

# Market Update

9 December 2019

December 2019 – Highlights

**Cobalt Blue Holdings Limited**  
A Green Energy  
Exploration  
Company



ASX Code:

**COB**

**Commodity Exposure:**  
Cobalt & Sulphur

**Directors & Management:**

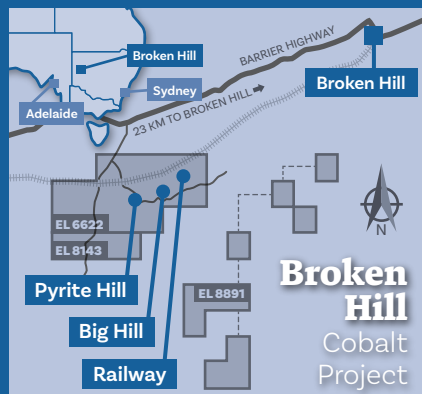
**Robert Biancardi** Non-Exec Chairman  
**Hugh Keller** Non-Exec Director  
**Robert McDonald** Non-Exec Director  
**Joe Kaderavek** CEO & Exec Director  
**Robert Waring** Company Secretary

**Capital Structure:**

Ordinary Shares at 9/12/2019: **149.9m**  
Options (ASX Code: COBO): **29.6m**  
Market Cap (undiluted): **\$19.5m**

**Share Price:**

Share Price at 9/12/2019: **\$0.13**



**Cobalt Blue Holdings Limited**

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## Pilot Plant Update

### KEY POINTS

- COB has committed to build a metallurgical testing centre in Broken Hill. This will include a Demonstration Plant for testing COB minerals processing technology to produce cobalt sulphate from pyrite samples sourced from the Broken Hill Cobalt Project.
- Commissioning of the plant is targeted for mid 2020, followed by processing up to 4,000 tonnes of sample.
- This facility will support (a) the Feasibility Study for the Broken Hill Cobalt Project, and (b) the evaluation of applying the technology to other projects under the COB Partnerships framework.
- Construction of Pilot Plant critical equipment has begun, with the first key equipment scheduled to arrive on the plant site (Broken Hill) in Q1 2020.

## Metallurgical Testing Centre

COB has committed to building a metallurgical testing centre in Broken Hill. This will include a Demonstration Plant in support of the Broken Hill Cobalt Project (BHCP). The plant will provide reliable testwork data for incorporation into the upcoming Feasibility Study in 2021 and will be focussed on testing the COB patented minerals processing technology to produce cobalt sulphate from pyrite samples. Design, engineering and procurement is now well underway.

Initially, COB will be using the existing 90 tonnes of samples stored from previous drilling campaigns to commission the plant. This step is expected to be completed in mid 2020. COB then intends to treat up to 4,000 tonnes of sample through the plant. The plant will then be operated on a continuous basis to produce cobalt sulphate and elemental sulphur for marketing and offtake negotiations.

Our global partners have indicated that 150–300 kg of cobalt sulphate is required to make 'test batteries' for verification of new chemical suppliers. COB aims to produce a minimum of 2 tonnes of cobalt sulphate.

The BHCP development timeline to 2022 is shown in the figure below.

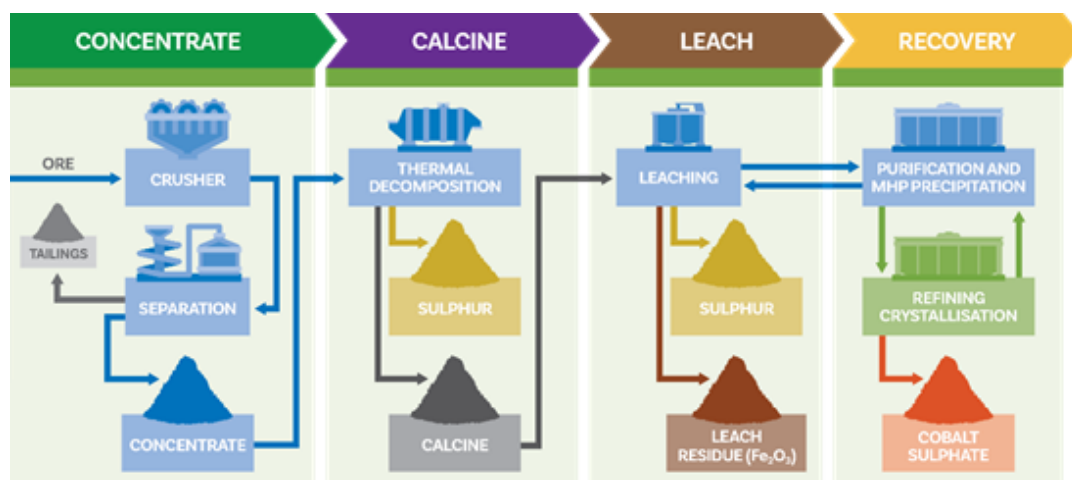
Figure 1. **The BHCP Development Timeline.**

| 2017  | 2018  | 2019   | 2020  | 2021  | 2022   |
|---|---|--|---|---|--|
| <ul style="list-style-type: none"> <li>■ IPO</li> <li>■ Resource upgrade<br/>Drilling: +8,000m<br/>Resource: 55Mt</li> <li>■ Scoping Study</li> </ul> | <ul style="list-style-type: none"> <li>■ Resource upgrade<br/>Drilling: +12,500m<br/>Resource: 72Mt</li> <li>■ LGI – Cobalt First Mover</li> <li>■ Pre Feasibility Study</li> </ul> | <ul style="list-style-type: none"> <li>■ Mitsubishi – Sulphur Agreement</li> <li>■ Concentration – Pilot Scale Testwork</li> <li>■ Resource upgrade<br/>Drilling: +9,500m<br/>Resource: 111Mt*</li> <li>■ 100% Project Ownership</li> <li>■ CPDP Submission</li> </ul> | <ul style="list-style-type: none"> <li>■ Pilot Plant – Q2 2020</li> <li>■ Ore Reserve Update – Q2 2020</li> </ul> | <ul style="list-style-type: none"> <li>■ Demonstration Plant – Q1 2021</li> <li>■ EIS Submission – Q4 2021</li> </ul> | <ul style="list-style-type: none"> <li>■ Feasibility Study and Approvals – Q1 2022</li> <li>■ Final Investment Decision – Q1 2022</li> </ul> |
| ACHIEVEMENTS  |   |  | GOALS   |   |  |

In addition to testing samples for the BHCP, COB will make the facilities available for evaluation of the patented minerals technology for application to other projects. This work will be conducted under the COB Partnerships framework.

The Demonstration Plant simplified block flow diagram is shown below.

Figure 2. **Conceptual flowchart for processing ore and production of cobalt sulphate.**



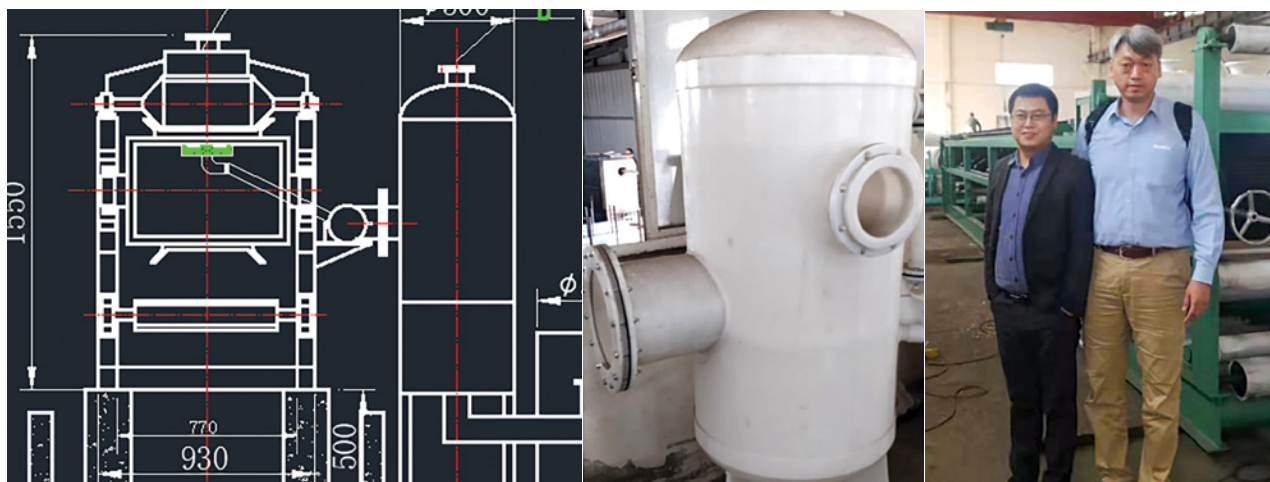
## Pilot Plant Update - China Visit

COB's Chief China Representative, Joe Lam, recently completed a progress inspection visit for key leach reactors (autoclave) and filter equipment. The estimated arrival date of these equipment items is Q1 2020.

Figure 3. **Design drawing and cutaway of leach reactor (LHS), fully assembled similar reactor on factory floor (RHS).**



Figure 4. Design drawing and belt filter collection vessel (LHS). Fully assembled similar filter on factory floor (RHS)



## Cobalt Blue Background

Cobalt Blue Holdings Limited (ASX: COB) is an exploration and project development company. Work programs advancing the Broken Hill Cobalt Project in New South Wales continue. Cobalt is a strategic metal in strong demand for new generation batteries, particularly lithium-ion batteries now being widely used in clean energy systems.

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.



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## Previously Released Information

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

- 21 October 2019: Cobalt Blue – OZ Minerals Testwork Agreement
- 22 August 2019: Cobalt Blue Strengthens Broken Hill Exploration Footprint
- 18 July 2019: COB and GEMC enter into testwork co-operation agreement
- 24 June 2019: Concentrate Circuit (Pilot Trial) program successfully completed
- 31 May 2019: COB – Mitsubishi Corporation Sulphur Agreement
- 26 February 2019: Positive Large Scale Testwork Results

The information in this report that relates to Metallurgical Testwork 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.

\* Mineral Resource of 111Mt made up of 18Mt Measured, 55Mt Indicated, and 38Mt Inferred, as detailed in ASX announcement dated 5 December 2019.