

## COBALT BLUE HOLDINGS LTD (COB)

**INITIATION: On track to become the #1 cobalt exposure on the ASX**

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**Date** 9 March 2021

We say

Price

Target

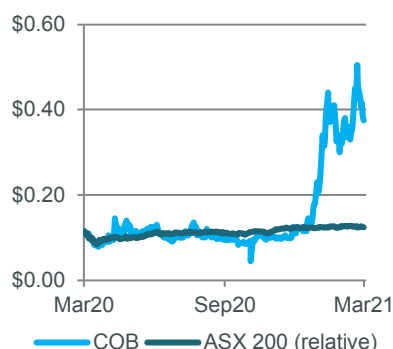
Strategic Target

# SPEC BUY

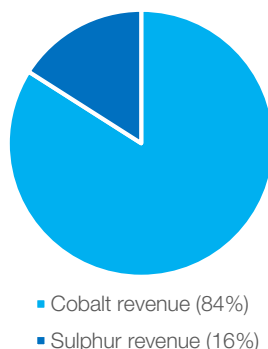
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Cobalt Blue is developing the Broken Hill Cobalt Project, located ~23km west of Broken Hill in NSW and in our view is on track to become the #1 cobalt exposure on the ASX. The Company is on the cusp of first production from its Pilot Plant in Broken Hill which will enable it to send samples to 30 global groups interested in offtake and/or partner style arrangements. With over 80% of projected revenue from cobalt, COB is one of the best listed exposures to rising cobalt prices globally.

### SHARE PRICE CHART



### FORECAST REVENUE SPLIT



### COMPANY DATA & RATIOS

Enterprise value	\$85m
Diluted market cap*	\$95m
Diluted shares*	257m
Free float	100%
12-month price range	\$0.08-0.52
GICS sector	Diversified Metals & Mining
Board/Management holds ~5%.	
*Diluted for 8.8m options	

### IMPLIED RETURN

Implied potential return	83%
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## THE BROKEN HILL COBALT PROJECT

Cobalt Blue's flagship project is the Broken Hill Cobalt Project (BHCP), which represents a large-scale, low-cost source of ethically-derived cobalt. BHCP is expected to produce 3.55ktpa of cobalt metal, at an attractive All-in Sustaining Cost of ~US\$12-13/lb. Initial capex is expected to be A\$560m, representing a capital intensity 3-4x lower than many comparable peers (see p17)

## ADDITIONAL REVENUE STREAMS VIA PROCESSING TECH

Cobalt Blue has developed its own patented processing technology to extract cobalt from cobalt-bearing pyrites. The Company is working with a number of processing partners and is hoping to create additional revenue streams by applying its processing technology to other projects with cobalt-bearing pyrite (see p18).

## INITIATE WITH SPEC BUY, 75C PRICE TARGET

We initiate on Cobalt Blue with a Spec Buy rating and 75c Price Target, an implied potential return of 83%. Our Price Target is based on a DCF for BHCP using the Company's latest study assumptions released in July 2020. Our NPV is based on US\$30/lb cobalt and an A\$/US\$ of 0.75. We also assume a sell down of 25% of BHCP and include a 50% discount to NPV to account for risk and future dilution.

# CONTENTS

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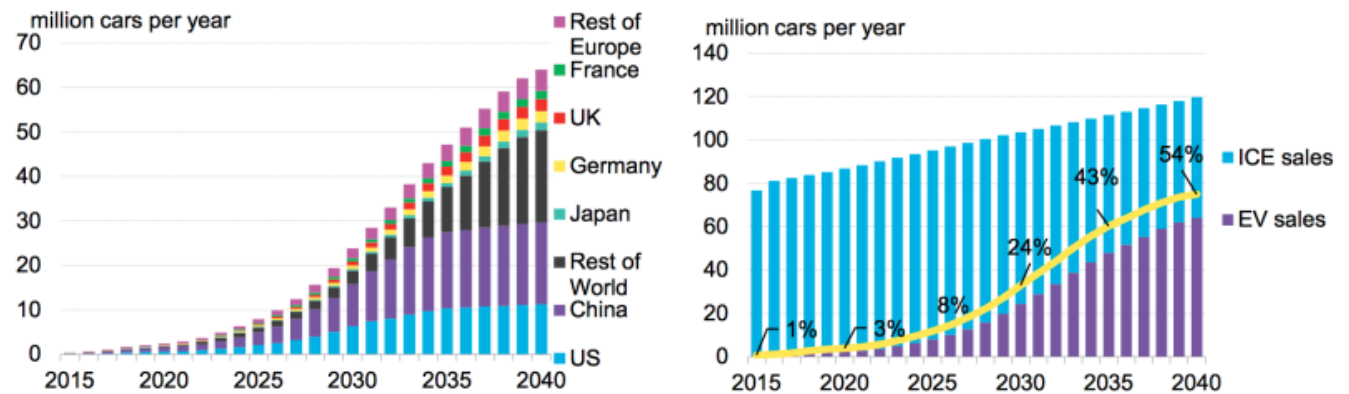
<b>INVESTMENT THESIS</b>	<b>3</b>
Macro: A Strong Outlook for Cobalt	3
Stock Specific: Why Cobalt Blue?	4
<b>COMPANY OVERVIEW</b>	<b>5</b>
<b>A BRIEF HISTORY OF COBALT BLUE</b>	<b>6</b>
<b>THE BROKEN HILL COBALT PROJECT</b>	<b>6</b>
A Brief History of the Broken Hill Cobalt Project	7
Reserves & Resources	8
Process Flowsheet	9
Processing Testwork	10
Project Update July 2020	11
Potential Nickel Credit	12
Scope for Material Project Improvements	12
Development Timeline	13
Strategic Partners	13
Critical Minerals & Government Initiatives	14
Potential Green Applications	14
Pilot Plant – First Production Due Shortly	15
Excellent Infrastructure	16
Superior Capital Intensity	17
<b>PATENTED PROCESSING TECHNOLOGY</b>	<b>18</b>
Potential to add revenue streams via processing partners	18
<b>INVESTMENT PROPOSITION</b>	<b>19</b>
Base Case Valuation	19
Base Case Sensitivity	19
Upside Case Valuation	20
Upside Case Sensitivity	20
Takeout Value Per Pound of Cobalt Production	21
Price Target & Rating	22
Strategic Target	22
Key Risks	22
Model Summary: Financials & Valuation	23
<b>BOARD &amp; MANAGEMENT</b>	<b>24</b>

## INVESTMENT THESIS

### MACRO: A STRONG OUTLOOK FOR COBALT

Cobalt is a key input in lithium-ion batteries and demand is expected to increase rapidly over the next decade as the uptake of Electric Vehicles (EVs) accelerates. There are a large number of independent sources predicting EV uptake rates similar to BNEF's view below:

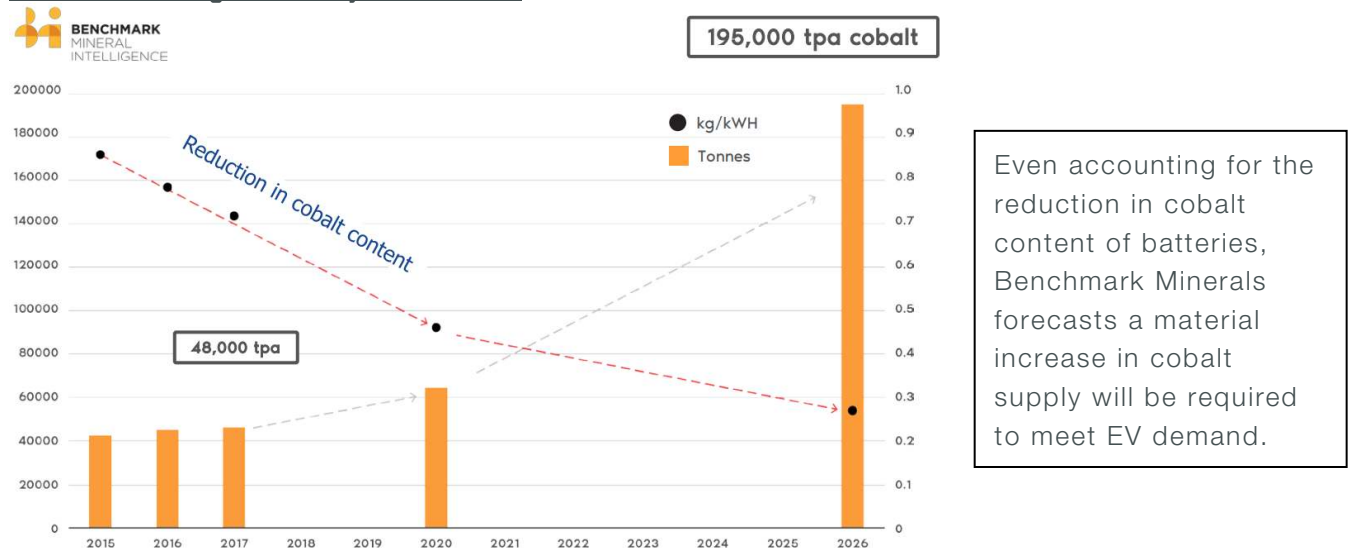
#### Mainstream Adoption of Electric Vehicles



Source: Bloomberg New Energy Finance

While there are a number of competing battery technologies emerging, and battery manufacturers continue to explore ways to reduce the cobalt content of LIBs, the consensus view is that the new cobalt demand from EV uptake is expected to outweigh the impact of 'cobalt thrifting'.

#### Cobalt Thrifting Offset by EV Growth



Source: Benchmark Mineral Intelligence, First Cobalt March 2021

Cobalt is also one of the most geographically concentrated metals on the planet, with 60-70% of known cobalt deposits located in the Democratic Republic of Congo (DRC). Around 60% of the current cobalt production comes from the DRC. Another ~25% of the current cobalt production comes from High Pressure Acid Leach (HPAL) operations which have an unfortunate track record of large capital blow-outs and operational underperformance (Murrin Murrin, Ambatovy, Goro, etc).

In addition, China also controls ~80%+ of the world's refined cobalt, so if cathode and battery manufacturers outside China hope to compete, there is a strong strategic imperative for these players to secure their own large-scale, low-cost source of cobalt.

## STOCK SPECIFIC: WHY COBALT BLUE?

Cobalt Blue Holdings Limited (Cobalt Blue or the Company) (ASX:COB) is a ~A\$90m market cap cobalt developer through its flagship 100%-owned Broken Hill Cobalt Project (BHCP) located 23km west of Broken Hill in NSW, Australia. At the end of December 2020, Cobalt Blue had A\$7.1m in cash and A\$3m in debt.

The key highlights of our investment thesis for Cobalt Blue are:

- **Large-scale, low-cost ethically-derived cobalt:** COB's 100%-owned BHCP near Broken Hill is one of very few cobalt projects globally that is *not* located in the DRC (~60% of supply) and is *not* a HPAL operation (~25% of supply). With forecast cobalt production of ~3.55ktpa at an all-in-sustaining cost of ~US\$12-13/lb for at least 17 years, the BHCP represents a potential large-scale, low-cost source of ethically derived cobalt. BHCP is on track to become one of the largest global integrated cobalt mine/refinery projects ex-Africa.
- **Superior capital intensity:** Outside the DRC, cobalt is significantly less abundant than most other battery metals. However, the majority of large scale cobalt sources outside the DRC seem to be nickel/cobalt laterite projects which normally require High Pressure Acid Leaching (HPAL). HPAL operations liberate the cobalt (and nickel) using high pressure at high temperature in a highly acidic environment. As a result, most of COB's peers outside the DRC require 3-4x the upfront capex per unit cobalt produced (see p17). In our view, for end users looking to secure cobalt, COB represents a more attractive option than most peers.
- **Flexible production strategy:** The BHCP is being designed to produce an intermediate MHP and final ("battery ready") cobalt sulphate. This allows COB to sell product based on market price of the day and take advantage of either higher price intermediate or end products. Interestingly, over 90% of cobalt samples (as requested by partners) to be despatched from the BHCP pilot plant will be in MHP form.
- **Best-in-class cobalt leverage with over 80% of revenue from cobalt:** Around 90-95% of the world's cobalt supply is a by-product credit from copper mines (~60%) or nickel mines (~30%). As a result, most listed cobalt exposures have a much larger percentage of revenue from copper or nickel rather than cobalt. The BHCP is expected to generate 80-85% of its revenue from cobalt, giving COB superior leverage to rising cobalt prices than most peers.
- **Potential for additional revenue streams by leveraging proprietary processing technology:** COB has developed its own patented processing technology to extract cobalt from cobalt-bearing pyrite and hopes to leverage this technology into other projects to create additional revenue streams. In our view, this is a very exciting component of Cobalt Blue's business model, which if successful, in time might even be worth more than the BHCP (see p18).
- **Catalyst Rich:** After several years of detailed testwork, in our view Cobalt Blue is approaching one of the most exciting periods in its history. The Company has completed the construction of a Pilot Plant in Broken Hill and expects to produce its first samples near term. The Company has strong interest in samples from 30 global groups of interested parties from Japan, Korea, India, Europe and Australia, representing a strong selection of cathode precursor/battery makers, cobalt traders and mining companies. In our view, this is a very important milestone for Cobalt Blue because it could lead to offtake agreements and/or potential partner negotiations for the BHCP.
- **Experienced Board & Management Team:** In our view, Cobalt Blue has a strong board and management team with the right mix of experience to bring the BHCP into production. We have provided a detailed summary of bios on p24.



## COMPANY OVERVIEW

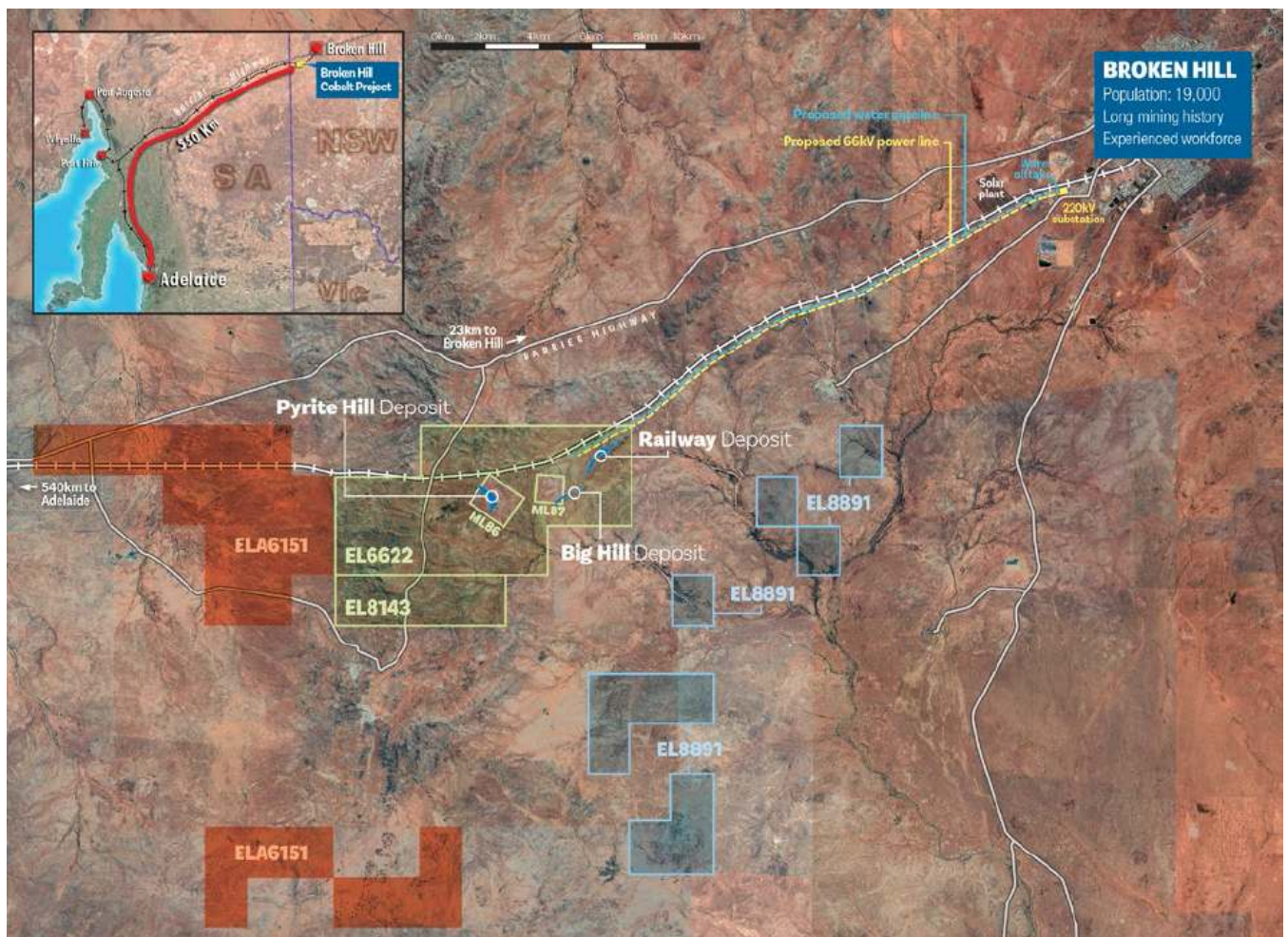
Cobalt Blue Holdings Limited (Cobalt Blue or the Company) (ASX:COB) is a ~A\$90m market cap cobalt developer through its flagship 100%-owned Broken Hill Cobalt Project (BHCP) located 23km west of Broken Hill in NSW.

The Company has also developed its own proprietary processing technology to extract cobalt from pyrite ores and plans to become a large scale source of low-cost ethical-derived cobalt from a safe, stable jurisdiction.

While the application of its patented processing technology to the BHCP is currently the primary focus, the Company is also hoping to leverage this technology into other projects to create additional revenue streams. In our view, this is a very exciting component of Cobalt Blue's business model, which if successful, in time might even be worth more than the BHCP (see p18).

At the end of December 2020, Cobalt Blue had A\$7.1m in cash and A\$3m in debt.

### Location of the Broken Hill Cobalt Project



Source: Company

## A BRIEF HISTORY OF COBALT BLUE

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Cobalt Blue was spun out of Broken Hill Prospecting (BPL) in January 2017 to create a cobalt vehicle focused on the development of the Thackaringa cobalt project, which was subsequently renamed the Broken Hill Cobalt Project (BHCP).

The spin out from BPL included a farm-in JV agreement under which COB would increase its stake in the BHCP by meeting a series of minimum exploration spends and by delivering a series of key de-risking milestones (resource, studies, etc). However during 2018, a dispute arose between the JV parties (COB & BPL).

**This dispute was settled in full on 4 Dec 2019 and COB moved to 100% ownership of the BHCP (including legal title) for:**

- \$0.5m in cash
- 9m COB shares at 15c (A\$1.35m)
- \$1m Convertible Note, convertible at 20c for 3 years (which has since been converted)
- \$3m 5-year Promissory Note, interest free for 3 years, at 6% interest p.a. This note can be repaid early at any time without penalty.

BPL retained its 2% NSR on cobalt production from the BHCP.

## THE BROKEN HILL COBALT PROJECT

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Cobalt Blue's 100%-owned BHCP is located ~23km west of Broken Hill in NSW. The BHCP comprises six (6) granted tenements for a total area of approximately 160km<sup>2</sup> which is dissected by the Broken Hill to Port Pirie railway.

The main targets for development are the large tonnage cobalt-bearing pyrite deposits, Pyrite Hill, Big Hill and Railway.

### The Broken Hill Cobalt Project – typical landform and vegetation



Source: Company



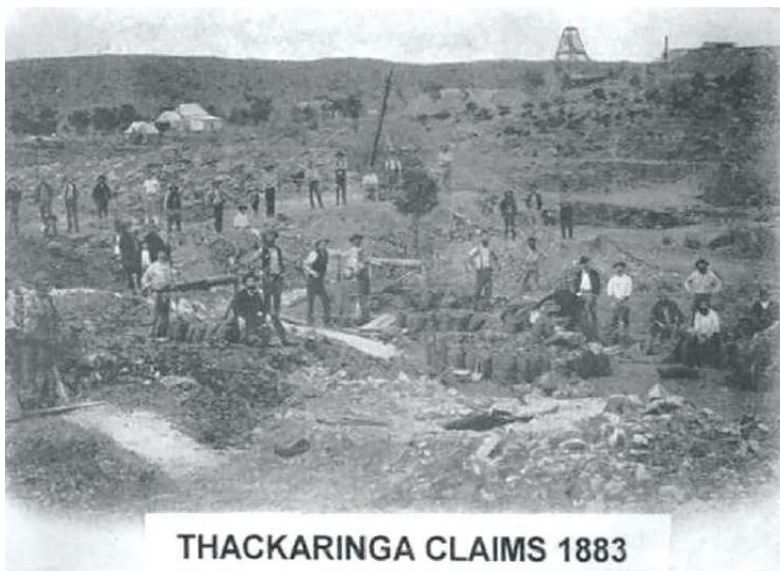
The BHCP was the subject of a Scoping Study completed in June 2017, which considered a range of processing options. The preferred option was selected for further assessment and formed the focus of the PFS which was completed in July 2018. The flowsheet was designed by COB and is now the subject of a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

The PFS for the BHCP was updated in July 2020 when the Company released a Project Update (essentially updated PFS), which remains the most up to date study for the project and is outlined in detail on p11.

## **A BRIEF HISTORY OF THE BROKEN HILL COBALT PROJECT**

The BHCP area was previously known as Thackaringa and was originally mined for rich silver lead zinc ores in the early 1880s, but the lure of the then newly discovered Broken Hill just 23km away was too strong, so that after the easy ore bodies were mined, the field closed down.

### **Thackaringa Silver Mining – circa 1883**



Source: Company, Tracing History-28

In modern times Broken Hill has been downsized to a smaller mining centre with little mining activity taking place beyond the main line of lode of Broken Hill itself. BHCP exhibits many of the classical Broken Hill mineralisation styles and remains a significant exploration target.

The project area has been intermittently explored since discovery in 1885. However, there was no activity from 1889-1950. Between 1950 and 2010, exploration activity was intermittent with a total of 37 holes for 3,855m drilled at the main prospects, Pyrite Hill and Big Hill.

From 2011 to 2013 Broken Hill Prospecting (BPL) completed an additional ~5,000m of drilling (31 RC holes and 1 diamond drill hole). Since listing on the ASX in February 2011, BPL more than doubled the resource at the BHCP to 33.1mt @ 833ppm.

BHCP was spun out of BPL in January 2017 to create Cobalt Blue (COB). COB has since undertaken several drilling campaigns and grow the JORC resource to 123mt @ 660ppm cobalt for 81.4kt of contained metal. More detail on the current resource at the BHCP is provided on the next page.

## RESERVES & RESOURCES

The resource and reserve for the BHCP as at 16 July 2020 is outlined below:

### Broken Hill Cobalt Project – Resource at 16 July 2020

Category	Mt	Co ppm	CoEq ppm	Fe %	S %	Pyrite %	Contained Co t	Pyrite Mt
<b>Pyrite Hill   Cut-off Grade 275 ppm CoEq</b>								
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
<b>Total</b>	<b>34</b>	<b>847</b>	<b>1000</b>	<b>10.4</b>	<b>9.1</b>	<b>17</b>	<b>28,700</b>	<b>6</b>
<b>Railway   Cut-off Grade 275 ppm CoEq</b>								
Indicated	45	605	718	7.8	6.7	13	27,400	6
Inferred	29	568	681	8.1	6.8	13	16,300	4
<b>Total</b>	<b>74</b>	<b>591</b>	<b>704</b>	<b>7.9</b>	<b>6.7</b>	<b>13</b>	<b>43,700</b>	<b>9</b>
<b>Big Hill   Cut-off Grade 275 ppm CoEq</b>								
Indicated	11	613	714	6.6	6.1	11	6,600	1
Inferred	5	517	605	6.0	5.2	10	2,400	0
<b>Total</b>	<b>15</b>	<b>584</b>	<b>681</b>	<b>6.4</b>	<b>5.8</b>	<b>11</b>	<b>9,000</b>	<b>2</b>
<b>Total   Cut-off Grade 275 ppm CoEq</b>								
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
<b>Total</b>	<b>123</b>	<b>660</b>	<b>782</b>	<b>8.4</b>	<b>7.3</b>	<b>14</b>	<b>81,400</b>	<b>17</b>

*Note: small rounding errors may have occurred in compilation of this table*

Source: Company

### Broken Hill Cobalt Project – Reserve at 16 July 2020

Ore Reserve Classification	Deposit	Mt	Co ppm	S %
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
	<b>Total</b>	<b>71.8</b>	<b>710</b>	<b>7.6</b>

Source: Company



## PROCESS FLOWSHEET

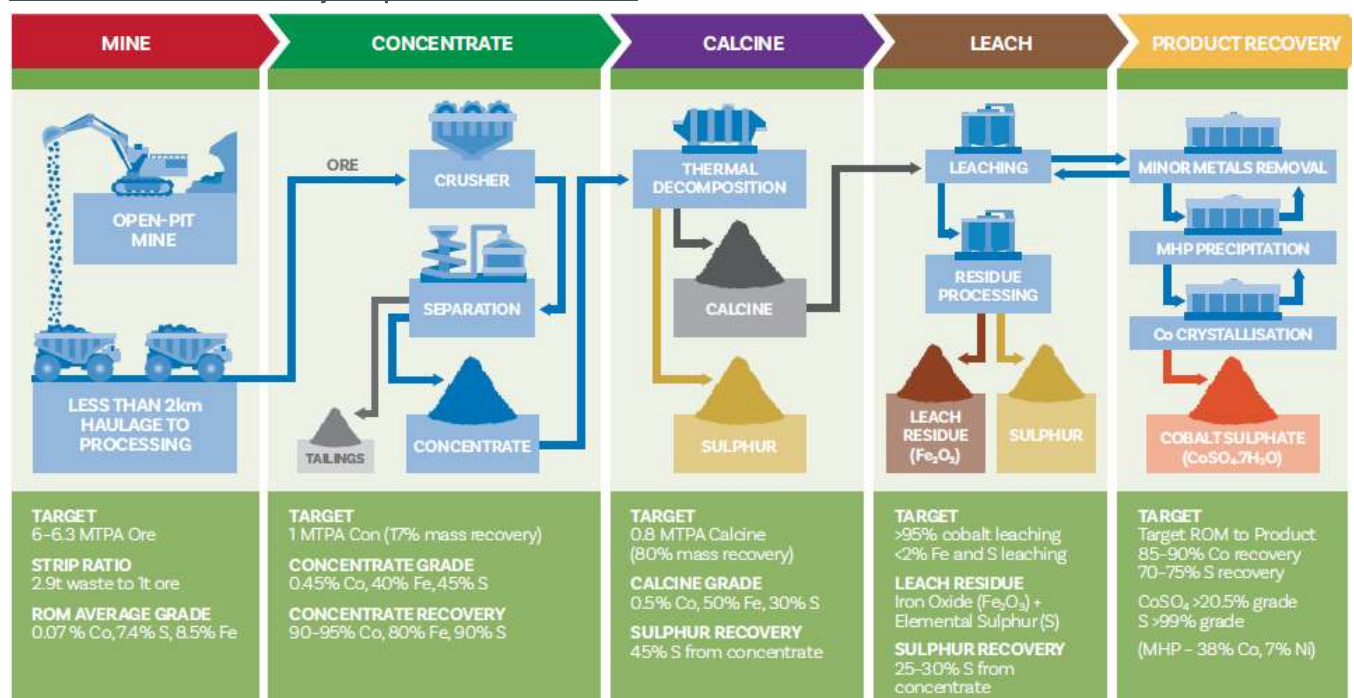
Owner operator mining will be undertaken via several open pits using conventional drill and blast, truck and shovel operation. Up to 6.3mtpa of ore will be mined at a strip ratio of less than 3:1.

Processing employs the Company's own proprietary processing technology which comprises several steps:

- **Concentration:** Ore crushed to ~1mm to recover a pyrite concentrate using gravity separation via spirals and flotation (for fines). While spirals are commonly used in the mining industry, this is a novel approach for the concentration of pyrite ores and has **proven to be very effective, due to a ~17% mass pull, leading to a ~5x uplift in grade. The refinery is also ~1/5 the size of the concentration circuit, leading to much lower capex than peers.**
- **Calcine:** The pyrite concentrate is then thermally treated under an inert atmosphere to produce artificial pyrrhotite (calcine) and elemental sulphur. **This process is called pyrolysis and eliminates the production of SO<sub>2</sub> and H<sub>2</sub>SO<sub>4</sub> (sulphuric acid) which is expensive to store and transport.** The sulphur is condensed from the kiln off-gas and turned into solid prills. Testwork achieved >99% sulphur.
- **Leaching:** 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.
- **Product Recovery:** 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. The MHP is then refined, for production of high purity cobalt sulphate heptahydrate. Testwork achieved a >20.5% cobalt sulphate crystal.

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.

### Broken Hill Cobalt Project process flowsheet



Source: Company

## PROCESSING TESTWORK

Over the last few years Cobalt Blue has been steadily increasing the scale of its testwork and confidence is growing as to the efficacy of its proprietary processing technology.

### Increasing scale of testwork – growing confidence in COB's process

Study Level	Period	Concentrate Circuit		Pyrolysis Circuit		Leaching/Purification	
Scoping Study	FY2017	20-30 kg	Lab scale	1 kg	Lab scale	1 kg	Lab scale
Pre-Feasibility Study	FY2018	820 kg	Bulk trial in batch mode	100 kg	2-3 kg batches	30 kg	0.2-1 kg batches
Current Work to date	FY2019	45 tonne	Continuous pilot circuit 2-3 t/hr	150 kg	Continuous pilot circuit 4-8 kg/hr	20 kg	1-3 kg batches
Planned Work	Future	45-50 t	Full circuit	Up to 20 t	Commercial sized furnace	Up to 20 t	Pilot equipment



Source: Company

During 2020, COB produced a Mixed cobalt-nickel Hydroxide Product (MHP) grading 37% cobalt and 7% nickel. This MHP was subsequently refined to produce cobalt sulphate heptahydrate crystals and a nickel sulphate solution. Impurities were removed using conventional ion-exchange and solvent extraction techniques.

The final cobalt sulphate crystals were obtained by evaporative crystallisation under vacuum. The nickel sulphate solution was a by-product of the process and will be subject to further studies for production of nickel sulphate crystals. The cobalt sulphate purity achieved >20.8%.

### Cobalt Sulphate Heptahydrate Crystals



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

Source: Company



## PROJECT UPDATE JULY 2020

Cobalt Blue completed a Pre-Feasibility Study (PFS) for the BHCP in July 2018 and a Project Update in July 2020 (essentially an updated PFS). There were several material improvements to the BHCP in the Project Update including a 20% improvement in C1 cash costs to US\$10.34/lb and an increase in the mine life from 13 years to 17 years.

A summary of the Project Update for the BHCP is provided below:

### BHCP Project Update July 2020

Project Parameters	Input	Comments
<b>Pre-Production Capital</b>		
Process Plant	A\$343m	Other: includes services, env monitoring, biodiversity offset and IWL development Contingencies: includes \$70m contingencies (14%)
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.*

Source: Company

The Company sees potential to further enhance the financial metrics of BHCP via the inclusion of a potential nickel credit and other potential improvements. More detail on these potential project enhancements is provided on the next page.

## POTENTIAL NICKEL CREDIT

In addition to the Project Update for the BHCP, in July 2020 the Company also completed a Value Engineering Study assessing the potential contribution of nickel to the project.

Drill sample assays to date have shown that nickel is present in the mineral deposits. Metallurgical testwork has reported that nickel will be recovered into the Mixed Hydroxide Product (MHP).

While the Value Engineering 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% to Project revenue and decreases C1 and All In Sustaining Costs as set out below:

### Value Engineering Study assessing potential benefit of nickel credit

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	

Source: Company

## SCOPE FOR MATERIAL PROJECT IMPROVEMENTS

The Company has also flagged significant potential to improve project metrics in a number of areas, and several optimisation studies are underway:

- **Scope to reduce initial capex:** The Company sees potential to reduce initial capex in several key areas:
  - **A\$29.7m** for mining fleet and infrastructure under an owner-operator model – the Company sees scope to reduce this figure by moving to contract mining
  - **A\$35.5m** for high voltage power – again, the Company sees scope to further reduce capex by moving to contract power via a Build-Own-Operate model in line with normal industry practice for junior mining companies developing projects
- **Scope for improve recoveries:** The PFS and Project Update were 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.
- **Scope to reduce energy costs:** Energy represents 19% of the forecast site cash costs based on electrical power consumption from the National Electricity Market. The Company is assessing piping Compressed Natural Gas (CNG) to site (feeding from the Moomba to Adelaide gas pipeline) as a lower cost energy alternative representing potential to materially improve project economics
- **Scope for longer mine life:** Further resource development work will be undertaken as part of the Feasibility Study, which may lead to a larger reserve and longer mine life.
- **Inclusion of minor metals:** Future resource estimation will include minor metals such as nickel, copper, zinc and manganese



## DEVELOPMENT TIMELINE

The table below outlines the planned development timetable for the BHCP.

Cobalt Blue has constructed a Pilot Plant in Broken Hill and is expecting first production near-term (more detail in the next section). The Company plans to use the existing 90t of sample stored from previous drilling campaigns to commission the Pilot Plant.

The Pilot Plant test results will also be used to inform a larger Demonstration Plant which will be built for operation in 2H CY21. The Company plans to treat up to 4,000 tonnes through the Demonstration Plant which will be 1:500 to 1:1000 the scale proposed at the BHCP.

### The Broken Hill Cobalt Project 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 – Q1 2021	Final Investment Decision – Late 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	Project Update 2020 – July 2020		Feasibility Study and Approvals – Late 2022
Metallurgical Studies			Concentration – Pilot Scale Testwork	Pilot Plant – Q4 2020	Demonstration Plant – Q4 2021	
Environmental Approvals			CPDP Submitted	Scoping Report – Jan 2020 SEARs issued – Feb 2020	EIS Submission – H2 2021	SSD Determination – Mid 2022
	ACHIEVEMENTS				GOALS	

Source: Company

## STRATEGIC PARTNERS

Cobalt Blue has existing partnerships with LG International (LG), Mitsubishi Corporation and Sojitz Corporation. LG is a shareholder of Cobalt Blue after participating in a US\$6m placement in April 2018 at \$1.10, a 15% premium to 30-day VWAP.

The Company's "first mover" commercial partner, LG International (the resources investment arm of LG Corporation) continues to be supportive, with regular progress meetings held.

Cobalt Blue also has a sulphur marketing agreement with Mitsubishi Corporation for its planned sulphur production.



Source: Company

## CRITICAL MINERALS & GOVERNMENT INITIATIVES

Cobalt Blue is in active cooperation with the Commonwealth Government, receiving a A\$2.5m grant to prove up its processing technology, and is part of the Future Battery Industries CRC - a six-year plan to fix gaps identified by the battery industry in the value-chain from mining, processing, manufacture, deployment and recycling.

Further, the BHCP is the only primary cobalt project named in the Australian Critical Minerals Prospectus 2020<sup>1</sup> and is being actively marketed by Austrade.

Cobalt Blue has also applied for the BHCP to be recognised as a State Significant Development (SSD). SSD Approval provides an integrated assessment pathway and minimises the number of secondary environmental approvals that must be attained for a project.

The status of the SSD application can be tracked at the DPIE Major Projects Portal:

<https://www.planningportal.nsw.gov.au/major-projects>.

### Diamond drill core with cobalt-bearing pyrite



Source: Company

## POTENTIAL GREEN APPLICATIONS

For some companies, cobalt-bearing pyrite is a waste by-product of existing mining operations and represents a potential environmental liability (since stockpiled sulphides can lead to acid rock drainage). Cobalt Blue believes its patented processing technology may represent an opportunity to turn a potential environmental liability into a revenue stream.

There are also a number of tailings dams in Queensland and elsewhere around the world which contain cobalt-bearing pyrites and the company is engaging with the Govt and other stakeholders to explore options which could lead to cleaning up some of these potential environmental liabilities.

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<sup>1</sup> The Australian Critical Minerals Prospectus 2020 can be found at: <https://www.austrade.gov.au/australian-critical-minerals-prospectus>

## PILOT PLANT – FIRST PRODUCTION DUE SHORTLY

Cobalt Blue's Pilot Plant in Broken Hill will allow the Company to produce various specifications of cobalt products (including mixed hydroxides and sulphates) and represents a significant milestone for the Company. The Pilot Plant is due to produce first product shortly.

The commercial objective is to make battery ready cobalt sulphate on a scale sufficient to provide test samples (~10kgs) for global commercial partners. Over 90% of the samples requested were for the intermediate MHP product, suggesting that cathode makers and cobalt traders prefer to then refine a bespoke cobalt sulphate to individual contract needs.

The Company has strong interest in samples from 30 global groups of interested parties from Japan, Korea, India, Europe and Australia, representing a strong selection of cathode precursor/battery makers, cobalt traders and mining companies.

In our view, this is a very important milestone for Cobalt Blue because it could lead to offtake agreements and/or potential partner negotiations for the BHCP.

### Pilot Plant – installed belt filter on mezzanine level



Source: Company

### Pilot pyrolysis kiln and ancillary equipment



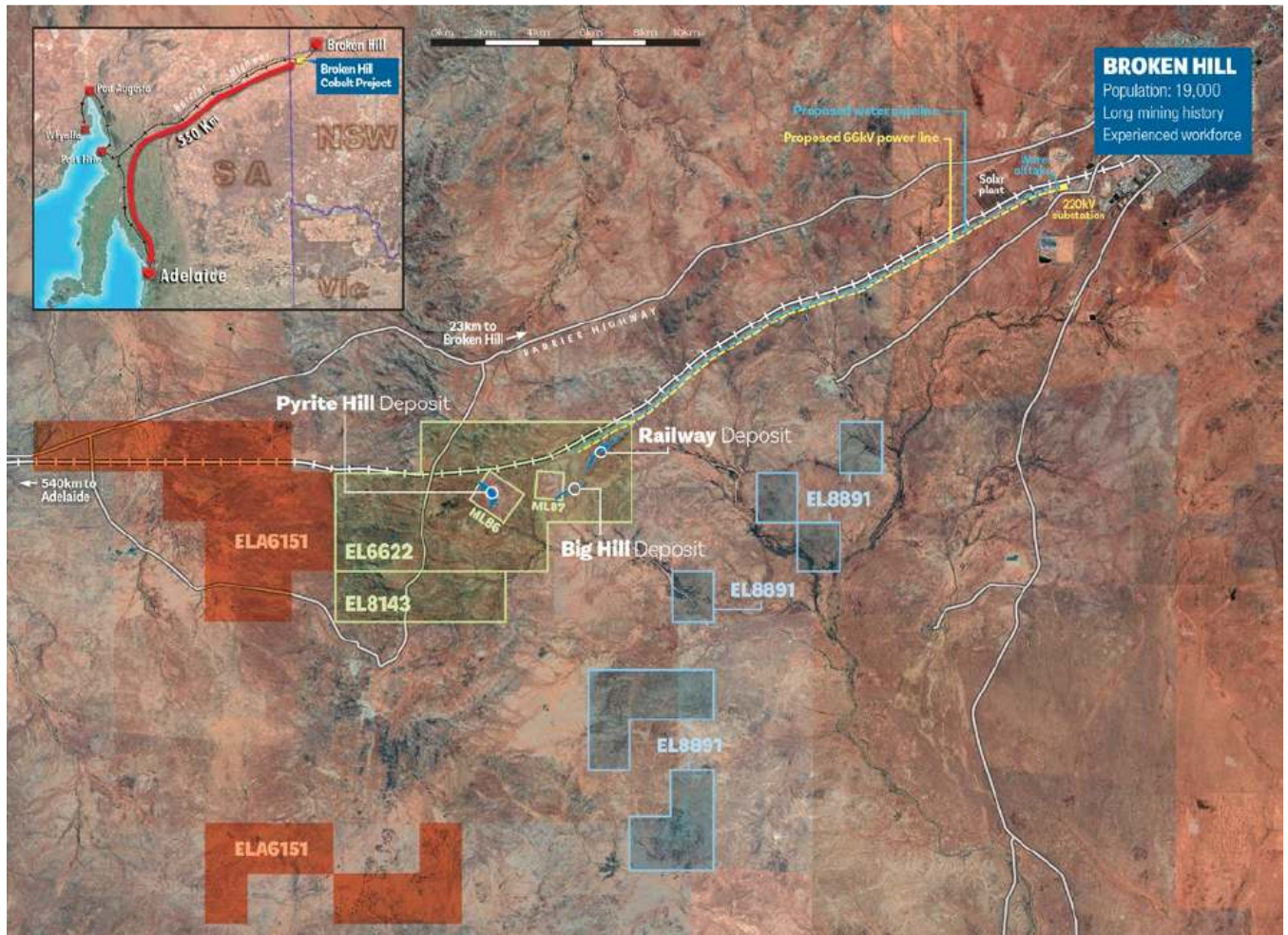
Source: ANERGY, Company



## EXCELLENT INFRASTRUCTURE

The BHCP is located only 23km west of Broken Hill and is fortunate to be located in close proximity to readily accessible power, water, rail and skilled labour.

### BHCP located in close proximity to key infrastructure



Source: Company

**Power:** The BHCP is located in close proximity to high voltage grid power. In 2015, AGL completed its Broken Hill Solar Farm (53MW) located 5km west of Broken Hill. The Silverton Wind Farm (25km NW of Broken Hill) could also add an additional 200MW power to the local region (Stage 1 complete). Based on current studies, a ~20km high-voltage power line will be built along the rail line to connect the BHCP to grid power (shown in yellow above).

**Water:** Cobalt Blue has received commitment from Essential Water to provide up to 1.5 GL per year from the new Murray River to the Broken Hill pipeline. Based on current studies, a ~20km water pipeline will be built along the rail line to provide process water (shown in blue above).

**Rail:** The Broken Hill to Port Pirie train line runs right past the BHCP project and provides an elegant low-cost route to port and offshore markets for Company's sulphur product.

**Labour:** The BHCP's proximity to Broken Hill also provides access to skilled labour as well inexpensive accommodation options, removing the need to build a camp or airstrip at the mine.



## SUPERIOR CAPITAL INTENSITY

Outside of the DRC, cobalt is significantly less abundant than most other battery metals.

However, the majority of large scale cobalt sources outside the DRC appear to be nickel/cobalt laterite projects which normally require High Pressure Acid Leaching (HPAL). HPAL operations liberate the cobalt (and nickel) using high pressure at high temperature, in a highly acidic environment.

As a result, most of COB's peers outside the DRC require 3-4x the upfront capex per unit cobalt produced as illustrated by the table below. In our view, for end users looking to secure cobalt, COB represents a more attractive option than most peers.

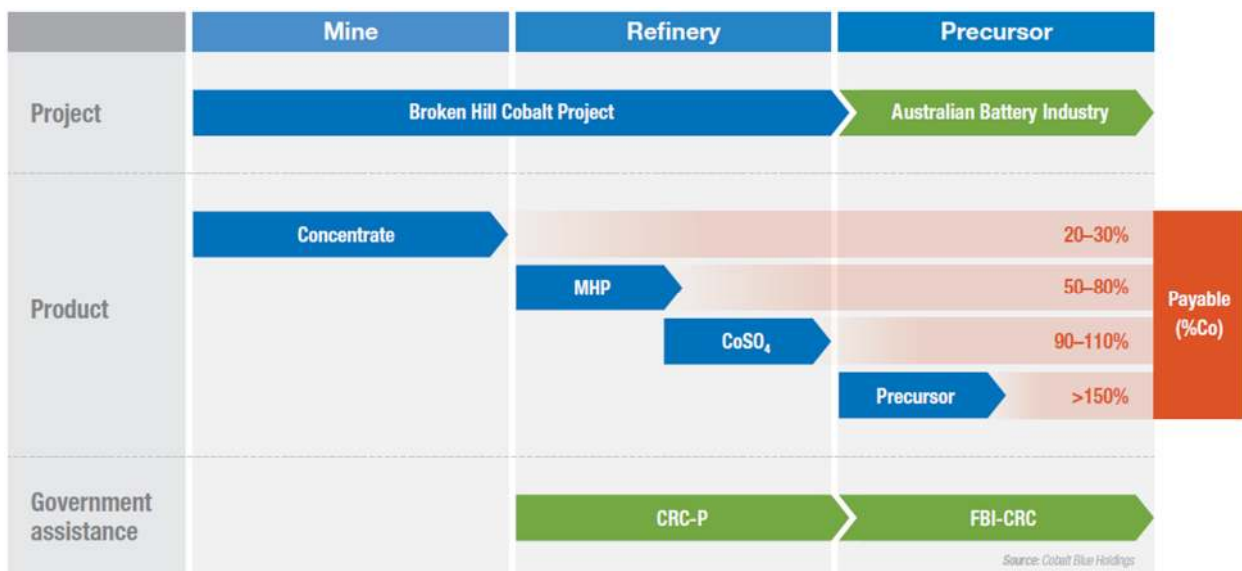
### Many new projects have 3-4x the capital intensity per unit cobalt production

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.

Source: Company

### COB & the Cobalt Sulphate Production Chain



Source: Company

## PATENTED PROCESSING TECHNOLOGY

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Cobalt Blue has developed its own proprietary processing technology to extract cobalt from cobalt-bearing pyrite (see p9) and while the primary focus at present is the BHCP, the Company is in discussions with a number of potential processing partners who are interested in exploring options to use COB's processing technology to monetise their cobalt-bearing pyrite.

For some companies, cobalt-bearing pyrite is a waste by-product of existing mining operations and represents a potential environmental liability (since stockpiled sulphides can lead to acid rock drainage). **Cobalt Blue believes its patented processing technology may represent an opportunity to turn a potential environmental liability into a revenue stream.**

Rather than licencing its processing technology, Cobalt Blue is exploring partnership style arrangements with its processing partners, to share in both capital requirements and potential revenue streams.

**In our view, this is a very exciting component of Cobalt Blue's business model, which if successful, in time might even be worth more than the BHCP.**

### POTENTIAL TO ADD REVENUE STREAMS VIA PROCESSING PARTNERS

Thus far, Cobalt Blue has undertaken preliminary testwork with 3 potential Processing Partners:

- **OZ Minerals (ASX:OZL):** **OZ Mineral's Carrapateena copper/gold mine in South Australia** produces a pyrite concentrate by-product which contains cobalt, copper and gold. During the December quarter 2020 COB completed its testwork program and provided the testwork results to OZ Minerals. The results confirmed that the COB Process was suitable for treating and extracting copper, gold, and cobalt from the Carrapateena pyrite concentrate. It is anticipated that there will be further dialogue between the two companies to consider if there is potential for further collaboration.
- **Global Energy Metals Corporation (TSX:GEMC):** **GEMC owns the Millennium Cobalt Project in Queensland** and engaged COB to test the viability of COB's processing technology on its cobalt-bearing pyrite. COB developed a successful flotation scheme for GEMC's Millennium Project to produce two separate copper and cobalt concentrates. The total flotation recovery of metal to concentrates achieved was 93% cobalt, 90% copper and 80% gold (COB release 6 April 2020). COB continues to explore options to work together.
- **Other cobalt projects in Queensland:** The QLD Govt Department of Natural Resources, Mines and Energy has announced new initiatives to explore for 'new economy minerals' including cobalt. This incorporates a program managed by the Geological Survey of Queensland and The University of Queensland **to evaluate cobalt in tailings of substantial copper mines in the North West Minerals Province, in the Mount Isa / Cloncurry district.**
- **Havilah Resources (ASX: HAV):** **Havilah owns the Mutooroo copper-cobalt project located ~20km from COB's project in Broken Hill**, across the border in South Australia. HAV provided COB a representative 10kg sample of Mutooroo ore and COB performed laboratory testwork which confirmed strong cobalt recoveries. Discussions continue.

In addition, there are a number of companies with cobalt-bearing pyrite around the world and Cobalt Blue continues to engage with these parties to explore opportunities for collaboration.

## INVESTMENT PROPOSITION

In this section we discuss our valuation assumptions for Cobalt Blue.

### BASE CASE VALUATION

Our Base Case valuation for Cobalt Blue is based on:

- A DCF for BHCP using COB's Project Update estimates released in July 2020 (see p11) and including the potential benefit of the nickel credit (see p12)
- Assuming long term cobalt prices of US\$30/lb
- Assuming a long term A\$/US\$ exchange rate of 0.75
- Employing a nominal discount rate of 10% (8% real)
- **For an NPV of A\$511m for 100% of the project**

Given the substantial initial capex requirement of A\$560m compared to the Company's current market cap of ~A\$90m, we assume COB will need to find a partner to build the BHCP, as the go-it-alone option would be too dilutive at present.

We assume COB sells a 25% stake in the BHCP for ~70% of NPV for sale proceeds of ~\$90m. We concede this may appear to be a bullish assumption, given the market cap of Cobalt Blue is only ~\$90m, however given the unique nature of the Cobalt Blue opportunity, and the relatively limited options available to potential end users for large-scale, low-cost, ethically-derived cobalt (from a safe, stable jurisdiction), in our view this sort of price is potentially achievable\*.

We also apply a 50% discount to our valuation to account for risks and potential future dilution.

The other key element to our valuation is Cobalt Blue's patented processing technology. At this stage we ascribe a notional valuation of A\$50m. However, we believe COB's processing technology could potentially be worth several hundred million dollars in time if it can successfully use its technology to create additional revenue streams (as discussed on p18).

\*Transactions like this are not uncommon in the ASX mining space, particularly when the assets in questions represent a relatively unique opportunity. Two recent examples include:

- Jan 2019: Toho Zinc agrees to pay A\$90m in cash for a 40% stake in Galena's (G1A) Abra lead project in WA. Galena's fully diluted Mcap at the time was A\$95m.
- Aug 2020: Yansteel agreed to pay A\$130m in cash for a 50% stake in Sheffield's (SFX) Thunderbird mineral sands project in WA. SFX's market cap at the time was A\$67m.

### BASE CASE SENSITIVITY

The sensitivity table below illustrates the sensitivity of our Base Case valuation of BHCP to cobalt prices and the A\$/US\$ FX:

**Base Case: BHCP sensitivity to Cobalt Prices and A\$/US\$**

NPV post-tax (A\$m)		Cobalt Price (US\$/lb)				
		20	25	30	35	40
A\$/US\$	0.80	(107)	142	390	639	887
	0.75	(20)	246	511	776	1,041
	0.70	80	365	649	933	1,217

Source: Blue Ocean Equities

## UPSIDE CASE VALUATION

Cobalt Blue has flagged a number of areas where the project metrics for the BHCP could potentially improve. In our view there is clear potential for “low hanging fruit” in a number of areas which could lead to material improvements in the BHCP during the next round of studies.

These potential project enhancements include:

- **Improved recoveries**
  - The Project Update assumed cobalt recoveries of 85.5% however the best results to date are closer to 89-90%, once recycle streams are incorporated. If we assume ultimate recoveries are 88%, it **adds ~A\$50m to our NPV**.
- **Contract Power – we assume a potential upfront capex saving of A\$30m**
  - The estimated capex for BHCP included A\$35.5m for owner-operator high voltage power. Prevailing power costs are materially less than the assumptions included in COB’s Project Update. So even moving to contract power, the power costs at BHCP may still actually come down.
- **Contract Mining – we assume potential upfront capex saving of A\$20m**
  - The estimated capex for BHCP included A\$29.7m for mining fleet and infrastructure under an owner-operator model. We also add 10% to mining costs for contract mining.

**Including all three of these potential project enhancements increases our post-tax NPV 33% from A\$511m to A\$682m and would increase our Price Target by 27% to 95c.**

In parallel, if Cobalt Blue can also progress one its Processing Partnership arrangements, our Price Target is likely to be well north of \$1.00 per share.

## UPSIDE CASE SENSITIVITY

The sensitivity table below illustrates the sensitivity of our Upside Case valuation of BHCP to cobalt prices and the A\$/US\$ FX:

**Upside Case: BHCP sensitivity to Cobalt Prices and A\$/US\$**

NPV post-tax (A\$m)		Cobalt Price (US\$/lb)				
		20	25	30	35	40
	0.80	46	299	551	804	1,056
A\$/US\$	0.75	143	413	682	951	1,221
	0.70	254	543	832	1,120	1,409

Source: Blue Ocean Equities



## TAKEOUT VALUE PER POUND OF COBALT PRODUCTION

According to Roskill, in CY20, China was responsible for ~80%+ of the world's refined cobalt supply<sup>2</sup>. In our view, China's dominant market share represents a key risk for ex-China battery manufacturers around the world.

We believe it is highly likely that many cathode and battery manufacturers recognise [the importance of security of supply](#) and have [a strategic imperative to ensure they have a secure long term supply of low cost cobalt](#).

In that context, we thought it might be valuable to examine how much an end user would be paying per pound of cobalt production, if, hypothetically, they were to launch a takeover of Cobalt Blue today.

As set out in the table below, assuming a 50% premium was paid, a potential acquirer would be paying an all-in long term price of ~US\$17.12/lb of cobalt production over the life of the BHCP.

To put that in context:

- Roskill's long term cobalt price forecast is US\$27.50/lb
- Paying an equivalent cobalt price of US\$17.12/lb represent a saving of over US\$10/lb
- [A US\\$10/lb saving on 130mlbs represents a potential pre-tax saving of US\\$1.3bn!](#)

Arguably, this analysis also excludes the benefit of Cobalt Blue's processing technology, which could potentially be applied to other projects which have cobalt-bearing pyrite.

### Cost per pound cobalt for a potential acquirer

Life of mine cobalt production from BHCP		mlb	130
All-in cost per pound cobalt	Premium?	A\$m	US\$/lb
Acquisition of Cobalt Blue	50%	140	0.80
BHCP Capex		560	3.22
BHCP AISC			13.10*
<b>All-in Cost</b>			<b>17.12</b>

Source: Blue Ocean Equities; \*Ignores potential nickel credit which improves AISC by ~US\$1/lb

We believe this dynamic will not be lost on end users and potential partners, however, as always, one of the most important considerations for investors is *when* might a transaction like this potentially materialise?

[Once end users are confident the Cobalt Blue process flow sheet works at scale, we believe the probability of corporate interest is likely to increase markedly.](#)

With the Company's Pilot Plant due to produce first product shortly and a Demonstration Plant due to be built in the 2H CY21, [we believe a takeover approach could be very real possibility for Cobalt Blue within ~12 months.](#)

<sup>2</sup> <https://www.mining.com/what-chinas-increasing-control-over-cobalt-resources-in-the-drc-means-for-the-west-report/>

## PRICE TARGET & RATING

We initiate coverage of Cobalt Blue with a Spec Buy recommendation and 75c Price Target, an implied potential return of ~83%. Our Base Case valuation for Cobalt Blue is based on:

- A DCF for BHCP using COB's Project Update estimates released in July 2020 (see p11) and including the potential benefit of the nickel credit (see p12)
- Assuming long term cobalt prices of US\$30/lb
- Assuming a long term A\$/US\$ exchange rate of 0.75
- Employing a nominal discount rate of 10% (8% real)
- For an NPV of A\$511m for 100% of the project

Given the substantial initial capex requirement of A\$560m compared to the Company's current market cap of ~A\$90m, we assume COB will need to find a partner to build the BHCP, as the go-it-alone option would be too dilutive at present.

We assume COB sells a 25% stake in the BHCP for ~70% of NPV for sale proceeds of ~\$90m. We concede this may appear to be a bullish assumption, given the market cap of Cobalt Blue is only ~\$90m, however given the unique nature of the Cobalt Blue opportunity, and the relatively limited options available to potential end users for large-scale, low-cost, ethically-derived cobalt (from a safe, stable jurisdiction), in our view this sort of price is potentially achievable.

We also apply a 50% discount to our valuation to account for risks and potential future dilution.

The other key element to our valuation is Cobalt Blue's patented processing technology. At this stage we ascribe a notional valuation of A\$50m.

## STRATEGIC TARGET

Our Strategic Target for Cobalt Blue is \$1.00 based on:

- Our Upside Case valuation which assumes 3 key project enhancement initiatives are realised (Improved recoveries +A\$50m to NPV, Contract Power -A\$30m capex, Contract Mining -A\$20m capex)
- Cobalt Blue is able to progress its Processing Partnership arrangements to add an additional cobalt revenue stream from another project

## KEY RISKS

Cobalt Blue is exposed to the risks associated with developing a mining project, including, metallurgy, permitting, funding and as well as construction risks and normal project ramp up and commissioning risks.

Given the significant funding required to develop the BHCP, we believe the Company may need to attract a large scale partner, representing an additional area of risk.

Assuming Cobalt Blue can successfully make the transition into production, its revenues will be derived from the sale of cobalt and elemental sulphur. Fluctuations in the prices of cobalt and sulphur as well as the Australian dollar could impact the Company's reported cash flow (in A\$), profitability and share price.

As Cobalt Blue's BHCP is based in NSW, an investment in Cobalt Blue also carries Australian sovereign risk, which we regard as a relatively stable and safe jurisdiction compared to many other mining jurisdictions around the world.

## MODEL SUMMARY: FINANCIALS & VALUATION

### Stock Details

Recommendation:	<b>SPEC BUY</b>		
Target	\$0.75	Share Price	\$0.41
NAV	\$0.76	52 Week High	\$0.52
Implied Return	83%	52 Week Low	\$0.08

Enterprise Value	\$95m
Diluted MCap	\$105m
Diluted Shares	257m
Free Float	100%
Avg Daily Value	\$0.28m

Macro Assumptions	FY20	FY21E	FY22E	FY23E	FY24E
Exchange Rate (A\$/US\$)	0.67	0.74	0.75	0.75	0.75
Cobalt Price (US\$/lb)	15	26	30	30	30
Cobalt Price Realised (A\$/lb)	22	35	40	40	40

Profit & Loss (A\$m)	FY20E	FY21E	FY22E	FY23E	FY24E
Revenue	-	-	-	-	32
Operating Costs	-	-	-	-	(17)
<b>Operating Profit</b>	-	-	-	-	<b>16</b>
Corporate & Other	(2)	(2)	(2)	(2)	(3)
Exploration Expense	-	-	-	-	(0)
<b>EBITDA</b>	<b>(2)</b>	<b>(2)</b>	<b>(2)</b>	<b>(2)</b>	<b>12</b>
D&A	(0)	(0)	(0)	(0)	(3)
<b>EBIT</b>	<b>(2)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>	<b>9</b>
Net Interest Expense	(0)	(0)	(0)	(0)	(14)
<b>Pre-Tax Profit</b>	<b>(2)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>	<b>(4)</b>
Tax Expense	-	-	-	-	-
<b>Underlying Profit</b>	<b>(2)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>	<b>(4)</b>
Significant Items (post tax)	-	-	-	-	-
<b>Reported Profit</b>	<b>(2)</b>	<b>(3)</b>	<b>(3)</b>	<b>(3)</b>	<b>(4)</b>

Cash Flow (A\$m)	FY20	FY21E	FY22E	FY23E	FY24E
Operating Cashflow	(2)	(2)	(2)	(2)	12
Tax	-	-	-	-	-
Net Interest	(0)	(0)	(0)	(0)	(14)
<b>Net Operating Cash Flow</b>	<b>(2)</b>	<b>(2)</b>	<b>(3)</b>	<b>(3)</b>	<b>(1)</b>
Exploration	(2)	(2)	(2)	(2)	(2)
Capex	(0)	(1)	(20)	(210)	(211)
Acquisitions / Disposals	(1)	-	-	89	-
Other	2	1	-	-	-
<b>Net Investing Cash Flow</b>	<b>(1)</b>	<b>(2)</b>	<b>(22)</b>	<b>(123)</b>	<b>(213)</b>
Equity Issue	-	7	30	119	-
Borrowing / Repayments	(0)	(0)	-	28	223
Dividends	-	-	-	-	-
Other	-	-	-	-	-
<b>Net Financing Cash Flow</b>	<b>(0)</b>	<b>7</b>	<b>30</b>	<b>147</b>	<b>223</b>
Change in Cash Position	(3)	3	5	22	9
FX Adjustments	-	-	-	-	-
<b>Cash Balance</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>32</b>	<b>41</b>

Balance Sheet (A\$m)	FY20	FY21E	FY22E	FY23E	FY24E
Cash	2	5	10	32	41
Other Current Assets	0	0	0	0	0
PP&E	1	1	21	231	438
Exploration & Development	20	22	24	26	28
Other Non Current Assets	0	0	0	0	0
<b>Total Assets</b>	<b>24</b>	<b>28</b>	<b>55</b>	<b>289</b>	<b>508</b>
<b>Debt</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>31</b>	<b>255</b>
Other Liabilities	1	1	1	1	1
<b>Net Assets</b>	<b>19</b>	<b>24</b>	<b>51</b>	<b>256</b>	<b>252</b>

Ratio Analysis		FY20E	FY21E	FY22E	FY23E	FY24E
Diluted Shares	m	160	248	330	652	652
EPS - Diluted	Ac	(1.6)	(1.3)	(1.0)	(0.8)	(0.6)
<b>P/E</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>
CFPS - Diluted	Ac	(1.2)	(0.9)	(0.9)	(0.7)	(0.2)
<b>P/CF</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>
FCF - Diluted	Ac	(1.3)	(1.0)	(6.8)	(32.6)	(30.4)
<b>P/FCF</b>	<b>x</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>	<b>n.m.</b>

Dividends	Ac	-	-	-	-	-
Dividend yield	%	-	-	-	-	-
Payout Ratio	%	-	-	-	-	-
Franking	%	-	-	-	-	-

Enterprise Value	A\$m	107	104	99	105	319
<b>EV/EBITDA</b>	<b>x</b>	<b>(52.0x)</b>	<b>(46.9x)</b>	<b>(41.2x)</b>	<b>(43.8x)</b>	<b>25.8x</b>
ROE	%	(12%)	(12%)	(6%)	(1%)	(2%)
ROA	%	(10%)	(10%)	(5%)	(1%)	(1%)

Net Debt / (Cash)		1	(1)	(7)	(0)	214
Gearing (ND/(ND+E))	%	n.m.	n.m.	(15%)	(0%)	46%
Gearing (ND/E)	%	n.m.	n.m.	(13%)	(0%)	85%

### Resource & Reserve Updated July 2020

BHCP	Tonnes	Grade	Cobalt
Resource	mt	ppm	kt
Measured	18	928	17.1
Indicated	64	619	39.9
Inferred	40	604	24.3
<b>Total</b>	<b>123</b>	<b>660</b>	<b>81.4</b>

Reserve	mt	ppm	kt
Probable	71.8	710	51.0

Earnings Sensitivity		FY25E	FY26E	FY25E	FY26E
		A\$m	A\$m	%	%
Cobalt Price	US\$/lb +10%	8	14	44%	25%
Exchange Rate	A\$/US\$ -10%	11	18	59%	34%

Valuation	Discount	Stake	A\$m	A\$/sh
BHCP (unrisked)		100%	511	1.99
BHCP (risk-adjusted)	50%	75%*	164	0.64
Processing Tech			50	0.19
Corporate & Other			(32)	(0.12)
Debt			3	0.01
Cash			7	0.03
Option Strikes			2	0.01
<b>Risk adjusted NAV</b>			<b>194</b>	<b>0.76</b>
				0.54x

\*Our Base Case valuation assumes Cobalt Blue sells 25% of BHCP to a partner for ~70% of NPV

Source: Company data, Blue Ocean Equities

## BOARD & MANAGEMENT

**Robert Biancardi, Independent Chairman:** Mr Biancardi is an experienced executive with more than 35 years commercial experience across the finance, IT, healthcare and service sectors. Mr Biancardi previously held senior roles at IBM, Citibank and Westpac. He has been a director and CEO of a number of companies including Rockridge Group (Private Equity) and Hutchinsons Limited (Child Care Services). Mr Biancardi is a Board Member of the Heart Foundation of Australia, Diabetes Association and the “Bread & Butter” project.



**Joe Kaderavek, CEO:** Mr Kaderavek is an engineer with more than 20 years experience in investment research with a focus on mining, minerals processing and energy storage technologies. He was previously the Head of Resources at Deutsche Bank and also worked for PWC performing operational reviews and strategic assessments for mining, minerals processing, railway and port facilities, while on secondment to BHP and Rio Tinto. He was previously an international consultant focused on renewable energy & battery storage technologies.



**Hugh Keller, Independent Director:** Mr Keller has 35 years experience as a senior lawyer and was previously the Managing Partner at Blake Dawson (now Ashurst) and its predecessor firms. He retired from full time legal practice in 2010. Mr Keller was a Non-executive Director of ASX listed Thakral Holdings Ltd and of LJ Hooker Ltd and in both companies was a member of the Audit Committee. He was also the Chairman of a large private investment company with over \$150m of net assets.



**Rob McDonald, Independent Director:** Mr McDonald has extensive mining experience with over 10 years business development and strategic planning roles at Rio Tinto. He also has over 20 years of investment banking as director and principal of Resource Finance Corporation and as a Managing Director of N M Rothschild and Sons. In addition, Mr McDonald has over 10 years in private equity and as a non-executive director, including Chairman, of a number of publicly listed and private mining and mining service companies.



**Dr Andrew Tong, Executive Manager:** Dr Tong is a metallurgist with ~15 years of experience in project development, mining and processing activities. He is formerly the CEO of Compass Resources/Northern Territories Resources and now non-executive Director of Northern Territories Resources (2017-present). Prior to that Andrew was the CEO of Goldsmith Resources (Peru) and director of Australia Gold (2010-present). Andrew is an inventor and holds several patents for processing minerals containing base and precious metals



**Danny Morgan, CFO:** Danny is a Chartered Accountant with over 25 years' professional financial and commercial experience, with a focus in the resources industry. He has worked with a range of private and ASX listed resource companies including Donaldson Coal (CFO), Hydra Energy (CFO), Oil Search and Roc Oil across IPO's, M&A, Financing, JV's, Project Developments and Financial Reporting.





## CONTACTS

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Steuart McIntyre does not own shares in Cobalt Blue Holdings.