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CobaltBlue
green energy technology

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CEO's Letter
Progress and Market Update

I wish to take this occasion to deliver a progress update and discuss recent cobalt market events.

Progress Update

An updated ore reserve statement (due mid 2020) will showcase improved project economics. We have previously guided a cobalt (C1) production cash cost US$10/lb target, placing the project in the lowest global quartile on cash costs, a world class operation. Concurrently, we remain focussed on commissioning our unique Pilot/Demonstration Plant that will:

- Demonstrate our ability to produce a high-quality cobalt sulphate. We take this challenge seriously. For example; to satisfy a 20.5% Co (CoSO4,7H20) contract specification the product must typically contain no more than 1 part per million iron or copper.
- Deliver cobalt samples to global partners to assess our product quality. Most of the top ten companies active in the cobalt precursor battery supply chain are expected to commit to this program. We will subsequently update the market on progress.
- Provide a "one-roof" approach for interested partners to conduct detailed reviews as part of investment due diligence studies.
- Promote 3rd party evaluation by testwork and engineering studies, and ultimately commercial adoption, of the COB Process for treating cobalt-sulphides. To date, COB has evaluated projects in NSW, South Australia and Queensland.

Critical (long lead time) Pilot Plant equipment has arrived in Australia and is in transit to Broken Hill, with a further update due shortly. Overall, the development timeline to 2022 is shown in Figure 1.

Figure 1 – **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 – Q3 2020		Final Investment Decision – Q1 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 – Q2 2020	Demonstration Plant – Q1 2021	
Environmental Approvals			CPDP Submitted	Scoping Report – Jan 2020 SEARs issued – Q2 2020	EIS Submission – H2 2021	SSD Determination – H1 2022
	ACHIEVEMENTS			GOALS		

Cobalt Market Update

- **Cobalt price rebound:** The cobalt spot price has undergone a steady recovery (+50% to US$18/lb) from its July 2019 lows. At the same time cobalt inputs/derivatives such as hydroxides and sulphates have witnessed increased payability reflecting market tightness. Our view is that cobalt sulphate will retain on average a small premium (US$1-2/lb) to metal in the long-term.
- **Long term cobalt deals:** While the cobalt spot price is undergoing a period of repair, let's examine longer term developments. An unprecedented number of larger 5-6 year deals are being or have been finalised. These dealings reflect market tightness sourcing cobalt units in support of long-term production plans. Deals include Glencore (FTSE:GLEN) and:
  - Samsung SDI – totalling 21,000 tonnes over 5 years (Feb 2020)
  - SK Innovation – totalling 30,000 tonnes over 6 years (Dec 2019)
  - GEM Group – totalling 61,200 tonnes over 5 years (Oct 2019)
  - Tesla (Jan 2020), Umicore (May 2019) and BMW (Apr 2019) details undisclosed.
- **Lower cobalt cathodes:** or 'nickel rich' cathodes such as (Nickel Manganese Cobalt) NMC 811 are expected to become the major chemistry adopted for passenger electric vehicles over the next 10-15 years. This chemistry provides excellent energy density per battery weight. However, the limitations of NMC battery thermal and chemical stability are being reached, and further reductions in cobalt content are not practical from an end-user safety perspective. In fact, many current "NMC 811" batteries are based on a "core" of 811 surrounded by "shells" of 622, 532 and even 111 to provide operational stability. Regardless, COB welcomes the development of improved batteries (NMC 811) that will lead to higher uptake of electric vehicles and thus increased overall demand for cobalt cathodes.

We at COB look forward to producing ethical cobalt as part of a decarbonised future. Let's keep in touch as this journey continues.

Regards,

Joe Kaderavek
Chief Executive Officer
Cobalt Blue Holdings

On behalf of the Board of Cobalt Blue Holdings Limited