenced for the elemental sulphur product.

A total of 56 leach tests have been completed on the calcine by ALS Metallurgy Burnie, systematically varying temperature, liquor composition, solids density, residence time, particle size, and oxygen uptake. The optimum conditions have achieved repeatable cobalt extractions of 95-98% with the average being 96%. The average data from 5 runs (~ 1 kg per test) is shown below:

	Feed	Residue	Fe Feed Grade	Co Feed Grade	Fe Residue Grade	Co Residue Grade	Fe Extraction	Co Extraction
	g	g	%	%	%	%	%	%
Average	5198.4	6731.2	54.4	0.52	40.3	0.016	4%	96%
Run 1	1000	1343.3	52.8	0.52	41.6	0.01	-5.8%*	97.4%
Run 2	1200	1567.4	54.8	0.52	38.8	0.02	7.5%	95.0%
Run 3	1000.0	1287.6	54.8	0.52	40.2	0.02	5.5%	95.0%
Run 4	1000.0	1283.2	54.8	0.52	40.7	0.02	4.7%	95.1%
Run 5	998.4	1249.7	54.8	0.52	40.2	0.01	8.2%	97.6%

* *(some Fe precipitated from solution)*

Equipment vendor packages for the autoclave are now being prepared as part of the PFS study.

The key outcomes to date are:

- Calcining the gravity concentrate typically removes ~40% of the sulphur from the pyrite.
- Elemental sulphur condensed from the gas phases averaged 97.5% sulphur with 1.5% silica as the main contaminant. Improved engineering design of the off-gas handling is expected to improve the quality of the sulphur in future testwork.
- There are no losses of cobalt to the gas phases it the thermal treatment step.
- Leaching of the calcine typically achieves cobalt recoveries of 96%.

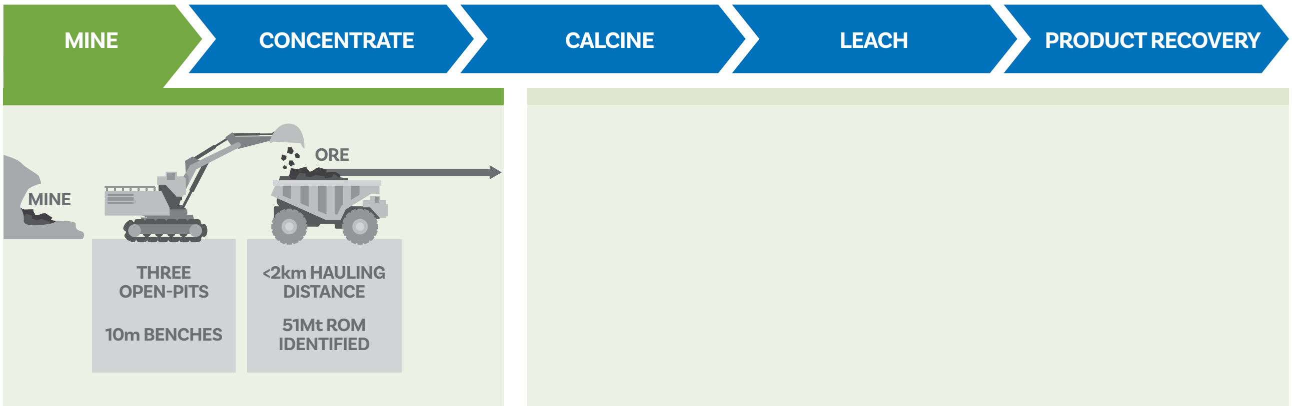
The leach liquors were collected, and have been advanced to the product recovery stages, where cobalt sulphate will be produced. Testwork is ongoing, with the focus being on purifying the solutions to remove iron, copper, zinc, nickel, manganese, and calcium, which would otherwise contaminant the final cobalt sulphate product.

Cobalt Blue's PFS Manager, Dr Andrew Tong said:

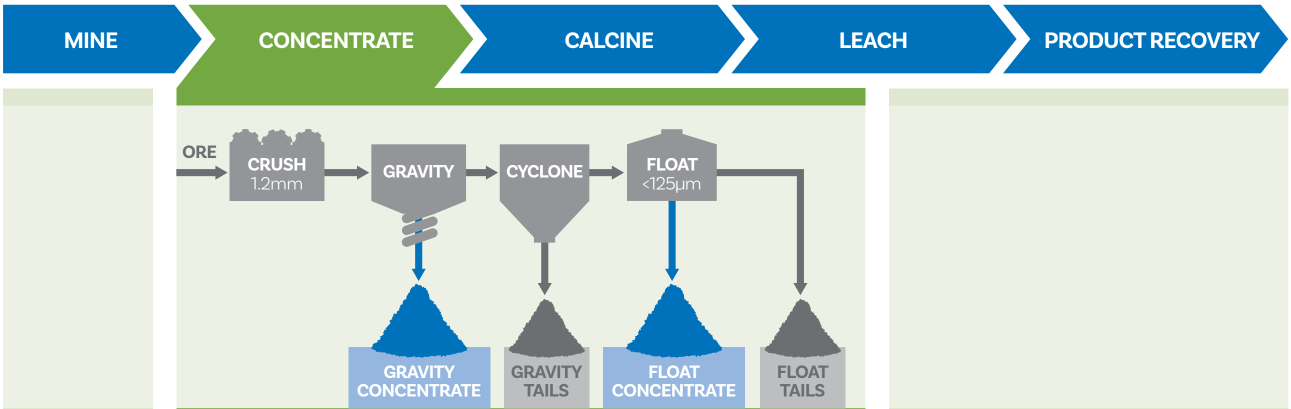
"The PFS testwork has successfully achieved high recoveries of cobalt from ore to leach solution (total recovery of 88% cobalt from ore to leach solution). The key process steps have been validated: concentration, calcining, and leaching. The remaining focus of testwork is to produce high purity cobalt sulphate from the leach liquor. The high recoveries augur well for the economic evaluation of the project, which will be completed in the PFS."

PFS – Conceptual Plant Description

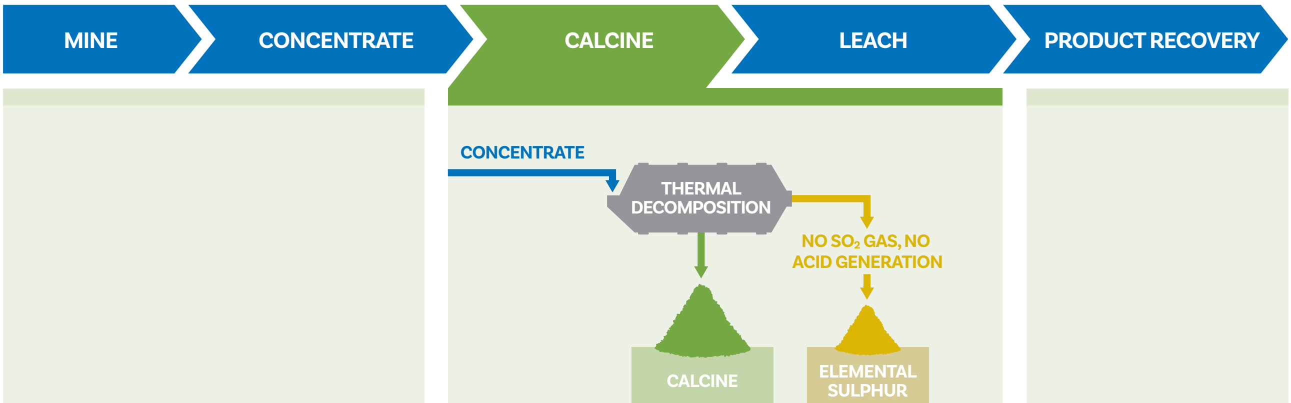
Conceptual schematics of the commercial plant circuits are shown in the following graphics. The aim is to treat 5 MTPA of ore and produce 1 MTPA of concentrate. The concentrate is then thermally treated, with removal of ~ 40% of the sulphur as elemental sulphur. The resulting calcine (~0.8 MTPA) is then treated in the leach circuit to extract cobalt. Cobalt Blue is targeting a total recovery of cobalt from ore to product of ~85–90%.



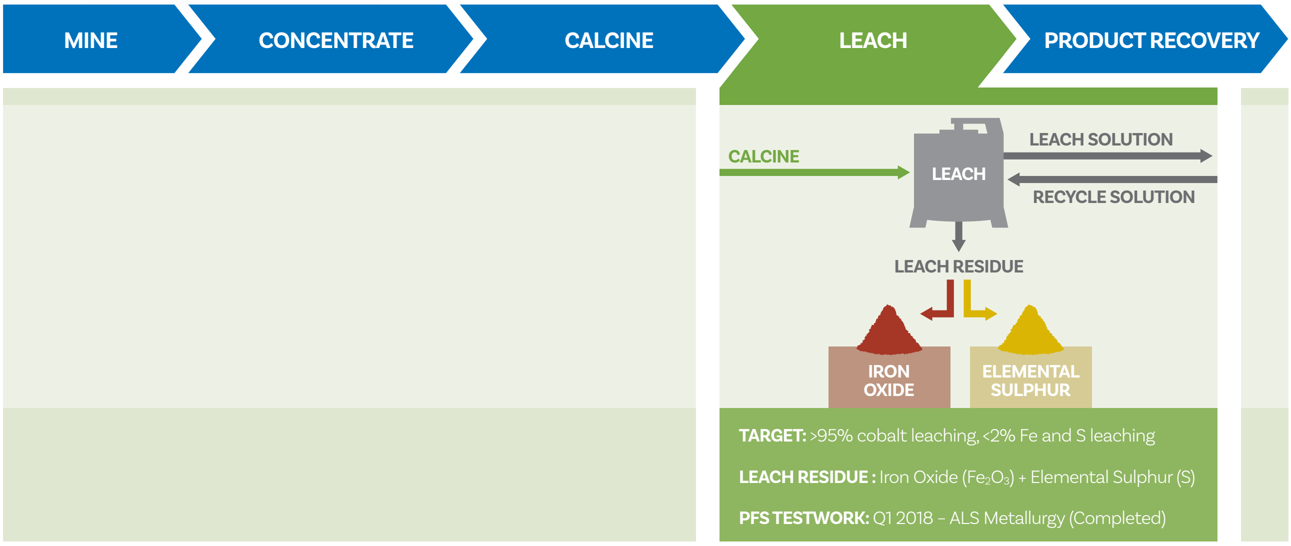
TARGET: 5 MTPA Ore
STRIP RATIO: 3t waste to 1t ore
ROM AVERAGE GRADE: 0.09% Co, 10.5% Fe, 9.9% S
PFS MINING STUDY: Q1 2018 – MINING ONE



TARGET: 1 MTPA Con (20% mass recovery)
CONCENTRATION GRADE: 0.4% Co, 40% Fe, 45% S
CONCENTRATION RECOVERY: 90-95% Co, 80% Fe, 90% S
PFS TESTWORK: Q1 2018 – ALS Metallurgy (Completed)



TARGET: 0.8 MTPA Calcine (80% mass recovery)
CALCINE GRADE: 0.5% Co, 50% Fe, 30% S
SULPHUR RECOVERY: 40% S from concentrate
PFS TESTWORK: Q1 2018 – ALS Metallurgy (Completed)



PFS test work - looking forward

Overall COB remains delighted with test work results to date, and is looking forward to completing the program in Q1 2018. Further progress updates on the testwork will be the subject of separate market announcements. COB remains focused on proving up the processing and economics of our unique ore. Our goal is to prove a long life mining operation capable of operating at cobalt cycle troughs.

A schedule is shown below for the first 820 kg ore sample. The second 500-600 kg sample will be processed during Q1 2018.

PFS – Metallurgical Testwork Breakdown/Schedule

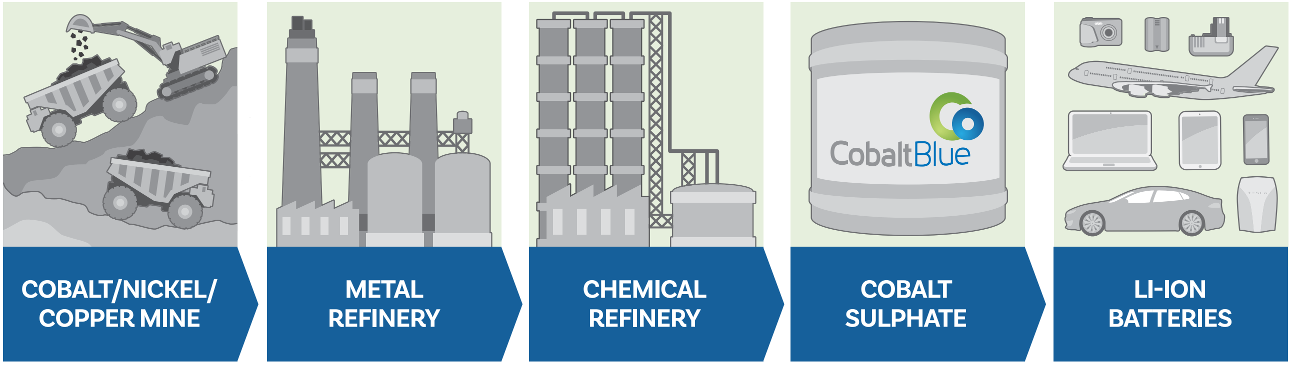
Unit Operation	Scoping Study Options Tested	Pre-Feasibility Study Selected Process Testing	Schedule 2017
Concentration	▪ 50–100 kg ore ▪ Flotation ▪ Gravity ▪ Magnetics	▪ 800 kg ore ▪ Gravity, followed by scavenger float	October 2017
Thermal Treatment	▪ 2 kg concentrate ▪ Roasting SO_2 for acid ▪ Decomposition (no acid) – elemental sulphur	▪ 100 kg concentrate ▪ Decomposition (no SO_2) – elemental sulphur	Q1 2018
Leaching	▪ 2 kg concentrate ▪ High temp POX Atmospheric leach ▪ 1 kg calcine ▪ Low temp POX Atmospheric leach	▪ 80 kg calcine ▪ Low temp POX / Atmospheric leach	Q1 2018
Product Recovery	Not tested	▪ IX + crystallisation ▪ 0.1 kg of cobalt	Q1 2018

COMPLETED

Source: Cobalt Blue Holdings

Thackaringa – Mine to Battery Strategy

Our strategy is to produce cobalt sulphate which can be used directly in the manufacture of batteries. High purity cobalt sulphate commands a premium to LME cobalt metal. Cobalt Blue is aiming to develop an integrated mine/refinery model, and generate ~4000 t of contained cobalt per year.



Source: Cobalt Blue Holdings

Cobalt Sulphate Samples Produced – Commercial Meetings to Follow

Initial cobalt sulphate product is being produced (see image below) from Thackaringa ore. Following this milestone, and using these samples for customer evaluation, COB management will be meeting with key global battery industry participants during March. Investors can expect updates as they arise.

Thackaringa 20% $CoSO_4$, $7H_2O$ crystal – detailed view

First Thackaringa Cobalt Sulphate samples

Source: Cobalt Blue Holdings

Thackaringa Project Indicative timetable

Results to date continue to justify proceeding further along the pathway towards commercial development of the Thackaringa cobalt project. The overall company timeline is shown below.

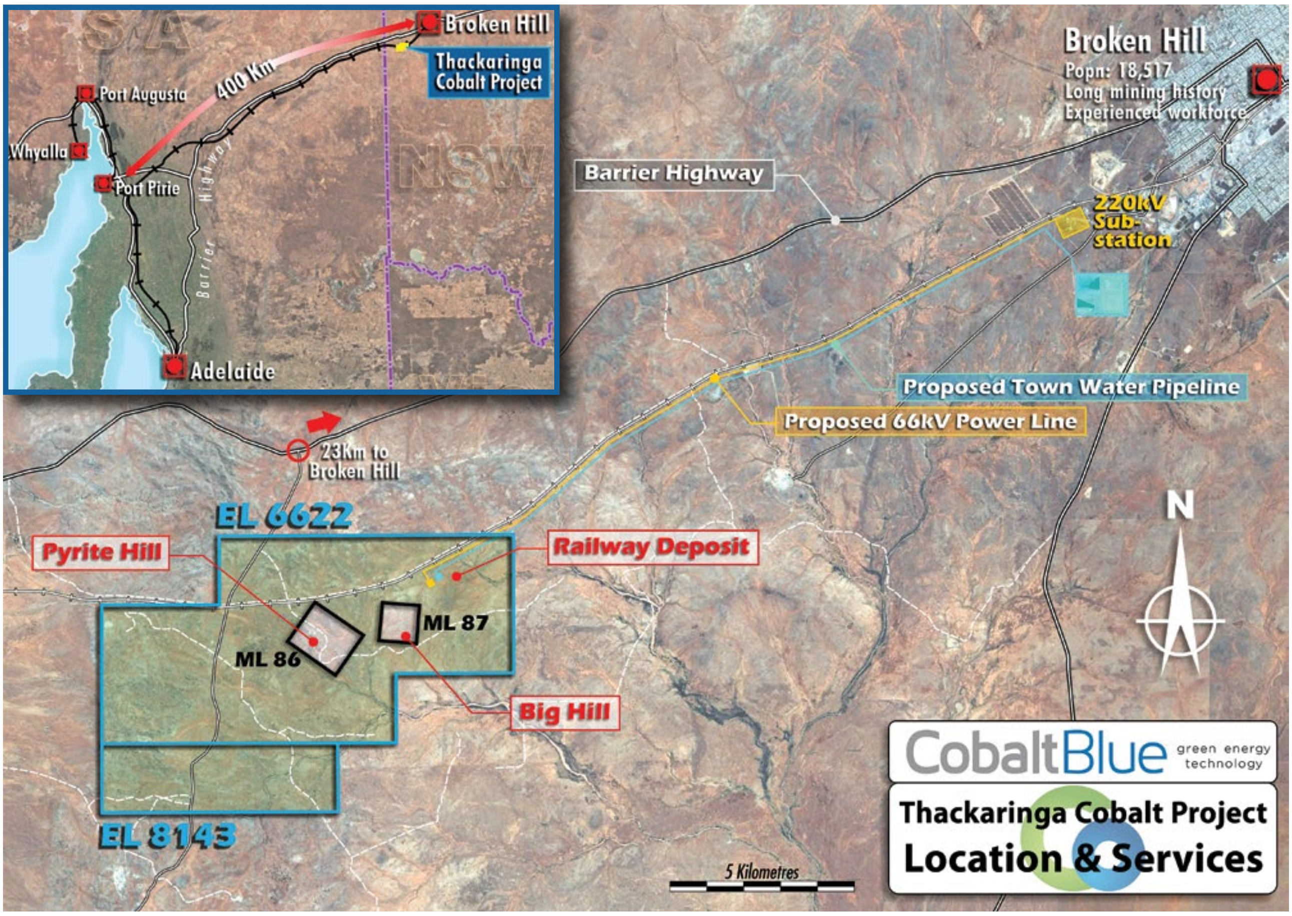
Thackaringa Cobalt Project Timeline

Aug 2016 – Feb 2017	1 April 2018	30 June 2018	30 June 2019	
Complete	**Stage One**	**Stage Two**	**Stage Three**	**Stage Four**
Cobalt Blue formed JV & Farm-in JORC 2012 upgrade Cobalt Blue listed	A$2.0m expenditure in the ground delivered. Delivered: • Inferred Resource Upgrade • Scoping Study Deliver: • Indicated Resource Upgrade • Aerial Geophysical Program Target Date: 1 April 2018	A$2.5m expenditure in ground – Indicated Resource Target Deliver: Preliminary Feasibility Study Target Date: 30 June 2018	A$5.0m expenditure in ground – Measured Resource + Reserves Target Deliver: Bankable Feasibility Study + Project Approvals Target Date: 30 June 2019	Decision to Mine Project Finance

Source: Cobalt Blue Holdings

The Thackaringa district map below shows the proximity to Broken Hill, the supporting rail and road network, as well as the availability of both power and water utilities to support future production.

Thackaringa Cobalt Project – Location and Potential Services



CobaltBlue

Cobalt Blue Background

Cobalt Blue ("COB") is an exploration company focussed on green energy technology and strategic development to upgrade its mineral resource at the Thackaringa Cobalt Project in New South Wales from Inferred to Indicated status. This strategic metal is in strong demand for new generation batteries, particularly lithium-ion batteries now being widely used in clean energy systems.

COB is undertaking exploration and development programs on the Thackaringa Cobalt Project pursuant to a farm-in joint venture agreement entered into with Broken Hill Prospecting Limited ("BPL"). Subject to the achievement of milestones, COB will be entitled to acquire 100% of the Thackaringa Cobalt Project.

The Thackaringa Project, 23 km west of Broken Hill and 400km by rail from Port Pirie consists of four granted tenements (EL6622, EL8143, ML86 and ML87) with total area of 63km^2. The main targets for exploration are well known and document large-tonnage cobalt-bearing pyrite deposits. The project area is under-explored, with the vast majority of historical exploration directed at or around the outcropping pyritic cobalt deposits at Pyrite Hill and Big Hill.

Potential to extend the Mineral Resource at Pyrite Hill, Big Hill, Railway and the other prospects is high. Numerous other prospects within COB's tenement package are at an early stage and under-explored.

Looking forward, we would like our shareholders to keep in touch with COB updates and related news items, which we will post on our website, the ASX announcements platform, as well as social media such as Facebook (f) and LinkedIn (in). Please don't hesitate to join the 'COB friends' on social media and also to join our newsletter mailing list at our website.

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Competent Person's Statement

The information in this report that relates to exploration results, Mineral Resources and Targets is based on information compiled by Mr Anthony Johnston, BSc (Hons), who is a Member of the Australian Institute of Mining and Metallurgy and who is a non-executive director of Cobalt Blue Holdings Limited, the Chief Executive Officer of Broken Hill Prospecting Limited. Mr Johnston has sufficient experience which is relevant to the style of mineralisation and type of deposits under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 & 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Johnston consents to the inclusion in the announcement of the matters based on his information in the form and context that the information appears.

Previously Released Information

This ASX announcement refers to information extracted from the following reports, which are available for viewing on COB's website http://www.cobaltblueholdings.com

- 24 January 2017: Significant Thackaringa Drilling Program complete – Resource Upgrade pending
- 27 December 2017: PFS – Bulk Metallurgical Testwork – Progress Update
- 26 October 2017: Bulk Metallurgical Testwork – Strong Concentration Results
- 27 September 2017: CEO's Letter to Shareholders – September 2017
- 12 July 2017: Scoping Study update – Strong Potential for Commercialisation after Processing Testwork
- 5 June 2017: Significant resource upgrade for the Thackaringa Cobalt Project
- 25 May 2017: Stage One Drilling Program delivers robust results – resource upgrade to follow
- 4 May 2017: 2017 Update – Strong Drilling Results Continue
- 27 March 2017: Assays confirm Thackaringa as a Significant Cobalt-Pyrite Project

COB confirms it is not aware of any new information or data that materially affects the information included in the original market announcements, and, in the case of estimates of Mineral Resources, that all material assumptions and technical parameters underpinning the estimates in the relevant market announcements continue to apply and have not materially changed. COB confirms that the form and context in which the Competent Person's findings presented have not been materially modified from the original market announcement.

Appendix – JORC Code, 2012 Edition – Table 1

Section 1 – Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections.)

Criteria	JORC Code Explanation	Commentary

Sampling techniques	▪ *Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.*
	▪ *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.*
	▪ *Aspects of the determination of mineralisation that are Material to the Public Report.*
	▪ *In cases where 'industry standard' work has been done this would be relatively simple (e.g. 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.*
		Diamond Drilling (DDH)
		Pre-1990
		▪ Diamond drilling was used to obtain core from which irregular intervals, reflecting visual mineralisation and geological logging were hand-split or sawn. Samples were submitted for analysis using a mixed acid digestion and AAS methodology.
		Post-1990
		▪ Diamond drilling (one drill hole) was used to obtain core from which irregular intervals, reflecting visual mineralisation and geological logging were sawn (quarter core for HQ). Samples were submitted for analysis using a mixed acid digestion and ICP-OES methodology.
		2016 Metallurgical Drilling
		▪ Eight (8) HQ diameter diamond drill holes (DDH) were drilled at the Thackaringa project in late 2016. They were used as metallurgical reference holes and were designed to twin some of the previous reverse circulation percussion (RC) holes for QA/QC and assay comparison between DDH and RC. There were two (2) holes drilled at Pyrite Hill, two (2) at Big Hill and four (4) at Railway:
		▪ Diamond drilling was used to obtain core from which regular (one-metre) intervals were sawn with:
		  ▪ one half core dispatched for analysis using a mixed acid digestion and ICP-MS methodology;
		  ▪ the other half was further sawn such that one quarter-core was sent for metallurgical test work and the other quarter-core retained for archival purposes.
		Historical Reverse Circulation Drilling
		▪ RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis using the above-mentioned methodologies.
		▪ Pre-2000 drill samples were assayed for a small and variable suite of elements (sometimes only cobalt). The post-2000 drill samples (5,095 samples) are all assayed by ICP-MS for a suite of 33 elements.
		FY2017 Diamond Drilling Program
		▪ Fourteen HQ diameter diamond drill holes (DDH) were completed and assayed. They were used as metallurgical reference holes designed to twin some historical reverse circulation percussion (RC) holes for QA/QC and assay comparison between DDH and RC. There were four (4) holes drilled at Pyrite Hill, two (2) at Big Hill and eight (8) at Railway:
		  ▪ Diamond drilling (17THD01-03) was used to obtain core from which regular (one-metre) intervals were sawn with:
		    ▪ one half core dispatched for analysis using a mixed acid digestion and ICP-MS methodology for a suite of 48 elements;
		    ▪ the other half was retained for future metallurgical test work and archival purposes.
		  ▪ Diamond drilling (17THD04-14) was used to obtain core from which regular (one-metre) intervals were sawn with:
		    ▪ one quarter core dispatched for analysis using a mixed acid digestion and ICP-MS methodology or a suite of 48 elements;
		    ▪ the other three quarters was retained for future metallurgical test work and archival purposes.

Criteria	JORC Code Explanation	Commentary

Sampling techniques *(continued)*		**FY2017 RC Drilling Program**
		▪ Thirty-eight (38) RC drill holes were drilled and assayed to infill historic holes and allow re-estimation of the existing Mineral Resources. There were twelve (12) holes drilled at Pyrite Hill, three (3) at Big Hill and twenty-three (23) at Railway:
		  ▪ RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis by ICP-MS for a suite of 48 elements.
		FY2018 RC Drilling Program
		▪ Fifty-five (55) RC drill holes and three (3) RC drill holes with diamond tails were drilled and assayed to infill historical holes and support re-estimation of the existing Mineral Resources. There were forty-two (42) holes drilled at Railway, three (3) at Big Hill and thirteen (13) at Pyrite Hill:
		  ▪ RC drilling was used to obtain a representative sample by means of riffle splitting with samples submitted for analysis by ICP-MS for a suite of 48 elements.
		FY2018 Diamond Drilling Program
		▪ Sixteen HQ diameter diamond drill holes (DDH) were completed and assayed. They were used as geotechnical reference holes designed for pit optimisation and mine design. There were four (4) holes drilled at Pyrite Hill, six (6) at Big Hill and six (6) at Railway:
		  ▪ Diamond drilling was used to obtain core from which regular (one-metre) intervals were sawn with:
		    ▪ one half core dispatched for analysis using a mixed acid digestion and ICP-MS methodology for a suite of 48 elements;
		    ▪ the other half was retained for future metallurgical test work and archival purposes.

Drilling techniques	▪ *Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).*	▪ The Thackaringa drilling database comprises a total of sixty-four (64) diamond drill holes and 139 reverse circulation (RC) drill holes (three of which have diamond tails). Diamond drilling was predominantly completed with standard diameter, conventional HQ and NQ with historical holes typically utilising RC and percussion pre-collars to an average 25 metres (see Drill hole Information for further details). Early (1960–1970) drill holes utilised HX – AX diameters dependent on drilling depth. Reverse circulation drilling utilised standard hole diameters (4.8”–5.5”) with a face sampling hammer. ▪ During 2013, a single diamond drill hole (13BED01) was completed at the Railway deposit using a triple tube system with a HQ3 diameter.

Criteria	JORC Code Explanation	Commentary
Drilling techniques *(continued)*		(see table and note below)
Drill sample recovery	▪ *Method of recording and assessing core and chip sample recoveries and results assessed.* ▪ *Measures taken to maximise sample recovery and ensure representative nature of the samples.* ▪ *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	**Diamond Drilling** ▪ Historical core recoveries were accurately quantified through measurement of actual core recovered versus drilled intervals. ▪ Historical diamond drilling employed conventional drilling techniques while diamond drilling completed by Broken Hill Prospecting utilised a triple-tube system to maximise sample recovery ▪ Core recovery of 99.7% was achieved during completion of drill hole 13BED01. ▪ Core recovery of 98% was achieved during the 2016 diamond drilling program. ▪ Core recovery of 93.3% was achieved during the FY 2017 diamond drilling program. ▪ Core recovery of 96.3% was achieved during the FY 2018 diamond drilling program. ▪ No relationship between sample recovery and grade has been observed. **Reverse Circulation Drilling** ▪ Reverse circulation sample recoveries were visually estimated during drilling programs. Where the estimated sample recovery was below 100% this was recorded in field logs by means of qualitative observation. ▪ Reverse circulation drilling employed adequate air (using a compressor and booster) to maximise sample recovery. ▪ No relationship between sample recovery and grade has been observed.

Drilling techniques (continued) — Commentary:

Year	Drilling	Metres
1967	1 diamond drill hole	304.2
1970	4 diamond drill holes	496.6
1980	18 diamond and 1 RC drill hole	1,711.23
1993	2 diamond drill holes	250
1998	11 RC drill holes	1,093.25
2011	11 RC drill holes	1,811
2012	20 RC drill holes	2,874.25
2013	1 diamond drill hole	349.2
2016	8 diamond drill holes	1,484.8
FY2017	14 diamond drill holes and 38 RC drill holes	6,467.5
FY2018	16 diamond drill holes, 55 RC drill holes, 3 RC drill holes with diamond tails	12,458.7
Total	**64 diamond, 136 RC drill holes and 3 RC drill holes with diamond tails**	**29,300.73**

- During 2016-2017, diamond drilling was completed using a triple tube system with a HQ3 diameter. Holes were drilled at angles between 40 and 60 degrees from horizontal and the resulting core was oriented as part of the logging process.

Criteria	JORC Code Explanation	Commentary
Logging	▪ *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* ▪ *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.* ▪ *The total length and percentage of the relevant intersections logged.*	▪ A qualified geoscientist has logged all reported drill holes in their entirety. This logging has been completed to a level of detail considered to accurately support Mineral Resource estimation and metallurgical studies. The parameters logged include lithology, alteration, mineralisation and oxidation. These parameters are both qualitative and quantitative in nature. ▪ Diamond drilling completed in FY2017 by Broken Hill Prospecting/ Cobalt Blue Holdings has been subject to geotechnical logging with parameters recorded including rock-quality designation (RQD), fracture frequency and hardness. ▪ During 2013, a considerable amount of historical drilling was re-logged through review of available core stored at Broken Hill as well the re-interpretation of historical reports where core or percussion samples no longer exist. A total of eight (8) diamond drill holes and sixteen (16) diamond drill holes with pre-collars were re-logged as detailed below:

Hole ID	Deposit	Max Depth	Hole Type	Pre-Collar Depth (m)
67TH01	Pyrite Hill	304.2	DDH	–
70TH02	Pyrite Hill	148.6	DDH	–
70TH03	Pyrite Hill	141.4	DDH	–
70BH01	Big Hill	102.7	DDH	–
70BH02	Big Hill	103.9	DDH	–
80PYH13	Pyrite Hill	77	DDH	–
80PYH14	Pyrite Hill	300.3	DDH	–
80BGH09	Big Hill	100.5	DDH	–
80PYH01	Pyrite Hill	24.53	PDDH	6
80PYH02	Pyrite Hill	51.3	PDDH	33.58
80PYH04	Pyrite Hill	55	PDDH	38.7
80PYH05	Pyrite Hill	93.6	PDDH	18
80PYH06	Pyrite Hill	85.5	PDDH	18
80PYH07	Pyrite Hill	94.5	PDDH	12
80PYH08	Pyrite Hill	110	PDDH	8
80PYH09	Pyrite Hill	100.5	PDDH	8
80PYH10	Pyrite Hill	145.3	PDDH	25.5
80PYH11	Pyrite Hill	103.1	PDDH	18
80PYH12	Pyrite Hill	109.5	PDDH	4.2
80BGH05	Big Hill	54.86	RCDDH	45.5
80BGH06	Big Hill	68.04	RCDDH	58
80BGH08	Big Hill	79.7	RCDDH	69.9
93MGM01	Pyrite Hill	70	RDDH	24
93MGM02	Pyrite Hill	180	RDDH	48

DDH Diamond drill hole
PDDH Diamond drill hole with percussion pre-collar
RCDDH Diamond drill hole with reverse circulation pre-collar
RDDH Diamond drill hole with rotary air blast pre-collar

- Litho-geochemistry has been used to verify geological logging where available for drilling completed by Broken Hill Prospecting post 2010.
- Representative reference trays of chips from reverse circulation drilling completed post 2010 have been retained by Broken Hill Prospecting.

Criteria	JORC Code Explanation	Commentary
Sub-sampling techniques and sample preparation	▪ *If core, whether cut or sawn and whether quarter, half or all core taken.* ▪ *If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.* ▪ *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* ▪ *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* ▪ *Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.* ▪ *Whether sample sizes are appropriate to the grain size of the material being sampled.*	**Diamond Drilling (DDH)** **Pre-1990** ▪ Core samples were hand-split or sawn with re-logging of available historical core (see **Logging**) indicating a 70:30 (retained:assayed) split was typical. The variation of sample ratios noted are considered consistent with the sub-sampling technique (hand-splitting) ▪ No second half samples were submitted for analysis. ▪ It is considered water used for core cutting is unprocessed and unlikely to have introduced sample contamination. ▪ Procedures relating to the definition of the line of cutting or splitting are not available. It is expected that 'standard industry practice' for the period was applied to maximize sample representivity. **Post-1990** ▪ NQ drilling core was sawn with half core submitted for assay. ▪ HQ drilling core was sawn with quarter core submitted for assay. ▪ No second half samples were submitted for analysis. ▪ It is considered water used for core cutting is unprocessed and unlikely to have introduced sample contamination. ▪ Procedures relating to the definition of the line of cutting or splitting are not available. It is expected that 'standard industry practice' for the period was applied to maximise sample representivity. **2016 Metallurgical Drilling** ▪ All HQ drill core was sawn into halves, with each half then re-sawn to provide 4 lengths of quarter core for each interval. ▪ One half core was submitted for assay. ▪ One quarter core was submitted for metallurgical test work. ▪ One quarter core was retained for archive. ▪ It is considered that the water used for core cutting is most unlikely to have introduced sample contamination. ▪ Sample sawing and processing for test work were undertaken according to 'standard industry practice' to maximise sample representivity. **2017 Diamond Drilling** ▪ All HQ drill core was sawn into halves, with each half then re-sawn to provide 4 lengths of quarter core for each interval. ▪ One quarter – one half core was submitted for assay. ▪ One quarter – three quarter core was retained for archive. ▪ It is considered that the water used for core cutting is most unlikely to have introduced sample contamination. ▪ Sample sawing and processing for test work were undertaken according to 'standard industry practice' to maximise sample representivity.

Criteria	JORC Code Explanation	Commentary
Sub-sampling techniques and sample preparation *(continued)*		**Historical Reverse Circulation Drilling** - Sub-sampling of reverse circulation/percussion chips was achieved using a cyclone with cone or riffle splitter. - During drilling operations, the sample cyclone and splitter were regularly cleaned to prevent down hole sample contamination. - Dry sampling was achieved with the use of adequate air, using a compressor and booster, where groundwater was encountered. - During reverse circulation drilling completed by Broken Hill Prospecting, duplicate samples were collected at the time of drilling. These were obtained by spearing the bulk material held in the PVC sacks using a spear made of 40mm diameter PVC pipe; three samples were speared through the full depth of the bulk material and these were combined to form one sample. - The Thackaringa drilling database includes a total of 139 historical field duplicates collected during reverse circulation drilling. This reflects a ratio of approximately one field duplicate in every 32 samples (3.1%) for drill holes where duplicates were collected (31 drill holes for 4469 metres) and an overall ratio of one field duplicate in every 42 samples (2.4%) for all reverse circulation drill holes (43 drill holes for 5801.5 metres). - Statistical analysis of field duplicates collected during drilling completed by Broken Hill Prospecting (119 duplicates representing 86% of all field duplicates) considered 18 elements of which only chromium, lanthanum and titanium show some bias in the duplicate samples. For cobalt, the confidence limits were evenly placed either side of zero and the duplicates are deemed to be representative of the original samples. **FY2017/18 Reverse Circulation Drilling** - Sub-sampling of reverse circulation chips was achieved using a riffle splitter. - During drilling operations, the splitter was regularly cleaned to prevent down hole sample contamination. - Dry sampling was achieved with the use of adequate air, using a compressor and booster, where groundwater was encountered. - During reverse circulation drilling completed by Broken Hill Prospecting/Cobalt Blue Holdings, duplicate samples were collected at the time of drilling at an average rate of 1:23 samples. These were obtained by riffle splitting the remnant bulk sample following collection of the primary split. - Assay results include analysis of 628 field duplicate pairs from 93 RC drill holes. - A measure of the average precision of the sampling, sample preparation and assaying methods, given by the mean per cent difference (MPD) assay values of the duplicate pairs is summarised below. Overall, the sampling and assay precision for Co, Fe and S at economically significant grades is regarded as reasonable.

RC Field Duplicate Pairs

Co Cut-Off	Count	Co MPD	S MPD	Fe MPD
All	628	4%	5%	4%

Criteria	JORC Code Explanation	Commentary
Quality of assay data and laboratory tests	- *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* - *For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* - *Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.*	- The nature and quality of all assaying and laboratory procedures employed for samples obtained through drilling (diamond and reverse circulation) are considered 'industry standard' for the respective periods - The assay techniques employed for drilling (diamond and reverse circulation) include mixed acid digestion with ICP-OES and AAS finishes. These methods are considered appropriate for the targeted mineralisation and regarded as a 'near total' digestion technique with resistive phases not expected to affect cobalt analyses - All samples have been processed at independent commercial laboratories including AMDEL, Australian Laboratory Services (ALS), Analabs and Genalysis - All samples from drilling completed by Broken Hill Prospecting during 2011-2012 were assayed at ALS in Orange, New South Wales. All samples from drilling completed by Broken Hill Prospecting/Cobalt Blue Holdings during 2016-2017 were processed at ALS Adelaide, South Australia. ALS is a NATA Accredited Laboratory and qualifies for JAS/ANZ ISO9001:2008 quality systems. ALS maintains robust internal QAQC procedures (including analysis of standards, repeats and blanks). - To monitor the accuracy of assay results from the FY2017/18 Thackaringa drilling, CRM standards were included in the assay sample stream at an average rate of 1:25. The CRM samples were purchased from Ore Research & Exploration Pty Ltd and the results are summarised below:

			Cobalt				Sulphur			Iron		
OREAS	**Standard**	**Count**	**1SD**	**2SD**	**3SD**	**+SD3**	**1SD**	**3SD**	**+SD3**	**1SD**	**3SD**	**+SD3**
160	Low S Blank (2.8ppm Co)	108	77	19	5	76	0	32	102	6	0	4
162	Med Grade (631ppm Co)	140	140	0	0	138	2	0	133	7	0	21
		127	122	5	0	102	18	0	107	20	0	
		110	105	4	1	101	8	1	99	10	1	
163	Low Grade (230ppm Co), mod S (10.4%)	119	118	0	1	65	4	1	114	4	1	47
165	High Grade (2445ppm Co)	61	60	1	0	0	56	5	59	2	0	13
166	High Grade (1970ppm Co)	70	70	0	0	0	60	10	70	0	0	36
		735	**692**	**29**	**7**	**482**	**148**	**49**	**684**	**49**	**2**	**121**
		PCT	94%	4%	1%	71%	22%	7%	93%	7%	0%	47%

Criteria	JORC Code Explanation	Commentary
Verification of sampling and assaying	- *The verification of significant intersections by either independent or alternative company personnel.* - *The use of twinned holes.* - *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* - *Discuss any adjustment to assay data.*	- Historical drilling intersections were internally verified by personnel employed by previous explorers including CRAE Pty Limited, Central Austin Pty Limited and Hunter Resources. Broken Hill Prospecting has completed a systematic review of the related data. - The Thackaringa drilling database exists in electronic form as a Microsoft Access database. Information related to individual drill holes is stored in digital files as extracted from historical reports (typically including location plan, section, logs, photos, surveys, assays and petrology). - Historical drilling data available in electronic form has been re-formatted and imported into the drilling database. - Quantitative historical drilling data, including assays, have been captured electronically during systematic data compilation and validation completed by Broken Hill Prospecting. - Samples returning assays below detection limits are assigned half detection limit values in the database. - All significant intersections are verified by the Company's Exploration Manager and an independent geological consultant.
Location of data points	- *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* - *Specification of the grid system used.* - *Quality and adequacy of topographic control.*	- Historical drill collars have been relocated and surveyed using a differential GPS (DGPS). In the instances where no collar could be located the position has been derived from georeferenced historical plans. - During systematic data validation completed in 2016, three (3) drill holes at Big Hill were found to be incorrectly located. One collar was located and surveyed by GPS and two were digitised from georeferenced historical plans (reported to the nearest metre) as the collars had been destroyed. - Down hole surveys using digital cameras were completed on all post 2000 drilling. Down hole surveys for some earlier drilling were estimated from hole trace and section data where raw survey data was not reported. - All FY2017 drill hole collars were located and surveyed with DGPS by an independent surveyor with reported accuracy of ±0.05m in horizontal and vertical measurement. - All FY2018 drill hole collars presented in this release were located and surveyed with DGPS by an independent surveyor with reported accuracy of ±0.05m in horizontal and vertical measurement. - Downhole surveys using digital cameras were completed on all FY2017/18 drill-holes. - All data is recorded in the GDA94 datum; UTM Zone 54 (MGA54). - 3D validation of drilling data has been completed by independent geological consultants to support detailed geological modelling in Micromine™ software. - The quality of topographic control is deemed adequate in consideration of the results presented in this release.

Data spacing and distribution	- *Data spacing for reporting of Exploration Results.*
	- *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.*
	- *Whether sample compositing has been applied.*
		- The data density of existing drill holes at Thackaringa has been materially increased by the FY2018 drilling program. Drilling density at each deposit varies along strike generally responsive to exploration targeting and interpreted geological complexity with the average drill line spacing for each deposit summarised below:
		  - Railway: 25–40m
		  - Pyrite Hill: 30–40m
		  - Big Hill: 40–60m
		- Drilling density is also illustrated in drilling plans presented within this release
		- Detailed geological mapping is supported by drill-hole data of sufficient spacing and distribution to complete a 3D geological modelling and Mineral Resource estimation
		- No sample compositing has been applied to reported intersections.

Criteria	JORC Code Explanation	Commentary
Orientation of data in relation to geological structure	- *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* - *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	- The FY2018 drill holes at the Thackaringa project were typically angled at -55˚ or -60˚ to the horizontal and drilled perpendicular to the mineralised trend. - Drilling orientations are adjusted along strike to accommodate folded geological sequences. - Mineralisation at the Big Hill and Railway prospects is steeply dipping and consequently mineralised intersections will be greater than true width. At Pyrite Hill mineralisation is gently dipping and mineralised intersections will be close to true width. - The drilling orientation is not considered to have introduced a sampling bias on assessment of the current geological interpretation.
Sample security	- *The measures taken to ensure sample security.*	- Sample security procedures are considered to be 'industry standard' for the respective periods. - Following recent drilling completed by Broken Hill Prospecting/ Cobalt Blue Holdings, samples were trucked by an independent courier directly from Broken Hill to ALS, Adelaide. - The Company considers that risks associated with sample security are limited given the nature of the targeted mineralisation.

Audits or reviews	- *The results of any audits or reviews of sampling techniques and data.*	- In late 2016 an independent validation of the Thackaringa drilling database was completed:
		  - The data validation process consisted of systematic review of drilling data (collars, assays and surveys) for identification of transcription errors.
		  - Following review, historical drill hole locations were also validated against georeferenced historical maps to confirm their location.
		  - Three (3) drill holes at Big Hill were found to be incorrectly located. One collar was located and surveyed by GPS and two were digitised from georeferenced historical plans (reported to the nearest metre) as the collars had been destroyed. These corrections were captured in the Big Hill Mineral Resource estimate.
		  - Total depths for all holes were checked against original reports.
		  - Final 3D validation of drilling data has been completed by independent geological consultants to support detailed geological modelling in Micromine™ software.
		- Audits and reviews of QAQC results and procedures are further described in preceding sections of this table including **Quality of assay data and laboratory tests, Sub-sampling techniques and sample preparation and Logging.**

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr>
<td>Mineral tenement and land tenure status</td>
<td>

Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.
The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.

</td>
<td>

The Thackaringa Cobalt project is located approximately 25 kilometres west-southwest of Broken Hill and comprises four tenements with a total area of 63 km^2:
<table>
<tr><th>Tenement</th><th>Grant Date</th><th>Expiry Date</th></tr>
<tr><td>EL6622</td><td>30/08/2006</td><td>30/08/2020</td></tr>
<tr><td>EL 8143</td><td>26/07/2013</td><td>26/07/2020</td></tr>
<tr><td>ML86</td><td>05/11/1975</td><td>05/11/2022</td></tr>
<tr><td>ML87</td><td>05/11/1975</td><td>05/11/2022</td></tr>
</table>

The project tenure is subject to a Farm-In agreement between Cobalt Blue Holdings Limited (COB) and Broken Hill Prospecting Limited (BPL). The nature of this agreement is detailed in the COB Replacement Prospectus (as released 4 January 2017).
The nearest residence (Thackaringa Station) is located approximately three kilometres west of EL6622.
EL6622 is transected by the Transcontinental Railway; the Barrier Highway is located the north of the licence boundaries.
The majority of the project tenure is covered by Western Lands Lease which is considered to extinguish native title interest. However, Native Title Determination NC97/32 (Barkandji Traditional Owners 8) is current over the area and may be relevant to Crown Land parcels (e.g. public roads) within the project area.
The project tenure is more than 90 kilometres from the nearest National Park and or Wilderness Area (Kinchega National Park) and approximately 20 kilometres south of the nearest Water Supply Reserve (Umberumberka Reservoir Water Supply Reserve)
The Company is not aware of any impediments to obtaining a licence to operate in the area.

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</tr>
<tr>
<td>Exploration done by other parties</td>
<td>

Acknowledgment and appraisal of exploration by other parties.

</td>
<td>

A detailed and complete record of all exploration activities undertaken prior to the BPL 2016 drilling program is appended to the JORC Table 1 which forms part of the Cobalt Blue Prospectus Document, available on the COB website.

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</tr>
</table>

Criteria	JORC Code Explanation	Commentary

Geology	- *Deposit type, geological setting and style of mineralisation.*	**Regional Geological Setting**
		- The Thackaringa project is located in a deformed and metamorphosed Proterozoic supracrustal succession named the Willyama Supergroup, which crops out as several inliers in western New South Wales, including the Broken Hill Block (Willis, et al., 1982).
		- Exploration by BPL Limited has been focused on the discovery of cobaltiferous pyrite deposits and Broken Hill type base-metal mineralisation both of which are known from historical exploration in the district.
		- The project area covers portions of the Broken Hill and Thackaringa group successions which host the majority of mineralisation in the region, including the Broken Hill base-metal deposit. The Sundown Group suite is also present. The extensive sequence of quartz-albite-plagioclase rock that hosts the cobaltiferous pyrite mineralisation is interpreted as belonging to the Himalaya Formation, which is stratigraphically at the top of the Thackaringa Group.
		Local Geological Setting
		- The oldest rocks in the region belong to the Curnamona Craton which outcrops on the Broken Hill and Euriowie blocks.
		- The overlying Proterozoic rocks have been broadly subdivided into three major groupings, of which the oldest groups are the highly deformed metasediments and igneous derived rocks of the Thackaringa and Broken Hill groups. They comprise a major part of the Willyama Supergroup and host the giant Broken Hill massive Pb-Zn-Ag sulphide ore body. EL6622 is within the Broken Hill block of the Curnamona Craton.
		Mineralisation Style
		- The Thackaringa Mineral deposits (Pyrite Hill, Big Hill and Railway) are characterised by large tonnage cobaltiferous-pyrite mineralisation hosted within siliceous albitic gneisses and schists of the Himalaya Formation .
		- Cobalt mineralisation exists within stratabound pyritic horizons where cobalt is present within the pyrite lattice. Mineralogical studies have indicated the majority of cobalt (~85%) is found in solid solution with primary pyrite (Henley 1998)).
		- A strong correlation between pyrite content and cobalt grade is observed.
		- The regional geological setting indicates additional mineralisation targets including:
		  - Stratiform Broken Hill Type (BHT) Copper-Lead-Zinc-Silver deposits.
		  - Copper-rich BHT deposits.
		  - Stratiform to stratabound Copper-Cobalt-Gold deposits.
		  - Epigenetic Gold and Base metal deposits.

Drill hole Information	- *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:*
	  - *easting and northing of the drill hole collar*
	  - *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar*
	  - *dip and azimuth of the hole*
	  - *down hole length and interception depth*
		- See drill holle summaries below.
		- All significant intersections including downhole lengths and intercept depths are tabulated in the body of the release.

Drill hole summaries

Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
67TH01	Pyrite Hill	304.2	MGA94_54	518565	6449460	281	-55	261	DDH	
70TH02	Pyrite Hill	148.6	MGA94_54	518272	6449681	284	-61	219	DDH	
70TH03	Pyrite Hill	141.4	MGA94_54	518450	6449212	290	-62	284	DDH	
70BH01	Big Hill	102.7	MGA94_54	520851	6449309	285	-47	319	DDH	
70BH02	Big Hill	103.9	MGA94_54	520786	6449264	280	-50	319	DDH	
80PYH13	Pyrite Hill	77	MGA94_54	518358	6449038	290	-50	281	DDH	
80PYH14	Pyrite Hill	300.3	MGA94_54	518661	6449288	278	-60	281	DDH	
80PYH03	Pyrite Hill	35	MGA94_54	518252	6449570	299	-60	221	PDDH	22
80BGH09	Big Hill	100.5	MGA94_54	520657	6449293	273	-50	145	DDH	
80PYH01	Pyrite Hill	24.53	MGA94_54	518246	6449566	301	-60	203	PDDH	6
80PYH02	Pyrite Hill	51.3	MGA94_54	518261	6449574	298	-60	221	PDDH	33.58
80PYH04	Pyrite Hill	55	MGA94_54	518367	6449232	308	-60	296	PDDH	38.7
80PYH05	Pyrite Hill	93.6	MGA94_54	518227	6449678	285	-49	223	PDDH	18
80PYH06	Pyrite Hill	85.5	MGA94_54	518163	6449757	284	-54.4	223	PDDH	18
80PYH07	Pyrite Hill	94.5	MGA94_54	518084	6449818	285	-55	223	PDDH	12
80PYH08	Pyrite Hill	110	MGA94_54	518010	6449885	286	-60	223	PDDH	8
80PYH09	Pyrite Hill	100.5	MGA94_54	517917	6449932	287	-48.5	223	PDDH	8
80PYH10	Pyrite Hill	145.3	MGA94_54	518393	6449566	286	-50	223	PDDH	25.5
80PYH11	Pyrite Hill	103.1	MGA94_54	518441	6449330	297	-50	281	PDDH	18
80PYH12	Pyrite Hill	109.5	MGA94_54	518407	6449137	293	-50	281	PDDH	4.2
80BGH05	Big Hill	54.86	MGA94_54	520955	6449534	289	-60	164	RCDDH	45.5
98TC01	Railway	100	MGA94_54	522750	6451340	267	-60	159	RC	
98TC02	Railway	100	MGA94_54	522392	6451387	267	-60	141	RC	
98TC03	Big Hill	84	MGA94_54	520816	6449369	313	-60	136	RC	
98TC04	Big Hill	138.25	MGA94_54	520860	6449451	304	-60	141	RC	
98TC05	Big Hill	70	MGA94_54	520728	6449328	289	-50	123	RC	
98TC06	Big Hill	108	MGA94_54	520715	6449343	285	-60	126	RC	
98TC07	Big Hill	120	MGA94_54	520786	6449388	299	-50	134	RC	
98TC08	Big Hill	90	MGA94_54	520802	6449478	291	-60	151	RC	
98TC09	Big Hill	114	MGA94_54	520822	6449461	296	-60	134	RC	
98TC10	Big Hill	134	MGA94_54	521018	6449576	282	-50	173	RC	
98TC11	Railway	35	MGA94_54	522411	6451374	267	-60	133	RC	
80BGH06	Big Hill	68.04	MGA94_54	520880	6449472	299	-60	171	RCDDH	58
80BGH08	Big Hill	79.7	MGA94_54	520769	6449391	296	-60	127	RCDDH	69.9
80BGH07	Big Hill	23	MGA94_54	521137	6449599	274	-60	178	RC	
93MGM01	Pyrite Hill	70	MGA94_54	518185	6449714	286	-60	223	RDDH	24
93MGM02	Pyrite Hill	180	MGA94_54	518515	6449455	285	-60	259	RDDH	48
11PHR01	Pyrite Hill	150	MGA94_54	518435	6449073	285	-60	279	RC	
11PHR02	Pyrite Hill	198	MGA94_54	518500	6449159	284	-60	279	RC	
11PHR03	Pyrite Hill	240	MGA94_54	518560	6449190	280	-60	279	RC	
11PHR04	Pyrite Hill	186	MGA94_54	518529	6449257	284	-60	279	RC	
11PHR05	Pyrite Hill	234	MGA94_54	518584	6449398	280	-60	259	RC	
11PHR06	Pyrite Hill	180	MGA94_54	518491	6449523	284	-60	234	RC	
11PHR07	Pyrite Hill	174	MGA94_54	518413	6449593	283	-60	219	RC	
11PHR08	Pyrite Hill	180	MGA94_54	518343	6449656	283	-60	218	RC	
11PSR01	Pyrite Hill	59	MGA94_54	518743	6448864	268	-60	258	RC	
11PSR02	Pyrite Hill	132	MGA94_54	518719	6448960	270	-60	255	RC	
11PSR03	Pyrite Hill	78	MGA94_54	518687	6449055	273	-60	255	RC	
12BER01	Railway	157	MGA94_54	521667	6449893	278	-60	141	RC	
12BER02	Railway	132	MGA94_54	521213	6449691	274	-60	162	RC	
12BER03	Railway	151	MGA94_54	521879	6450435	289	-60	102	RC	
12BER04	Railway	148	MGA94_54	522354	6451268	274	-60	131	RC	

DDH Diamond drill hole

PDDH Diamond drill hole with percussion pre-collar

RCDDH Diamond drill hole with reverse circulation pre-collar

RDDH Diamond drill hole with rotary air blast pre-collar

RC Reverse Circulation drill hole

Historic down-hole information

Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
12BER05	Railway	145	MGA94_54	522439	6451168	300	-60	124	RC	
12BER06	Railway	169	MGA94_54	522481	6451091	296	-60	118	RC	
12BER07	Railway	115	MGA94_54	522324	6450749	278	-60	144	RC	
12BER08	Railway	193	MGA94_54	522221	6450812	273	-60	129	RC	
12BER09	Railway	139.75	MGA94_54	522101	6450881	276	-60	129	RC	
12BER10	Railway	151	MGA94_54	521953	6450716	284	-60	129	RC	
12BER11	Railway	193	MGA94_54	522737	6451377	266	-60	153	RC	
12BER12	Railway	111	MGA94_54	522910	6451517	277	-60	153	RC	
12BER13	Railway	205	MGA94_54	522884	6451558	271	-60	156	RC	
12BER14	Railway	151	MGA94_54	523125	6451637	288	-60	152	RC	
12BER15	Railway	109	MGA94_54	523311	6451842	284	-60	154	RC	
12BER16	Railway	115	MGA94_54	522994	6451592	276	-60	156	RC	
12BER17	Railway	115.5	MGA94_54	522517	6451315	269	-60	153	RC	
12BER18	Railway	157	MGA94_54	522333	6451281	272	-60	129	RC	
12BER19	Railway	97	MGA94_54	522241	6451067	276	-60	135	RC	
12BER20	Railway	120	MGA94_54	521292	6449734	277	-60	165	RC	
13BED01	Railway	349.2	MGA94_54	522480	6451092	296	-60	301	DDH	
16DM01	Pyrite Hill	161.6	MGA94_54	518411	6449594	283	-60	216	DDH	
16DM02	Pyrite Hill	183.4	MGA94_54	518527	6449262	284	-60	285	DDH	
16DM03	Big Hill	126.5	MGA94_54	521037	6449567	283	-60	159	DDH	
16DM04	Big Hill	105.4	MGA94_54	520815	6449464	296	-55	129	DDH	
16DM05	Railway	246.5	MGA94_54	522104	6450882	277	-60	129	DDH	
16DM06	Railway	160.4	MGA94_54	522912	6451519	279	-60	153	DDH	
16DM07	Railway	242.5	MGA94_54	522995	6451598	276	-60	156	DDH	
16DM08	Railway	258.5	MGA94_54	522351	6451273	274	-60	131	DDH	
17THD01	Pyrite Hill	124.2	MGA94_54	518382	6449551	289	-40	222	DDH	
17THD02	Pyrite Hill	149.7	MGA94_54	518475	6449445	291	-40	258	DDH	
17THD03	Pyrite Hill	78.5	MGA94_54	518370	6449190	303	-40	285	DDH	
17THD04	Big Hill	119.8	MGA94_54	521078	6449589	278	-45	155	DDH	
17THD05	Big Hill	99.5	MGA94_54	521669	6449889	279	-40	131	DDH	
17THD06	Railway	165.5	MGA94_54	521970	6450705	287	-45	128	DDH	
17THD07	Railway	274.6	MGA94_54	522569	6451282	271	-45	157	DDH	
17THD08	Railway	132.5	MGA94_54	522784	6451280	269	-45	326	DDH	
17THD09	Railway	120.5	MGA94_54	522905	6451511	278	-40	153	DDH	
17THD10	Railway	84.2	MGA94_54	522992	6451569	280	-45	130	DDH	
17THD11	Railway	111.5	MGA94_54	523109	6451682	281	-40	161	DDH	
17THD12	Railway	126.5	MGA94_54	522796	6451419	273	-40	141	DDH	
17THD13	Railway	105.5	MGA94_54	522836	6451456	277	-40	139	DDH	
17THD14	Pyrite Hill	99	MGA94_54	518375	6449089	294	-60	285	DDH	
17THR001	Railway	156	MGA94_54	522615	6451277	268	-60	120	RC	
17THR002	Railway	160	MGA94_54	522573	6451299	269	-60	120	RC	
17THR003	Railway	96	MGA94_54	522124	6450868	277	-60	130	RC	
17THR004	Railway	150	MGA94_54	522387	6451319	271	-60	120	RC	
17THR005	Railway	72	MGA94_54	522024	6450783	282	-60	120	RC	
17THR006	Railway	114	MGA94_54	522049	6450780	284	-58	125	RC	
17THR007	Railway	180	MGA94_54	521965	6450699	287	-59	125	RC	
17THR008	Railway	132	MGA94_54	521917	6450562	292	-56	105	RC	
17THR009	Railway	120	MGA94_54	521906	6450496	293	-58	105	RC	
17THR010	Railway	72	MGA94_54	521959	6450398	286	-56	285	RC	
17THR011	Railway	126	MGA94_54	522302	6451169	277	-56	120	RC	
17THR012	Railway	180	MGA94_54	522440	6451304	275	-58	173	RC	

DDH Diamond drill hole
PDDH Diamond drill hole with percussion pre-collar
RCDDH Diamond drill hole with reverse circulation pre-collar
RDDH Diamond drill hole with rotary air blast pre-collar
RC Reverse Circulation drill hole

Historic down-hole information

Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
17THR013	Big Hill	102	MGA94_54	521750	6449942	285	-60	131	RC	
17THR014	Big Hill	104	MGA94_54	521628	6449796	278	-53	130	RC	
17THR015	Big Hill	108	MGA94_54	521793	6449918	285	-58	310	RC	
17THR016	Pyrite Hill	138	MGA94_54	518446	6449209	290	-57	283	RC	
17THR017	Pyrite Hill	120	MGA94_54	518449	6449263	293	-56	282	RC	
17THR018	Pyrite Hill	78	MGA94_54	518027	6449806	290	-60	222	RC	
17THR019	Pyrite Hill	72	MGA94_54	518105	6449754	288	-55	222	RC	
17THR020	Pyrite Hill	66	MGA94_54	518166	6449695	289	-60	222	RC	
17THR021	Pyrite Hill	78	MGA94_54	518183	6449717	286	-60	222	RC	
17THR022	Pyrite Hill	156	MGA94_54	518510	6449306	287	-55	281	RC	
17THR023	Pyrite Hill	150	MGA94_54	518506	6449377	289	-57	265	RC	
17THR024	Pyrite Hill	150	MGA94_54	518457	6449498	288	-59.5	229	RC	
17THR025	Pyrite Hill	114	MGA94_54	518311	6449609	287	-60	222	RC	
17THR026	Pyrite Hill	114	MGA94_54	518268	6449681	284	-60	222	RC	
17THR027	Pyrite Hill	72	MGA94_54	518243	6449646	287	-60	222	RC	
17THR028	Railway	150	MGA94_54	522457	6451167	301	-60	350	RC	
17THR029	Railway	162	MGA94_54	522482	6451084	296	-60	175	RC	
17THR030	Railway	138	MGA94_54	522783	6451423	271	-55	140	RC	
17THR031	Railway	120	MGA94_54	522945	6451566	276	-55	145	RC	
17THR032	Railway	132	MGA94_54	522819	6451473	274	-53	140	RC	
17THR033	Railway	120	MGA94_54	522501	6451315	270	-60	175	RC	
17THR034	Railway	132	MGA94_54	522321	6451214	276	-55	127	RC	
17THR035	Railway	156	MGA94_54	522259	6451120	276	-55.2	130	RC	
17THR036	Railway	92	MGA94_54	522186	6450998	275	-61.2	130	RC	
17THR037	Railway	126	MGA94_54	522148	6450941	274	-55	126	RC	
17THR038	Railway	168	MGA94_54	521927	6450619	290	-55	108	RC	
17THD015	Railway	81.6	MGA94_54	522038	6450826	279	-80	304	DDH	
17THD016	Railway	176.9	MGA94_54	522089	6450774	287	-70	122	DDH	
17THD017	Railway	255.9	MGA94_54	522615	6451279	268	-80	350	DDH	
17THD018	Railway	72.5	MGA94_54	523013	6451491	295	-70	150	DDH	
17THD019	Railway	151.3	MGA94_54	522667	6451229	267	-70	140	DDH	
17THD020	Railway	121.7	MGA94_54	523052	6451545	290	-55	310	DDH	
17THD021	Big Hill	100	MGA94_54	521708	6449928	281	-50	133	DDH	
17THD022	Big Hill	70	MGA94_54	521618	6449729	278	-56	316	DDH	
17THD023	Big Hill	99.5	MGA94_54	521164	6449537	275	-55	337	DDH	
17THD024	Railway	69.6	MGA94_54	521164	6449536	275	-80	150	DDH	
17THD025	Pyrite Hill	24.2	MGA94_54	518588	6449334	281	-75	90	DDH	
17THD026	Pyrite Hill	240.7	MGA94_54	518586	6449334	281	-55	272	DDH	
17THD027	Big Hill	141.6	MGA94_54	520947	6449513	294	-75	130	DDH	
17THD028	Big Hill	171.7	MGA94_54	520862	6449317	285	-56	321	DDH	
17THD029	Pyrite Hill	200.5	MGA94_54	518489	6449338	290	-70	90	DDH	
17THD030	Pyrite Hill	201.5	MGA94_54	518351	6449706	281	-55	222	DDH	
17THD031	Pyrite Hill	229	MGA94_54	518289	6449629	287	-65	50	DDH	
17THR039	Railway	210	MGA94_54	522477	6451299	274	-55.8	168.7	RC	
17THR040	Railway	276	MGA94_54	522528	6451300	270	-55	164	RC	
17THR041	Railway	210	MGA94_54	522692	6451244	265	-55	339	RC	
17THR042	Railway	234	MGA94_54	522588	6451160	283	-55	336	RC	
17THR043	Railway	200	MGA94_54	522531	6451185	289	-55	341	RC	
17THR044	Railway	180	MGA94_54	522420	6451159	298	-55	311	RC	
17THR045	Railway	210	MGA94_54	522526	6451168	290	-55	311	RC	
17THR046	Railway	216	MGA94_54	522501	6451203	291	-56	311	RC	

DDH Diamond drill hole
PDDH Diamond drill hole with percussion pre-collar
RCDDH Diamond drill hole with reverse circulation pre-collar
RDDH Diamond drill hole with rotary air blast pre-collar
RC Reverse Circulation drill hole

Historic down-hole information

Hole ID	Deposit	Max Depth (m)	NAT Grid ID	Easting	Northing	RL	Dip	Azimuth	Hole Type	Pre-Collar Depth
17THR047	Railway	246	MGA94_54	522438	6451115	297	-55	311	RC	
17THR048	Railway	122	MGA94_54	522481	6451124	298	-55	310	RC	
17THR049	Railway	138	MGA94_54	522378	6451130	292	-55	310	RC	
17THR050	Railway	154	MGA94_54	522657	6451143	274	-63	344	RC	
17THR051	Railway	174	MGA94_54	522364	6451070	283	-55	308	RC	
17THR052	Railway	246	MGA94_54	522642	6451184	274	-55	334	RC	
17THR053	Railway	156	MGA94_54	522315	6451028	278	-55	314	RC	
17THR054	Railway	180	MGA94_54	522671	6451232	267	-60	333	RC	
17THR055	Railway	114	MGA94_54	522261	6450987	278	-55	313	RC	
17THR056	Railway	102	MGA94_54	522558	6451285	271	-55	158	RC	
17THR057	Railway	111	MGA94_54	522220	6450909	274	-55	308	RC	
17THR058	Railway	210	MGA94_54	522467	6451328	270	-55	160	RC	
17THR059	Railway	150	MGA94_54	522198	6450857	274	-55	306	RC	
17THR060	Railway	181	MGA94_54	523006	6451494	294	-55	331	RC	
17THR061	Railway	138	MGA94_54	522161	6450789	277	-55	307	RC	
17THR062	Railway	168	MGA94_54	522983	6451450	296	-60	327	RC	
17TRD063	Railway	169.5	MGA94_54	522137	6450725	280	-55	305	RCDDH	96.7
17THR064	Railway	171	MGA94_54	522931	6451403	295	-56.1	329	RC	
17THR065	Railway	174	MGA94_54	522108	6450664	283	-55	304	RC	
17THR066	Railway	168	MGA94_54	522865	6451367	292	-60	318	RC	
17THR067	Railway	150	MGA94_54	522022	6450479	284	-50	291	RC	
17THR068	Railway	210	MGA94_54	522752	6451407	268	-60	148	RC	
17THR069	Railway	96	MGA94_54	522008	6450647	301	-60	117	RC	
17THR070	Railway	228	MGA94_54	522813	6451242	266	-60	300	RC	
17THR071	Railway	142	MGA94_54	522070	6450846	279	-60	130	RC	
17TRD072	Railway	210	MGA94_54	522623	6451044	271	-60	320	RCDDH	155.6
17TRD073	Railway	195.4	MGA94_54	522035	6450817	280	-55	126	RCDDH	134.9
17THR074	Railway	300	MGA94_54	522572	6450985	271	-60	310	RC	
17THR075	Railway	148	MGA94_54	522013	6450770	283	-55	121	RC	
17THR076	Railway	300	MGA94_54	522479	6450945	272	-60	355	RC	
17THR077	Railway	180	MGA94_54	521993	6450743	285	-55	117	RC	
17THR078	Pyrite Hill	157	MGA94_54	518220	6449774	281	-60	222	RC	
17THR079	Railway	120	MGA94_54	521912	6450597	289	-55	116	RC	
17THR080	Pyrite Hill	67	MGA94_54	518024	6449782	292	-55	190	RC	
17THR081	Railway	184	MGA94_54	522340	6451239	276	-55	125	RC	
17THR082	Pyrite Hill	67	MGA94_54	517972	6449842	290	-55	222	RC	
17THR083	Railway	156	MGA94_54	522365	6451282	274	-55	133	RC	
17THR084	Pyrite Hill	97	MGA94_54	518343	6449588	287	-55	205	RC	
17THR085	Big Hill	210	MGA94_54	520878	6449523	287	-60	141	RC	
17THR086	Pyrite Hill	157	MGA94_54	518427	6449541	287	-55	218	RC	
17THR087	Pyrite Hill	181	MGA94_54	518466	6449587	282	-60	218	RC	
17THR088	Pyrite Hill	175	MGA94_54	518392	6449633	282	-55	213	RC	
17THR089	Big Hill	108	MGA94_54	521571	6449709	274	-60	141	RC	
17THR090	Big Hill	96	MGA94_54	521692	6449794	284	-55	312	RC	
17THR091	Pyrite Hill	211	MGA94_54	518424	6449679	279	-55	219	RC	
17THR092	Pyrite Hill	139	MGA94_54	518301	6449661	285	-55	219	RC	
17THR093	Pyrite Hill	151	MGA94_54	518270	6449732	281	-55	219	RC	
17THR094	Pyrite Hill	240	MGA94_54	518568	6449501	279	-60	253	RC	
17THR095	Pyrite Hill	205	MGA94_54	518509	6449194	283	-55	273	RC	
17THR096	Pyrite Hill	187	MGA94_54	518540	6449419	284	-60	257	RC	

DDH Diamond drill hole
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Criteria	JORC Code Explanation	Commentary
Data aggregation methods	▪ *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g. cutting of high grades) and cut-off grades are usually Material and should be stated.* ▪ *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* ▪ *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	**Drilling** ▪ Drill hole intercept grades are typically reported as down-hole length-weighted averages with any non-recovered sample within the reported intervals treated as no grade. The cut-off used for selecting significant intersections is selected to reflect the overall tenor of mineralisation, in most cases 500ppm cobalt. ▪ No top cuts have been applied when calculating average grades for reported significant intersections. ▪ No metal equivalent values are reported.
Relationship between mineralis-ation widths and intercept lengths	▪ *These relationships are particularly important in the reporting of Exploration Results.* ▪ *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* ▪ *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g. 'down hole length, true width not known').*	▪ Drill holes at the Thackaringa project are typically angled at 50° or 60° and drilled perpendicular to the mineralised trend with drilling orientations adjusted along strike to accommodate folded geological sequences. ▪ Mineralisation at the Big Hill and Railway prospects is steeply dipping and consequently mineralised intersections will be greater than true width. At Pyrite Hill mineralisation is gently dipping and mineralised intersections will be close to true width. ▪ There is insufficient geological knowledge to accurately estimate true widths and as such all drill intersections are reported as down hole lengths.
Diagrams	▪ *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	▪ Appropriate maps and sections are presented in the accompanying ASX release.
Balanced reporting	▪ *Where comprehensive reporting of all exploration results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.*	▪ Only mineralised drill hole intersections regarded as highly anomalous and of economic interest are reported. The proportion of each hole represented by the reported intervals can be ascertained from the sum of the reported intervals divided by the total drill hole depth. ▪ All assay results for drill holes included in the various Mineral Resource estimates have been considered and comprise results not necessarily regarded as anomalous.

Criteria	JORC Code Explanation	Commentary
Other substantive exploration data	▪ *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	▪ A PFS was commenced in August 2017. ▪ The first stage of the process is to prepare a concentrate from the ore. A composite of diamond drilling core samples from the 2016 program, was prepared using quarter core samples previously held in storage by ALS Metallurgy Burnie. The composite grade was 607 ppm which is about 300 ppm less than the average grade of the combined Thackaringa resources (Pyrite Hill, Railway Hill, and Big Hill). For clarity, the composite tested represents “low-grade” ore rather than the average grade ore. ▪ The ore composite was crushed to 1.2 mm and passed through a gravity-flotation circuit. From the 820 kg of ore, 139 kg of concentrate was produced. The cobalt recovery was 92% to concentrate. The metal content in the ore and concentrate was determined using industry standard XRF and ICP methods by ALS. ▪ 90 kg of concentrate was processed through a laboratory furnace by ALS, producing 70 kg of calcine for leaching studies. The process conditions were varied, to identify the optimum conditions for converting >95% of the pyrite into pyrrhotite. Elemental sulphur was recovered from the off-gas of the furnace. The metal content in the calcine and elemental sulphur was determined using industry standard XRF and ICP methods by ALS. ▪ 30 kg of calcine was processed through a laboratory autoclave by ALS. The process conditions were varied, to identify the optimum conditions for extracting cobalt. The optimum results were an average of 96% extraction of cobalt. The metal content in the calcine and leach residue was determined using industry standard XRF and ICP methods by ALS. ▪ Additional work is being undertaken on the further process steps to produce a final product.
Further work	▪ *The nature and scale of planned further work (e.g. tests for lateral extensions or depth extensions or large-scale step-out drilling).* ▪ *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	▪ The nature and scale of planned further work will be determined following the completion of revised Mineral Resource estimation for the Thackaringa deposits scheduled for January–February 2018.