Project Update

16 July 2020

Cobalt Blue Holdings Limited

A Green Energy Exploration Company

ASX Code:	**COB**

Commodity Exposure:

Cobalt & **Sulphur**

Directors & Management:

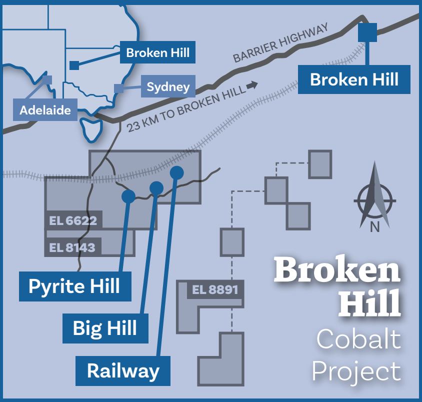
Robert Biancardi	Non-Exec Chairman
Hugh Keller	Non-Exec Director
Robert McDonald	Non-Exec Director
Joe Kaderavek	CEO & Exec Director
Robert Waring	Company Secretary

Capital Structure:

Ordinary Shares at 16/07/2020:	**159.9m**
Options (ASX Code: COBO):	**5.6m**
Market Cap (undiluted):	**$16.0m**

Share Price:

Share Price at 16/07/2020:	**$0.11**



Cobalt Blue Holdings Limited
ACN: 614 466 607
Address: Suite 17.03, 100 Miller Street
North Sydney NSW 2060
Ph: (02) 8287 0660
Website: www.cobaltblueholdings.com
Email: info@cobaltblueholdings.com
Social: Cobalt.Blue.Energy
cobalt-blue-holdings

Highlights

Broken Hill Cobalt Project (BHCP)

Project Update 2020

↑ Increased Ore Reserve
↑ Longer Operating Life
↓ Capital Costs
↓ Operating Costs

The Project Update 2020 Study has delivered significant project enhancements since the PFS 2018.

Study Highlights are:

- Ore Reserve (Probable) increased 55% to 71.8 Mt at 710 ppm cobalt (from 46.3 Mt at 819 ppm cobalt).
- Ore Reserve contained cobalt increased from 38,000 tonnes to 51,000 tonnes (34% increase).
- Pre-Production capital expenditure lowered by ~A$70m, inclusive of an increase in front-end mining and concentrate throughput capacity from 5.25 Mtpa to 6.3 Mtpa (+20%).
- Capital intensity (US$ capital/cobalt production) typically 25–30% of required capital for comparable cobalt greenfield projects.
- Replacement of standalone process plant Tailings Storage Facility, with Integrated Waste Landform for co-disposal of mine waste rock and process plant tailings, resulting in lower environmental footprint.
- The Broken Hill Cobalt Project is 100% owned by Cobalt Blue Holdings. The project will continue to advance towards a Feasibility Study.

BHCP – largest undeveloped cobalt producer in the world (ex-Africa) – targeting ethical, high grade, battery ready cobalt sulphate.

Production Target

- Production Target increased 67% to 98 Mt at 690 ppm cobalt (from 58.7Mt at 802 ppm cobalt).
- Production Target contained cobalt increased from 47,000 tonnes to 67,000 tonnes (43% increase).
- Operating Life (Production Target) extended from 13 years to 17 years.
- Average annual production (excluding ramp up/down) of 3,500-3,600 tpa Co, targeting a high grade cobalt sulphate with >20.5% cobalt content.
- Cobalt sulphate cash costs (C1 basis – net of by products) down to US$10.34/lb (-20%). Places the BHCP in the lowest quartile (cash cost basis) globally.
- Cobalt sulphate - All In Sustaining Cost down to US$13.10/lb. This compares to US$27.50/lb long term price assumption (Roskill Consultants).
- BHCP forecast to generate A$1,391m Free Cash Flow (FCF) over project life (equivalent to 23% FCF margin on sales).
- A summary of the Project based on the Production Target is given in Table 1.

The Production Target is, in part, based on Inferred Mineral Resources. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the Production Target itself will be realised.

Table 1. **Project Summary (Production Target)**

Project Parameters	Input	Comments
Pre-Production Capital		Other: includes services, env monitoring, biodiversity offset and IWL development Contingencies: includes $70m contingencies (14%)
Process Plant	A$343m	
Infrastructure	A$137m	
Mine development	A$38m	
Mine fleet	A$22m	
Other	A$20m	
Total	A$560m	
Plant Throughput (ore quantity)	Up to 6.3 Mtpa	Maximum comminution and concentrator throughput. Maximum concentrate refinery throughput 1 Mtpa
Annual Cobalt Production (metal in sulphate)	3,500-3,600 tpa	LOM Total (excluding ramp up/down periods)
LOM Cobalt Production (metal in sulphate)	57,000 tonnes	LOM Total
C1 cash cost (including sulphur credits)	$10.34/lb	Average based on Production Target
All In Sustaining Costs (including sulphur credits)	$13.10/lb	Average based on Production Target
Mine Life (Production Target)	17 years	Production Target of 98 Mt at 690 ppm cobalt
Macro Assumptions		
A$ / US$ Exchange Rate (in Financial model)	2023 $0.73, 2024 $0.72, 2025 $0.71 then $0.70 onwards	Macquarie Securities (Australia)
Average LOM Cobalt Price (in Financial Model)	US$27.50/lb	Roskill International
Average LOM Sulphur Price (in Financial Model)	US$145/t	CRU International This is landed sulphur price at Australian port (Townsville)
Financial Metrics		
Pre-Tax NPV (7.5%)	A$770m	Based on Production Target
Post-tax NPV (7.5%)	A$490m	

** NPV is based on 100% equity, real terms. Post Tax NPV assumed a 30% corporate tax rate.*

Value Engineering Study

Cobalt Blue has conducted a value engineering study examining the potential contribution of nickel to the project. Drill sample assays have shown that nickel is present in the mineral deposits. Metallurgical testwork has reported that nickel will be recovered into the Mixed Hydroxide Product (Mixed Hydroxide Product (MHP) testwork delivers premium product 28 April 2020). While the study was not based upon a JORC 2012 Resource or Reserve estimate, it concluded that an MHP containing 7% nickel (and 38% cobalt) could be produced from processing samples of RC chips obtained from the mineral deposits. Further work is required to confirm the quantities of nickel (and other minor metals such as copper and zinc) in the Mineral Resource and Ore Reserve estimates.

The inclusion of nickel credits (at a ratio of 1:6 with cobalt) was estimated to add 3.0% to Project revenue and decreases C1 and All In Sustaining Costs as shown in Table 2 below.

Table 2. **Project Summary (Value Engineering Study)**

Value Engineering Study - Financial Metrics (all other Parameters/Assumptions as above in Table 1)		
C1 cash cost (including sulphur & nickel credits)	$9.34/lb	Based on Value Engineering Study
All In Sustaining Costs (including sulphur & nickel credits)	$12.13/lb	Based on Value Engineering Study
Pre-Tax NPV (7.5%)	A$861m	Based on Value Engineering Study
Post-tax NPV (7.5%)	A$554m	

Future Optimisation Studies

While Cobalt Blue is pleased with the Project Update 2020 Study, there remain key optimisation opportunities to be examined during the upcoming Feasibility Study:

- **Capital cost reductions:** Process Plant Engineering optimisation of rotary furnaces, dryer kilns, autoclaves and processing filters will be undertaken as a result of upcoming pilot and demonstration plant testwork. Further: (1) mining fleet/infrastructure capital (A$29.7m) represents an opportunity for outsourcing to contractor based operations and (2) High Voltage (HV) power (A$35.5m) capital represents an opportunity to engage in a Build Own Operate Model (BOOM) contract with an energy provider. Trade-off studies will be completed to evaluate the optimal capital cost versus operating cost scenarios.
- **Metal recoveries:** Design criteria used during the PFS 2018 and the Project Update 2020 Study was based on batch testwork. Larger scale testing will be conducted as part of our pilot and demonstration plant testwork, incorporating recycle streams, which may increase overall metal recoveries.
- **Energy costs:** Energy is 19% of the annual site cash costs – related to electrical power consumption from the National Electricity Market. Piping Compressed Natural Gas (CNG) to site (feeding from the Moomba to Adelaide gas pipeline) will be examined as a lower cost energy alternative. Further, diesel costs represent a significant 25-30% of total mining costs, which will be subject to further optimisation studies.
- **Project life extension:** Further resource development work will be undertaken as part of the Feasibility Study. This work may convert to additional Ore Reserves, and in turn extend project life.
- **Inclusion of minor metals:** Future resource estimation will include minor metals such as nickel, copper, zinc and manganese.

Cobalt Blue's Chairman, Rob Biancardi said: *"We are pleased to announce this substantial Project Update 2020 for the world class Broken Hill Cobalt Project. The study demonstrates strong potential for COB to become a significant, low cost and ethical supplier of premium cobalt sulphate to the lithium-ion battery industry".*

Study Parameters – Cautionary Statement

The Ore Reserves reported in this announcement has been prepared in accordance with the guidelines of the Australasian Code for the Reporting of Resources and Reserves 2012 Edition (the JORC Code 2012). The Production Target is based on inclusion of Inferred Mineral Resources of cobalt and sulphur. There is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the Production Target will be realised. Cobalt Blue has concluded that it has reasonable grounds for disclosing a Production Target which includes a modest proportion of Inferred Mineral Resource reflecting approximately 20% of the total processed material.

Unless otherwise stated, all cashflows are in Australian dollars, are undiscounted and are not subject to inflation/escalation factors, and all years are financial years.

Cautionary Statement

This report ("Report") has been prepared by Cobalt Blue and is provided on the basis that none of Cobalt Blue nor its respective officers, shareholders, related bodies corporate, partners, affiliates, employees, representatives and advisers make any representation or warranty (express or implied) as to the accuracy, reliability, relevance or completeness of the material contained in the Report and nothing contained in the Report is, or may be relied upon as a promise, representation or warranty, whether as to the past or the future. Cobalt Blue hereby exclude all warranties that can be excluded by law.

Some statements in this report regarding estimates or future events are forward–looking statements, including prospective financial material which is predictive in nature. They include indications of, and guidance on, future earnings, cash flow, costs, and financial performance. Forward–looking statements include, but are not limited to, statements preceded by words such as "planned", "expected", "projected", "estimated", "may", "scheduled", "intends", "anticipates", "believes", "potential", "could", "nominal", "conceptual" and similar expressions. Forward–looking statements, opinions and estimates included in this Report are based on assumptions and contingencies which may be inaccurate, and are subject to change without notice, as are statements about market and industry trends, which are based on interpretations of current market conditions. Forward–looking statements are provided as a general guide only and should not be relied on as a guarantee of future performance.

Forward-looking statements may be affected by a range of variables that could cause actual results to differ from estimated results, and may cause Cobalt Blue's actual performance and financial results in future periods to materially differ from any projections of future performance or results expressed or implied by such forward-looking statements. These risks and uncertainties include but are not limited to liabilities inherent in mine development and production, geological, mining and processing technical problems, the inability to obtain mine licenses, permits and other regulatory approvals required in connection with mining and processing operations, competition for among other things, capital, skilled personnel, changes in commodity prices and exchange rate, currency and interest rate fluctuations, various events which could disrupt operations and/or the transportation of mineral products, including labour stoppages and severe weather conditions, the demand for and availability of transportation services, the ability to secure adequate financing and management's ability to anticipate and manage the foregoing factors and risks. There can be no assurance that forward-looking statements will prove to be correct.

Statements regarding plans with respect to Cobalt Blue's mineral properties may contain forward-looking statements in relation to future matters that can only be made where the Company has a reasonable basis for making those statements. Cobalt Blue has concluded that it has a reasonable basis for providing forward looking statements included in this Report. The detailed reasons for this conclusion are outlined throughout this Report.

All material assumptions on which the forward-looking statements are based are set out in this Report. The information in the Report is in summary form only and does not contain all the information necessary to fully evaluate any transaction or investment. It should be read in conjunction with the Company's other periodic and continuous disclose announcements lodged with ASX, which are available at www.asx.com.au and other publicly available information on the Company's website at www.cobaltblueholdings.com.au.

Executive Summary

Cobalt Blue is pleased to report the Project Update 2020 for the Broken Hill Cobalt Project. Australian Mine Design & Development Pty Ltd (AMDAD) has issued a JORC 2012 compliant Ore Reserve Statement to Cobalt Blue, and this is detailed in the following sections in accordance with ASX Listing Rule 5.9.1.

The outcomes of this Project Update 2020 study are detailed in the following sections.

The PFS 2018 had detailed a technically feasible and economic project for production of cobalt sulphate heptahydrate and elemental sulphur from the Broken Hill Cobalt Project deposits. The Project Update 2020 now assumes a peak 6.3 Mtpa ore throughput rate (up from 5.25 Mtpa). The Production Target mine life is now extended from 13 years to 18 years.

The Project Update 2020 was based on the following broad parameters:

- 4 April 2019 Mineral Resource estimate of 123 Mt at 660 ppm Co & 7.3% S for 81,400 t Co & 9 Mt S at a 275 ppm CoEq cut-off grade (originally reported at a 400 ppm CoEq cut-off grade and now re-reported at a 275 ppm CoEq cut-off grade).
- Owner operator mining
- Processing plant and associated infrastructure built under engineering, procurement, construction and management (EPCM) contracts.
- Power and water supply for site, to be connected to existing Broken Hill networks. Broken Hill is connected to the National Electricity Market electrical power grid, and is supplied with raw water from various sources, including a raw water pipeline fed from the Murray River.

Aspirational Targets versus Product Recovery Assumptions

Recovery of cobalt was in established in the PFS 2018 testwork at 86.8% from ore to cobalt sulphate. This was de-rated to 85.5% to allow for scale-up to commercial production. Cobalt Blue has an aspirational target of 90% cobalt recovery, with higher cobalt recovery potentially achievable by improved liberation of pyrite in the concentrator circuit by using a finer particle size and use of recycle streams throughout the flowsheet to minimise cobalt losses. Similarly, recovery of sulphur was established in the PFS 2018 testwork at 64.4%. Cobalt Blue has an aspirational target of 75% sulphur recovery, with higher sulphur recovery potentially achievable by optimisation of the parameters for separating sulphur from the leach residue.

Optimisation of cobalt recovery, in the upcoming Feasibility Study, could have a positive impact on project economics. Sensitivity analysis shows that a 1% increase in cobalt recovery, increased post-tax NPV (7.5% WACC) by 3.6%, and a 5% increase in sulphur recovery increased post-tax NPV (7.5% WACC) by 3%.

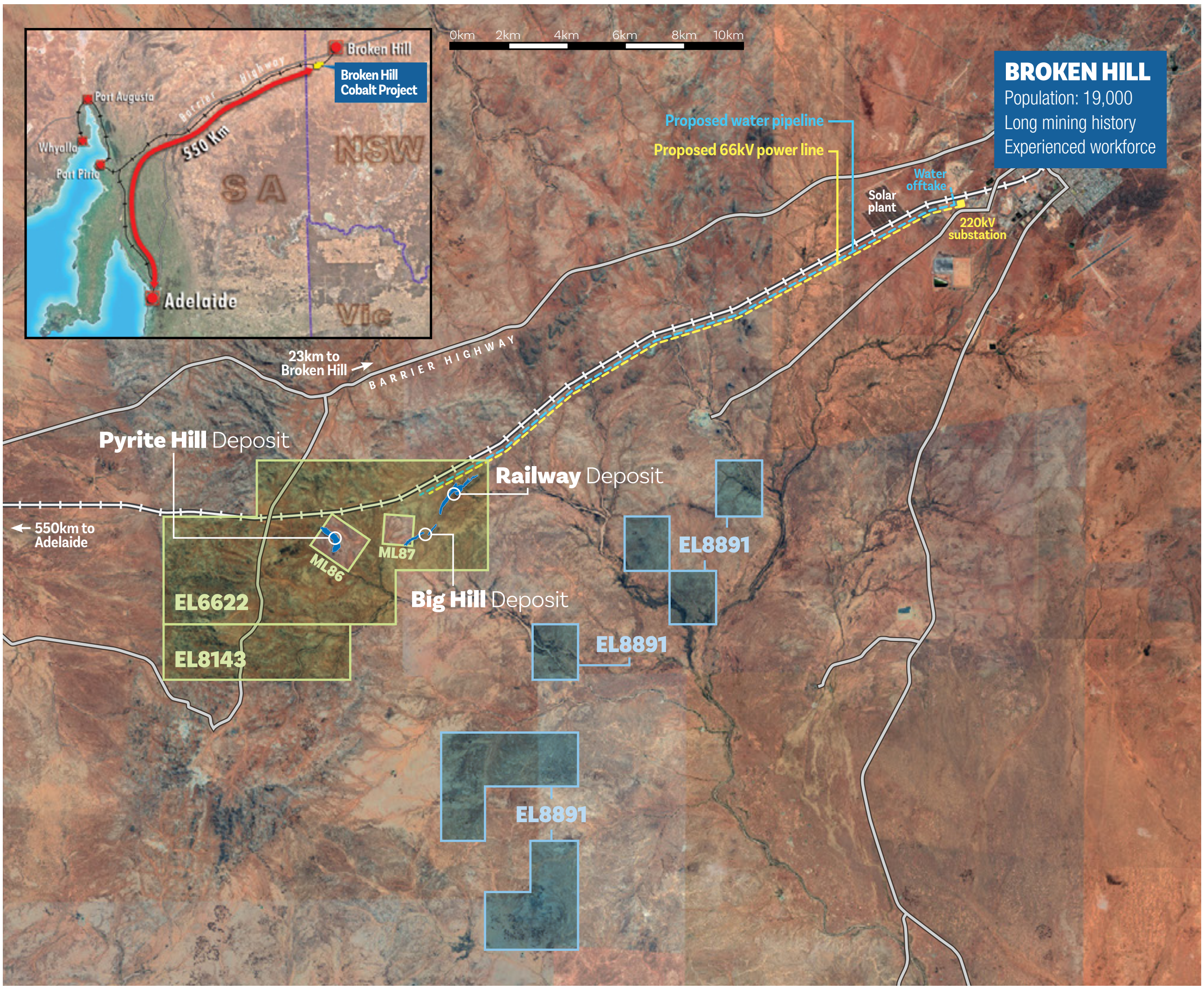
Project Background

The Broken Hill Cobalt Project (the 'Project') (formally known as the Thackaringa Cobalt Project) is located approximately 25 kilometres south west of Broken Hill, in far western New South Wales and hosts three large tonnage cobaltiferous pyrite deposits (Figure 1).

The Project was the subject of a Scoping Study completed in June 2017, which considered a range of processing options. The preferred option was selected for further assessment and formed the focus of the PFS 2018. The flowsheet was designed by COB and is now the subject of a patent application (Australian application no. 2018315046).

The PFS 2018 reported studies outlining the production of cobalt sulphate and elemental sulphur from the mining and processing of material from the BHCP deposits. Based on the 2018 Mineral Resource, and the PFS 2018, a maiden Ore Reserve estimate of 46.3 Mt at 819 ppm Co and 8.8% S, and a production target of 58.7 Mt at 802 ppm Co and 8.7 % S (inclusive of approximately 21% Inferred Mineral Resources), was reported for the BHCP.[1]

Figure 1. **Location of BHCP**



---

[1] As released July 4, 2018.

2020 Mineral Resource Estimate

The 2020 Ore Reserve estimate is based on the 2019 Mineral Resource initially released on 4 April 2019 and re-reported herein (with updated cut-off based on Project Update 2020 results). The Mineral Resource estimate was independently prepared by SRK Consulting and is reported in accordance with the guidelines of the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves ('2012 JORC Code'). The Mineral Resource estimate comprises 123 Mt at 782 ppm cobalt equivalent (CoEq) (660 ppm Co & 7.3% S) for 81,400 t contained cobalt (at a 275 ppm CoEq cut-off).

The Mineral Resource is inclusive of the Ore Reserve estimate.

Table 3. **2019 Mineral Resource re-reported at 275 ppm Co cut-off**

Category	Mt	Co ppm	CoEq (ppm)	Fe (%)	S (%)	Pyrite (%)	Contained Co (t)	Py (Mt)
Pyrite Hill | Cut-off Grade 275 ppm CoEq								
Measured	18	928	1094	10.7	9.9	19	17,100	3
Indicated	8	700	827	9.6	7.6	14	5,800	1
Inferred	7	811	957	10.4	8.7	16	5,700	1
Total	**34**	**847**	**1000**	**10.4**	**9.1**	**17**	**28,700**	**6**
Railway | Cut-off Grade 275 ppm CoEq								
Indicated	45	605	718	7.8	6.7	13	27,400	6
Inferred	29	568	681	8.1	6.8	13	16,300	4
Total	**74**	**591**	**704**	**7.9**	**6.7**	**13**	**43,700**	**9**
Big Hill | Cut-off Grade 275 ppm CoEq								
Indicated	11	613	714	6.6	6.1	11	6,600	1
Inferred	5	517	605	6.0	5.2	10	2,400	0
Total	**15**	**584**	**681**	**6.4**	**5.8**	**11**	**9,000**	**2**
Total | Cut-off Grade 275 ppm CoEq								
Measured	18	928	1094	10.7	9.9	19	17,100	3
Indicated	64	619	731	7.8	6.7	13	39,900	8
Inferred	40	604	720	8.3	6.9	13	24,300	5
Total	**123**	**660**	**782**	**8.4**	**7.3**	**14**	**81,400**	**17**

*The Mineral Resource estimates for the BHCP deposits (at a 275 ppm CoEq cut-off) detailed by Mineral Resource classification (CoEq = Co ppm + S % * 16.74).*
Note minor rounding errors may have occurred in compilation of this table.

Material changes since the initial public release of the Mineral Resource estimates as announced on 4 April 2019 "Significant Thackaringa Resource Upgrade" are solely resultant from the revision of cut-off parameters and pit optimisation inputs derived from the assessment of modifying factors to support the 2020 Ore Reserve estimate.

Strategic Rationale

The strategic rationale for the Broken Hill Cobalt Project is underpinned by four tenets:

Cobalt – the window of opportunity

Cobalt is a key metal required for both metallurgical and chemical industries. Cobalt demand is split into new and old economy drivers. New economy drivers include two components: (1) Battery materials, as a means of distributed energy storage in an era of high energy prices, decarbonisation of power grids and powering Electric Vehicles (EVs); and (2) Superalloys. Today, most portable applications are powered by cobalt-based lithium ion batteries, initially commercialised in the 1990s. Battery materials will continue to dominate global consumption and drive demand over the next +10 years.

Cobalt supply remains tightly held by a minority of commercial interests and is largely sourced geographically from Africa (70% of 2020 global supply sourced from the Democratic Republic of the Congo). Uncertainty of supply remains a key risk for global consumers and will add to the price premium commanded by cobalt over the next +10 years.

Elemental sulphur vs sulphuric acid

The Broken Hill Cobalt Project mineral deposits are comprised of pyrite and silica / feldspars. Cobalt is substituted inside the pyrite mineral lattice and is not present as a discrete mineral. Minerals processing options are centred on recovering pyrite from the ore, and subsequent downstream treatment of the pyrite concentrate.

Historically, commercial operations have roasted pyrite, generating sulphuric acid. However, there is limited demand for sulphuric acid at/near Broken Hill, and any sales would compete against low-cost sulphuric acid generated at base metal refineries.

An alternative to production of sulphuric acid, is the production of elemental sulphur. Elemental sulphur is mainly sourced from treatment of sour-gas from the oil and gas industry. There is no local producer in Australia, and hence this presents an opportunity for Cobalt Blue. Further, there is a growing Australian demand for elemental sulphur for production of fertilisers, and on-mine-site generation of sulphuric acid for metallurgical consumption.

COB seeks to generate elemental sulphur which has advantages over sulphuric acid:

- Ease to handle and transport
- No local supply competition

Primary producer of cobalt

Typically, cobalt is recovered as a by-product from copper or nickel projects. In contrast, the Broken Hill Cobalt Project is aiming to be a primary producer of cobalt, as there are only minor amounts of other payable metals in the ore.

The Mineral Resource estimate of 123 Mt at 782 ppm cobalt equivalent (CoEq) (660 ppm Co & 7.3% S) for 81,400 t contained cobalt (at a 275 ppm CoEq cut-off) provides Cobalt Blue with a significant base for development of the BHCP.

Battery ready cobalt product – maximum margin over the project life cycle

The Broken Hill Cobalt Project strategy is to examine an integrated mine/refinery concept (Figure 2). Historically, cobalt mines have sold cobalt as a concentrate by-product from either copper or nickel mines. More recently, cobalt is mainly sold from the mine site as a mixed hydroxide or sulphide intermediate. In both cases, the payable cobalt content was a fraction of the metal value.

Cobalt Blue's strategic focus is upon the battery industry and producing a battery ready cobalt product (cobalt sulphate) at sufficient purity to enter the production chain directly (Figure 3). This allows Cobalt Blue to sell directly into the battery industry (specifically to cathode precursor manufacturers representing the front end of the industry).

Figure 2. **BHCP Process Flowsheet**

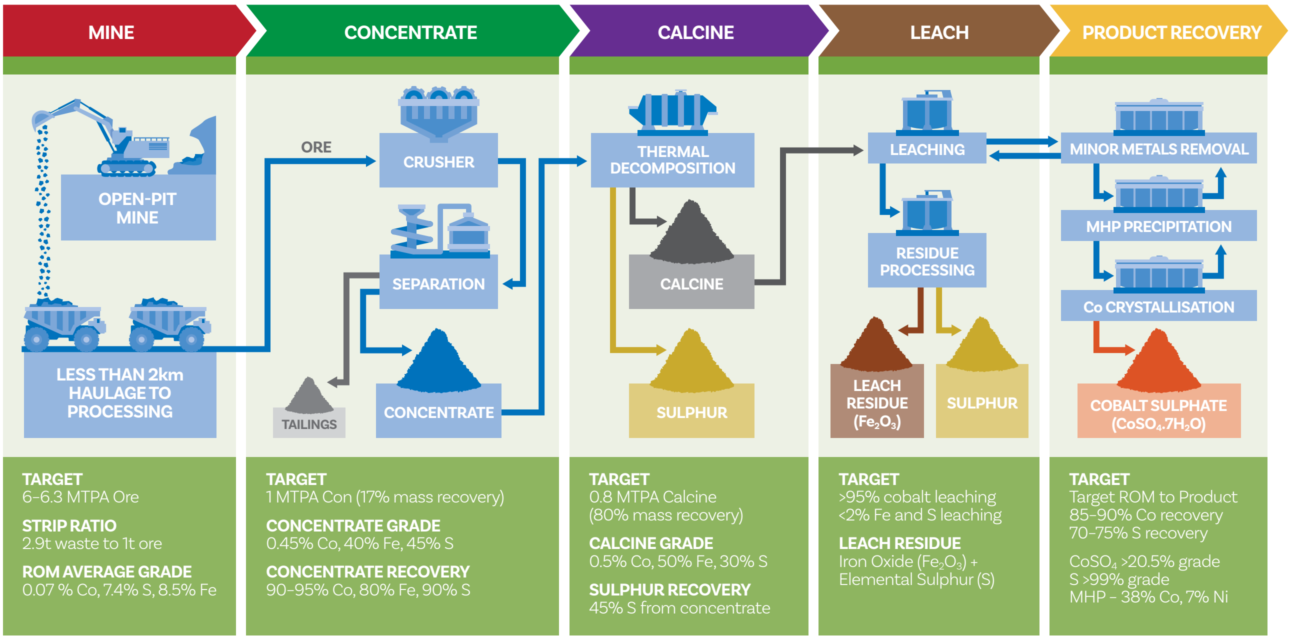
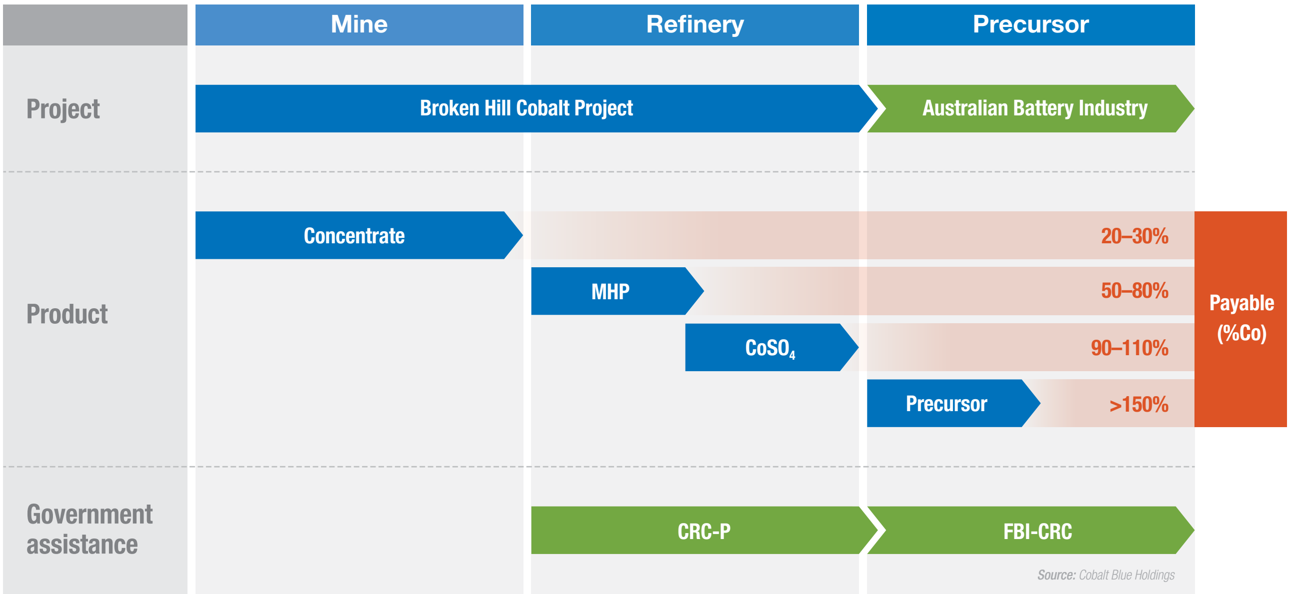


Figure 3. **BHCP in the global cobalt value chain**



Source: Cobalt Blue Holdings

The long-term commercial strategy is to extract the maximum cobalt margin. In a rapidly changing global market for cobalt, there is risk that demand for particular forms of cobalt will wax and wane during the life cycle of the Broken Hill Cobalt Project.

Strategic Arrangements

Cobalt Blue has entered into a strategic First Mover partnership with LG International (LGI), the resources investment arm of LG Corporation, acting in cooperation with LG Chem.

LG International executes resources investment strategy for the LG Group. Historically, LG International has specialised in global mining investment and operations. LG International has now extended its focus to include ‘Green Minerals’, the raw materials of lithium-ion battery construction such as cobalt, nickel and lithium. LG International operates in close cooperation with LG Chem to secure Green Minerals for the LG Group.

LG Chem is one of the largest lithium ion battery makers in the world. LG Chem possesses strong technical leadership in the development of next generation batteries, in particular for fixed storage and Electric Vehicles (EVs). Under the First Mover partnership LG will provide capital and technical assistance for Cobalt Blue to make a high purity battery grade cobalt sulphate.

Sojitz Corporation has recently (23 April 2020) become a partner in the Cobalt Product Program. Sojitz is a leading Japanese commodities trading house, who have also taken active investments in operating mines around the world.

COB has previously announced (13 May 2019) a sulphur marketing trial program with Mitsubishi Corporation. Mitsubishi Corporation are active global sulphur and sulphuric acid market traders, currently holding a significant share of Asian sulphur and sulphuric acid market. COB intends to produce up to 100 tonnes of elemental sulphur from bulk metallurgical testwork trials. The Company has entered into an agreement with Mitsubishi to conduct marketing trials for the elemental sulphur. If the trials are successful, it is then the intention of both parties to negotiate an offtake contract for the commercial production and sale of elemental sulphur from the BHCP.

2020 Ore Reserve & Production Target

Mining studies completed in PFS 2018, and in the Project Update 2020, have shown that the extraction of cobalt bearing ore from the BHCP deposit is achievable using proven mining methodologies. The Project Update 2020 study has supported estimation of a revised Probable Ore Reserve.

Cobalt Blue plans to develop the mining portion of the BHCP site using a multi-pit open cut mining operation that will extract ore using conventional drill and blast, load and haul and dump activities.

The selected mining strategy adopted is based on the understanding of the geology and equipment capability. Overall, the following factors have been considered:

- Open pit mining methodology adopting a conventional truck - excavator operation;
- Disposal of potentially acid forming material from mine waste and plant waste;
- Owner operator load and haul operation;
- Owner operator drill and blast operation;
- Environmental factors, including surface water and ephemeral stream systems;
- Surface constraints (such as lease and native title boundaries) and topographical limitations which may affect mining, surface infrastructure or waste dumps, and stockpile locations and dimensions;
- Selection of a suitable mining and material handling concept;
- Suitable mining method and equipment concept;
- Mine design of the selected concept;
- Stable annual cobalt output;
- Economic analysis of the selected concept; and
- Potential mine life.

The ore feed requirements to the plant vary depending on the grade of material. Between 5.3 Mtpa and 6.3 Mtpa of ore will be hauled annually to a stockpile area (ROM) close to the processing plant. The process plant is located centrally to the mining pits, waste landforms and outbound logistics areas (e.g. rail siding). During periods where the quantity of ore mined exceeds the quantity processed, additional temporary long term stockpile areas may be utilised. The strip ratio is less than 3:1 so mine waste movement requirements are less than 18 Mt per annum. Additionally, plant waste of approximately 100% of ore feed will be co-deposited with the mine waste in integrated waste landforms (IWL) in order to control potential acid forming material.

It is envisaged that mining be conducted on a dual shift operation based on a 7-day week for 365 days of the year.

Ore Reserve

The Broken Hill Cobalt Project considers the development of the Pyrite Hill, Big Hill and Railway cobaltiferous pyrite deposits. Modifying factors used for the Ore Reserve estimate were derived from the PFS 2018 and subsequent Project Update 2020 described herein.

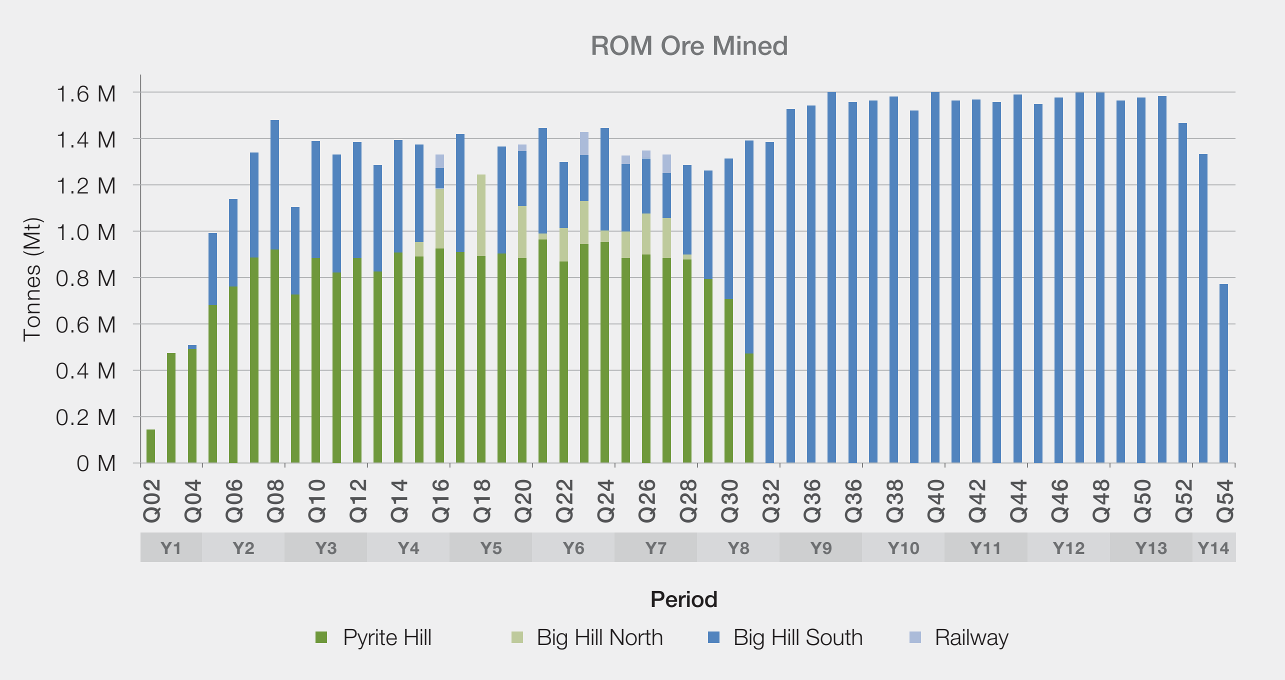
The Ore Reserve estimate for the Broken Hill Cobalt project is summarised in Table 4 by classification and deposit. The Ore Reserve estimate is based on, and inclusive of, the Mineral Resource estimate released 4 April 2019 and re-reported herein. No Inferred Mineral Resources have been used in the estimation of the Ore Reserve.

The Base Case mine schedule sees initial operations at both Pyrite Hill and Big Hill, with development pre-strip and minor amounts of ore accessed from near surface. The major pits have a two-stage approach, while Big Hill has no staging. Processing commences in Year 2 with ore feed from both the pits and ore stockpiles generated in Year 1. The mining schedule targets consistent pyrite concentrate and cobalt production, with ore feed averaging 5.4 Mtpa for the first half of the mine life increasing to 6.3 Mtpa for latter production. The Life of Mine (LOM) is approximately 14 years of mining activities, and 13 years of cobalt production.

Table 4. **BHCP Ore Reserve Tonnage and Grade**

Ore Reserve Classification	Deposit	Mt	Co ppm	S %
Proved	Pyrite Hill	–	–	–
	Big Hill North	–	–	–
	Big Hill South	–	–	–
	Railway	–	–	–
	Total	–	–	–
Probable	Pyrite Hill	24.0	860	9.2
	Big Hill North	1.7	640	6.3
	Big Hill South	8.5	610	5.9
	Railway	37.5	640	7.0
	Total	71.8	710	7.6

Figure 4. **Ore Reserve – Base Case – Mine Schedule**



Production Target (Potential Upside Mining Case)

The mine schedule considers a production target inclusive of a small component (approximately 20%) of Inferred Mineral Resources captured by the final pit designs. In the first 10 years, 90% of material is classified as Measured or Indicated, and only 10% as Inferred (weighted tonnage of mineable inventory). From Year 11 to the end of the mine life approximately 70% of material is classified as Measured and Indicated, and the remaining 30% of material as Inferred.

The Production Target is summarised in Table 5 and must be read in conjunction with the cautionary statement on page 3. The potential Upside Case mine schedule (Figure 5) develops in a similar way to the Ore Reserves case, but the size of each pit is larger due to the inclusion of Inferred Mineral Resources in the generation and scheduling of the quantities. The relative components of Ore Reserve and Inferred Mineral Resources considered in the Production Target schedule are illustrated in Figure 6.

Ore feed is on average 5.5 Mtpa for the first half of the mine life increasing to 6.3 Mtpa due to lower grades contained in the Railway deposit.

The mining activities operate for approximately 18 years.

Table 5. **Project Update 2020 Study Production Target Project Metrics**

Tonnes (Mt)	Co (ppm)	S (%)	Contained Cobalt (kt)	Strip Ratio (t:t)
98	690	7.4	67	2.9:1

Figure 5. **Production Target – Mine Schedule (by material classification)**

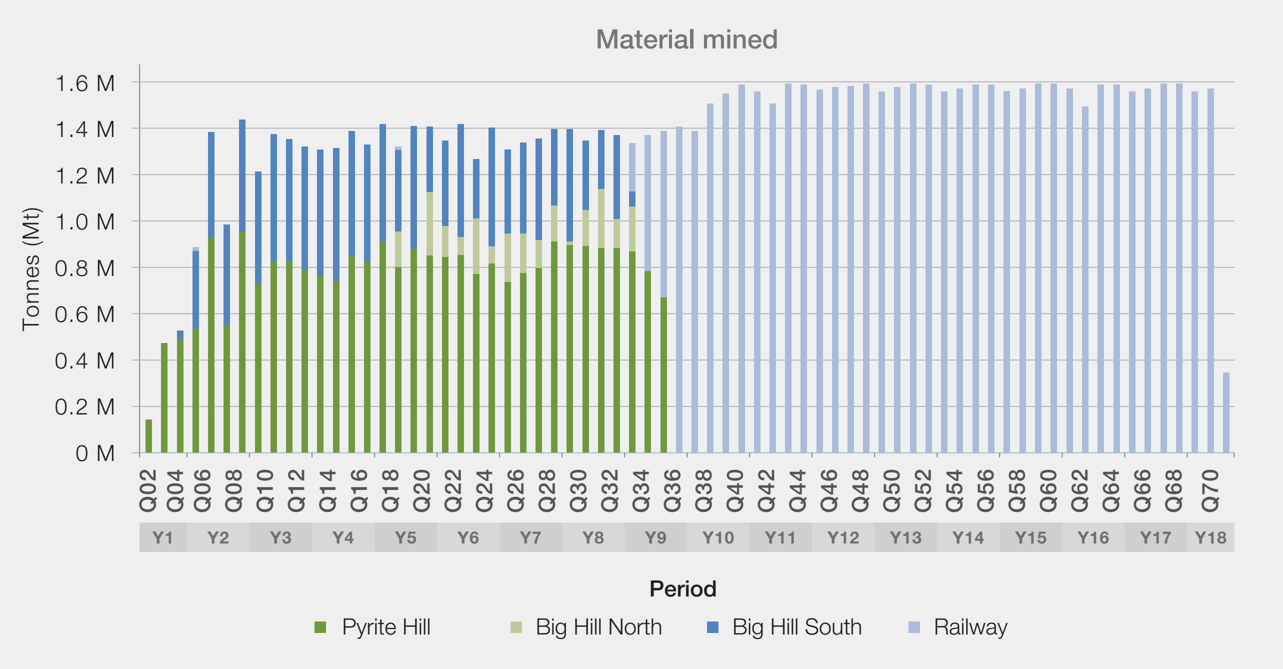
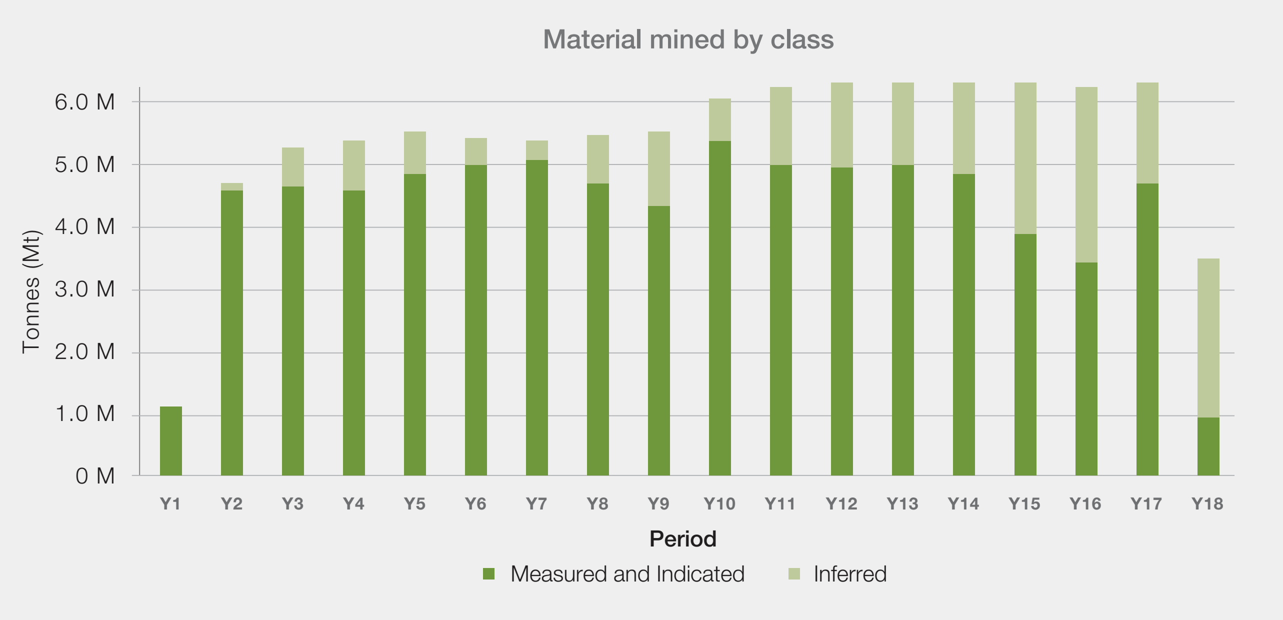


Figure 6. **Production Target – Mine Schedule (material classification)**



Project Financial Analysis

The Project Update 2020 study (completed at a pre-feasibility study level) clearly demonstrated that the Ore Reserve case and the Production Target case for the BHCP were NPV positive, and that the project was economic in both scenarios. The key project metrics for the Production Target are given in Table 6.

Table 6. **Project Update 2020 Study outcomes.**

Project Parameters	Input	Comments
Pre-Production Capital		Other: includes services, env monitoring, biodiversity offset and IWL development Contingencies: includes $70m contingencies (14%)
Process Plant	A$343m	
Infrastructure	A$137m	
Mine development	A$38m	
Mine fleet	A$22m	
Other	A$20m	
Total	A$560m	
Plant Throughput (ore quantity)	Up to 6.3 Mtpa	Maximum comminution and concentrator throughput. Maximum concentrate refinery throughput 1 Mtpa
Annual Cobalt Production (metal in sulphate)	3,500-3,600 tpa	LOM Total (excluding ramp up/down periods)
LOM Cobalt Production (metal in sulphate)	57,000 tonnes	LOM Total
C1 cash cost (including sulphur credits)	$10.34/lb	Average based on Production Target
All In Sustaining Costs (including sulphur credits)	$13.10/lb	Average based on Production Target
Mine Life (Production Target)	17 years	Production Target of 98 Mt at 690 ppm cobalt

Development and construction of the BHCP will "catch the wave" of stronger expected cobalt prices in the coming years. Over the past 5 years cobalt spot prices have fluctuated between a high of US$43/lb and a low of US$12/lb. Cobalt trading houses and specialist mineral economic consultants anticipate a progressive increase in cobalt prices over the 2022 to 2025 period forecasting long term real cobalt prices thereafter in the range of US$20/lb to US$30/lb. Current spot prices are presently below long term expectations.

COB's base case financial model adopts a long term real cobalt price of US$27.50/lb. The long term forecast adopted in this Project Update compares with the long term forecast of US$33.80/lb (2018 terms) employed in the 2018 PFS; a forecast sourced from CRU, a leading mineral economic consultancy. While future cobalt prices are a key determinant of the economics of the BHCP it is noted that because of low capital and operating costs, project viability does not require the forecast long term real cobalt price of US$27.50/lb

Cobalt Blue adopted Roskill International's cobalt price forecast of US$27.50/lb which was assumed for all years of production. No premia or discount was applied for >20.5% cobalt sulphate compared to the underlying cobalt metal price.

Sulphur price forecasts (landed Australia) have also been provided by CRU international. LT pricing is assumed to be US$114/t, which is the 2025F price forecast plus LT freight (ex Vancouver) assumed to be US$31/t.

$A/$US forecasted were adopted from Macquarie Securities (Australia).

A Production Target (Potential Upside Mining Case) was modelled using sensitivity analysis and the above metal pricing information. $NPV_{7.5}$ Pre Tax A$770m and $NPV_{7.5}$ Post Tax A$490m.

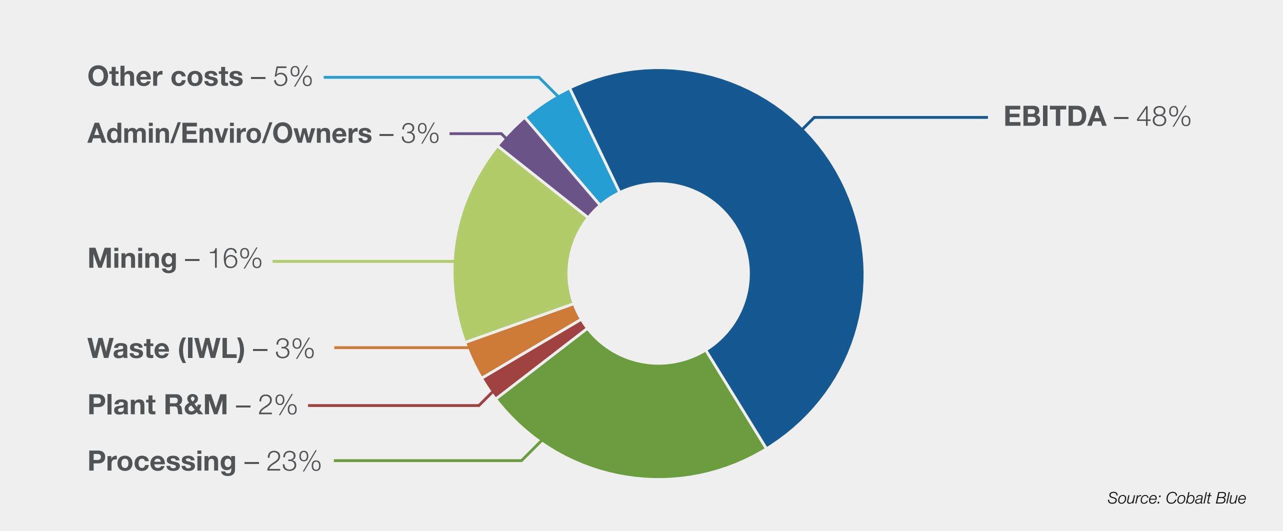
Table 7. **Production Target Key Outcomes – using A$/$US forward curve.**

Macro Assumptions		
A$ / US$ Exchange Rate	2023 $0.73, 2024 $0.72, 2025 $0.71 then $0.70 onwards	Macquarie Securities (Australia)
Average LOM Cobalt Sulphate Price	US$27.50/lb	Roskill International
Average LOM Sulphur Price (landed in Australia)	US$145/t	CRU International
Financial Metrics		
Pre-Tax NPV (7.5%)	A$770m	Based on Production Target
Post-tax NPV (7.5%)	A$490m	
Project Payback (simple)	4.5 years	

** NPV is based on 100% equity, real terms. Post Tax NPV assumed a 30% corporate tax rate.*

Over the Production Target LOM the project generates ~48% EBITDA margin with key cost margins being Processing 23% (of sales) and Mining 16% (of sales) as shown in Figure 7.

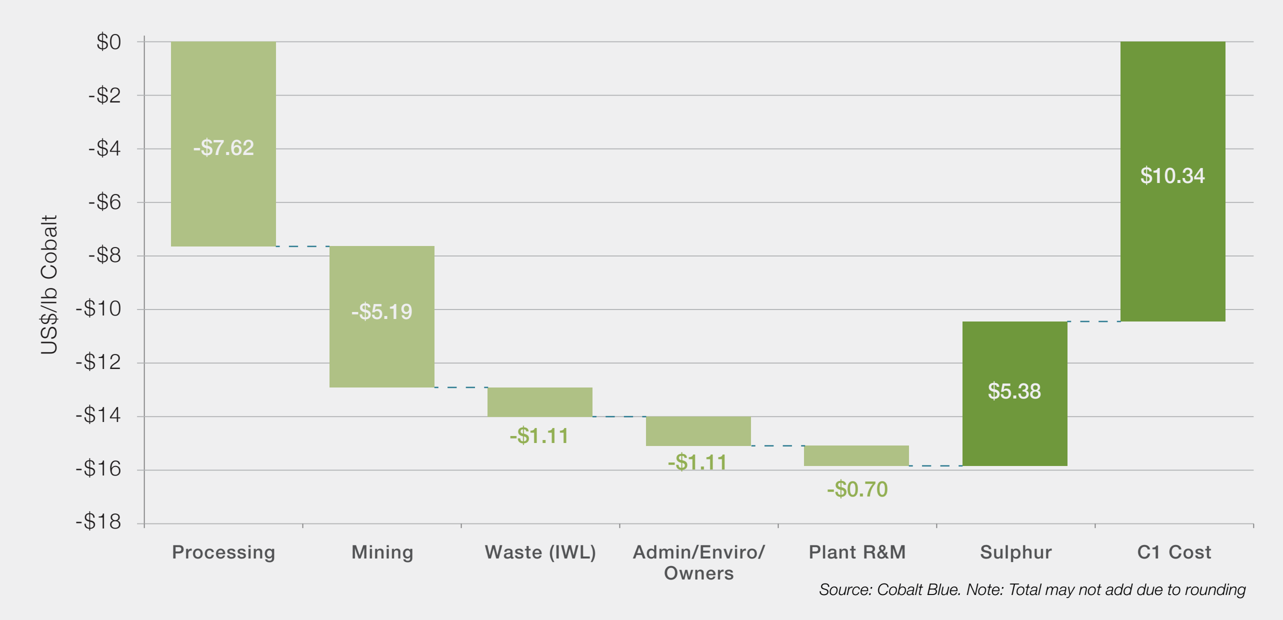
Figure 7. **Broken Hill Cobalt Project – Production Target LOM Revenue Breakdown (%)**



Source: Cobalt Blue

Cash costs for the Production Target case are forecast to be ~US$10.34/lb (net of sulphur credits) with breakdown shown in Figure 8. Mining costs shown are for an owner operator model, along with COB staff for the processing plant.

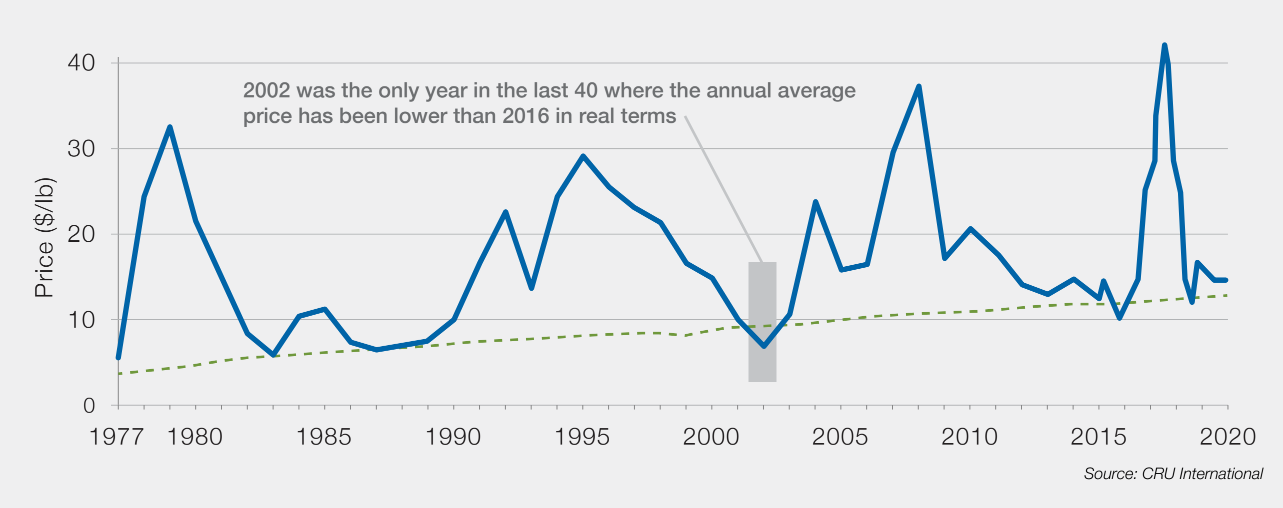
Figure 8. **Broken Hill Cobalt Project – Production Target – C1 Site Cash Cost US$/lb (net of by product)**



Source: Cobalt Blue. Note: Total may not add due to rounding

The cash costs determined by this study place the Broken Hill Cobalt Project in a robust position against the historical cobalt market. Analysis shows the cobalt price has dropped below (2020 Real US$) US$13 /lb once in the last 40 years (Figure 9). This provides confidence in the economic resilience (defined as the ability to withstand low commodity pricing) of the Broken Hill Cobalt Project.

Figure 9. **Cobalt Pricing (historical) – 1 in 40 year price event – Cobalt < US$13/lb (2020 Real)**



2002 was the only year in the last 40 where the annual average price has been lower than 2016 in real terms

Source: CRU International

Capital Expenditure – Intensity

The BHCP capital intensity (defined as US$ pre-production capital expenditure / cobalt units produced per annum) is typically 1/3 of the average of its Greenfields project peer group (Table 8). In other words, the project represents the most efficient use of capital to produce cobalt compared to Greenfields project peers globally.

Table 8. **Capital Intensity – BHCP vs Peer Group**

Project	US$ Capex	Cobalt (tpa)	By-products	Cobalt Payable (%LME)	Mine Life (years)	Capital Intensity (US$/tpa Co)
Broken Hill Cobalt (Aust)	392	3,530	Sulphur	100%	17	112,000
Mount Thirsty (Aust)	260	1,600	Ni	80%	12	163,000
Kabanga (Tanzania)	750	2,400	Ni	Low		313,000
Kalgoorlie Nickel Project (Aust)	918	2,150	Ni	100%	>25	427,000
Sunrise (Syerston) (Aust)	1,490	3,360	Ni/Sc	100%	>25	444,000
Wellgreen Central (Canada)	450	1,000	Ni/Cu	Low	25	450,000
NiWest (Aust)	676	1,400	Ni	100%	>25	483,000
Dumont (Canada)	1030	2,000	Ni/Pt		20	515,000
NICO (Canada)	589	500	Bi/Au	100%	>20	1,178,000

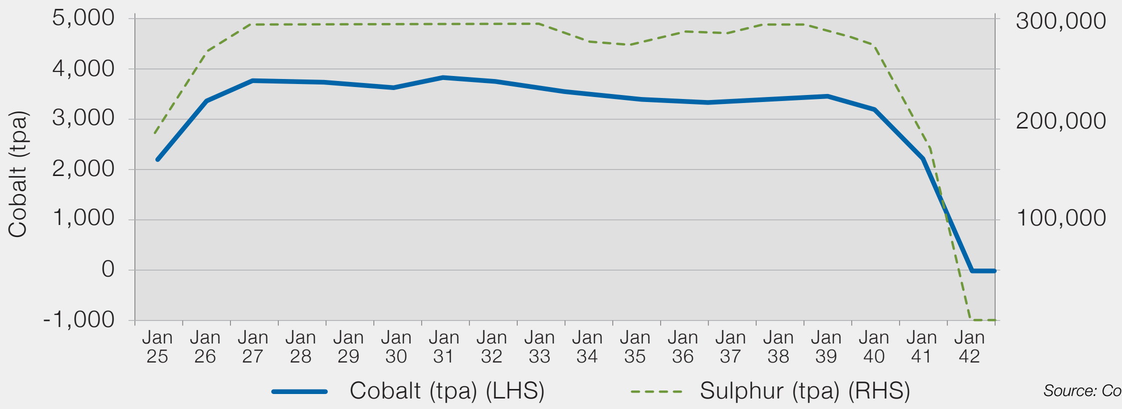
Source: Company Announcements and CRU database as of 5 July 2020. All other global projects include nickel or copper as primary metals, with cobalt being a minor by product

Production Profile

Following 6 months of mining, a 24 month processing plant ramp up period has been assumed for the project. Production profiles for cobalt and sulphur are shown in Figure 10. In the 10 years following ramp up (Production Target LOM) the project will produce an average of 3,600t pa cobalt (metal equivalent) and 289Kt pa sulphur.

The project aims to to produce cobalt sulphate to purity specifications that is acceptable (min 20.5% Co in Cobalt Sulphate in $CoSO_4.7H_2O$ crystal form) for pre-cursor production (as part of the lithium ion battery industry).

Figure 10. **Production Target Case – Cobalt (metal equivalent) and Sulphur Production Profile (tpa)**



Source: Cobalt Blue

Revenue Split

The unique nature of BHCP mineral deposits supports high cobalt leverage – estimated to be 84% (of revenue) over the LOM (Production Target) as below.

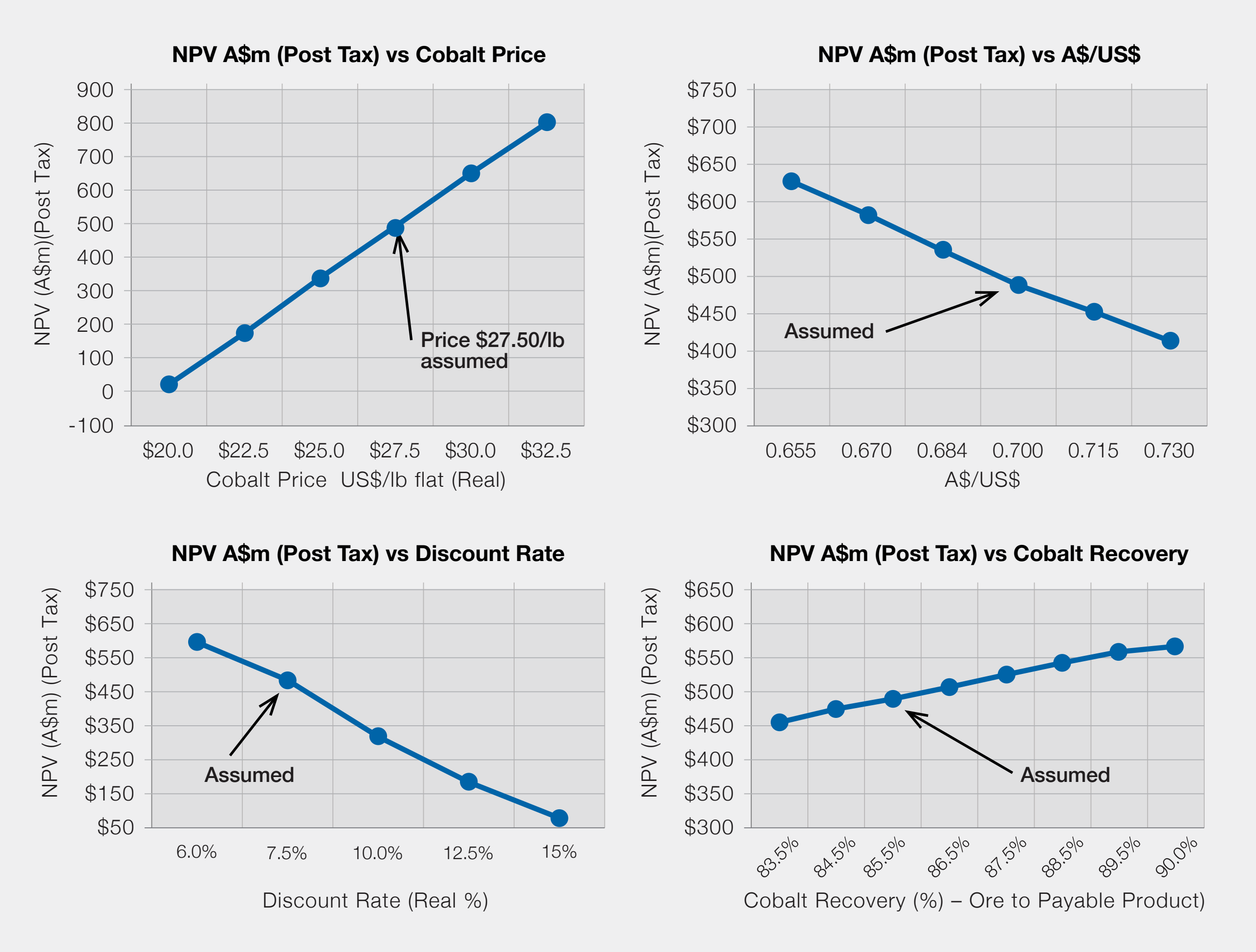
Table 9. **Production Target – Life of Mine Revenue Split**

Life of Mine (Production Target)	Revenue (%)	Revenue (A$m)
Cobalt	84%	4,972
Sulphur	16%	973

Sensitivity

Key inputs have been identified, and Post Tax NPV sensitivities are shown in Figure 11.

Figure 11. **Post tax NPV sensitivities**



All costs presented for Operating and Capital Costs have undergone detailed analysis, appropriate to a Pre-Feasibility Study level.

Where possible first principles and initial quoted pricing have been adopted to derive costs. Where such data and/or analysis was not available, the use of appropriately experienced and capable external sources has been used to supply realistic cost estimates within standard PFS orders of accuracy, i.e. up to ± 25%.

Royalties

The metals mined at Broken Hill and products produced are subject to an NSW Government ‘Ad valorem’ royalty. This royalty payment is levied at 4% of the total value post processing. Further to this, a royalty payment of 2%, on a net smelter return for all cobalt products, is payable to American Rare Earths Limited (formerly known as Broken Hill Prospecting Limited). Both Royalties have been included in the mine planning and financial assessments.

Capital Costs

Assistance from GHD Pty Ltd has been used to derive some of the larger component costs such as capital costs associated with process plant and infrastructure.

Process Plant capital costs (base cost year 2018) are estimated to be A$423.9m with a further contingency of A$55.3m estimated, as listed in Table 10.

Table 10. **Process Plant and Infrastructure capital cost estimates (base cost year 2018)**

Description	Base Cost Estimate (A$m)	Contingency (A$m)	Base Total (A$m)
Process			
Site	2.0	0.2	2.2
Comminution	35.3	4.5	39.7
Flotation / Concentration	30.6	4.5	35.0
Pyrolysis Circuit	35.4	5.3	40.7
Sulphur Recovery	14.3	2.2	16.5
Pressure Oxidation (POX)	52.8	3.4	56.2
Iron Removal	6.8	1.0	7.8
Cobalt Solvent Extraction Plant	10.6	1.5	12.1
CoSO4 Crystallisation & Drying	14.9	2.4	17.3
Solution Purification	12.0	2.1	14.1
Distillation Furnace	9.1	1.0	10.2
Process Water Tank	0.5	0.1	0.6
Infrastructure Piping Pumps & Valves	14.9	2.2	17.1
Infrastructure Electrical / Instrumentation / Control	30.0	6.0	36.0
Process EPCM	33.6	3.4	37.0
Sub Total – Process	**302.8**	**39.8**	**342.6**
Infrastructure			
Civils / Earthwork	0.7	0.1	0.9
Roads & Drains	2.2	0.3	2.5
Tailings Storage Facility (upfront)	1.0	0.1	1.1
HV Power Supply	30.8	4.7	35.5
Mine Water Supply	7.8	1.2	9.0
Buildings / Structures	11.5	1.2	12.7
Communications	0.5	0.1	0.6
Infrastructure Ancilliaries / General Services	35.2	4.3	39.5
Infrastructure Piping Pumps & Valves	4.5	0.9	5.4
Infrastructure Electrical / Instrumentation / Control	8.8	1.8	10.5
Spares (Mechanical & Electrical)	4.6	–	4.6
Infrastructure EPCM	8.4	0.8	9.3
Reagents First Fill	5.0	–	5.0
Sub Total – Infrastructure- Pre Production	**121.1**	**15.6**	**136.6**
Total – Process & Infrastructure	**423.9**	**55.3**	**479.2**

Additional pre-production capital of A$80m is required for start-up of mining operations, including 15% upfront payment for lease-purchase of mine fleet, workshops, surface water management, biodiversity offset, and allowable capitalised development of mining waste (overburden). The pre-production capital is listed in Table 11. This includes total contingencies of A$70m.

Table 11. **Pre Production capital Total**

Project Parameters	Input	Comments
Pre Production Capital		Other: includes services, env monitoring, biodiversity offset and IWL development Contingencies: includes $70m contingencies (14%)
Process Plant + Infrastructure	A$480m	
Mine development	A$38m	
Mine fleet	A$22m	
Other	A$20m	
Total	A$560m	

Operating Costs

Mining

The mining fleet is based around two hydraulic excavators. These two machines were selected to match the distribution of mining volumes between the pits observed in trial schedules. The larger 22 m^3 machine starts in Pyrite Hill mid-way through the construction year to build an initial ore stockpile, provide mine waste as fill for the ROM pad construction and establish continuity of ore supply from the start of processing in Year 1. The smaller 12 m^3 machine starts in Big Hill late in the construction year. Pyrite Hill has the highest grade ore and the larger excavator is stationed there for the first half of the mine life while the smaller excavator works through Big Hill then the start of Railway providing the additional ore to meet the mill feed target. When Pyrite Hill is depleted, the larger machine moves to Railway and the smaller machine continues in a support role.

The 220 tonne payload trucks were chosen as a good match to the 22 m^3 excavator. The 12 m^3 excavator can load the 220 tonne trucks but may take up to 11 passes. 180 tonne trucks were considered but would result in a larger truck fleet with increased labour costs. The breakdown of mine operating costs is listed in Table 12.

Table 12. **Mine Operating Costs per tonne mined**

	Base Case			Production Target		
Unit Cost Breakdown $/t mined	**Ore**	**Waste**	**Total**	**Ore**	**Waste**	**Total**
Loading	$0.36	$0.36	$0.36	$0.34	$0.34	$0.34
Haulage	$1.42	$1.07	$1.17	$1.42	$1.05	$1.15
Drill and Blast	$0.55	$0.58	$0.57	$0.53	$0.57	$0.56
Other Fleet Costs	$0.85	$0.80	$0.81	$0.76	$0.73	$0.74
Management/Planning/Supervision	$0.18	$0.16	$0.17	$0.15	$0.15	$0.15
Grade Control	$0.10	$0.00	$0.03	$0.10	$0.00	$0.03
Total	$3.46	$2.98	$3.11	$3.30	$2.84	$2.96

Processing Plant

Summaries of process Plant costs; including labour, power, reagents, gases, water and maintenance are shown in Table 13. The key input cost of electrical power was based on a 10 year wholesale contract price quotation from AGL, commencing in 2025:

Table 13. **Summary of Processing Plant Operating Costs (A$m) (Production Target)**

Item	Cost	Cost/t ore*	Included contingency	Comment
Plant Labour	A$297.75m	$3.05	15%	Fixed
Repairs and Maintenance	A$125.81m	$1.29	15%	Fixed
Reagents	A$484.95m	$4.96	5% consumption, 10% price	Variable to throughput
Water	A$44.85m	$0.46	10% consumption	Variable to throughput
Power	A$546.15m	$5.59	10% consumption, 5% price	Variable to throughput
Packaging (CoSO4)	A$3.50m	$0.04	5% price	Variable to throughput
Owners Team (Admin, Enviro)	A$200.10m	$2.05	15%	Fixed

** An FX of 0.70 was used for costs (US$:AUD$)*

Power Consumption

Installed and drawn power are summarised in Table 14.

Table 14. **Estimated Power Consumption and Costs ($A) for Processing Plant**

Consumption			Installed		
Comminution and Concentrator	8.1	MW	10	MW	
Pyrolysis	41.0	MW	43	MW	
Oxygen + Nitrogen	10.0	MW	12	MW	
Other/Miscellaneous	10.0	MW	12	MW	
Total draw	69.1	MW			
Production (steam turbine)	-12.5	MW			
Purchased (assumed 8160 hours/a)	56.6	MW		A$m	42.2
Allocated to O_2+ N_2	10.0	MW		A$m	7.4
Allocated rest of process plant	46.6	MW		A$m	34.8

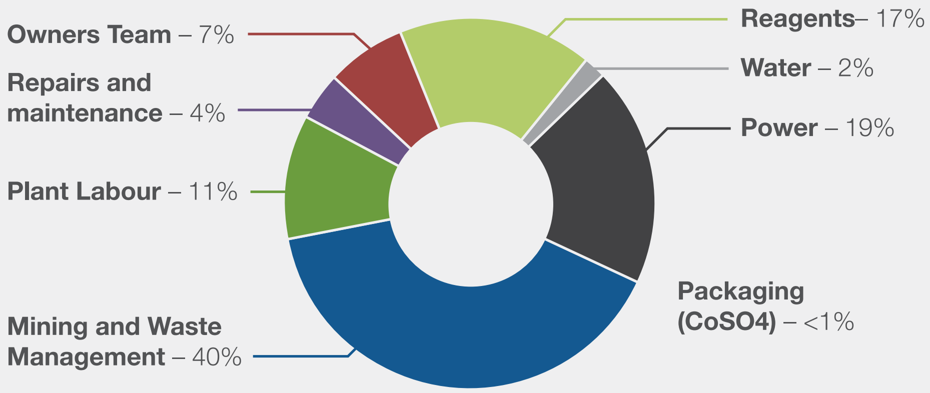
Owner's cost – administration and environmental

COB has estimated site G&A costs based on a review of similar projects. These costs relate to site administration and environmental management requirements. The estimated annual A$11.7m cost is considered to be a fixed cost.

Summary of LOM Operating Costs

The break down of all site costs are shown in Figure 12 below.

Figure 12. **LOM Site cash costs for Production Target**



Source: Cobalt Blue

Roads

Access to the project area from Broken Hill involves travelling along the Barrier Highway towards Adelaide, for approximately 23km and taking a left turn on the existing Thackaringa Station access road for a further 5km.

Currently the BHCP access road is a graded dirt road formed directly on the natural surface with unlined water drainage dips. With the implementation of the project, the existing access road is expected to need upgrades which have been built into capital estimates.

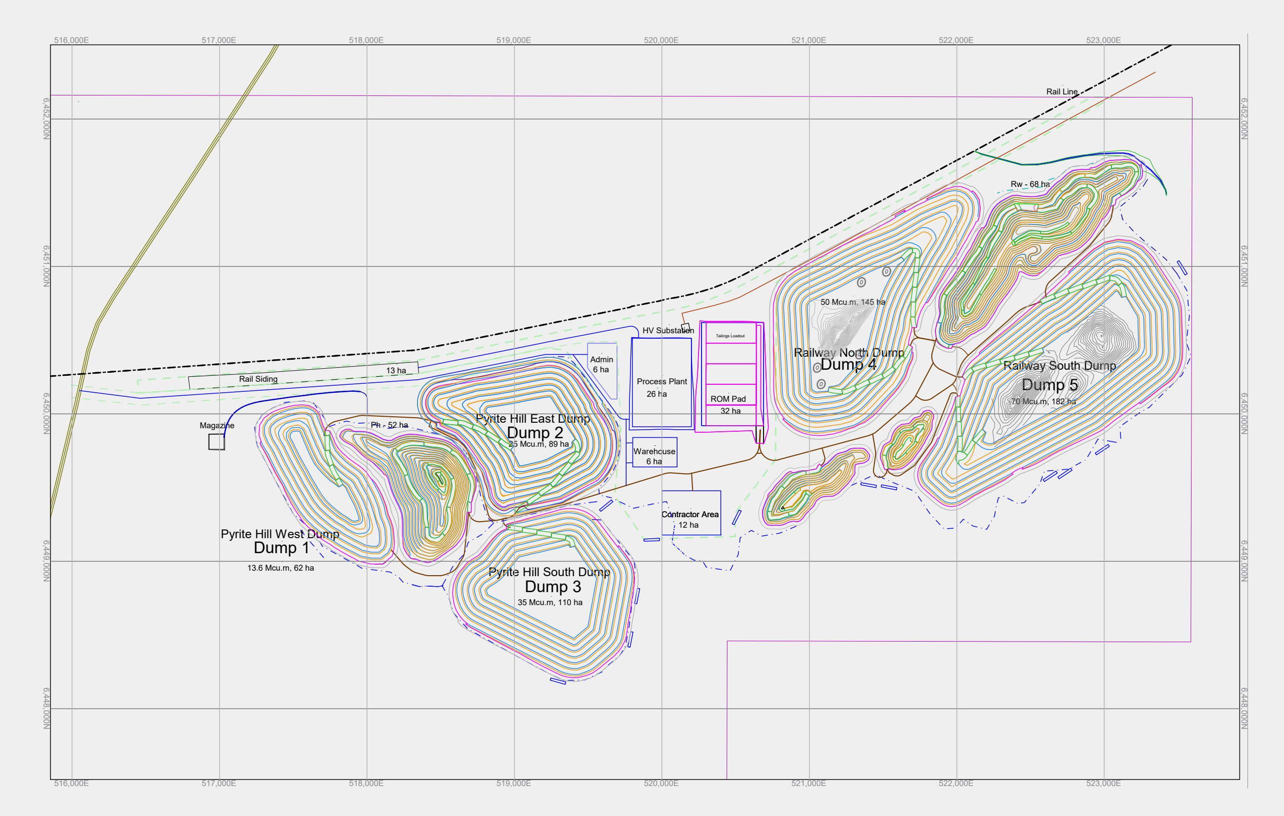
Waste Management – Integrated Waste Landform

COB, with assistance from ATC Williams, prepared preliminary design criteria for the proposed IWLs based on best practice guidance to assist with indicative engineering design and cost estimation (material movement and placement costs were completed as part of the Mining Study by AMDAD). Design criteria considered included:

- Base liner
- Side cover
- IWL external surface geometry
- Top cover design
- PAF material placement
- Monitoring and management
- Closure

A site layout was developed by COB, taking into account production of ore and waste from mining schedules and generation of process plant tailings, minimising overall ground disturbance from operating activities, and site-specific environmental factors. The proposed site layout is shown in Figure 13, and includes five IWLs.

Figure 13. **Site layout showing indicative IWL Locations**



A total of ~370 Mt of waste material is required to be disposed in the Production Target scenario. The capacities of each IWL are listed in Table 14. In total, approximately 50% of mine waste rock (Reserve and Production Target scenarios) is classified as NAF, based on a 0.5% sulphur cut-off.

Table 15. **IWL tonnage capacities – Production Target Scenario**

	Dump 1 Pyrite Hill West	Dump 2 Pyritle Hill East	Dump 3 Pyrite Hill South	Dump 4 Railway North	Dump 5 Railway South	TOTAL
NAF for ROM PAD						6 M
NAF for IWL base	3 M	5 M	4 M	11 M	14 M	37 M
NAF for IWL capping	3 M	5 M	4 M	11 M	14 M	37 M
Encapsulated Waste	22 M	42 M	34 M	86 M	114 M	298 M
TOTAL Material	27 M	52 M	43 M	107 M	142 M	372 M

** Total may not add due to rounding*

Risks and Opportunities

Some of the key risks and opportunities are summarised below.

Risks

- A major fall in the cobalt (and associated cobalt sulphate) price. The financial model assumes a LT price of US$27.50/lb.
- Regulatory approval delays.
- Not achieving modelled rates for production, dilution, mining and metallurgical recovery as defined in Project Update 2020.

Opportunities

- Identifying and classifying 20+ year of resources to extend operational life.
- Potential to add additional ore from other sources (beyond BHCP) to extend operational life.
- Cobalt product pricing margins – battery specifications may evolve to demand higher purity specifications, which increase pricing margins relative to cobalt metal.
- Inclusion of minor metals in future Mineral Resources and Ore Reserves.

Information provided in accordance with ASX Listing Rules 5.8.1

Geology and Geological Interpretation

The Broken Hill Cobalt project is located in a deformed and metamorphosed Proterozoic supracrustal rock succession named the Willyama Supergroup, which is exposed as several inliers in western New South Wales, including the Broken Hill Block. Exploration by Cobalt Blue Holdings has been focused on the discovery of cobaltiferous pyrite deposits.

The project area covers portions of the Broken Hill and Thackaringa group successions which host the majority of mineralisation in the region, including the world-class Broken Hill Ag-Pb-Zn deposit. The extensive sequence of quartz-albite gneiss that hosts the cobaltiferous pyrite mineralisation is interpreted as belonging to the Himalaya Formation, which is stratigraphically at the top of the Thackaringa Group.

The Thackaringa deposits are characterised by large tonnage cobaltiferous pyrite mineralisation hosted by a quartz + albite gneiss. Two key structural controls on mineralisation are, (1); the primary foliation (bedding), as a fluid flow pathway and site for deposition of cobaltiferous pyrite, and (2); bedding parallel shear zones at the contact of quartz – albite gneiss. These shear zones appear to be responsible for fold thickening of the quartz – albite gneiss which further convolutes folding that appears to be slump or soft-sediment folding.

Sampling/sub-sampling Techniques and Sample Analysis Method

Sampling and sub-sampling techniques have varied between phases of exploration at the BHCP and are summarised below:

- Reverse circulation drilling was used to obtain a representative sample by means of splitting. Samples were submitted for analysis using a mixed acid digestion and ICP-MS/AES methodology for a variable suite of elements.
- Diamond drilling was used to obtain core from which variable sample intervals were sawn or hand split, in the case of historical drill holes. Samples were submitted for analysis using a mixed acid digestion and AAS or ICP-MS/AES methodology.

Drilling Techniques

The BHCP drilling database comprises a total of 68 diamond drill holes, 184 reverse circulation (RC)/percussion drill holes and 21 diamond drill holes with RC/percussion pre-collars of varying depths. 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.

Since 2013 all diamond drilling has been completed using a triple tube system with an NQ3 – HQ3 diameter. Drill holes were typically drilled at angles between 40 and 60 degrees from horizontal and the resulting core was oriented as part of the logging process.

Mineral Resource Estimation Methodology

The Mineral Resource estimate was completed by Co-Kriging ('CK') Co, Fe and S in the Isatis software package. Eleven domains are used all with hard boundaries to control geology, geometry and grade and ensure appropriate samples are selected for estimation. An additional transitional material domain was used at Pyrite Hill with a soft boundary into the fresh material.

The orientations of both variograms and search ellipses were varied on a block by block basis controlled by a set of trend and fold wireframes. Multivariate variography was completed for all domains with sufficient data. Given the folded nature of many of the domains and the use of local orientations, only three multivariate models were utilised for estimation. Two for the Pyrite Hill domain (North and South) and another for all of the remaining Big Hill and Railway domains.

5m composites were used with residual short lengths being incorporated and redistributed such that final composite lengths may be slightly shorter and longer than 5m. This length was chosen to be consistent with the 5m x 10m x 10m parent block dimensions and the assumed bulk mining approach. No top cuts or caps were used for any variables as grade distributions were not highly skewed and estimates were validated without the need for cutting or capping.

The estimation utilised a single pass approach with interpolation and extrapolation limited by both optimum sample numbers controlled by sectors and overall search ellipse distances. Search distances are anisotropic to the ratios of the search ellipse (5:1 cross strike, 1:1 down dip), that is samples are selected / prioritised within successively larger ellipses rather than by spherical distances. A minimum of 4 samples, an optimum of 8 composites and a maximum of 16 composites was used. A higher sample search with an optimum of 32 composites and maximum of 64 was tested maximising the regression slopes and smoothing the estimate but this excessively smoothed the block distribution and did not reflect the true block variability.

Block size used is 5m (east), 10m in (north) and 10m (elevation). This compares to an average drill spacing of between 25m and 60m along strike with average sample lengths of 1m combined with variogram ranges between 115m and 160m along strike, 70m to 80m down dip and 18m to 40m across strike.

Validation of the estimate was completed by:

- Statistical comparisons to declustered composite averages per domain at zero cut off.
- Statistical inspection of density, regression slopes, kriging efficiency, number of composites used.
- Visual inspection of grades, regression slopes, kriging efficiency, number of composites used.
- Comparison of grades and tonnages above cut off to previous estimates.
- Swath plots.
- Global change of support checks.

Maximum extrapolation for Inferred material is approximately 120m and averages around 80m.

Mineral Resource Classification

Classification is based on the kriging regression slope with class surfaces generated by viewing the regression slopes of the estimated blocks in section:

- Measured is defined as all material above the 0.8 kriging regression slope in fresh material only
- Indicated is defined as all material above the 0.5 kriging regression slope in fresh and transitional material
- Inferred is defined as all material above the 0 and below the 0.5 kriging regression slope surface

In addition, conceptual pit limit optimisations were completed on the 2018 Railway – Big Hill Mineral Resource and the 2019 Pyrite Hill Mineral Resource using Whittle Pit Limit Optimisation Software. A series of pit shells with a 1.3 revenue factor were subsequently used to constrain the reporting of the 2019 Mineral Resources, considering updated assumptions derived from the assessment of modifying factors supporting the 2020 Ore Reserve estimate.

A comparison of key assumptions used for the generation of pit shells to constrain the reporting of Mineral Resources in 2019 and 2020 is provided in Table 16.

Table 16. **Key assumptions used for the generation of pit shells to constrain the reporting of the Mineral Resources**

Assumption	Superseded 2019 Input	2020 Input
Mineral Resource Classifications	All classifications including unclassified	All classifications including unclassified
Whittle Model Base Setup	Mining One Model used for 2018 Ore Reserves	AMDAD Model used for 2020 Ore Reserves
Cobalt Price	US$27/lb Co	US$25/lb Co
Sulphur Price	US$150/t (mine gate price)	US$123/t (mine gate price)
Cobalt Recovery	85%	85.5%
Sulphur Recovery	75%	64.4%
A$/US$ Exchange Rate	0.74	0.70

Mineral Resource Cut-Off Grade

The PFS 2018 and Ore Reserve estimate established a technically feasible and economic project for production of cobalt sulphate heptahydrate and elemental sulphur from the Broken Hill cobalt deposits. Accordingly, a revised cut-off grade considering modifying factors guided by the PFS 2018 was developed to appropriately incorporate revenue streams from elemental sulphur in addition to cobalt: the previous 500 ppm cobalt cut-off did not take into account sulphur as a revenue producing co-product.

The cobalt equivalent grade has been derived from the following calculation; CoEq ppm = Co ppm + (S ppm × (S price / Co price) × (S recovery / Co recovery)).

Considering updated assumptions derived from the assessment of modifying factors supporting the 2020 Ore Reserve estimate, key inputs into this calculation have been adjusted since release of the 2019 Mineral Resource estimate. Accordingly, the revised cobalt equivalency formula equates to CoEq ppm = Co ppm + (S% × 16.74).

The parameters used for this calculation are listed in Table 17 in comparison with the superseded 2019 inputs which equated to CoEq ppm = Co ppm + (S% × 22.235).

Table 17. **Assumptions used for the cobalt equivalency calculation**

Assumption	Superseded 2019 Input	2020 Input
A$/US$ Exchange Rate	0.74	0.70
Cobalt Price	US$27/lb Co[1]	US$25/lb Co
Sulphur Price	US$150/t	US$123/t
Cobalt Recovery	85%	85.5%
Sulphur Recovery	75%	64.4%

The current Mineral Resource has been reported at a cut-off of 275 ppm cobalt equivalent based on an assessment of material that has reasonable prospects of eventual economic extraction. Comparatively, the Ore Reserve cut-off grade is determined by calculating the net value per tonne (NSR) after applying recoveries, ore costs, product prices and selling costs. The cut-off net value per tonne (NVPT) is $0.00/tonne and expressed in terms of cobalt equivalency equates to 328 ppm CoEq considering current recoveries, ore costs, product prices and selling costs.

Modifying Factors

Assumptions derived from the assessment of modifying factors considered for the reporting of Mineral Resources and those used for the 2020 Ore Reserve are described in the following.

---

1 Cobalt price sourced from SRK Consulting.

Information provided in accordance with ASX Listing Rules 5.9.1

Material Assumptions

The Ore Reserve statement prepared by AMDAD is based on modifying factors including geotechnical, hydrogeological, hydrological, ecological, socioeconomic and cost estimates that describe the development of the Broken Hill Cobalt Project.

Material assumptions and outcomes derived from the PFS 2018 and subsequent Project Update 2020 applied in the estimation of the Ore Reserves are given below below in Table 18.

Measured and Indicated Mineral Resources have been converted to Probable Ore Reserves subject to detailed mine planning and economic evaluation based on modifying factors determined as part of Project Update 2020. The status of the modifying factors are considered sufficient to support the classification of Probable Reserves when based upon Measured and Indicated Resources.

The Project Update 2020 Production Target is based on Measured, Indicated and Inferred Mineral Resources and as such the complete mining inventory considered in the project status update is not included in the Ore Reserve estimate.

The production target is based on the reported Ore Reserve estimates and a minor component of Inferred Mineral Resources (approximately 20%). The Company confirms the Inferred Mineral Resources are not material to the viability of the project. However, there is a low level of geological confidence associated with Inferred Mineral Resources and there is no certainty that further exploration work will result in the determination of Indicated Mineral Resources or that the production target itself will be realised.

Table 18. **Material Assumptions for 2020 Mining Study**

Input Parameters	**Unit**	**Base Case**	
Block Model Inputs		**Pyrite Hill**	**Railway/ Big Hill**
Block Model File		ph2019.mdl	rwbh2019.mdl
Density	t/m3	In Model (~2.6)	In Model (~2.6)
Mineralisation	ppm (Co), % (Fe and S)	In Model	In Model
Material Classification		Class, Oxidation	Class, Oxidation
Geotechnical/Pit Parameters			
Ramp Width	m	25	25
Ramp Grade	Gradient	1:10	1:10
Batter Height	m	20	20
Berm Width	m	10m – 11.4m	11.5m - 13m
Inter Ramp Slope Angle	degrees	44 to 62	53 to 57
Mining Parameters			
In situ to ROM – ROM model block size:	m	2.5 x 5 x 5	2.5 x 5 x 5
Change in tonnes in situ to ROM	%	102%	106%
Change in cobalt grade	%	97%	96%
Change in contained cobalt	%	99%	102%
Waste mining base cost – pit exit level (280m RL)	$/ (AUD)	$2.41	$2.38 for Railway, $2.42 for Big Hill South, $2.69 for Big Hill North
Increase per m below pit exit	$/t/m	$0.0033	$0.0045 for Railway, $0.0063 for Big Hill South, $0.0064 for Big Hill North
Ore Mining Incremental Cost	$/t	$0.40	$0.30 for Railway, $0.10 for Big Hill South and $0.00 for Big Hill North

Table 18. **Material Assumptions for 2020 Mining Study** (continued)

Input Parameters	**Unit**	**Base Case**	
Non-Mining Cost Parameters		**Pyrite Hill**	**Railway/ Big Hill**
Ore Related Costs (Processing, Waste management, ROM management, G&A etc)	$/t milled (AUD)	20.50	20.50
Mill Recovery			
Cobalt as Co in CoSO4	%	85.5	85.5
Sulphur	%	64.4	64.4
Schedule Parameters			
Mining Limit	tpa	Not used	Not used
Processing limit	Mtpa	3.5	6.00 for Railway, 2.5 Mtpa for Big Hill
Financial Parameters			
Sell Price	$/lb Co (USD)	25	25
	$/t S (USD)	123	123
Exchange Rate	USD:AUD	0.70	0.70
Royalty - C	% on Revenue	4.00	4.00
Net Value Royalty on Cobalt	% on Co net value	2.00	2.00
Sell cost (Realisation Costs)/ CFR - Co	$/t (AUD)	129.05	129.05
Sell cost (Realisation Costs)/ CFR - Fe	$/t (AUD)	0.00	0.00
Sell cost (Realisation Costs)/ CFR - S	$/t (AUD)	0.00	0.00
Discount Rate	%	8.00	8.00
Conversion Factors			
tonnes → pounds		2204.62262	2204.62262

Ore Reserve Classification

The Ore Reserve classification is initially based on the Mineral Resource classification described on page 22.

The entire Ore Reserve is classified as Probable where the majority of the Ore Reserve is derived from Indicated Mineral Resources. Approximately 25% of the Ore Reserve tonnes including 32% of the contained cobalt and sulphur are derived from Measured Resources but have been classified as Probable instead of Proved Ore Reserves where the Competent Person for the Ore Reserve estimation, considers some of the modifying factors at the current Pre-Feasibility level are not yet defined with a high enough degree of confidence to support a Proved Ore Reserve. In particular:

- The process performance is still to be proven at the pilot plant scale and there is still some uncertainty about the markets the cobalt and sulphur will be sold into and the prices that will be realised. Performance of the demonstration plant in 2021 should help to improve confidence in the process, product quality and marketability.
- The EIS has only just commenced. The operational impacts and costs of issues to be covered in the EIS are yet to be confirmed.
- A management plan for acid rock drainage is included in the Project Update 2020 but will require further work to confirm that it will be approved as part of the Environmental Authority for the project.

- A small area covered by Native Title remains over Big Hill South. It is not yet confirmed what effect this will have on Big Hill South. While there are no Measured Resources at Big Hill South if this pit were excluded from the mine plan it is not clear what the effect on the overall project development would be.

The current inputs are considered reasonable at a Pre-Feasibility level of detail. However, further definition is required to achieve the high level of confidence required by a Proved Ore Reserve.

Mining Method

The BHCP considers a multi-open pit mining scenario that will extract ore using conventional drill and blast, load and haul and dump processes. The operation is planned to use excavator and rigid body trucks along with a fleet of auxiliary equipment. This proposed mining method is considered appropriate for the deposit style.

Up to 6.3Mt of ore will be hauled annually to a stockpile area (ROM) proximal to the processing plant located centrally to the pits and waste material hauled to the waste emplacements located in close proximity of each pit. During periods where the quantity of ore mined exceeds the quantity processed, additional temporary long-term stockpile areas may be utilised.

Mining loss and dilution was modelled by re-blocking the resource block models to a mining unit size consistent with practical mining constraints at the required production rate. The resource block models were estimated at a parent block size of 5m (east), 10m in (north) and 10m (elevation) then sub-blocked against interpreted domain boundaries to a minimum block size of 1.25m (east), 2.5m in (north) and 2.5m (elevation). The mining model re-blocked the sub-blocked resource model to a regular size of 2.5m (east), 5m in (north) and 5m (elevation). This has the effect of diluting blocks along the margins of the estimated mineralisation with dilution most apparent in thin zones such as the complex areas in the Railway deposit.

Geotechnical parameters applied to pit designs are summarised on page 24.

Bulk density has been determined using the Archimedes method (weigh in water weight in air). Some 1,527 core samples between 1.2m and 0.1m from across the deposit have been utilised. These samples were examined statistically to eliminate errors and outliers. The valid samples were then matched with the Co, Fe and S assay values for their respective intervals. Good linear regressions are obtained with all three elements. The final densities are assigned on a block by block basis using a linear regression derived from the combined Co, Fe and S assays. The regression equation is: Bulk density = 0.0143*(Co ppm /10000 + Fe % + S %) + 2.5722.

Processing Method

COB has developed a metallurgical process for treating the cobalt-pyrite mineral and producing cobalt sulphate and elemental sulphur. The COB Process is currently the subject of a Patent Application. The overall flowsheet is summarised in Figure 2.

Ore is crushed to approximately 1 mm, and a pyrite concentrate is recovered using a combination of gravity and flotation unit operations. The pyrite concentrate is then thermally treated under an inert atmosphere to produce artificial pyrrhotite (calcine) and elemental sulphur. The sulphur is condensed from the kiln off-gas and turned into solid prills. Testwork achieved >99% grade sulphur samples, as reported to the ASX on 14 July 2020.

The pyrrhotite is forwarded to a low-temperature and low-pressure autoclave for leaching. The extraction of cobalt was typically >95% into the solution. The leach residue is removed by filtration, and further processed for sulphur recovery by remelting.

The leach solutions are advanced through various minor metals removal steps (i.e. precipitation, ion-exchange, and solvent extraction) to remove iron, copper, zinc, manganese. The cobalt and nickel are precipitated as a mixed-hydroxide (MHP) intermediate. Testwork achieved a 38% cobalt and 7% nickel MHP, as reported to the ASX on 28 April 2020.

The MHP is then refined, for production of high purity cobalt sulphate heptahydrate. Testwork achieved a >20.5% cobalt sulphate crystal, as reported to the ASX on 14 July 2020.

The target recovery from ore to product for cobalt is 85–90%, and for sulphur is 70–75%. Achieved recoveries to date are 86.8% for cobalt and 64.4% for sulphur.

Ore Reserve Cut-Off Grade

As the cut-off is based on multiple elements a net-smelter return (NSR) value was calculated for each block for scheduling. The NSR incorporated the following items:

- Value Co
- Value S
- Royalties
- Selling costs

The value was corrected to represent a tonnage value within each block.

Where the NSR is greater than the ore related costs (processing, incremental ore mining cost, G&A etc) then this block generates a positive margin when processed. Alternatively blocks with a negative margin are treated as waste.

The calculations used for the NSR value is shown below.

BLOCK NSR = (REVENUE Cobalt+Revenue Sulphur") -(Cost Selling Cobalt + Net Profit Royalty)"

Where

Revenue Cobalt = (Diluted Block tonnes * Diluted Cobalt * Cobalt Mill Recovery) * (Cobalt Sell Price per tonne - Cobalt Royalty)/1000000

Revenue Sulphur = (Diluted Block tonnes * Diluted Sulphur * Sulphur Mill Recovery) * (Sulphur Sell Price per tonne - Sulphur Royalty)/100

Cost Selling Cobalt = (Diluted Block tonnes * Diluted Cobalt * Cobalt Mill Recovery) * Cobalt Sell Cost/1000000

Net Profit Royalty = (Revenue Cobalt - Processing Cost - Cost Selling Cobalt) * 0.02

Ore Reserve Estimation Methodology

A Mining Study was prepared by Australian Mine Design and Development Pty Ltd (AMDAD) and used as a basis for estimation of the Ore Reserve quantities. The methodology for the Mining Study followed standard industry practice for the generation of an open pit life-of-mine plan, namely collection of input parameters, cut-off grade (NSR) definition, in situ to ROM conversion, pit limit optimisation, mine design, production scheduling and haulage estimation and cost estimation. The Ore Reserve case considered only Measured and Indicated Mineral Resources in the generation of the plan, including when generating pit shells and production scheduling. The production schedule and costs were input into the COB economic model for financial assessment to confirm viability. Inputs were provided by COB for the non-mining aspects of the Study.

Key factors

The ore mining rate varies up to 20% over the mine life depending on the deposit being mined. This is to extract a stable quantity of cobalt over the mine life.

Key assumptions

The Mining Study assumed an owner operator fleet and included a 10% contingency for the mining costs. The mining method assumes proven methodologies – namely drill and blast, truck and shovel with standard equipment classes.

Other

In the course of completing the Mining Study costing for ROM rehandle and transport and disposal of process waste into the IWL (assuming FEL loading of dewater tailings, transport by read dump truck, placement and compaction) was also estimated.

Material Modifying Factors

Tenement Schedule

The Broken Hill Cobalt Project comprises five tenements; four of which are currently subject to transfer from American Rare Earths Limited (AREL), formerly known as Broken Hill Prospecting Limited, to Broken Hill Cobalt Project Pty Ltd (a wholly owned subsidiary of Cobalt Blue Holdings Limited) under the terms of the HOA announced (4 December 2019).

The Mineral Resources and Ore Reserves are hosted entirely within EL6622, ML86 and ML87 with the tenement holding summarised in Table 19.

Table 19. **Broken Hill Cobalt Project tenement summary**

Tenement (Act)	Registered Holder (Proposed Holder)	Grant Date	Expiry Date	Status	Area
EL 6622 (1992)	AREL (Broken Hill Cobalt Project Pty Ltd)	30 August 2006	30 August 2020	Transfer Approved	17 units
EL 8143 (1992)	AREL (Broken Hill Cobalt Project Pty Ltd)	26 July 2013	26 July 2020	Transfer Approved	4 units
ML 86 (1973)	AREL (Broken Hill Cobalt Project Pty Ltd)	5 November 1975	5 November 2022	Transfer Approved	205.9 ha
ML 87 (1973)	AREL (Broken Hill Cobalt Project Pty Ltd)	5 November 1975	5 November 2022	Transfer Approved	101.2 ha
EL 8891 (1992)	Cobalt Blue Holdings Limited	3 September 2019	3 September 2022	Current	11 units

Renewal applications for EL8143 and EL6622 will be respectively lodged during July and August 2020.

The Broken Hill Cobalt Project area and utilities easement intersect sixteen (16) individual land titles comprising both freehold and crown land. The majority of the tenure is covered by Western Lands Lease; perpetual leases subject to the provisions of the *Western Lands Act 1901.*

Native Title

A small parcel of land adjacent to ML87 is subject to the Barkjandji Traditional Owners Native Title determination. The area comprises approximately 55,000 m^2 with the future application for a Mining Lease over part thereof EL6622 to trigger the Right to negotiate process. At the time of preparing the Ore Reserve the determination only affects the Big Hill South pit.

Environmental Permitting and Approvals

Development consent for the Project will be sought under the State Significant Development provisions under Part 4 of the NSW Environmental Planning and Assessment (EP&A) Act, 1979. This Project is development for the purpose of Mining and Mineral Processing, and therefore will be State Significant Development as it has a capital value is in excess of $30 million. Consent will be sought from the NSW Minister for Planning (or delegate).

Broken Hill Cobalt Project Pty Ltd is seeking State Significant Development Approval to construct and operate open cut mining, ore processing and refining operations within an area contained within Exploration Licence (EL) 6622, including Mining Lease (ML) 86 and 87. This would be supported by ancillary infrastructure at the mine-processing-refinery site as well as utilities infrastructure between the site and Broken Hill, and an access road from the site to the Barrier Highway on the existing Triple Chance Mine road.

Broken Hill Cobalt Project (BHCP) Pty Ltd has commenced the SSD application. To date, the BHCP has delivered:

■ Conceptual Project Development Plan (CPDP)	17 December 2019
■ Scoping Meeting (with DPIE)	06 January 2020
■ Scoping Report	20 January 2020

The Department of Planning, Industry and Environment (DPIE) provided the Secretary's Environmental Assessment Requirements (SEARs) for the Project on 18 February 2020.

Infrastructure

Definition and cost estimation for all infrastructure to support the project has been completed to at least Pre-feasibility level. Two key elements include:

- Commitment from Essential Water to provide up to 1.5 G Llitres per year from the new Murray River to Broken Hill pipeline.
- Connection to grid power via a 20km powerline to Broken Hill to be constructed by COB.

These features add to the existing infrastructure framework which includes proximity to the mining community of Broken Hill and the nearby Broken Hill to Port Pirie railway and the Barrier Highway.

Other infrastructure items such as mine workshops, site electricity and power reticulation, site drainage management and communications are included in the Pre-feasibility model.

Transport

Product transport facilities will include the construction of a suitable hardstand area near the processing plant which will be used for the loading of containers full of cobalt sulphate onto trucks. Further to this, a rail siding will be constructed adjacent to the Broken Hill – Peterborough existing rail line to allow for the transportation of sulphur product. Both the hardstand and the rail siding will be connected to the process plant by a designated product access road. It is planned for the site to purchase light weight container trailers for the internal movements of product. Transport costs of cobalt sulphate and sulphur to international markets were not included in the financial analysis.

Environmental

COB's project development schedule includes completion of the EIS in the second half of 2021, ahead of completion of the Feasibility Study, final approvals and Investment decision in the first half of 2022. COB is well advanced in many areas pertinent to the EIS. Key issues considered to date:

- Waste management and acid mine drainage. Waste and tailings characterisation work has identified the potentially acid forming materials and a preliminary containment strategy has been developed for co-disposal of the tailings with the mine waste rock as an Integrated Waste Landform (IWL).
- A preliminary ecological assessment of the project area has been undertaken that included a desktop information review and targeted seasonal surveys. Of the species identified, one endangered species, the Barrier Range Dragon, will likely be impacted by project development. To minimise the impacts on the Barrier Range Dragon, a biodiversity offset will be required where either an area of land containing suitable habitat is set aside for biodiversity purposes, or a payment into a fund for the management of the Barrier Range Dragon is made.
- A series of archaeological field surveys have been completed with a range of artefacts and potential sites identified. The SEARs set out the requirements for an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH, 2010), and a Statement of Heritage Impact (SOHI), prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual.

Development Timeline

Overall, the development timeline is shown in Figure 14.

Figure 14. **COB's Development Timeline**

	2017	2018	2019	2020	2021	2022
Business Achievements	**IPO**	**LGI** – Cobalt First Mover	**Mitsubishi** – Sulphur Agreement **100% Project Ownership**	**Global cobalt sample program** – Q4 2020		**Final Investment Decision** – H1 2022
Technical Studies	**Resource upgrade** Drilling: +8,000m Resource: 55Mt **Scoping Study**	**Resource upgrade** Drilling: +12,500m Resource: 72Mt **Pre Feasibility Study**	**Resource upgrade** Drilling: +9,500m Resource: 111Mt	**Ore Reserve Update** – Q2 2020		**Feasibility Study and Approvals** – Q1 2022
Metallurgical Studies			**Concentration** – Pilot Scale Testwork	**Pilot Plant** – Q4 2020	**Demonstration Plant** – Q2 2021	
Environmental Approvals			**CPDP Submitted**	**Scoping Report** – Jan 2020 **SEARs issued** – Feb 2020	**EIS Submission** – H2 2021	**SSD Determination** – H1 2022
	ACHIEVEMENTS			GOALS		

Competent Person's Statement

The information in this report that relates to the Broken Hill Cobalt Project Ore Reserve is based on information compiled by John Wyche who is a Fellow of the Australasian Institute of Mining and Metallurgy (MAusIMM) and has sufficient experience which is relevant to the type of deposit and mining method under consideration and to the activity to 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 Wyche is an employee of Australian Mine Design and Development Pty Ltd which is an independent consulting company. He consents to the inclusion in the report of the information compiled by him in the form and context in which it appears.

The 2020 Mineral Resource was independently prepared by SRK Consulting. Mr Danny Kentwell, Principal Consultant (Resource Evaluation) at SRK Consulting, was engaged to estimate and report the Mineral Resource as the independent Competent Person. The Mineral Resource has been estimated and reported in accordance with the guidelines of the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Minerals Resources and Ore Reserves ('2012 JORC Code'). Mr Kentwell consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The information in this report that relates to Metallurgical Testwork Results or Engineering Design Studies is based on information compiled by Dr Andrew Tong, a Competent Person who is a Member of The Australasian Institute of Mining and Metallurgy. Dr Andrew Tong is engaged by Cobalt Blue Holdings as Executive Manager. Dr Andrew Tong has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 JORC Code. Dr Andrew Tong consents to the inclusion in the report of the matters based on his information in the form and context in which they appear.

Cobalt Blue Background

Cobalt Blue Holdings Limited (ASX: COB) is an exploration and project development company, focussed on cobalt, a strategic metal in strong demand for new generation batteries, particularly lithium-ion batteries now being widely used in clean energy systems.

Work programs advancing the Broken Hill Cobalt Project in New South Wales continue. COB's development timeline is subject to funding availability.

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 to join our newsletter mailing list at our website.

Joe Kaderavek
Chief Executive Officer
info@cobaltblueholdings.com
P: (02) 8287 0660

Previously Released Information

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

- 14 July 2020: BHCP testwork – High purity cobalt and sulphur products
- 27 April 2020: Mixed Hydroxide Product (MHP) testwork delivers premium product.
- 06 April 2020: COB Partnerships – Testwork Success + QLD Minerals Initiatives
- 31 March 2020: Project update and Business Impacts of COVID-19 discussed
- 02 March 2020: Pilot Plant Update – Critical Equipment Received
- 09 December 2019: Pilot Plant Update
- 04 December 2019: Settlement with BPL
- 24 June 2019: Concentrate Circuit (Pilot Trial) program successfully completed
- 31 May 2019: COB-Mitsubishi Sulphur Agreement
- 04 April 2019: Significant Thackaringa Resource Upgrade
- 26 February 2019: Testwork Update
- 04 July 2018: Thackaringa Pre-Feasibility Study Announced

Appendix 1 – 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 (eg 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 (eg '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 (eg 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 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.
		2016–2019
		- Diamond drilling was used to obtain core from which irregular intervals were sawn with:
		  - one quarter – one half core dispatched for assay by mixed acid digestion and analysis via ICP-MS + ICP-AES reporting a suite of 48 elements (sulphur >10% by LECO);
		  - the remaining sample (core) was retained for future metallurgical test work and archival purposes.
		Reverse Circulation ('RC') Drilling
		Pre-2017
		- 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 are all assayed by ICP-MS for a suite of 33 elements.
		2017–2019
		- RC drilling was used to obtain a representative sample by means of a cone or riffle splitter with samples submitted for assay by mixed acid digestion and analysis via ICP-MS + ICP-AES reporting a suite of 48 elements (sulphur >10% by LECO).

Drilling techniques	- *Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg 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 BHCP drilling database comprises a total of 68 diamond drill holes, 184 reverse circulation (RC)/percussion drill holes and 21 diamond drill holes with RC/percussion pre-collars of varying depths. 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. - Since 2013 all diamond drilling has been completed using a triple tube system with an NQ3 - HQ3 diameter. Drill holes were typically 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

Drilling techniques *(continued)*

Year	No. Diamond Holes	No. RC / Percussion Holes	No. RCDD / PDDH Holes	Total
1967	1	–	–	1
1970	4	–	–	4
1980	2	1	16	19
1993	–	–	2	2
1998	–	11	–	11
2011	–	11	–	11
2012	–	20	–	20
2013	1	–	–	1
2016	8	–	–	8
2017	30	93	3	126
2018	18	42	–	60
2019	4	6	–	10
Total	**68**	**184**	**21**	**273**

Year	No. Diamond Metres	No. RC / Percussion Metres	Total Metres
1967	304.2	–	304.2
1970	496.6	–	496.6
1980	1,302.85	408.38	1,711.23
1993	178	72	250
1998	–	1,093.25	1,093.25
2011	–	1,811	1,811
2012	–	2,874.25	2,874.25
2013	349.2	–	349.2
2016	1,511.8	–	1,511.8
2017	4370	14,563	18,933
2018	1,919.2	6,314	8,233.2
2019	418	904	1,322
Total	**10,849.85**	**28,039.88**	**38,889.73**

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.*

- Historical core recoveries were accurately quantified through measurement of actual core recovered versus drilled intervals with drilling utilising conventional drilling techniques.
- From 2013, a triple-tube system was used to maximise sample recovery as summarised below:

Diamond Drilling Campaign	Core Recovery
2013	99.7%
2016	98.0%
2017	96.7%
2018–19	97.7%

- No relationship between sample recovery and grade has been observed.

Reverse Circulation ('RC') 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 sufficient air (using a compressor and booster) to maximise sample recovery.
- No relationship between sample recovery and grade has been observed.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr>
<td>Logging</td>
<td>

<i>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.</i>
<i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i>
<i>The total length and percentage of the relevant intersections logged.</i>

</td>
<td>

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 during 2016–2018 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:

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

</td>
</tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr>
<td>**Sub-sampling techniques and sample preparation**</td>
<td>- *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.*</td>
<td>**Diamond Drilling**
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.
2016–2019
- All NQ – HQ drill core was sawn:
  - one quarter – one half core was submitted for assay.
  - one quarter – three quarter core was retained for archive and further metallurgical test work.
- 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.
Reverse Circulation (‘RC’) Drilling
Pre-2017
- Sub-sampling of reverse circulation chips is expected to have been ‘standard industry practice’ for the period.
- Field duplicates were collected during completion of the 2011–2012 reverse circulation drilling at an average rate of 1:40 samples for a total of 117 duplicate pairs. These were obtained by spearing the remnant bulk sample following collection of the primary split. Where samples were notably wet, duplicates samples were grabbed by hand.
- 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.
<table>
<tr><th>Co Cut-Off</th><th>Sample Count</th><th>Cobalt MPD</th><th>Sulphur MPD</th><th>Iron MPD</th></tr>
<tr><td>All</td><td>117</td><td>15%</td><td>17%</td><td>10%</td></tr>
<tr><td>500 ppm</td><td>32</td><td>10%</td><td>10%</td><td>8%</td></tr>
</table>
Pre-2017
- During reverse circulation drilling completed in 2017, 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 630 field duplicate pairs from 96 RC and 3 RCDDH drill holes.</td>
</tr>
</table>

Criteria	JORC Code Explanation	Commentary

Sub-sampling techniques and sample preparation *(continued)*

- 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.

Co Cut-Off	Sample Count	Cobalt MPD	Sulphur MPD	Iron MPD
All	630	12%	14%	8%
500 ppm	170	10%	10%	7%

2018–2019

- During reverse circulation drilling completed in 2018 - 2019, duplicate samples were collected at the time of drilling at an average rate of 1:18 samples. These were obtained in parallel with collection of the primary split by means of a cone splitter.
- Assay results include analysis of 398 field duplicate pairs from 48 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.

Co Cut-Off	Sample Count	Cobalt MPD	Sulphur MPD	Iron MPD
All	398	11%	13%	7%
500 ppm	87	10%	10%	8%

Quality of assay data and laboratory tests

JORC Code Explanation:

- *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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*

Commentary:

- 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, ICP-AES, ICP-MS 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 analysis.
- All samples have been processed at independent commercial laboratories including AMDEL, Australian Laboratory Services (ALS), Analabs and Genalysis.

2011–2012

- All samples from drilling completed during 2011–2012 were assayed at ALS in Orange, New South Wales. All samples from drilling completed during 2016-2019 were processed at ALS Adelaide, South Australia. ALS is a NATA Accredited Laboratory and qualifies for JAS/ANZ ISO9001:2008 quality systems. ALS also maintains internal QAQC procedures (including analysis of standards, repeats and blanks).

2016–2017

- To monitor the accuracy of assay results from the 2016–2017 drilling, CRM standards were included in the assay sample stream at an average rate of 1:24. The CRM samples were purchased from Ore Research & Exploration Pty Ltd with results summarised on the following page.
- Internal lab standards were routinely included by ALS Laboratories during the 2017 drilling program. The BHCP drilling database includes the lab standards for all drilling completed from October 2017 at an average rate of 1:6 samples with results summarised on the following page.

2016–2017 CRM standard results

		Cobalt				Sulphur				Iron			
Standard ID	**Count**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**
OREAS523 (728 ppm Co)	72	57	14	1	–	53	18	1	–	61	11	–	–
OREAS521(386 ppm Co)	61	49	9	2	1	53	7	1	–	50	10	1	–
OREAS166 (1970 ppm Co)	128	104	24	–	–	67	7	51[1]	2	19	22	19	68
OREAS165 (2445 ppm Co)	122	105	17	–	–	77	41	4	–	15	38	39	30
OREAS 163 (230 ppm Co)	140	110	25	4	1	23	91	22	4	4	6	11	119
OREAS 162 (631 ppm Co)	152	112	35	5	–	107	38	7	–	31	41	33	47
OREAS 160 (2.8 ppm Co)	121	101	12	2	6	83	–	–	38	40	49	28	4

2016–2017 internal lab standard results

		Cobalt				Sulphur				Iron			
Standard ID	**Count**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**
CCU-1e	115	–	–	–	–	14	15	18	68	–	–	–	–
GBM908-10	223	222	–	1	–	–	–	–	–	–	–	–	–
GBM915-8	127	99	28	–	–	–	–	–	–	–	–	–	–
GS303-2	119	–	–	–	–	119	–	–	–	–	–	–	–
GS310-8	56	–	–	–	–	56	–	–	–	–	–	–	–
GS910-4	63	–	–	–	–	63	–	–	–	–	–	–	–
MRGeo08	222	163	54	4	1	218	4	–	–	144	78	–	–
OGGeo08	219	151	64	4	–	202	17	–	–	208	11	–	–
OREAS24b	449[2]	288	143	8	1	384	27	38	–	282	123	31	4
OREAS601	220	199	15	4	2	171	43	6	–	197	23	–	–
OREAS902	125	39	51	28	7	86	31	8	–	114	11	–	–
OREAS75a	108	–	–	–	–	108	–	–	–	–	–	–	–
OREAS76a	4	–	–	–	–	4	–	–	–	–	–	–	–

Criteria	JORC Code Explanation	Commentary
Quality of assay data and laboratory tests *(continued)*		

- Lab repeats were routinely completed by ALS Laboratories during the 2017 drilling program. The BHCP drilling database includes the repeat assays for all drilling completed from October 2017 at an average rate of 1:16 samples for a total of 715 repeat pairs. 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 lab repeats is summarised below.
- Overall, the sampling and assay precision for Co, Fe and S at economically significant grades is regarded as reasonable.

Co Cut-Off	Sample Count	Cobalt MPD	Sulphur MPD	Iron MPD
All	715 (637)[1]	3%	3%	2%
500ppm	179 (102)[1]	2%	2%	2%

[1] Sulphur analysis for lab repeats were, in part, affected by the upper detection limits (10%) of the assay technique. These results have been excluded from the above analysis.

2018–2019

- To monitor the accuracy of assay results from the 2018–2019 drilling, CRM standards were included in the assay sample stream at an average rate of 1:19. The CRM samples were purchased from Ore Research & Exploration Pty Ltd with results summarised on the following page:

---

[1] Sulphur analysis of 51 OREAS166 CRM standards were affected by the upper detection limits (10%) of the assay technique. These samples comprised 94% of results falling outside of 2SD of the expected value for sulphur.

[2] Nine (9) OREAS24b standards were not analysed for cobalt or iron.

2018–2019 CRM standard results

		Cobalt				Sulphur				Iron			
Standard ID	**Count**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**
OREAS523 (728 ppm Co)	70	48	20	1	1	54	14	1	1	56	13	–	1
OREAS521 (386 ppm Co)	76	60	15	1	–	71	5	–	–	63	13	–	–
OREAS166 (1970 ppm Co)	87	72	15	–	–	7	–	80[1]	–	17	23	17	30
OREAS165 (2445 ppm Co)	80	73	6	1	–	45	34	1	–	15	25	27	13
OREAS163 (230 ppm Co)	66	54	12	–	–	12	43	10	1	4	5	7	50
OREAS162 (631 ppm Co)	49	42	7	–	–	31	16	2	–	12	12	9	16
OREAS160 (2.8 ppm Co)	58	52	3	2	1	45	–	–	13	32	21	3	2

2018–2019 internal lab standard results

		Cobalt				Sulphur				Iron			
Standard ID	**Count**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**	**1SD**	**2SD**	**3SD**	**+3SD**
CCU-1e	36	–	–	–	–	6	4	12	14	–	–	–	–
GBM908-10	206	205	1	–	–	–	–	–	–	–	–	–	–
GBM915-8	147	130	15	2	–	–	–	–	–	–	–	–	–
GS303-2	171	–	–	–	–	170	1	–	–	–	–	–	–
GS310-8	54	–	–	–	–	54	–	–	–	–	–	–	–
GS910-4	72	–	–	–	–	72	–	–	–	–	–	–	–
MRGeo08	206	157	43	5	1	202	4	–	–	120	85	1	–
OGGeo08	194	72	93	29	–	174	20	–	–	182	12	–	–
OREAS24b	418[2]	263	125	4	–	360	12	42	4	253	122	17	–
OREAS601	28	25	2	–	1	17	10	1	–	27	1	–	–
OREAS902	162	62	55	31	14	92	55	15	–	130	32	–	–
OREAS75a	162	118	42	2	–	132	23	–	7	137	24	1	–
OREAS76a	6	–	–	–	–	6	–	–	–	–	–	–	–

Criteria	JORC Code Explanation	Commentary
Quality of assay data and laboratory tests *(continued)*		- Internal lab standards were routinely included by ALS Laboratories during the 2018–2019 drilling program at an average rate of 1:5 samples with results summarised above. - Lab repeats were routinely completed by ALS Laboratories during the 2018–2019 drilling program at an average rate of 1:19 samples for a total of 468 repeat pairs. 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 lab repeats is summarised below. - Overall, the sampling and assay precision for Co, Fe and S at economically significant grades is regarded as reasonable.

Co Cut-Off	Sample Count	Cobalt MPD	Sulphur MPD	Iron MPD
All	468 (403)[1]	3%	4%	2%
500ppm	104 (39)[1]	2%	2%	2%

[1] Sulphur analysis for lab repeats were, in part, affected by the upper detection limits (10%) of the assay technique. These results have been excluded from the above analysis.

---

[1] Sulphur analysis of 78 OREAS166 CRM standards were affected by the upper detection limits (10%) of the assay technique. These samples comprised 98% of results falling outside of 2SD of the expected value for sulphur.

[2] Twenty-six (26) OREAS24b standards were not analysed for cobalt or iron.

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 completed a systematic review of the related data. - The BHCP drilling database exists in electronic form under the independent management of Maxwell GeoServices. The Maxwell Data Schema (MDS) strictly applies integrity rules to all downhole and measurement recordings. If data fails the integrity rules, the data is not loaded into the database. The MDS stores every instance (record) of data loading and data modification inclusive of who loaded and modified that data. - 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 alternative Company representative.
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. - Down hole surveys using digital cameras were completed on all drilling post 2000. Down hole surveys for some earlier drilling were estimated from hole trace and section data where raw survey data was not reported. - All 2016–2019 drill hole collars 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 for all 2016–2019 drill holes. - All data is recorded in the GDA94 datum; UTM Zone 54 (MGA54). - 3D validation of drilling data has been completed to support detailed geological modelling in Micromine™ software. - The quality of topographic control is deemed adequate for the purposes of the Mineral Resource estimate.

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.*
		- 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
		- 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 samples obtained during drilling completed from 2016 (reflecting 77% of all metres drilled).

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.*	- Drill holes at the BHCP are 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. - Samples obtained during drilling completed between 2016 – 2019 were transported 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 BHCP 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><i>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.</i>
<i>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.</i></td>
<td>The BHCP is located approximately 25 kilometres west-southwest of Broken Hill and comprises two exploration (EL) and two mining leases (ML) including:
<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>EL8143</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 was formerly subject to a joint venture agreement between COB and American Rare Earths Limited (formerly Broken Hill Prospecting Limited). On 17 January 2020, Cobalt Blue Holdings Limited announced that COB and its wholly owned subsidiary, Broken Hill Cobalt Project Pty Ltd (BHCP), had executed final agreements for the assignment of BPL’s interests (including legal title). Completion of the assignment, as defined in the final agreements, was announced 25 February 2020.
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. Renewal applications for EL8143 and EL6622 will be respectively lodged during July and August 2020.</td>
</tr>
<tr>
<td>Exploration done by other parties</td>
<td><i>Acknowledgment and appraisal of exploration by other parties.</i></td>
<td>A detailed and complete record of all exploration activities undertaken prior to the 2016 drilling program is appended to the JORC Table 1 which forms part of the Cobalt Blue Prospectus available on the COB website.</td>
</tr>
</table>

Criteria	JORC Code Explanation	Commentary
Geology	- *Deposit type, geological setting and style of mineralisation.*	**Geological Setting** - The BHCP is located in a deformed and metamorphosed Proterozoic supracrustal succession named the Willyama Supergroup, which is exposed as several inliers in western New South Wales, including the Broken Hill Block (Willis, et al., 1982). - 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. - Exploration by COB has been focused on the discovery and definition of cobaltiferous pyrite deposits. **Mineralisation Style** - The BHCP mineral deposits (Pyrite Hill, Big Hill and Railway) are characterised by large tonnage cobaltiferous pyrite mineralization hosted within siliceous albitic gneisses and schists of the Himalaya Formation. - Cobalt mineralisation exists within extensive 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.

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*
	  - *hole length.*
	- *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detracfrom the understanding of the report, the Competent Person should clearly explain why this is the case.*
		- See drill holle summaries below.

Drill hole information summary

Hole ID	Hole Type	Grid ID	Easting	Northing	RL	Max Depth (m)	Deposit	Dip	Azimuth
11PHR01	RC	MGA94_54	518435.47	6449072.76	285.34	150	Pyrite Hill	-60	278.6
11PHR02	RC	MGA94_54	518499.92	6449159.31	283.79	198	Pyrite Hill	-60	278.6
11PHR03	RC	MGA94_54	518560.3	6449189.61	280.26	240	Pyrite Hill	-60	278.6
11PHR04	RC	MGA94_54	518528.63	6449257	284.03	186	Pyrite Hill	-60	278.6
11PHR05	RC	MGA94_54	518584.25	6449397.62	280.22	234	Pyrite Hill	-60	258.6
11PHR06	RC	MGA94_54	518490.9	6449522.59	284.02	180	Pyrite Hill	-60	233.6
11PHR07	RC	MGA94_54	518413.47	6449592.9	282.86	174	Pyrite Hill	-60	218.6
11PHR08	RC	MGA94_54	518342.74	6449655.85	282.88	180	Pyrite Hill	-60	217.6
11PSR01	RC	MGA94_54	518742.73	6448864	268.38	59	Pyrite Hill	-60	257.6
11PSR02	RC	MGA94_54	518719.38	6448960.01	270.41	132	Pyrite Hill	-60	254.6
11PSR03	RC	MGA94_54	518686.99	6449055.35	272.79	78	Pyrite Hill	-60	254.6
12BER01	RC	MGA94_54	521667.31	6449893.23	277.69	157	Railway	-60	140.6
12BER02	RC	MGA94_54	521212.67	6449690.67	273.53	132	Railway	-60	161.6
12BER03	RC	MGA94_54	521879.01	6450435.47	288.59	151	Railway	-60	101.6
12BER04	RC	MGA94_54	522353.92	6451268.35	274.35	148	Railway	-60	130.6
12BER05	RC	MGA94_54	522439.47	6451167.84	299.73	145	Railway	-60	123.6
12BER06	RC	MGA94_54	522481.37	6451091.35	295.95	169	Railway	-60	126.6
12BER07	RC	MGA94_54	522323.72	6450748.75	277.91	115	Railway	-60	143.6
12BER08	RC	MGA94_54	522220.79	6450811.8	273.16	193	Railway	-60	128.6
12BER09	RC	MGA94_54	522101.25	6450881.44	275.91	139.75	Railway	-60	128.6
12BER10	RC	MGA94_54	521953.45	6450716.18	284.49	151	Railway	-60	128.6
12BER11	RC	MGA94_54	522737.22	6451376.61	265.83	193	Railway	-60	152.6
12BER12	RC	MGA94_54	522909.73	6451516.76	277.36	111	Railway	-60	152.6
12BER13	RC	MGA94_54	522883.81	6451557.54	271.03	205	Railway	-60	155.6
12BER14	RC	MGA94_54	523124.83	6451637.07	288.36	151	Railway	-60	151.6
12BER15	RC	MGA94_54	523311.3	6451841.7	283.95	109	Railway	-60	153.6
12BER16	RC	MGA94_54	522994.08	6451591.99	275.95	115	Railway	-60	155.6
12BER17	RC	MGA94_54	522516.5	6451314.94	269.1	115.5	Railway	-60	152.6
12BER18	RC	MGA94_54	522332.75	6451281.31	272.29	157	Railway	-60	128.6
12BER19	RC	MGA94_54	522240.55	6451067.15	276.16	97	Railway	-60	134.6
12BER20	RC	MGA94_54	521291.69	6449733.63	276.95	120	Railway	-60	164.6
13BED01	DDH	MGA94_54	522480.21	6451092.43	296.01	349.2	Railway	-60	300.3
16DM01	DDH	MGA94_54	518411.38	6449593.89	282.69	161.6	Pyrite Hill	-60	215.4
16DM02	DDH	MGA94_54	518526.62	6449261.58	284.18	183.4	Pyrite Hill	-60	284.9
16DM03	DDH	MGA94_54	521037.1	6449567.49	283.01	126.5	Big Hill	-60	158.4
16DM04	DDH	MGA94_54	520814.74	6449464.4	296.18	105.4	Big Hill	-55	128.4
16DM05	DDH	MGA94_54	522103.7	6450881.87	276.62	246.5	Railway	-60	128.4
16DM06	DDH	MGA94_54	522911.57	6451519.13	278.5	160.4	Railway	-60	152.4
16DM07	DDH	MGA94_54	522995.26	6451598.26	276.36	242.5	Railway	-60	156
16DM08	DDH	MGA94_54	522351.45	6451273.07	273.85	285.5	Railway	-60	130.8
17THD01	DDH	MGA94_54	518381.92	6449551.01	289.06	124.2	Pyrite Hill	-40	221.9
17THD015	DDH	MGA94_54	522037.9	6450826.2	279.21	81.6	Railway	-80	304
17THD016	DDH	MGA94_54	522088.63	6450773.65	286.96	176.9	Railway	-70	122
17THD017	DDH	MGA94_54	522614.75	6451278.72	267.55	255.9	Railway	-80	350
17THD018	DDH	MGA94_54	523013.19	6451490.72	295.02	72.5	Railway	-70	150
17THD019	DDH	MGA94_54	522667.34	6451229.21	267.14	151.3	Railway	-70	140
17THD02	DDH	MGA94_54	518475.49	6449444.54	290.54	149.7	Pyrite Hill	-40	257.9
17THD020	DDH	MGA94_54	523051.58	6451545.21	289.51	121.7	Railway	-55	310
17THD021	DDH	MGA94_54	521708.23	6449927.85	280.69	100	Big Hill	-50	133
17THD022	DDH	MGA94_54	521617.69	6449728.5	277.62	70	Big Hill	-56	316
17THD023	DDH	MGA94_54	521163.79	6449536.89	275.38	99.5	Big Hill	-55	337
17THD024	DDH	MGA94_54	521164.19	6449535.73	275.43	69.6	Big Hill	-80	150
17THD026	DDH	MGA94_54	518586.33	6449333.82	281.21	240.7	Pyrite Hill	-55	272
17THD027	DDH	MGA94_54	520946.6	6449512.66	293.55	141.6	Big Hill	-75	130
17THD028	DDH	MGA94_54	520861.99	6449317.24	285.06	171.7	Big Hill	-56	321

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

Drill hole information summary (continued)

Hole ID	Hole Type	Grid ID	Easting	Northing	RL	Max Depth (m)	Deposit	Dip	Azimuth
17THD029	DDH	MGA94_54	518489.32	6449338.05	290.32	200.5	Pyrite Hill	-70	90
17THD03	DDH	MGA94_54	518369.98	6449189.6	303.28	78.5	Pyrite Hill	-40	285
17THD030	DDH	MGA94_54	518350.8	6449706.09	280.69	201.5	Pyrite Hill	-55	222
17THD031	DDH	MGA94_54	518289.35	6449629.06	286.67	229	Pyrite Hill	-65	50
17THD04	DDH	MGA94_54	521077.95	6449589.47	278.41	119.8	Big Hill	-45	155
17THD05	DDH	MGA94_54	521669.07	6449888.58	278.5	99.5	Big Hill	-40	130.9
17THD06	DDH	MGA94_54	521969.84	6450704.86	287.2	165.5	Railway	-45	127.9
17THD07	DDH	MGA94_54	522568.957	6451282.23	270.67	274.6	Railway	-45	156.4
17THD08	DDH	MGA94_54	522783.808	6451280.456	268.881	138.1	Railway	-45	325.9
17THD09	DDH	MGA94_54	522904.937	6451510.699	278.471	120.5	Railway	-40	152.4
17THD10	DDH	MGA94_54	522992.007	6451568.856	279.779	84.2	Railway	-45	129.9
17THD11	DDH	MGA94_54	523108.935	6451681.841	280.847	111.5	Railway	-40	160.4
17THD12	DDH	MGA94_54	522796.17	6451418.63	272.936	126.5	Railway	-40	140.65
17THD13	DDH	MGA94_54	522835.885	6451456.179	276.747	105.5	Railway	-40	138.4
17THD14	DDH	MGA94_54	518375.298	6449088.631	294.25	99	Pyrite Hill	-60	284.9
17THR001	RC	MGA94_54	522614.905	6451276.766	267.561	156	Railway	-60	119.9
17THR002	RC	MGA94_54	522573.283	6451298.801	268.511	160	Railway	-60	119.9
17THR003	RC	MGA94_54	522123.774	6450867.944	277.39	96	Railway	-60	129.9
17THR004	RC	MGA94_54	522386.891	6451319.044	271.453	150	Railway	-60	119.9
17THR005	RC	MGA94_54	522024.38	6450783.074	282.154	72	Railway	-60	119.9
17THR006	RC	MGA94_54	522049.44	6450780.22	284.01	114	Railway	-58	124.9
17THR007	RC	MGA94_54	521964.853	6450699.403	286.585	180	Railway	-59	124.9
17THR008	RC	MGA94_54	521916.699	6450562.283	291.682	132	Railway	-56	104.9
17THR009	RC	MGA94_54	521906.401	6450495.508	292.751	120	Railway	-58	104.9
17THR010	RC	MGA94_54	521958.873	6450397.997	286.445	72	Railway	-56	284.9
17THR011	RC	MGA94_54	522301.741	6451168.608	276.812	126	Railway	-56	119.9
17THR012	RC	MGA94_54	522440.265	6451304.371	274.931	180	Railway	-58	172.9
17THR013	RC	MGA94_54	521749.755	6449941.667	284.89	102	Big Hill	-60	130.4
17THR014	RC	MGA94_54	521627.785	6449796.001	277.545	104	Big Hill	-53	129.9
17THR015	RC	MGA94_54	521792.569	6449917.51	284.847	108	Big Hill	-58	309.9
17THR016	RC	MGA94_54	518445.67	6449208.824	290.391	138	Pyrite Hill	-57	282.9
17THR017	RC	MGA94_54	518448.846	6449262.592	293.147	120	Pyrite Hill	-56	281.4
17THR018	RC	MGA94_54	518027.089	6449805.615	289.567	78	Pyrite Hill	-60	221.9
17THR019	RC	MGA94_54	518104.863	6449753.622	287.701	72	Pyrite Hill	-55	221.9
17THR020	RC	MGA94_54	518165.502	6449694.735	288.685	66	Pyrite Hill	-60	221.9
17THR021	RC	MGA94_54	518182.837	6449717.132	286.007	78	Pyrite Hill	-60	221.9
17THR022	RC	MGA94_54	518510.264	6449306.337	286.82	156	Pyrite Hill	-55	280.9
17THR023	RC	MGA94_54	518506.416	6449376.685	289.481	150	Pyrite Hill	-57	264.4
17THR024	RC	MGA94_54	518457.103	6449498.108	288.137	150	Pyrite Hill	-59.5	228.4
17THR025	RC	MGA94_54	518310.83	6449608.899	287.463	114	Pyrite Hill	-60	221.9
17THR026	RC	MGA94_54	518268.199	6449680.832	284.164	114	Pyrite Hill	-60	221.9
17THR027	RC	MGA94_54	518242.741	6449646.017	287.176	72	Pyrite Hill	-60	221.9
17THR028	RC	MGA94_54	522457.367	6451166.573	300.659	150	Railway	-60	349.9
17THR029	RC	MGA94_54	522481.824	6451084.489	295.964	162	Railway	-60	174.9
17THR030	RC	MGA94_54	522782.694	6451422.506	270.814	138	Railway	-55	139.9
17THR031	RC	MGA94_54	522945.084	6451565.894	276.19	120	Railway	-55	144.9
17THR032	RC	MGA94_54	522819.135	6451472.852	273.712	132	Railway	-53	139.9
17THR033	RC	MGA94_54	522501.43	6451314.769	269.63	120	Railway	-60	174.9
17THR034	RC	MGA94_54	522320.672	6451213.859	275.947	132	Railway	-55	126.9
17THR035	RC	MGA94_54	522259.009	6451120.224	275.749	156	Railway	-55.2	129.9
17THR036	RC	MGA94_54	522185.924	6450998.472	275.339	92	Railway	-61.2	129.9
17THR037	RC	MGA94_54	522148.24	6450941.485	274.202	126	Railway	-55	125.9
17THR038	RC	MGA94_54	521926.706	6450619.128	289.555	168	Railway	-55	107.9
17THR039	RC	MGA94_54	522477.26	6451299.1	273.56	210	Railway	-55.8	168.7
17THR040	RC	MGA94_54	522528.39	6451299.76	270.47	276	Railway	-55	164
17THR041	RC	MGA94_54	522692.02	6451243.72	265.1	210	Railway	-55	339

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

Drill hole information summary (continued)

Hole ID	Hole Type	Grid ID	Easting	Northing	RL	Max Depth (m)	Deposit	Dip	Azimuth
17THR042	RC	MGA94_54	522587.82	6451160.13	282.86	234	Railway	-55	336
17THR043	RC	MGA94_54	522530.75	6451184.79	289.25	200	Railway	-55	341
17THR044	RC	MGA94_54	522419.53	6451159.4	297.98	180	Railway	-55	311
17THR045	RC	MGA94_54	522526.35	6451168.39	290.07	210	Railway	-55	311
17THR046	RC	MGA94_54	522500.76	6451202.92	290.5	216	Railway	-56	311
17THR047	RC	MGA94_54	522437.58	6451115.13	296.5	246	Railway	-55	311
17THR048	RC	MGA94_54	522480.92	6451123.99	297.74	122	Railway	-55	310
17THR049	RC	MGA94_54	522378.17	6451130.49	292.05	138	Railway	-55	310
17THR050	RC	MGA94_54	522656.53	6451143.01	274.37	154	Railway	-63	344
17THR051	RC	MGA94_54	522363.94	6451070.31	282.59	174	Railway	-55	304
17THR052	RC	MGA94_54	522641.6	6451183.73	274.47	246	Railway	-60	318
17THR053	RC	MGA94_54	522314.92	6451027.72	278.16	156	Railway	-50	291
17THR054	RC	MGA94_54	522671.16	6451231.98	266.64	180	Railway	-60	148
17THR055	RC	MGA94_54	522260.58	6450986.64	278.21	114	Railway	-55	308
17THR056	RC	MGA94_54	522558.34	6451284.89	270.77	102	Railway	-55	334
17THR057	RC	MGA94_54	522220.16	6450908.66	274.24	111	Railway	-55	314
17THR058	RC	MGA94_54	522466.73	6451328.16	269.82	210	Railway	-60	333
17THR059	RC	MGA94_54	522197.7	6450857.19	273.73	150	Railway	-55	313
17THR060	RC	MGA94_54	523005.75	6451494.2	294.07	181	Railway	-55	158
17THR061	RC	MGA94_54	522161.2	6450788.69	277.36	138	Railway	-55	308
17THR062	RC	MGA94_54	522982.99	6451450.49	295.85	168	Railway	-55	160
17THR064	RC	MGA94_54	522930.84	6451402.69	294.56	171	Railway	-55	306
17THR065	RC	MGA94_54	522108.14	6450664.31	282.78	174	Railway	-55	331
17THR066	RC	MGA94_54	522865.27	6451366.56	291.59	168	Railway	-55	307
17THR067	RC	MGA94_54	522022.35	6450479.25	283.66	150	Railway	-60	327
17THR068	RC	MGA94_54	522751.9	6451407.39	267.7	210	Railway	-56.1	329
17THR069	RC	MGA94_54	522008.3	6450647.2	301.3	96	Railway	-60	117
17THR070	RC	MGA94_54	522812.63	6451242.07	266.32	228	Railway	-60	300
17THR071	RC	MGA94_54	522070.4	6450845.81	278.55	142	Railway	-60	130
17THR074	RC	MGA94_54	522571.68	6450984.72	271.16	300	Railway	-60	310
17THR075	RC	MGA94_54	522012.61	6450770.25	282.6	148	Railway	-55	121
17THR076	RC	MGA94_54	522478.62	6450944.93	271.56	300	Railway	-60	355
17THR077	RC	MGA94_54	521992.89	6450742.81	284.64	180	Railway	-55	117
17THR078	RC	MGA94_54	518219.8	6449774.3	281.23	157	Pyrite Hill	-60	222
17THR079	RC	MGA94_54	521912.03	6450596.65	288.71	120	Railway	-55	116
17THR080	RC	MGA94_54	518024.25	6449781.76	291.63	67	Pyrite Hill	-55	190
17THR081	RC	MGA94_54	522339.79	6451238.8	275.91	184	Railway	-55	125
17THR082	RC	MGA94_54	517972.33	6449842.18	290.3	67	Pyrite Hill	-55	222
17THR083	RC	MGA94_54	522365.03	6451282.32	274.2	156	Railway	-55	133
17THR084	RC	MGA94_54	518343.3	6449587.53	287.21	97	Pyrite Hill	-55	205
17THR085	RC	MGA94_54	520878.42	6449522.93	287.41	210	Big Hill	-60	141
17THR086	RC	MGA94_54	518427.15	6449540.98	286.81	157	Pyrite Hill	-55	218
17THR087	RC	MGA94_54	518466.29	6449586.59	281.67	181	Pyrite Hill	-60	218
17THR088	RC	MGA94_54	518392.08	6449633.28	281.8	175	Pyrite Hill	-55	213
17THR089	RC	MGA94_54	521571.04	6449709.06	274.02	108	Big Hill	-60	141
17THR090	RC	MGA94_54	521691.5	6449794.05	284.09	96	Big Hill	-55	312
17THR091	RC	MGA94_54	518423.7	6449679.07	279.49	211	Pyrite Hill	-55	219
17THR092	RC	MGA94_54	518300.57	6449660.9	284.51	139	Pyrite Hill	-55	219
17THR093	RC	MGA94_54	518270.39	6449732.39	281.48	151	Pyrite Hill	-55	219
17THR094	RC	MGA94_54	518568.37	6449501.3	279.13	240	Pyrite Hill	-60	253
17THR095	RC	MGA94_54	518509.1	6449194.19	283.43	205	Pyrite Hill	-55	273
17THR096	RC	MGA94_54	518539.91	6449418.96	283.92	187	Pyrite Hill	-60	257
17TRD063	RCDD	MGA94_54	522137.49	6450724.64	279.94	169.5	Railway	-55	305
17TRD072	RCDD	MGA94_54	522622.9	6451044.3	270.7	210	Railway	-60	320
17TRD073	RCDD	MGA94_54	522035.27	6450817.14	279.65	195.4	Railway	-55	126
18THD001	DDH	MGA94_54	518219.66	6449624.39	291.25	30.9	Pyrite Hill	-60	226

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

Drill hole information summary (continued)

Hole ID	Hole Type	Grid ID	Easting	Northing	RL	Max Depth (m)	Deposit	Dip	Azimuth
18THD002	DDH	MGA94_54	518238.34	6449585.82	296.53	54.9	Pyrite Hill	-60	226
18THD003	DDH	MGA94_54	518240.6	6449583.32	296.57	33.7	Pyrite Hill	-60	316
18THD004	DDH	MGA94_54	518563.05	6449270.02	281.75	210.3	Pyrite Hill	-60	270
18THD005	DDH	MGA94_54	518097.07	6449782.4	285.94	81.7	Pyrite Hill	-60	226
18THD006	DDH	MGA94_54	518678.96	6449375.41	277.53	324.3	Pyrite Hill	-60	260
18THD007	DDH	MGA94_54	518069.73	6449760.09	289.96	63.8	Pyrite Hill	-60	226
18THD008	DDH	MGA94_54	517942.29	6449795.12	299.01	38.6	Pyrite Hill	-60	226
18THD009	DDH	MGA94_54	518075.4	6449705.21	299.4	45.8	Pyrite Hill	-60	210
18THD010	DDH	MGA94_54	517976.88	6449788.42	296.55	39.8	Pyrite Hill	-60	226
18THD011	DDH	MGA94_54	518009.86	6449756.41	297.48	45.7	Pyrite Hill	-50	226
18THD012	DDH	MGA94_54	518595.67	6449597.05	276.68	315.7	Pyrite Hill	-60	226
18THD013	DDH	MGA94_54	518106.83	6449687.25	299.12	42.7	Pyrite Hill	-55	226
18THD014	DDH	MGA94_54	518145.51	6449664.83	297.29	39.7	Pyrite Hill	-60	226
18THD015	DDH	MGA94_54	518379.27	6449267.6	309.39	60.7	Pyrite Hill	-60	270
18THD016	DDH	MGA94_54	518367.55	6449227.47	307.37	60.8	Pyrite Hill	-55	270
18THD017	DDH	MGA94_54	518402.34	6449225.8	300.2	90.8	Pyrite Hill	-60	270
18THD018	DDH	MGA94_54	518478.07	6449819.33	278.07	339.3	Pyrite Hill	-60	226
18THD019	DDH	MGA94_54	518400.61	6449521.31	292.39	150.6	Pyrite Hill	-53	226
18THD020	DDH	MGA94_54	518456.96	6449380.78	298.48	132.8	Pyrite Hill	-45	275
18THD021	DDH	MGA94_54	518326.24	6449188.81	312.63	20.3	Pyrite Hill	-90	360
18THR001	RC	MGA94_54	518559.01	6449231.18	280.96	216	Pyrite Hill	-60	270
18THR002	RC	MGA94_54	518516.02	6449226.4	283.47	208	Pyrite Hill	-60	270
18THR003	RC	MGA94_54	518484.17	6449221.88	285.58	162	Pyrite Hill	-60	270
18THR004	RC	MGA94_54	518476.48	6449188.87	286.37	180	Pyrite Hill	-60	270
18THR005	RC	MGA94_55	518441.66	6449144.93	288.01	150	Pyrite Hill	-60	270
18THR006	RC	MGA94_54	518360.85	6449595.72	285.45	144	Pyrite Hill	-60	226
18THR007	RC	MGA94_54	518547.66	6449305.68	283.41	192	Pyrite Hill	-55	270
18THR008	RC	MGA94_54	518343.97	6449635.49	283.55	144	Pyrite Hill	-53	226
18THR009	RC	MGA94_54	518569.36	6449408.25	281.08	216	Pyrite Hill	-60	260
18THR010	RC	MGA94_54	518532.73	6449360.12	284.92	168	Pyrite Hill	-60	260
18THR011	RC	MGA94_54	518322.22	6449676.84	283.22	162	Pyrite Hill	-60	226
18THR012	RC	MGA94_54	518370.03	6449666.15	281.38	174	Pyrite Hill	-60	226
18THR013	RC	MGA94_54	518298.17	6449706.47	281.98	138	Pyrite Hill	-60	226
18THR014	RC	MGA94_54	518694.51	6449270.48	276.9	342	Pyrite Hill	-60	270
18THR015	RC	MGA94_54	518235.64	6449701.08	283.82	96	Pyrite Hill	-60	226
18THR016	RC	MGA94_54	518214.75	6449737.47	282.55	102	Pyrite Hill	-60	226
18THR017	RC	MGA94_54	518127.79	6449754.95	285.64	78	Pyrite Hill	-60	226
18THR018	RC	MGA94_54	518137.36	6449716.74	289.22	66	Pyrite Hill	-60	226
18THR019	RC	MGA94_54	518006.92	6449805.88	291.23	72	Pyrite Hill	-60	226
18THR020	RC	MGA94_54	518035.63	6449835.82	287.23	96	Pyrite Hill	-60	226
18THR021	RC	MGA94_54	518087.53	6449721.83	294.28	60	Pyrite Hill	-60	226
18THR022	RC	MGA94_54	518257.71	6449610.19	290.01	66	Pyrite Hill	-60	226
18THR023	RC	MGA94_54	518284.04	6449587.56	291.55	102	Pyrite Hill	-60.49	229.15
18THR024	RC	MGA94_54	518333.33	6449569.57	289.63	114	Pyrite Hill	-50.56	226.59
18THR025	RC	MGA94_54	518438.4	6449508.58	289	150	Pyrite Hill	-50.15	225.23
18THR026	RC	MGA94_54	518485.03	6449439.15	288.92	150	Pyrite Hill	-60	260
18THR027	RC	MGA94_54	518681.9	6449447.29	276.64	314	Pyrite Hill	-60	260
18THR028	RC	MGA94_54	518458.51	6449378.62	297.95	132	Pyrite Hill	-60	260
18THR029	RC	MGA94_54	518455.88	6449353.13	296.54	120	Pyrite Hill	-60	260
18THR030	RC	MGA94_54	518495.52	6449356.57	290.04	138	Pyrite Hill	-60	260
18THR031	RC	MGA94_54	518431.08	6449305.58	298.32	96	Pyrite Hill	-55	270
18THR032	RC	MGA94_54	518462.16	6449308.34	292.63	126	Pyrite Hill	-60	270
18THR033	RC	MGA94_54	518518.77	6449639.54	277.94	240	Pyrite Hill	-60	226
18THR034	RC	MGA94_54	518417.81	6449263.13	299.62	96	Pyrite Hill	-55	270
18THR035	RC	MGA94_54	518469.09	6449267.21	289.77	132	Pyrite Hill	-60	270
18THR036	RC	MGA94_54	518432.2	6449181.26	290.8	132	Pyrite Hill	-60	270

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

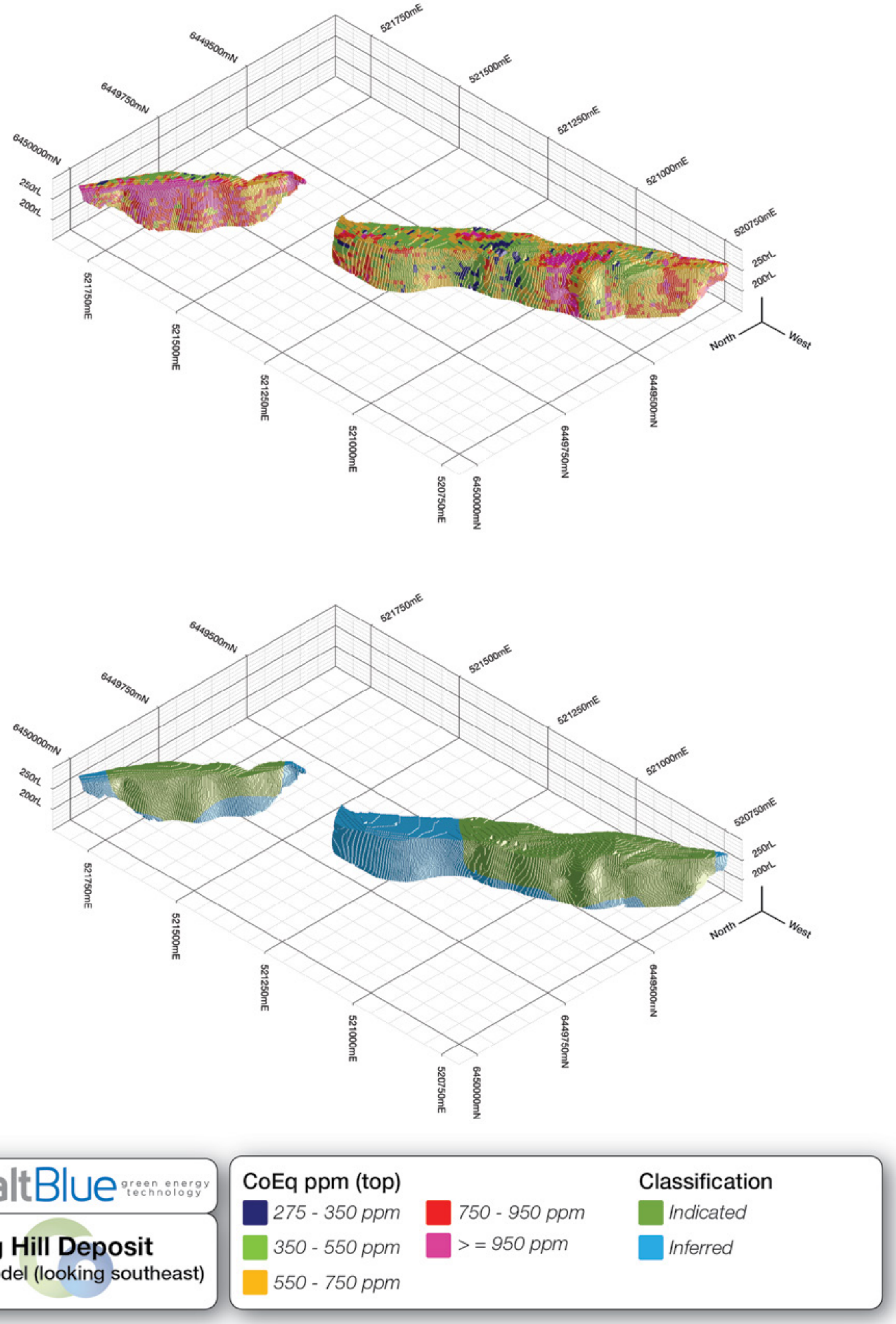
Drill hole information summary (continued)

Hole ID	Hole Type	Grid ID	Easting	Northing	RL	Max Depth (m)	Deposit	Dip	Azimuth
18THR037	RC	MGA94_54	518384.95	6449185.57	298.77	96	Pyrite Hill	-58	270
18THR038	RC	MGA94_54	518435.94	6449605.44	281.46	186	Pyrite Hill	-60	226
18THR039	RC	MGA94_54	522031.54	6450775.25	283.21	206	Railway	-60	123
18THR040	RC	MGA94_54	522057.07	6450757.04	288.93	160	Railway	-60	123
18THR041	RC	MGA94_54	518497.05	6449723.67	277.9	272	Pyrite Hill	-60	226
18THR042	RC	MGA94_54	522007.07	6450738.22	286.39	120	Railway	-60	123
18THR043	RC	MGA94_54	518413.96	6449753	278.56	252	Pyrite Hill	-60	226
18THR044	RC	MGA94_54	521960.4	6450676.73	289.26	130	Railway	-55	123
19THD001	DDH	MGA94_54	518287.89	6449592.15	290.54	114.3	Pyrite Hill	-45	188
19THR001	RC	MGA94_54	523259.12	6451701.45	288.66	84	Railway	-60	138
19THR002	RC	MGA94_54	518136.22	6449797.05	283.19	132	Pyrite Hill	-60	226
19THR003	RC	MGA94_54	523272.25	6451773.26	285.29	174	Railway	-55	138
19THR004	RC	MGA94_54	518077.9	6449858.46	284.14	132	Pyrite Hill	-60	226
67TH01	DDH	MGA94_54	518564.805	6449460.03	280.643	304.2	Pyrite Hill	-55	261
70BH01	DDH	MGA94_54	520850.56	6449308.5	284.56	102.7	Big Hill	-47	319
70BH02	DDH	MGA94_54	520786.12	6449264.4	280.1	103.9	Big Hill	-50	319
70TH02	DDH	MGA94_54	518272.42	6449680.54	284.08	148.6	Pyrite Hill	-61	219
70TH03	DDH	MGA94_54	518449.85	6449211.88	289.81	141.4	Pyrite Hill	-62	284
80BGH05	PDDH	MGA94_54	520955.35	6449534.41	288.93	54.86	Big Hill	-60	163.4
80BGH06	PDDH	MGA94_54	520880	6449472	299	68.04	Big Hill	-60	170.4
80BGH07	RC	MGA94_54	521136.56	6449599	274.11	23	Big Hill	-60	177.4
80BGH08	PDDH	MGA94_54	520768.79	6449390.93	296.29	79.7	Big Hill	-60	126.4
80BGH09	PDDH	MGA94_54	520657.43	6449292.52	272.8	100.5	Big Hill	-50	144.4
80PYH01	PDDH	MGA94_54	518246.2	6449565.7	301.1	24.53	Pyrite Hill	-60	202.4
80PYH02	PDDH	MGA94_54	518260.7	6449574.2	297.6	51.3	Pyrite Hill	-60	220.4
80PYH03	PDDH	MGA94_54	518251.5	6449569.9	299.4	35	Pyrite Hill	-60	220.4
80PYH04	PDDH	MGA94_54	518366.55	6449231.74	308.34	55	Pyrite Hill	-60	295.4
80PYH05	PDDH	MGA94_54	518226.97	6449678.19	285.18	93.6	Pyrite Hill	-49	222.4
80PYH06	PDDH	MGA94_54	518163.48	6449757.3	283.73	85.5	Pyrite Hill	-54.4	222.4
80PYH07	PDDH	MGA94_54	518084	6449818.36	285.16	94.5	Pyrite Hill	-55	222.4
80PYH08	PDDH	MGA94_54	518009.54	6449885.43	286.14	110	Pyrite Hill	-60	222.4
80PYH09	PDDH	MGA94_54	517917.4	6449931.76	286.55	100.5	Pyrite Hill	-48.5	222.4
80PYH10	PDDH	MGA94_54	518392.96	6449565.96	285.53	145.3	Pyrite Hill	-50	222.4
80PYH11	PDDH	MGA94_54	518440.96	6449329.52	297.25	103.1	Pyrite Hill	-50	280.4
80PYH12	PDDH	MGA94_54	518407.28	6449137.31	292.63	109.5	Pyrite Hill	-50	280.4
80PYH13	DDH	MGA94_54	518358.2	6449037.7	290.35	77	Pyrite Hill	-50	280.4
80PYH14	DDH	MGA94_54	518661.18	6449287.62	277.96	300.3	Pyrite Hill	-60	280.4
93MGM01	PDDH	MGA94_54	518185.44	6449713.77	286.28	70	Pyrite Hill	-60	222.4
93MGM02	PDDH	MGA94_54	518515.45	6449454.67	284.79	180	Pyrite Hill	-60	258.4
98TC01	RC	MGA94_54	522750.06	6451339.73	267.27	100	Railway	-60	158.4
98TC02	RC	MGA94_54	522392.41	6451386.83	266.78	100	Railway	-60	140.4
98TC03	RC	MGA94_54	520816.45	6449369.39	313.05	84	Big Hill	-60	135.4
98TC04	RC	MGA94_54	520860.05	6449450.85	304.09	138.25	Big Hill	-60	140.4
98TC05	RC	MGA94_54	520728	6449328.07	288.63	70	Big Hill	-50	122.4
98TC06	RC	MGA94_54	520715	6449343	285.13	108	Big Hill	-60	125.4
98TC07	RC	MGA94_54	520785.97	6449388.21	299.22	120	Big Hill	-50	133.4
98TC08	RC	MGA94_54	520801.95	6449477.81	291.01	90	Big Hill	-60	150.4
98TC09	RC	MGA94_54	520822.21	6449460.79	296.25	114	Big Hill	-60	133.4
98TC10	RC	MGA94_54	521019.02	6449575.66	281.08	134	Big Hill	-50	172.4
98TC11	RC	MGA94_54	522411.2	6451373.96	267.01	35	Railway	-60	132.4

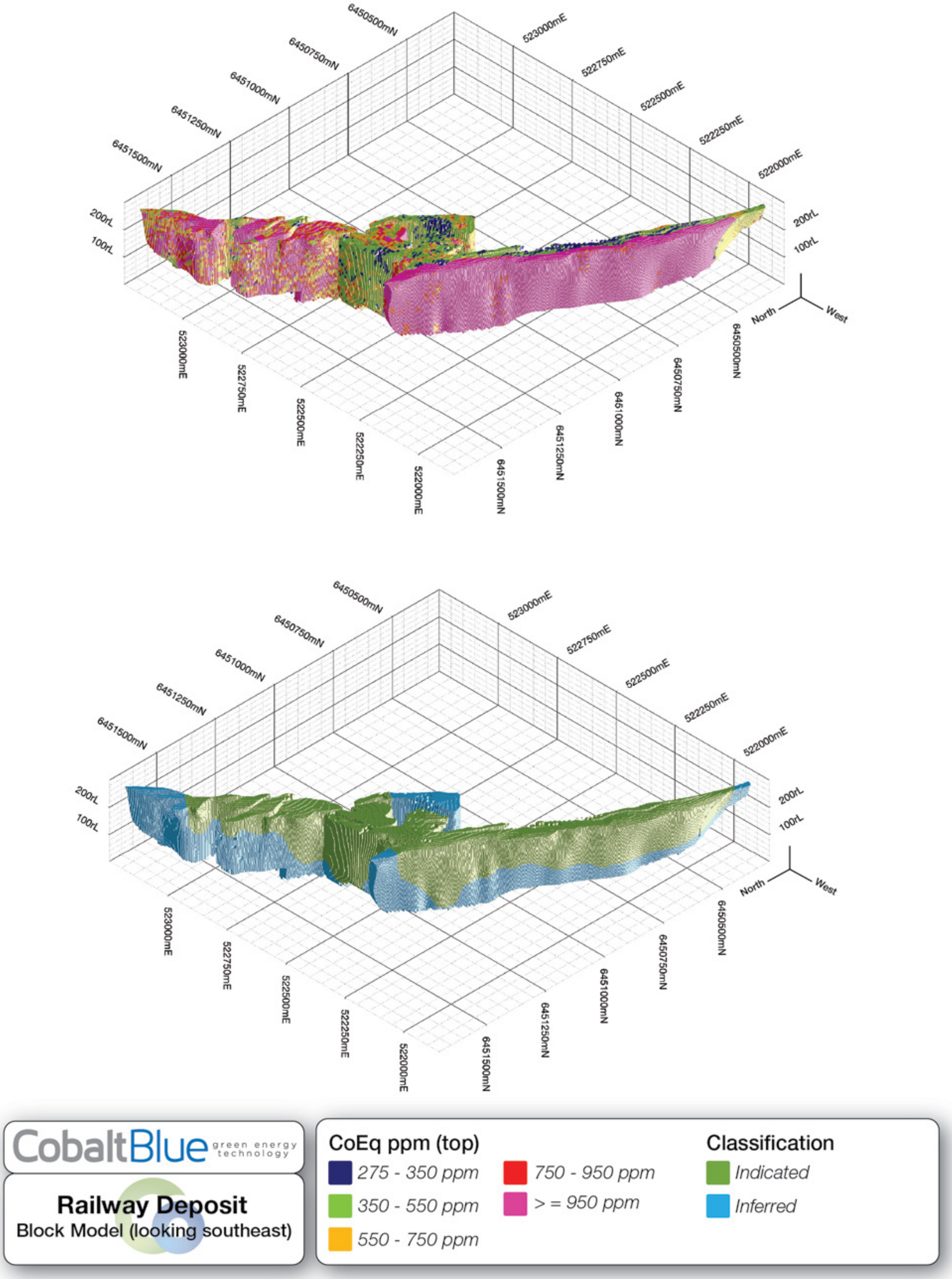
DDH	Diamond drill hole		
PDDH	Diamond drill hole with percussion pre-collar	**RDDH**	Diamond drill hole with rotary air blast pre-collar
RCDDH	Diamond drill hole with reverse circulation pre-collar	**RC**	Reverse Circulation drill hole

Criteria	JORC Code Explanation	Commentary
Data aggregation methods	- *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg 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.*	- The information in this release relates to Mineral Resources and Ore Reserves; no individual drill hole intercepts are reported. The treatment and reporting of individual drill hole intercepts are described in previous releases where exploration results have been included.
Relationship between mineralisation 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 drill hole 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 (eg 'down hole length, true width not known').*	- Drill holes at the BHCP 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. - The information in this release relates to Mineral Resources and Ore Reserves; no individual drill hole intercepts are reported.
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 on the following pages

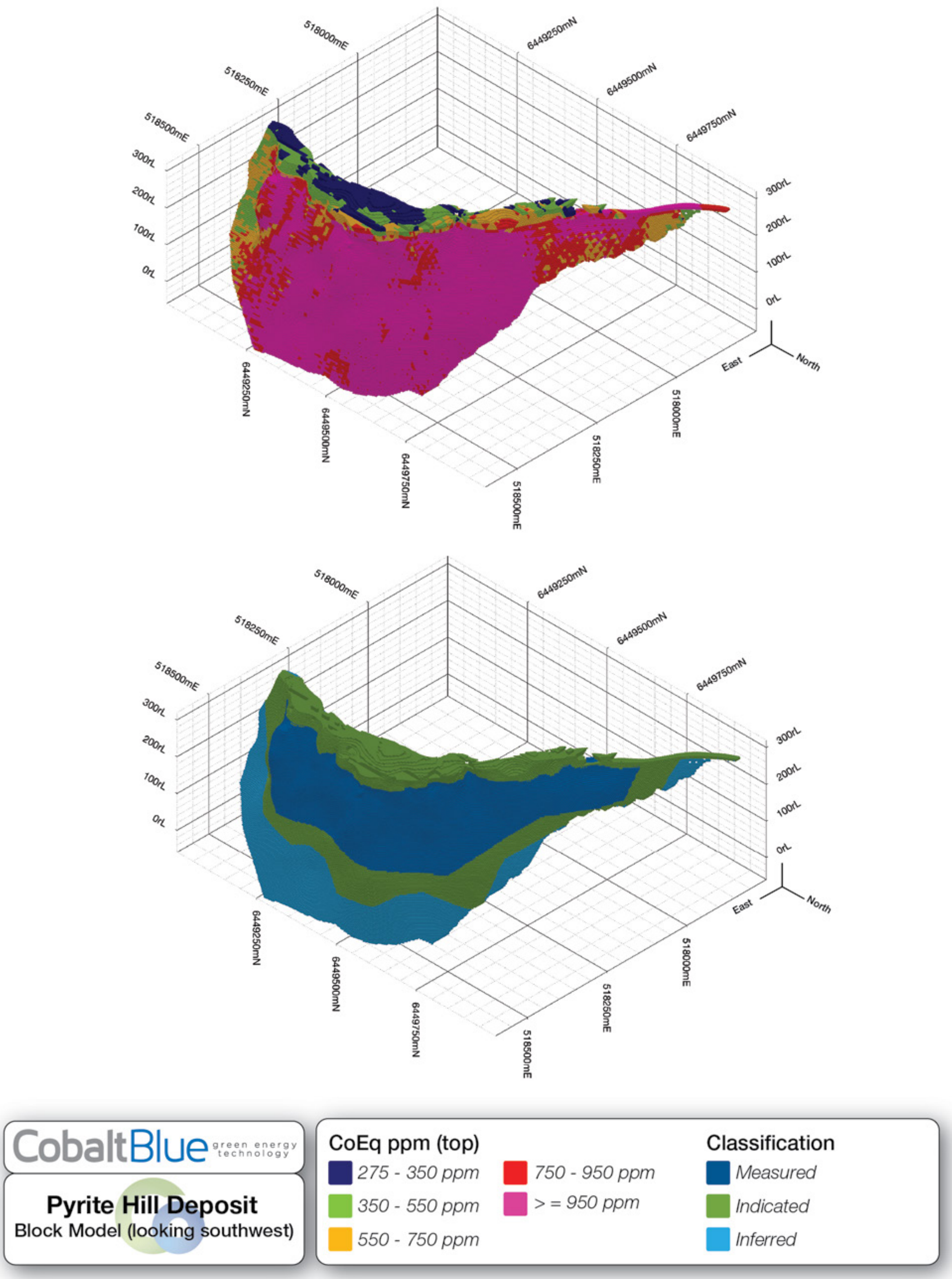
Big Hill Mineral Resource block model looking southeast illustrating block distribution by resource classification (bottom) and cobalt equivalent grade (top).



Railway Mineral Resource block model looking southeast illustrating block distribution by resource classification (bottom) and cobalt equivalent grade (top).



Pyrite Hill Mineral Resource block model looking southwest illustrating block distribution by resource classification (bottom) and cobalt equivalent grade (top).



Criteria	JORC Code Explanation	Commentary
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.*	- All assay results for drill holes included in the Mineral Resource estimate have been considered and comprise results not necessarily regarded as anomalous.
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 Preliminary Feasibility Study was completed in June 2018 and released on 4 July 2018 ('PFS 2018'). Results of the PFS 2018 can be reviewed via the ASX Announcement 'Thackaringa Pre-Feasibility Study Announced'. - Further optimsation studies were incorporated into the Project Update 2020 completed in June 2020 in support of the Ore Reserve estimate which is the subject of this release.
Further work	- *The nature and scale of planned further work (eg 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.*	- COB is continuing to advance current work programs including preparations for the extraction of bulk samples to feed a demonstration plant. - Future infill drilling is expected to focus on the Big Hill and Railway deposits to improve the overall drilling density and target an improved Mineral Resource classification.

Section 3 – Estimation and Reporting of Mineral Resources

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

Criteria	JORC Code Explanation	Commentary

Database integrity	- *Measures taken to ensure that data has not been corrupted by, for example, transcription or keying errors, between its initial collection and its use for Mineral Resource estimation purposes.*
	- *Data validation procedures used.*
		- The BHCP drilling database exists in electronic form under the independent management of Maxwell GeoServices. The Maxwell Data Schema (MDS) strictly applies integrity to all downhole and measurement recordings. If data fails the integrity rules, the data is NOT loaded into the database. In general, the following rules are applied:
		  - Downhole intervals Depth_To > Depth_From
		  - Downhole intervals < Max depth
		  - No overlapping intervals
		  - Dips between -90 & 90°
		  - Azimuths, dip direction, alpha, beta are all between 0 & 360°
		  - Gamma between 0 & 90°
		  - Individual percentage values <= 100%; total of all percentage
		  - values <=100%
		  - Recovery values <= 110%; RQD values <= 100%
		  - Incremental values must have data in preceding values before the next can be entered (e.g. Cannot have Lith2 unless Lith1 exists)
		  - Cannot enter qualifiers unless the primary code is populated (e.g. Cannot have a Lith_Grainsize or a Lith_Colour unless Lith_Code is populated)
		  - Dates <= current daily (load) date; start dates <= complete dates etc.
		  - Codes for fields linked to corresponding library tables can only be loaded if they are set to Is_Active = 'TRUE' in the library table
		  - Once drill holes, linear sites and point sites have been set to Validated = 'TRUE', no data related to these can be updated, inserted or deleted.
		  - Once Load_Date and Loaded_By fields have been populated upon database loading these fields are unable to be modified. Instead any updates are recorded in the Modified_Date and Modified_By fields.
		  - A Data_Source field is required for ALL data tables.
		- Additionally, the MDS stores every instance (record) of data loading, data modification, and who loaded and modified that particular data, as well as data sources where appropriate. This makes the data loading process highly auditable.
		- The database was extensively examined by SRK Consulting with various minor issues identified and addressed during the geological modelling and Mineral Resource estimation process. Examples of issues examined and rectified include:
		  - Correct prioritisation of assay method where upper limits of detection are exceeded;
		  - Inclusion / exclusion and quality of historic assays;
		  - Use of correct downhole survey grid systems and survey prioritisation
		  - Inclusion of up to date density information
		  - Inclusion of up to date QAQC data including standards, duplicates, blanks and lab repeats

Criteria	JORC Code Explanation	Commentary
Site Visits	- *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.* - *If no site visits have been undertaken indicate why this is the case.*	- The geological model used for the resource estimation was been developed by Dr Stuart Munroe of SRK Consulting in conjunction with other consultants and COB employees, following a review of previous mapping, over approximately nine days on site at the BHCP during drilling in November 2017.
Geological interpretation	- *Confidence in (or conversely, the uncertainty of) the geological interpretation of the mineral deposit.* - *Nature of the data used and of any assumptions made.* - *The effect, if any, of alternative interpretations on Mineral Resource estimation.* - *The use of geology in guiding and controlling Mineral Resource estimation.* - *The factors affecting continuity both of grade and geology.*	- The mineralisation at BHCP is well exposed at surface and forms prominent topographic highs. The mineralisation has been mapped by previous lease holders and presented in statutory annual reports which are in the public domain. The previous mapping has been compiled and re-mapped by Mr Garry Johansen for COB. Dr Stuart Munroe of SRK Consulting completed reconnaissance mapping and reviewed the controls on mineralisation in preparation for the Mineral Resource estimate announced to the ASX on 19 March 2018. Confidence in the Pyrite Hill geological model has been greatly improved by the drilling completed during 2017–2019. - The geological model has been developed from a good understanding of the distribution of surface mineralisation, observed controls on mineralisation and the extensive drill hole intersections. Two key structural controls on mineralisation are, (1); the primary foliation (bedding), as a fluid flow pathway and site for deposition of cobaltiferous pyrite, and (2); bedding parallel shear zones at the contact of quartz – albite gneiss. These shear zones appear to be responsible for fold thickening of the quartz – albite gneiss. Much of the folding appears to be slump or soft-sediment folding. The fold hinges have a variable plunge (moderate to steeply east to north-east). - No viable alternative mineralisation models have been developed. - The mineralisation host is a quartz + albite + cobaltiferous pyrite gneiss. This rock is defined by the presence of disseminated pyrite, concentrated parallel to the primary foliation in a fine-grained, recrystallised quartz + albite groundmass. Where the pyrite is present there is an increase in the silica content and an almost complete absence of biotite and sericite. In addition to the logged geology, most of the drill holes have multi-element analysis. An independent geological consultant has used this data to develop a lithogeochemical model profile for each rock type logged. The lithogeochemistry, logged geology, structure at surface, Cobalt assay and Sulphur assay have all been used to guide the mineralised domain that contain the resource. - The gradation from a biotite schist to (quartz + albite) to (pyrite + quartz + albite) suggests the sulphide may accompany silica + sodic alteration of a micaceous schist protolith. Across the shear zones mapped at surface, the transition is rapid, however where there is no shearing at the contact, a gradational contact from biotite to albite to pyrite + albite + silica is observed. Parallel to bedding and bedding parallel shear zones (faults), continuity of the mineralisation is strong, particularly close to the shear zones.
Dimensions	- *The extent and variability of the Mineral Resource expressed as length (along strike or otherwise), plan width, and depth below surface to the upper and lower limits of the Mineral Resource.*	- The Railway Big Hill portion of the deposit is approximately 3,500m along strike, 350m down dip and between 20m and 300m across strike averaging around 70m across strike. This portion is partially a steeply dipping linear formation but with a complexly folded area to the North East. The linear portion is distinguished by a distinct high-grade Western Hanging-wall zone. - The Pyrite Hill portion of the deposit is an arc like formation some 1,000m along strike, 400m down dip and between 10m and 100m across strike.

Criteria	JORC Code Explanation	Commentary

Estimation and modelling techniques	▪ *The nature and appropriateness of the estimation technique(s) applied and key assumptions, including treatment of extreme grade values, domaining, interpolation parameters and maximum distance of extrapolation from data points. If a computer assisted estimation method was chosen include a description of computer software and parameters used.*
	▪ *The availability of check estimates, previous estimates and/or mine production records and whether the Mineral Resource estimate takes appropriate account of such data.*
	▪ *The assumptions made regarding recovery of by-products.*
	▪ *Estimation of deleterious elements or other non-grade variables of economic significance (eg sulphur for acid mine drainage characterisation).*
	▪ *In the case of block model interpolation, the block size in relation to the average sample spacing and the search employed.*
	▪ *Any assumptions behind modelling of selective mining units.*
	▪ *Any assumptions about correlation between variables.*
	▪ *Description of how the geological interpretation was used to control the resource estimates.*
	▪ *Discussion of basis for using or not using grade cutting or capping.*
	▪ *The process of validation, the checking process used, the comparison of model data to drill hole data, and use of reconciliation data if available.*
		▪ The wireframe geological modelling, database validation and compositing were carried out in the Leapfrog software package. The estimation and classification were completed in the Isatis software package. The final model is presented in the Surpac software package.
		▪ Three variables Co, Fe and S are highly correlated and have been Co-Kriged. Co-Kriging involves simultaneous fitting of variogram models to the three main variables and to three cross variograms and simultaneous estimation accounting for the spatial continuity of all three variables at once. This maintains the correlations between variable which are not necessarily honoured when independent Kriging is performed.
		▪ The orientations of both variograms and search ellipses is varied on a block by block basis. The orientations are controlled by the set of trend and fold wireframes. Each wireframe triangle centroid is assigned a dip and strike and these are estimated using a nearest neighbour estimate into the blocks prior to grade estimation.
		▪ Eleven domains are used all with hard boundaries to control geology, geometry and grade and ensure appropriate samples are selected for estimation. An additional transitional material domain was used at Pyrite Hill with a soft boundary into the fresh material.
		▪ No top cuts or caps are used for any of the variables as the grade distributions are not highly skewed and the estimate validated well without the need for cutting or capping.
		▪ Multivariate variography was completed for all domains with sufficient data. Given the folded nature of many of the domains and the use of local orientations, only three multivariate models were utilised for estimation. Two for the Pyrite Hill domain (North and South) and another for all of the remaining Big Hill and Railway domains.
		▪ 5m assay composites are used with residual short lengths less than 1m being incorporated and redistributed such that final composite lengths may be slightly shorter and longer than 5m. This length was chosen to be consistent with the 5m x 10m x 10m block dimensions and the assumed bulk mining approach.
		▪ Estimation utilised a single pass approach with interpolation end extrapolation limited by both optimum sample numbers controlled by sectors and by overall search ellipse distances. Search distances are anisotropic to the ratios of the search ellipse (5:1 cross strike, 1:1 down dip), that is samples are selected / prioritised within successively larger ellipses rather than by spherical distances. A minimum of 4 samples, an optimum of 8 composites and a maximum of 16 composites was used. A higher sample search with an optimum of 32 composites and maximum of 64 was tested, maximising the regression slopes and smoothing the estimate but this excessively smoothed the block distribution and did not reflect the true block variability and was not utilised in the final block model.
		▪ Block size used is 5m (east), 10m in (north) and 10m (elevation). This compares to an average drill spacing of between 25m and 60m along strike with average sample lengths of 1m combined with variogram ranges between 115m and 160m along strike, 70m to 80m down dip and 18m to 40m across strike. Variography shows moderate to low nugget effect.
		▪ Validation was completed by:
		  ▪ statistical comparisons to declustered composite averages per domain at zero cut off
		  ▪ statistical inspection of density, regression slopes, kriging efficiency, number of composites used
		  ▪ visual inspection of grades, regression slopes, kriging efficiency, number of composites used
		  ▪ comparison of grades and tonnages above cut off to previous estimates
		  ▪ swath plots
		  ▪ global change of support checks
		  ▪ maximum extrapolation for Inferred material is approximately 120m and averages around 80m.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr><td>Moisture</td><td>Whether the tonnages are estimated on a dry basis or with natural moisture, and the method of determination of the moisture content.</td><td>Tonnage and assays are on a dry basis.</td></tr>
<tr><td>Cut-off parameters</td><td>The basis of the adopted cut-off grade(s) or quality parameters applied.</td><td>
The current Mineral Resource has been reported at a cut-off of 275 ppm cobalt equivalent based on an assessment of material that has reasonable prospects of eventual economic extraction. Comparatively, the Ore Reserve cut-off grade is determined by calculating the net value per tonne (NSR) after applying recoveries, ore costs, product prices and selling costs. The cut-off net value per tonne (NVPT) is $0.00/tonne and expressed in terms of cobalt equivalency equates to 328 ppm CoEq considering current recoveries, ore costs, product prices and selling costs.
The cobalt equivalent grade has been derived from the following calculation; CoEq ppm = Co ppm + (S ppm × (S price / Co price) × (S recovery / Co recovery)).
Considering updated assumptions derived from the assessment of modifying factors supporting the 2020 Ore Reserve estimate, key inputs into this calculation have been adjusted since release of the 2019 Mineral Resource estimate. Accordingly, the revised cobalt equivalency formula equates to CoEq ppm = Co ppm + (S% × 16.74).
The parameters used for this calculation are listed below in comparison with the superseded 2019 inputs which equated to CoEq ppm = Co ppm + (S% × 22.235).

<p>Assumptions used for the cobalt equivalency calculation</p>
<table>
<tr><th>Assumption</th><th>Superseded 2019 Input</th><th>2020 Input</th></tr>
<tr><td>A$/US$ Exchange Rate</td><td>0.74</td><td>0.70</td></tr>
<tr><td>Cobalt Price</td><td>US$27/lb Co</td><td>US$25/lb Co</td></tr>
<tr><td>Sulphur Price</td><td>US$150/t</td><td>US$123/t</td></tr>
<tr><td>Cobalt Recovery</td><td>85%</td><td>85.5%</td></tr>
<tr><td>Sulphur Recovery</td><td>75%</td><td>64.4%</td></tr>
</table>

SRK has relied on Cobalt Blue’s assessment of the processing costs and cobalt recoveries and has not independently reviewed these aspects.
SRK is unaware of any other similar style of deposit that is at surface and amenable to open cut mining.
</td></tr>
</table>

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr>
<td>Mining factors or assumptions</td>
<td>- Assumptions made regarding possible mining methods, minimum mining dimensions and internal (or, if applicable, external) mining dilution. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential mining methods, but the assumptions made regarding mining methods and parameters when estimating Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the mining assumptions made.</td>
<td>- Open pit mining is assumed as the deposits outcrop at surface.
- Conceptual pit limit optimisations were completed on the 2018 Railway – Big Hill Mineral Resource and the 2019 Pyrite Hill Mineral Resource using Whittle Pit Limit Optimisation Software. A series of pit shells with a 1.3 revenue factor were subsequently used to constrain the reporting of the 2019 Mineral Resources, considering updated assumptions derived from the assessment of modifying factors supporting the 2020 Ore Reserve estimate.
- A comparison of key assumptions used for the generation of pit shells to constrain the reporting of Mineral Resources in 2019 and 2020 is provided below.
<table>
<tr><th>Assumption</th><th>Superseded 2019 Input</th><th>2020 Input</th></tr>
<tr><td>Mineral Resource Classifications</td><td>All classifications including unclassified</td><td>All classifications including unclassified</td></tr>
<tr><td>Whittle Model Base Setup</td><td>Mining One Model used for 2018 Ore Reserves</td><td>AMDAD Model used for 2020 Ore Reserves</td></tr>
<tr><td>Cobalt Price</td><td>US$27/lb Co</td><td>US$25/lb Co</td></tr>
<tr><td>Sulphur Price</td><td>US$150/t (mine gate price)</td><td>US$123/t (mine gate price)</td></tr>
<tr><td>Cobalt Recovery</td><td>85%</td><td>85.5%</td></tr>
<tr><td>Sulphur Recovery</td><td>75%</td><td>64.4%</td></tr>
<tr><td>A$/US$ Exchange Rate</td><td>0.74</td><td>0.70</td></tr>
<tr><td>Minimum Mining Width</td><td>No Minimum Mining Width Constraint</td><td>No Minimum Mining Width Constraint</td></tr>
</table>
</td>
</tr>
<tr>
<td>Metallurgical factors or assumptions</td>
<td>- The basis for assumptions or predictions regarding metallurgical amenability. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider potential metallurgical methods, but the assumptions regarding metallurgical treatment processes and parameters made when reporting Mineral Resources may not always be rigorous. Where this is the case, this should be reported with an explanation of the basis of the metallurgical assumptions made.</td>
<td>- Detailed metallurgical studies completed for the Preliminary Feasibility Study 2018 and Project Update 2020 have examined a processing pathway comprising four primary stages of ore treatment.
Summary
- The cobalt is present within a pyrite lattice as a solid solution iron replacement. The process is to crush and coarsely grind the ore and then produce a pyrite concentrate by conventional gravity/flotation. The pyrite concentrate is thermally converted to pyrrhotite and elemental sulphur by pyrolysis (roasting in an inert atmosphere, using commercially available kilns). The pyrrhotite is leached in an low temperature autoclave, with cobalt passing into the solution phase. Elemental sulphur is recovered from the kiln off-gas by condensation, and also from the leach residue by remelting. The leach solution is passed through various minor metal removal stages, and a cobalt-nickel mixed hydroxide precipitate is produced. The mixed hydroxide is further refined to produce high purity cobalt sulphate crystals. The final form of cobalt selected for production is cobalt sulphate heptahydrate crystals, which are readily marketable.
- The novel aspect of the proposed processing plant is the use of pyrolysis (to treat the pyrite concentrate) which avoids the production of SO2 and the costs of dealing with it. The technical risk of this is ameliorated by the selection of relatively small off-the-shelf kilns which are readily adapted to this use.
- COB is continuing to assess options for sales of the intermediate product of mixed hydroxide precipitates, or the refined cobalt sulphate heptahydrate, or both products. The Ore Reserve is based on cobalt sulphate heptahydrate. Any change to the product mix will be based on increasing value to the project.</td>
</tr>
</table>

Criteria	JORC Code Explanation	Commentary
Metallurgical factors or assumptions *(continued)*		- COB is constructing a pilot plant in Broken Hill to demonstrate the production of cobalt sulphate heptahydrate and to provide cobalt sulphate and sulphur samples for market testing and acceptance. **Concentration of Pyrite from Ore** - The mined ore is crushed to p80 ~ 800–900 um (p100 <1.2 mm) and passed over gravity spirals to produce a pyrite concentrate. The gravity tails are screened and the fines fraction (<125 um) is sent to a scavenger flotation circuit to recover any sulphides. The use of gravity spirals, takes advantage of the coarse pyrite grains (p80 200-800 um), and limits costs associated with crushing and milling the ore, as would be the case for a typical flotation circuit requiring feed at p80 100–200 um. - In the PFS 2018 testwork program, 820 kg of ore at 607 ppm Co, 7.94% Fe, 7.58% S & 59.84% SiO2 was trialled using a full-sized gravity spiral and a 14 L flotation cell. The recovery of cobalt to concentrate was 92%, at a grade of 3,326 ppm. The ore was tested on a continuous pilot basis. - In the Project Update 2020 testwork program, a 45 tonne pilot trial was completed producing a 7.7t concentrate sample. The head samples were RC chips obtained from the mineral deposits. The weighted feed grade was 1002 ppm Co, 10.54% Fe, 10.15% S. The recovery of cobalt to concentrate was 90.22%, with a grade of 4688 ppm Co. **Thermal Decomposition (Pyrolysis) Of Pyrite Concentrate** - The pyrite mineral is thermally decomposed into pyrrhotite and elemental sulphur by heating to 650–700°C. A nitrogen atmosphere is used to prevent any oxidation. The off-gas is collected, and cooled to recover the sulphur. - In the PFS 2018 testwork program, 100 kg of concentrate grading 3,326 ppm cobalt was processed in a custom-built rotary furnace. Variations in operating conditions were tested, with the best results showing that >95% of the pyrite could be converted into pyrrhotite along with the simultaneous recovery of 40% of the head sulphur. - In the Project Update 2020 testwork program, 166 kg of concentrate grading 4,100 ppm cobalt was processed in a continuously operated rotary kiln. The heated section of the kiln tube was 150 cm long. Variations in operating conditions were tested, with the best results showing that >98% of the pyrite could be converted into pyrrhotite along with the simultaneous recovery of 40% of the head sulphur. The 16 kg of elemental sulphur capture from the kiln offgas by condensation, was processed into prills which are readily marketable. The grade of sulphur prills was >99%. **Leaching and Production of Mixed Hydroxide Precipitate** - The artificial pyrrhotite is leached in a low-temperature (130°C) and pressure (10–15 bar) autoclave. The resulting leach residue is screened, and the coarse fraction is sent for sulphur recovery by distillation or remelting. The fines fraction is discarded as tails from the process plant. The resulting leach solutions are treated to remove iron, copper and zinc before precipitating the cobalt as a mixed hydroxide (along with nickel and manganese). - In the PFS 2018 testwork program, ~ 30 kg of calcine product from the furnace was leached in batches of 250g to 1kg. Variations in the operating conditions were tested, with the best results showing that 97-98% of the cobalt could be leached consistently from the pyrolysis calcine.

<table>
<thead>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
</thead>
<tbody>
<tr>
<td>Metallurgical factors or assumptions <i>(continued)</i></td>
<td></td>
<td>

In the Project Update 2020 testwork program, 45 kg of calcine product from the furnace was leached in 15 batches of 3 kg. Variations in the operating conditions were tested, with the best results showing that 97-98% of the cobalt could be leached consistently from the pyrolysis calcine. The leach solutions were combined, and processed for removal of iron, copper and zinc by various precipitation, ion-exchange and solvent-extraction circuits. A sample of mixed hydroxide precipitate was obtained with 38% cobalt grade and 7% nickel grade. Sulphur was separated from the leach residue by remelting, and the grade of the sulphur was shown to be >99.5%.

Refining of The Mixed Hydroxide Precipitate to Produce Cobalt Sulphate Crystals

The MHP is refined into high purity cobalt sulphate crystals by first leaching the MHP, then removing minor trace metals by a series of ion-exchange steps. The cobalt is separated, and concentrated, by a solvent extraction circuit, with the solvent extraction strip liquor advancing to an evaporative crystalliser.
In the PFS 2018 testwork program, variations on the ion-exchange and solvent extraction circuits were tested. The best conditions resulted in the production of cobalt sulphate heptahydrate grading ~20.5% with total impurities at ~800 ppm copper and 800 ppm manganese.
In the Project Update 2020 testwork program, variations on the ion-exchange and solvent extraction circuits were tested. The best conditions resulted in the production of cobalt sulphate heptahydrate grading >20.8% with total impurities as listed below

<table>
<thead>
<tr><th>Metal</th><th>Units</th><th>COB</th><th>AVG 9 producers</th></tr>
</thead>
<tbody>
<tr><td>Co</td><td>%</td><td>>20.8%</td><td>>20.5</td></tr>
<tr><td>Al</td><td>ppm</td><td>2</td><td><10</td></tr>
<tr><td>As</td><td>ppm</td><td><1</td><td><5</td></tr>
<tr><td>Ca</td><td>ppm</td><td><0.01</td><td><10 (can be up to 100)</td></tr>
<tr><td>Cd</td><td>ppm</td><td><0.001</td><td><10</td></tr>
<tr><td>Cr</td><td>ppm</td><td><0.01</td><td><5</td></tr>
<tr><td>Cu</td><td>ppm</td><td>1</td><td><10</td></tr>
<tr><td>Fe</td><td>ppm</td><td><1</td><td><10</td></tr>
<tr><td>K</td><td>ppm</td><td>0.6</td><td><5 (can be up to 100)</td></tr>
<tr><td>Mg</td><td>ppm</td><td>27</td><td><20 (can be up to 100)</td></tr>
<tr><td>Mn</td><td>ppm</td><td>5</td><td><10 (can be up to 100)</td></tr>
<tr><td>Na</td><td>ppm</td><td>128</td><td><20 (can be up to 100)</td></tr>
<tr><td>Ni</td><td>ppm</td><td><10</td><td><10 (can be up to 100)</td></tr>
<tr><td>Pb</td><td>ppm</td><td><0.05</td><td><10</td></tr>
<tr><td>Si</td><td>ppm</td><td><0.5</td><td><20</td></tr>
<tr><td>Zn</td><td>ppm</td><td><2</td><td><10</td></tr>
</tbody>
</table>

Further optimisation of the parameters for the ion-exchange circuits, is expected to reduce the magnesium and sodium content reporting to the cobalt sulphate in future testwork.

</td>
</tr>
</tbody>
</table>

Criteria	JORC Code Explanation	Commentary
Environmental factors or assumptions	- *Assumptions made regarding possible waste and process residue disposal options. It is always necessary as part of the process of determining reasonable prospects for eventual economic extraction to consider the potential environmental impacts of the mining and processing operation. While at this stage the determination of potential environmental impacts, particularly for a greenfields project, may not always be well advanced, the status of early consideration of these potential environmental impacts should be reported. Where these aspects have not been considered this should be reported with an explanation of the environmental assumptions made.*	- Estimation of sulphur values in the block model has been completed for waste material in order to estimate the component of potentially acid forming material. Sulphur (S) has been estimated in both the Resource and waste material where information is available. A background S value of 0.05% has been included where no assay information is available and where expected lithology types are typically below the 0.05% S value. - Further environmental factors and assumptions are described in **Section 4, Environmental.**
Bulk density	- *Whether assumed or determined. If assumed, the basis for the assumptions. If determined, the method used, whether wet or dry, the frequency of the measurements, the nature, size and representativeness of the samples.* - *The bulk density for bulk material must have been measured by methods that adequately account for void spaces (vugs, porosity, etc), moisture and differences between rock and alteration zones within the deposit.* - *Discuss assumptions for bulk density estimates used in the evaluation process of the different materials.*	- Bulk density has been determined using the Archimedes method (weigh in water weight in air). Some 1,527 core samples between 1.2m and 0.1m from across the deposit have been utilised. These samples are examined statistically to eliminate errors and outliers. The valid samples are then matched with the Co, Fe and S assay values for their respective intervals. Good linear regressions are obtained with all three elements. The final densities are assigned on a block by block basis using a linear regression derived from the combined Co Fe and S assays. The regression equation is: - Bulk density = 0.0143*(Co ppm /10000 + Fe % + S %) + 2.5722

Criteria	JORC Code Explanation	Commentary
Classification	- *The basis for the classification of the Mineral Resources into varying confidence categories.* - *Whether appropriate account has been taken of all relevant factors (ie relative confidence in tonnage/ grade estimations, reliability of input data, confidence in continuity of geology and metal values, quality, quantity and distribution of the data).* - *Whether the result appropriately reflects the Competent Person's view of the deposit.*	- Classification is based on the kriging regression slope with class surfaces created from viewing the regression slopes of the estimated blocks in section. Measured is defined as all Fresh material above a 0.8 kriging regression slope surface. Indicated is defined as all material above the 0.5 kriging regression slope surface together with all Transition material. Inferred is defined as all material above the 0 kriging regression slope surface and below the 0.5 kriging regression slope surface. - The classification reflects the Competent Person's view of the deposit.
Audits or reviews	- *The results of any audits or reviews of Mineral Resource estimates.*	- No audits or external reviews of the Mineral Resource have been completed to date.
Discussion of relative accuracy/ confidence	- *Where appropriate a statement of the relative accuracy and confidence level in the Mineral Resource estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the resource within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors that could affect the relative accuracy and confidence of the estimate.* - *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* - *These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	- Accuracy and confidence in the estimation is expressed by the Measured, Indicated and Inferred classification applied. No additional confidence measures have been estimated or applied. - Global change of support calculations indicate that the estimate for Railway and Big Hill still contains an amount of smoothing that may be underestimating the grade and overestimating the tonnage above Co 500ppm in the order of 5% to 10%. The Railway and Big Hill current estimate is therefore a compromise between local block and global grade and tonnage accuracy which is considered appropriate in the Competent Person's view and experience. - Global change of support calculations indicate that the estimate for Pyrite Hill still contains a small amount of smoothing that may be overestimating the tonnage above Co 500ppm in the order of 5%. The current estimate is therefore considered to be globally robust at the current level of drilling density (approximately 40m x 40m in Measured areas). - No mining or production has taken place.

Section 4 Estimation and Reporting of Ore Reserves

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

Criteria	JORC Code Explanation	Commentary

Mineral Resource estimate for conversion to Ore Reserves	▪ *Description of the Mineral Resource estimate used as a basis for the conversion to an Ore Reserve.*
	▪ *Clear statement as to whether the Mineral Resources are reported additional to, or inclusive of, the Ore Reserves.*
		▪ The Ore Reserve estimate is based on the Mineral Resource estimate prepared by SRK Consulting in April 2019. The Surpac Mineral Resource block models provided by COB are:
		  ▪ Pyrite Hill – ph2019.mdl, and
		  ▪ Railway / Big Hill – rwbh2019.mdl.
		▪ The Mineral Resource is inclusive of the Ore Reserve.

Site visits	▪ *Comment on any site visits undertaken by the Competent Person and the outcome of those visits.*
	▪ *If no site visits have been undertaken indicate why this is the case.*
		▪ The Competent Person of the Ore Reserves, John Wyche, has not visited the site due to travel restrictions in the first half of 2020 caused by the COVID19 pandemic.
		▪ In lieu of a site visit Mr Wyche:
		  ▪ Held discussions with COB exploration, mining, environmental/ permitting and infrastructure personnel and consultants,
		  ▪ Viewed photographs of the site,
		  ▪ Examined drainage and general topography from surface models and satellite imagery,
		  ▪ Researched current status on the NSW MinView site and through COB public announcements.
		▪ The Broken Hill Cobalt Project is a greenfields site on relatively flat ground in an arid environment. At the time of preparing this statement no physical, social or environmental issues have been identified with significant risk of preventing development of the proposed project. It is readily accessible from the regional centre of Broken Hill. Although a site visit is normally desirable, the nature of the undeveloped BHCP site at this time is unlikely to provide much more information relevant to the mine plan and Ore Reserve.

Study status	▪ *The type and level of study undertaken to enable Mineral Resources to be converted to Ore Reserves.* ▪ *The Code requires that a study to at least Pre-Feasibility Study level has been undertaken to convert Mineral Resources to Ore Reserves. Such studies will have been carried out and will have determined a mine plan that is technically achievable and economically viable, and that material Modifying Factors have been considered.*	▪ The June 2020 Ore Reserve is an update of the July 2018 Ore Reserve which was based on the June 2018 Pre-feasibility level study. That Study was updated in the first half of 2020 with current metallurgical test work, cost estimates, cobalt and sulphur price forecasts and social, environmental and permitting assessments. The Project Update 2020 is at a Pre-feasibility level.

Criteria	JORC Code Explanation	Commentary

Cut-off parameters	- *The basis of the cut-off grade(s) or quality parameters applied.*	- The Broken Hill Cobalt Project is designed to produce revenue from cobalt and sulphur sales. While cobalt and sulphur are closely correlated through the deposit there is some variability. Added to this are changing forecasts for cobalt and sulphur prices over time and improved estimates of cobalt and sulphur recovery in the proposed process. In order to provide a consistent metric which accounts for all the factors affecting revenue from both products the cut off grade is based on Net Value per Tonne (NVPT) where:
		NVPT = Net revenue from sales of all products – Ore related costs
		for 1 tonne of material from the mined from the pit.
		- Ore related costs include:
		  - Any additional costs of mining a tonne of material as ore instead of waste,
		  - Process costs, and
		  - Site general and administration costs.
		- The cut off grade in NVPT is where the net sales value of recovered products just equals the ore costs. That is, NVPT = \$0.00/ ROM tonne.
		- To provide context to the NVPT cut off against the Mineral Resource Estimate which was reported at a 275 ppm CoEq cut off, the current recovery, process cost and price inputs equate NVPT = \$0.00/ ROM tonne to 328 ppm CoEq.

Mining factors or assumptions	- *The method and assumptions used as reported in the Pre-Feasibility or Feasibility Study to convert the Mineral Resource to an Ore Reserve (i.e. either by application of appropriate factors by optimisation or by preliminary or detailed design).*
	- *The choice, nature and appropriateness of the selected mining method(s) and other mining parameters including associated design issues such as pre-strip, access, etc.*
	- *The assumptions made regarding geotechnical parameters (e.g. pit slopes, stope sizes, etc), grade control and pre-production drilling.*
	- *The major assumptions made, and Mineral Resource model used for pit and stope optimisation (if appropriate).*
	- *The mining dilution factors used.*
	- *The mining recovery factors used.*
	- *Any minimum mining widths used.*
	- *The manner in which Inferred Mineral Resources are utilised in mining studies and the sensitivity of the outcome to their inclusion.*
	- *The infrastructure requirements of the selected mining methods.*
		- Mining is proposed by opencut methods using conventional 200t and 400t hydraulic excavators with 220t rigid body dump trucks. Almost all ore and waste will require blasting. The mining method is suitable because:
		  - The ore outcrops at surface,
		  - The mineralisation and host rocks are competent enough to stand deep pit walls at relatively steep slopes,
		  - The pits are large enough to allow efficient operation for the size of equipment proposed,
		  - The surrounding topography is flat and there are no major physical or permitting constraints to the pits or waste rock dumps, and
		  - The mineralisation has sufficient width and continuity to be mined at the required rates and with adequate selectivity.
		- Mining loss and dilution was modelled by re-blocking the resource block models to a mining unit size consistent with practical mining constraints at the required production rate. The resource block models were estimated at a parent block size of 5m (east), 10m in (north) and 10m (elevation) then sub-blocked against interpreted domain boundaries to a minimum block size of 1.25m (east), 2.5m in (north) and 2.5m (elevation). The mining model re-blocked the sub-blocked resource model to a regular size of 2.5m (east), 5m in (north) and 5m (elevation). This has the effect of diluting blocks along the margins of the estimated mineralisation with dilution most apparent in thin zones such as the complex areas in Railway. For a new project with no operating history to reconcile against it provides a means of assessing how mining will perform in extracting the modelled resource across the varying shape, width and orientation of the orebodies.
		- The pit designs and the Ore Reserves are based on pit optimisations run on Measured and Indicated resources only with Inferred resources treated as waste rock.

Criteria	JORC Code Explanation	Commentary
Mining factors or assumptions *(continued)*		- Pit wall slopes for the pit optimisation and designs are based on thorough geotechnical assessments conducted in 2018 and 2019. - The pit optimisation used process recoveries, operating costs and product price forecasts from the 2020 Project Status Update. Cost updates for mining and processing are based mainly on 2020 vendor quotations with some minor costs based on generic cost databases and industry standards. - The PFS 2018 and the Project Update 2020 include all infrastructure requirements for the mining and processing operations. In particular the project has access to a water supply and grid power. The Broken Hill Cobalt Project is 20km outside Broken Hill and is immediately adjacent to the Broken Hill to Port Pirie Railway and the Barrier Highway.
Metallurgical factors or assumptions	- *The metallurgical process proposed and the appropriateness of that process to the style of mineralisation.* - *Whether the metallurgical process is well-tested technology or novel in nature.* - *The nature, amount and representativeness of metallurgical test work undertaken, the nature of the metallurgical domaining applied and the corresponding metallurgical recovery factors applied.* - *Any assumptions or allowances made for deleterious elements.* - *The existence of any bulk sample or pilot scale test work and the degree to which such samples are considered representative of the orebody as a whole.* - *For minerals that are defined by a specification, has the ore reserve estimation been based on the appropriate mineralogy to meet the specifications?*	- Detailed metallurgical studies completed for the Preliminary Feasibility Study 2018 and Project Update 2020 have examined a processing pathway comprising four primary stages of ore treatment. **Summary** - The cobalt is present within a pyrite lattice as a solid solution iron replacement. The process is to crush and coarsely grind the ore and then produce a pyrite concentrate by conventional gravity/flotation. The pyrite concentrate is thermally converted to pyrrhotite and elemental sulphur by pyrolysis (roasting in an inert atmosphere, using commercially available kilns). The pyrrhotite is leached in an low temperature autoclave, with cobalt passing into the solution phase. Elemental sulphur is recovered from the kiln off-gas by condensation, and also from the leach residue by remelting. The leach solution is passed through various minor metal removal stages, and a cobalt-nickel mixed hydroxide precipitate is produced. The mixed hydroxide is further refined to produce high purity cobalt sulphate crystals. The final form of cobalt selected for production is cobalt sulphate heptahydrate crystals, which are readily marketable. - The novel aspect of the proposed processing plant is the use of pyrolysis (to treat the pyrite concentrate) which avoids the production of SO2 and the costs of dealing with it. The technical risk of this is ameliorated by the selection of relatively small off-the-shelf kilns which are readily adapted to this use. - COB is continuing to assess options for sales of the intermediate product of mixed hydroxide precipitates, or the refined cobalt sulphate heptahydrate, or both products. The Ore Reserve is based on cobalt sulphate heptahydrate. Any change to the product mix will be based on increasing value to the project. - COB is constructing a pilot plant in Broken Hill to demonstrate the production of cobalt sulphate heptahydrate and to provide cobalt sulphate and sulphur samples for market testing and acceptance. **Concentration of Pyrite from Ore** - The mined ore is crushed to p80 ~ 800–900 um (p100 <1.2 mm) and passed over gravity spirals to produce a pyrite concentrate. The gravity tails are screened and the fines fraction (<125 um) is sent to a scavenger flotation circuit to recover any sulphides. The use of gravity spirals, takes advantage of the coarse pyrite grains (p80 200-800 um), and limits costs associated with crushing and milling the ore, as would be the case for a typical flotation circuit requiring feed at p80 100–200 um.

Criteria	JORC Code Explanation	Commentary
Metallurgical factors or assumptions *(continued)*		▪ In the PFS 2018 testwork program, 820 kg of ore at 607 ppm Co, 7.94% Fe, 7.58% S & 59.84% SiO2 was trialled using a full-sized gravity spiral and a 14 L flotation cell. The recovery of cobalt to concentrate was 92%, at a grade of 3,326 ppm. The ore was tested on a continuous pilot basis. ▪ In the Project Update 2020 testwork program, a 45 tonne pilot trial was completed producing a 7.7t concentrate sample. The head samples were RC chips obtained from the mineral deposits. The weighted feed grade was 1002 ppm Co, 10.54% Fe, 10.15% S. The recovery of cobalt to concentrate was 90.22%, with a grade of 4688 ppm Co. **Thermal Decomposition (Pyrolysis) Of Pyrite Concentrate** ▪ The pyrite mineral is thermally decomposed into pyrrhotite and elemental sulphur by heating to 650–700°C. A nitrogen atmosphere is used to prevent any oxidation. The off-gas is collected, and cooled to recover the sulphur. ▪ In the PFS 2018 testwork program, 100 kg of concentrate grading 3,326 ppm cobalt was processed in a custom-built rotary furnace. Variations in operating conditions were tested, with the best results showing that >95% of the pyrite could be converted into pyrrhotite along with the simultaneous recovery of 40% of the head sulphur. ▪ In the Project Update 2020 testwork program, 166 kg of concentrate grading 4,100 ppm cobalt was processed in a continuously operated rotary kiln. The heated section of the kiln tube was 150 cm long. Variations in operating conditions were tested, with the best results showing that >98% of the pyrite could be converted into pyrrhotite along with the simultaneous recovery of 40% of the head sulphur. The 16 kg of elemental sulphur capture from the kiln offgas by condensation, was processed into prills which are readily marketable. The grade of sulphur prills was >99%. **Leaching and Production of Mixed Hydroxide Precipitate** ▪ The artificial pyrrhotite is leached in a low-temperature (130°C) and pressure (10–15 bar) autoclave. The resulting leach residue is screened, and the coarse fraction is sent for sulphur recovery by distillation or remelting. The fines fraction is discarded as tails from the process plant. The resulting leach solutions are treated to remove iron, copper and zinc before precipitating the cobalt as a mixed hydroxide (along with nickel and manganese). ▪ In the PFS 2018 testwork program, ~ 30 kg of calcine product from the furnace was leached in batches of 250g to 1kg. Variations in the operating conditions were tested, with the best results showing that 97-98% of the cobalt could be leached consistently from the pyrolysis calcine. ▪ In the Project Update 2020 testwork program, 45 kg of calcine product from the furnace was leached in 15 batches of 3 kg. Variations in the operating conditions were tested, with the best results showing that 97-98% of the cobalt could be leached consistently from the pyrolysis calcine. The leach solutions were combined, and processed for removal of iron, copper and zinc by various precipitation, ion-exchange and solvent-extraction circuits. A sample of mixed hydroxide precipitate was obtained with 38% cobalt grade and 7% nickel grade. Sulphur was separated from the leach residue by remelting, and the grade of the sulphur was shown to be >99.5%.

Criteria	JORC Code Explanation	Commentary
Metallurgical factors or assumptions *(continued)*		**Refining of The Mixed Hydroxide Precipitate to Produce Cobalt Sulphate Crystals**

- The MHP is refined into high purity cobalt sulphate crystals by first leaching the MHP, then removing minor trace metals by a series of ion-exchange steps. The cobalt is separated, and concentrated, by a solvent extraction circuit, with the solvent extraction strip liquor advancing to an evaporative crystalliser.
- In the PFS 2018 testwork program, variations on the ion-exchange and solvent extraction circuits were tested. The best conditions resulted in the production of cobalt sulphate heptahydrate grading ~20.5% with total impurities at ~800 ppm copper and 800 ppm manganese.
- In the Project Update 2020 testwork program, variations on the ion-exchange and solvent extraction circuits were tested. The best conditions resulted in the production of cobalt sulphate heptahydrate grading >20.8% with total impurities as listed below

Metal	Units	COB	AVG 9 producers
Co	%	>20.8%	>20.5
Al	ppm	2	<10
As	ppm	<1	<5
Ca	ppm	<0.01	<10 (can be up to 100)
Cd	ppm	<0.001	<10
Cr	ppm	<0.01	<5
Cu	ppm	1	<10
Fe	ppm	<1	<10
K	ppm	0.6	<5 (can be up to 100)
Mg	ppm	27	<20 (can be up to 100)
Mn	ppm	5	<10 (can be up to 100)
Na	ppm	128	<20 (can be up to 100)
Ni	ppm	<10	<10 (can be up to 100)
Pb	ppm	<0.05	<10
Si	ppm	<0.5	<20
Zn	ppm	<2	<10

- Further optimisation of the parameters for the ion-exchange circuits, is expected to reduce the magnesium and sodium content reporting to the cobalt sulphate in future testwork.

Criteria	JORC Code Explanation	Commentary

Environmental	- *The status of studies of potential environmental impacts of the mining and processing operation. Details of waste rock characterisation and the consideration of potential sites, status of design options considered and, where applicable, the status of approvals for process residue storage and waste dumps should be reported.*	- The NSW Department of Planning, Industry and Environment issued the Planning Secretary's Environmental Assessment Requirements (SEARs) in February 2020. This document sets out the requirements for the project Environmental Impact Study (EIS). COB was already well advanced on many of the areas to be covered in the EIS but the SEARs formally sets out the requirements. COB's project development schedule includes completion of the EIS in the second half of 2021 to ahead of completion of the Feasibility Study, final approvals and Investment decision in the first half of 2022.
		- Some of the key issues addressed so far include:
		  - Waste management and acid mine drainage. Waste and tailings characterisation work has identified the potentially acid forming materials and a preliminary containment strategy has been developed for co-disposal of the tailings with the mine waste rock as an Integrated Waste Landform (IWL).
		  - A preliminary ecological assessment of the project area has been undertaken that included a desktop information review and targeted seasonal surveys. The surveys were conducted in October 2017, November - December 2017, and April 2018. Two Endangered Ecological Communities were identified, neither to be disturbed. One listed flora species was identified which will not disturbed. Five listed fauna species. One, the Barrier Range Dragon, likely to be impacted. To minimise the impacts on the endangered Barrier Range Dragon, a biodiversity offset will be required where either an area of land containing suitable habitat is set aside for biodiversity purposes, or a payment into a fund for the management of the Barrier Range Dragon is made.
		  - Following a search of the Aboriginal Heritage Information Management System database archaeological field surveys were conducted in May and September 2018. A range of artefacts and potential sites were identified. The SEARs set out the requirements for an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, including adequate consultation with the local Aboriginal community having regard to the Aboriginal Cultural Heritage Consultation Requirements for Proponents (OEH, 2010), and a Statement of Heritage Impact (SOHI), prepared by a suitably qualified heritage consultant in accordance with the guidelines in the NSW Heritage Manual.

Infrastructure	- *The existence of appropriate infrastructure: availability of land for plant development, power, water, transportation (particularly for bulk commodities), labour, accommodation; or the ease with which the infrastructure can be provided or accessed.*	- Definition and cost estimation for all infrastructure to support the project has been completed to at least Pre-feasibility level. Two key elements include:
		  - Commitment from Essential Water to provide up to 1.5 GL per year from the new Murray River to Broken Hill pipeline.
		  - Connection to grid power via a 20km powerline to Broken Hill to be constructed by COB.
		- These features add to the existing infrastructure framework which includes proximity to the mining community of Broken Hill and the nearby Broken Hill to Port Pirie railway and the Barrier Highway.
		- Other infrastructure items such as mine workshops, site electricity and power reticulation, site drainage management and communications are included in the Pre-feasibility model.

Criteria	JORC Code Explanation	Commentary
Costs	- *The derivation of, or assumptions made, regarding projected capital costs in the study.* - *The methodology used to estimate operating costs.* - *Allowances made for the content of deleterious elements.* - *The source of exchange rates used in the study.* - *Derivation of transportation charges.* - *The basis for forecasting or source of treatment and refining charges, penalties for failure to meet specification, etc.* - *The allowances made for royalties payable, both Government and private.*	- Project capital and operating costs have been estimated to Pre-feasibility level. - Mining costs are estimated for owner on a "first principles" basis using equipment vendor quotes, explosives supply quotes, wages based on current mining award rates, salaries based on a current mining salary survey, current fuel prices and some mining industry standard costs. - Process and infrastructure operating and capital costs are based on a mix of vendor quotes for major items and industry accepted rates. - Site general and administration costs are estimated based on a "first principles" cost estimate. The labour rates are sourced from operations of similar nature and size. - Financial models include the NSW state government royalty.

Revenue factors	- *The derivation of, or assumptions made regarding revenue factors including head grade, metal or commodity price(s) exchange rates, transportation and treatment charges, penalties, net smelter returns, etc.*
	- *The derivation of assumptions made of metal or commodity price(s), for the principal metals, minerals and co-products.*
		- COB's price forecasts for cobalt and sulphur are based on recent releases set by COB's cobalt industry peers and internal research and discussions with potential sulphur customers.
		  - Cobalt – US$25/lb
		  - Sulphur – A$175/tonne
		- Prices are estimated at the mine gate, freight costs are estimated to be $AUD129/t cobalt sulphate.

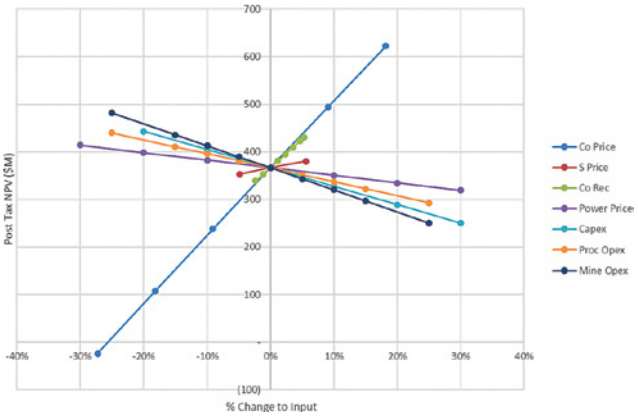
Market assessment	- *The demand, supply and stock situation for the particular commodity, consumption trends and factors likely to affect supply and demand into the future.* - *A customer and competitor analysis along with the identification of likely market windows for the product.* - *Price and volume forecasts and the basis for these forecasts.* - *For industrial minerals the customer specification, testing and acceptance requirements prior to a supply contract.*	- COB has options to produce and sell cobalt in either mixed hydroxide precipitates (MHP) with 50% to 80% payability on the contained cobalt or very pure cobalt sulphate heptahydrate with 90% to 110% payability. The current Ore Reserve is based on cobalt sulphate to meet expected growth of battery demand, especially for electric vehicles. Potential markets include existing battery manufacturers outside Australia and there is significant interest in developing domestic battery manufacturing capability provided a reliable long term source of cobalt sulphate. The Broken Hill Cobalt Project fits this role. - The Ore Reserve will support production 3,500 to 4,000 tonnes of cobalt in cobalt sulphate per year for 11 years. - A key element of COB's patented process is the production of elemental sulphur rather than sulphuric acid which is produced in conventional roaster based process routes. As well as having much less environmental impact elemental sulphur is much cheaper and easier to transport than sulphuric acid. Expanding markets for elemental sulphur in Australia include fertiliser production and mining applications requiring sulphuric acid which can be produced from the elemental sulphur. - The Ore Reserve will support production of 250 kt to 300 kt of elemental sulphur per year for 12 years. - If further drilling improves confidence in the Inferred Mineral Resources, mine planning studies show potential to extend production in excess of 15 years.

<table>
<tr><th>Criteria</th><th>JORC Code Explanation</th><th>Commentary</th></tr>
<tr>
<td>Economics</td>
<td>

- *The inputs to the economic analysis to produce the net present value (NPV) in the study, the source and confidence of these economic inputs including estimated inflation, discount rate, etc.*
- *NPV ranges and sensitivity to variations in the significant assumptions and inputs*

</td>
<td>

- COB's financial model provides pre and post-tax NPV estimates along with sensitivity analyses on key factors.



- The sensitivity chart based on base case inputs from the final financial model shows the after tax NPV remains positive over a wide range of changes to the inputs. The project is most sensitive to changes in cobalt price and recovery.

</td>
</tr>
<tr>
<td>Social</td>
<td>

- *The status of agreements with key stakeholders and matters leading to social licence to operate.*

</td>
<td>

- The SEARs set out requirements for assessment of socio-economic impacts on the Broken Hill community and impacts on current agricultural land use in the EIS.
- Work to date by COB indicates positive impacts for Broken Hill by way of employment and investment in local facilities. Negative impacts of the mining operation are mitigated by the project being 20km from the town.
- The EIS will assess impacts on the current land use of sheep grazing.
- A Native Title area included in the Barkandji No 8 Determination covers part of the Big Hill deposit. COB is seeking to determine how this area of Native Title can work with the mining operation. At the time of preparing the Ore Reserve the claim only affects the Big Hill South pit.

</td>
</tr>
</table>

Criteria	JORC Code Explanation	Commentary

Other	- *To the extent relevant, the impact of the following on the project and/or on the estimation and classification of the Ore Reserves:*
	- *Any identified material naturally occurring risks.*
	- *The status of material legal agreements and marketing arrangements.*
	- *The status of governmental agreements and approvals critical to the viability of the project, such as mineral tenement status, and government and statutory approvals. There must be reasonable grounds to expect that all necessary Government approvals will be received within the timeframes anticipated in the Pre-Feasibility or Feasibility study. Highlight and discuss the materiality of any unresolved matter that is dependent on a third party on which extraction of the reserve is contingent.*
		- The project does not yet have firm agreements with customers for the cobalt sulphate or sulphur products. The project is well placed to supply a future domestic battery manufacturing hub but this capability does not yet exist. If Australian battery production does not proceed in the short term the cobalt products can be sold into international markets. Mitigating factors for market risk include:
		  - Australia is a stable source of supply when compared with other sources such as the DRC.
		  - Most forecasts predict increasing demand for cobalt driven largely by a strong uptake in electric vehicles in China and increasingly other regions.
		  - Production of elemental sulphur presents a unique opportunity to cost effectively deliver sulphur to markets around Australia where sulphuric acid has been too expensive in the past. This not only makes the sulphur saleable but removes sulphuric acid as a an expensive and environmentally hazardous by-product of cobalt production.
		- COB has identified the permitting requirements through to final approvals in 2022. Issue of the SEAR by the NSW DPIE has allowed commencement of the EIS as one of the first major steps in the permitting process.
		- COB is actively engaged with the NSW government through an application for recognition as a State Significant Development.
		- Impact of Native Title over part of Big Hill is yet to be analysed in detail under the current assumptions, however the pit supplies up to 10% of cobalt from the project in the current mine plan, meaning that 90% of cobalt production is from alternate areas.

Classification	- *The basis for the classification of the Ore Reserves into varying confidence categories.*
	- *Whether the result appropriately reflects the Competent Person's view of the deposit.*
	- *The proportion of Probable Ore Reserves that have been derived from Measured Mineral Resources (if any).*
		- The entire Ore Reserve is classified as Probable.
		- Most of the Ore Reserve is derived from Indicated Resources and cannot be classed as any higher confidence than Probable.
		- 25% of the Ore Reserve tonnes including 32% of the contained cobalt and sulphur are derived from Measured Resources but have been classified as Probable instead of Proved Ore Reserves. The JORC Code 2012 states "A Proved Ore Reserve implies a high degree of confidence in the Modifying Factors" and provides for conversion of Measured Resources to Probable Ore Reserves where there is insufficient confidence in the Modifying Factors to support a Proved Ore Reserve.
		- While the Measured Resources have a high degree of geological confidence, in the opinion of the Competent Person for the Ore Reserves, John Wyche, some of the modifying factors at the current Prefeasibility level are not yet defined with a high enough degree of confidence to support a Proved Ore Reserve. In particular:
		  - The process performance is still to be proven at the pilot plant scale and there is still some uncertainty about the markets the cobalt and sulphur will be sold into and the prices that will be realised. Performance of the demonstration plant in 2021 should help to improve confidence in the process, product quality and marketability.
		  - The EIS has only just commenced. The operational impacts and costs of issues to be covered in the EIS are yet to be confirmed.
		  - A management plan for acid rock drainage is included in the 2020 Project Status Update but will require further work to confirm that it will be approved as part of the Environmental Authority for the project.

Criteria	JORC Code Explanation	Commentary
Classification *(continued)*		- A small area covered by Native Title remains over Big Hill South. It is not yet confirmed what effect this will have on Big Hill South. While there are no Measured Resources at Big Hill South if this pit were excluded from the mine plan it is not clear what the effect on the overall project development would be. - The current inputs are considered reasonable at a Pre-Feasibility level of detail. However, further definition is required to achieve the high level of confidence required by a Proved Ore Reserve.
Audit or Reviews	- *The results of any audits or reviews of Ore Reserve estimates.*	- No audits of the Ore Reserves have been undertaken.
Discussion of relative accuracy/ confidence	- *Where appropriate a statement of the relative accuracy and confidence level in the Ore Reserve estimate using an approach or procedure deemed appropriate by the Competent Person. For example, the application of statistical or geostatistical procedures to quantify the relative accuracy of the reserve within stated confidence limits, or, if such an approach is not deemed appropriate, a qualitative discussion of the factors which could affect the relative accuracy and confidence of the estimate.* - *The statement should specify whether it relates to global or local estimates, and, if local, state the relevant tonnages, which should be relevant to technical and economic evaluation. Documentation should include assumptions made and the procedures used.* - *Accuracy and confidence discussions should extend to specific discussions of any applied Modifying Factors that may have a material impact on Ore Reserve viability, or for which there are remaining areas of uncertainty at the current study stage.* - *It is recognised that this may not be possible or appropriate in all circumstances. These statements of relative accuracy and confidence of the estimate should be compared with production data, where available.*	- From a Mineral Resource perspective confidence is commensurate with Measured and Indicated Resources with respect to the cobalt and sulphur grade distribution and structure. - The proposed opencut mining method is conventional and well understood. Reliability of the mining models is mainly dependent on the Mineral Resource model. - While the processing methods are new, they have been tested at bench scale and the flotation concentration has been tested at pilot plant scale. A pilot plant to test pyrolysis and leaching and provide samples for market acceptance is due to be commissioned in order to test the process at a larger scale. - Given the current status of the Mineral Resource model and operations plan the Ore Reserve should be a very good global estimate and a good local estimate in the areas of Measured Resources. Short term variations from the tonnes and grades predicted by the resource model are likely in any new mining operation, particularly in areas of Indicated Resources, but given the well defined geology it is reasonable to expect that operating experience will assist rapid development of reliable short term plans. Partially weathered material is present near surface in each deposit, and greater fluctuations in grade may be expected when this material is processed. - At the current Prefeasibility level of confidence and given the test work to date it is reasonable to expect that the mine will reliably deliver the estimated Ore Reserve and that the concentrate will be produced as forecast. The Broken Hill pilot plant is designed to confirm and refine the pyrolysis and leaching stages and to provide cobalt sulphate and sulphur samples to improve confidence in market acceptance of the products. When that is established the technical viability of the project will be demonstrated from Resource to product with a high level of confidence.