

Q2 2022

# Investor Webinar

ASX: COB



# Recent key milestones

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1. **Demonstration Plant Commissioning:** Construction work ongoing, 80m decline portal underway, first ore expected in May.
2. **Major Project Status:** Helps streamline approval processes and pave a smoother path to capital markets.
3. **Australia-US Critical Minerals Delegation:** COB's participation cements our importance to Australia's CM Strategy and introduces the BHCP to the world.
4. **A\$15m Critical Minerals Accelerator Initiative:** De-risks DFS by expanding the scope of Feasibility Studies and bringing forward infrastructure & services work.
5. Following easing of covid travel restrictions, we have recommenced meetings with key battery and electric vehicle makers in the US, Korea and EU.





# Demonstration Plant Update

Box cut decline progressing for May first ore



*Source: Cobalt Blue Holdings Limited*





# Demonstration Plant Update

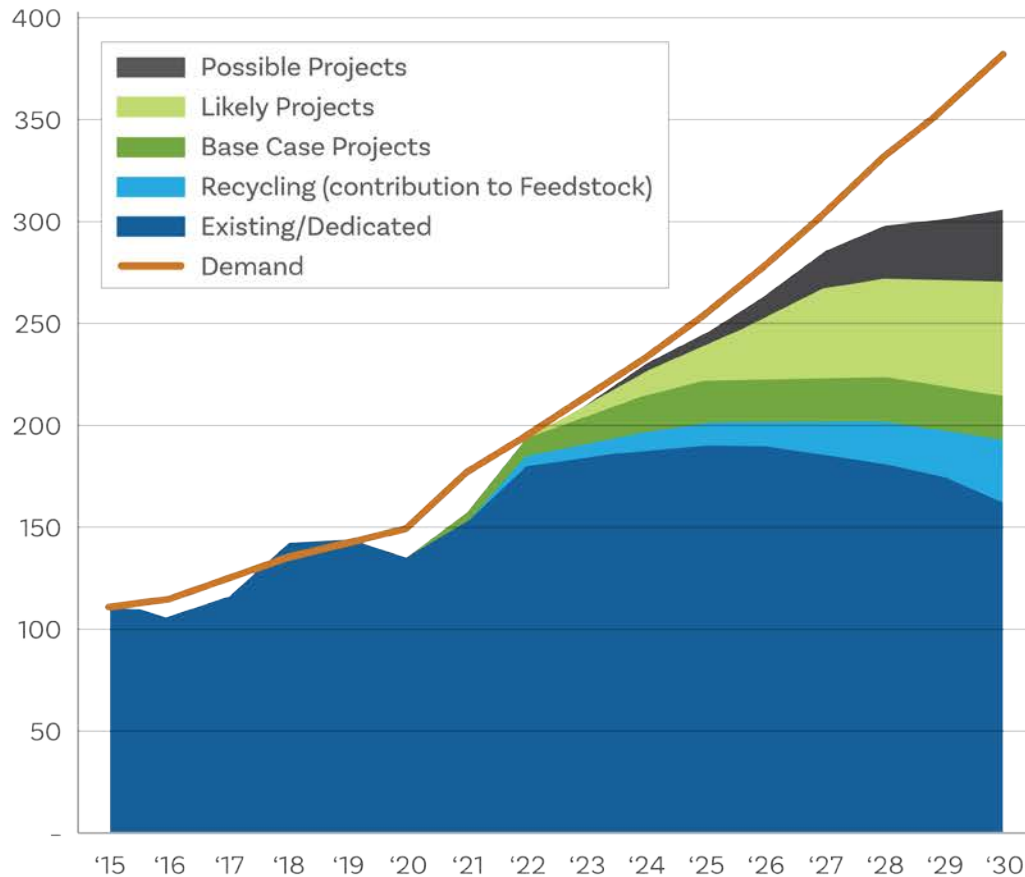
## Crushing circuit pad established



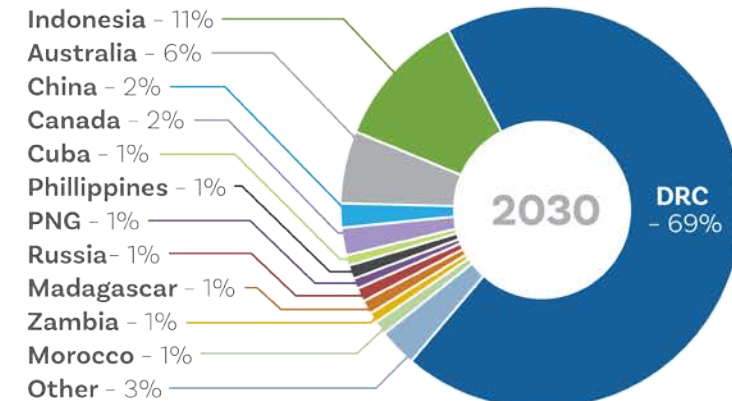
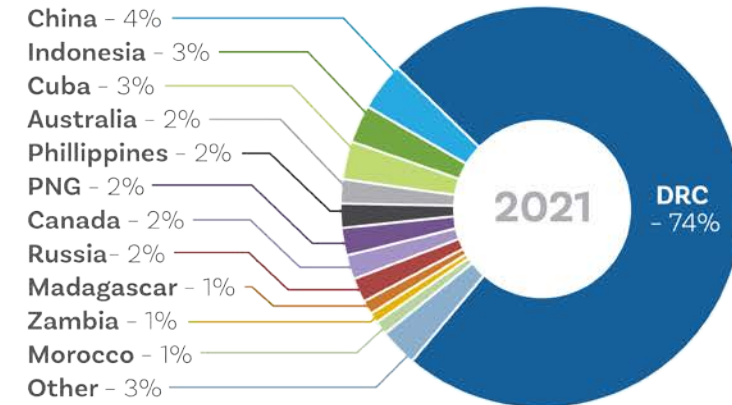
Source: Cobalt Blue Holdings Limited

# Market Balance

Another ~80ktpa is required by 2025, reaching another 200ktpa by 2030



## Cobalt production by country



Source: Wood Mackenzie, Cobalt Blue Holdings Limited

ASX: COB



# BHCP – Timeline

## Development Schedule

	PRE - 2021	2021	2022	2023	2024	2025
<b>Broken Hill</b> Cobalt Project						
Business Achievements	100% Project Ownership CRC-P Grant	Global Cobalt Sample Program Major Project Status and CMAI grant	Offtake Cobalt Qualification Program – 2022 Major Project Status and CMAI grant	Final Investment Decision	Construction Period Mine Development EPC Renewable Power Contracts	Refinery Commissioning First Commercial Production
Technical Studies	Project Update 2020 PFS 2018	Feasibility Study	Feasibility Study	Definitive Feasibility Study and Approvals		
Process Testing	Pilot Scale Testwork	Pilot Plant – 30 Tier 1 Partners Offtake Contract Negotiations (begin)	Larger scale (24/7) Operations Commercial Qualification Samples Bulk Sample			First On Specification Production
Environmental Approvals		EIS Field Studies	EIS Field Studies	EIS Submission SSD Determination	ESG/CO <sub>2</sub> Reporting	ESG/CO <sub>2</sub> Reporting Operating Permits (approved)
	PRE - 2022		M I L E S T O N E S			

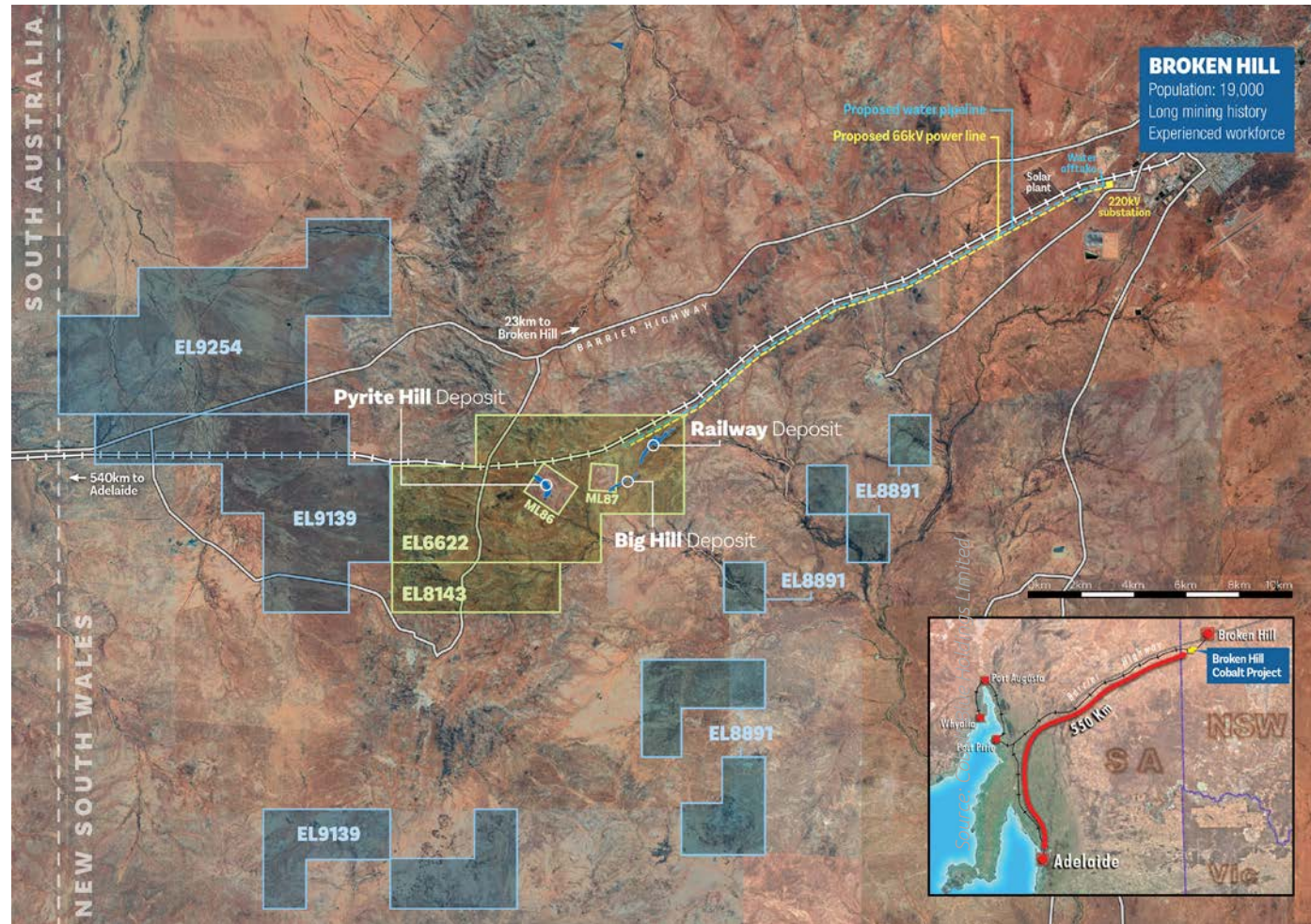
Source: Cobalt Blue Holdings Limited





# BHCP – Logistical Advantages

*Broken Hill: people, power, water, road and rail benefits*



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# Mineral Resource Summary

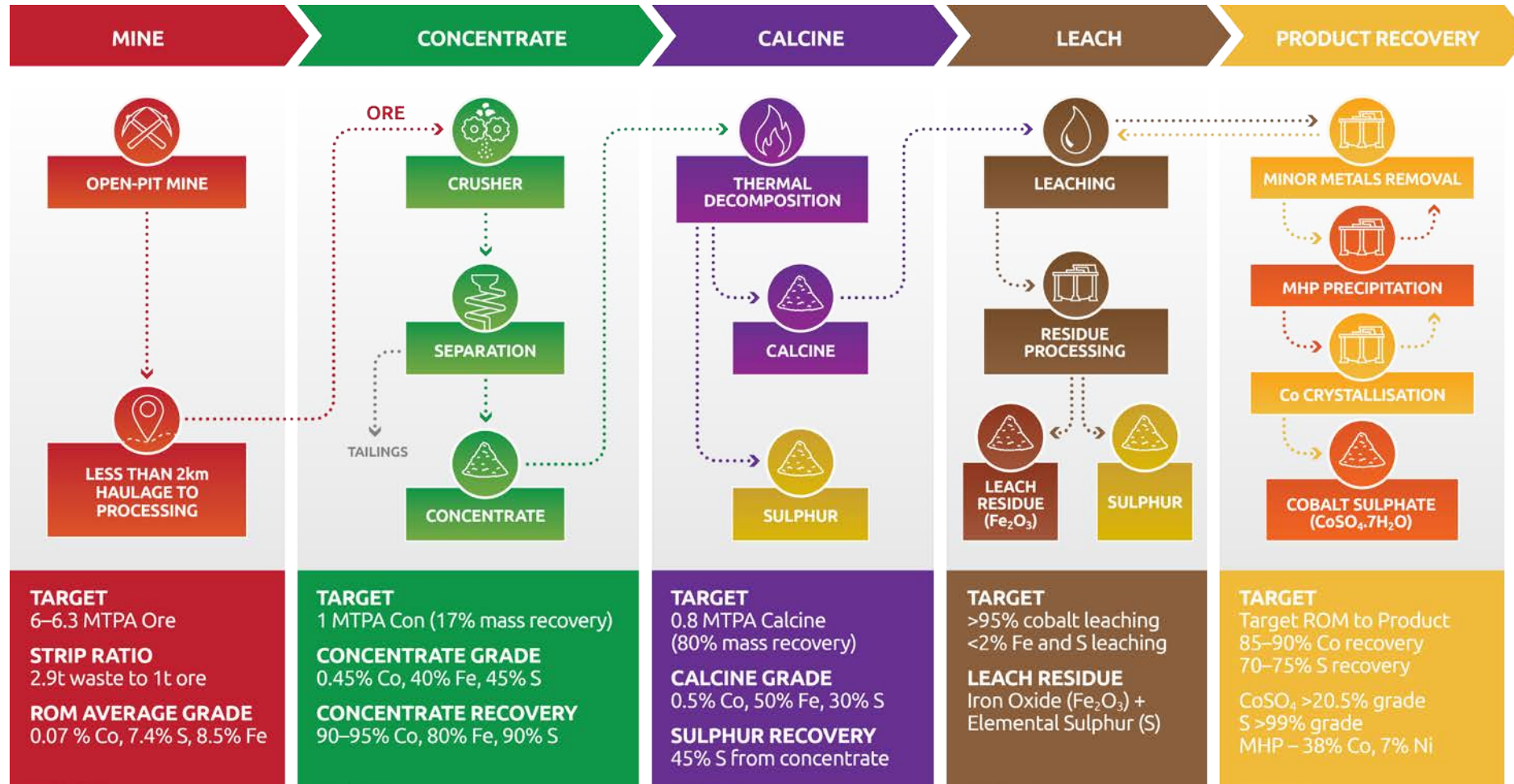
Category	Mt	CoEq (ppm)	Co (ppm)	S (%)	Ni (ppm)	Contained Co (kt)	Contained S (Kt)	Contained Ni (kt)
<b>Pyrite Hill</b> (at a 275 ppm CoEq cut-off)								
Measured	18	1,276	1,030	10.9	191	18.3	1,935	3.4
Indicated	7	931	742	8.5	141	5.3	613	1.0
Inferred	6	1,171	943	10.1	174	5.9	627	1.1
<b>Total</b>	<b>31</b>	<b>1,176</b>	<b>946</b>	<b>10.2</b>	<b>176</b>	<b>29.5</b>	<b>3,179</b>	<b>5.5</b>
<b>Big Hill</b> (at a 275 ppm CoEq cut-off)								
Indicated	11	742	604	5.8	129	6.7	644	1.4
Inferred	7	655	529	5.4	105	4.0	404	0.8
<b>Total</b>	<b>19</b>	<b>707</b>	<b>574</b>	<b>5.6</b>	<b>119</b>	<b>10.7</b>	<b>1,041</b>	<b>2.2</b>
<b>Railway</b> (at a 275 ppm CoEq cut-off)								
Indicated	41	775	619	6.9	118	25.1	2,798	4.8
Inferred	28	727	571	7.0	116	15.8	1,938	3.2
<b>Total</b>	<b>68</b>	<b>755</b>	<b>599</b>	<b>6.9</b>	<b>118</b>	<b>40.9</b>	<b>4,709</b>	<b>8.1</b>
<b>Total</b> (at a 275 ppm CoEq cut-off)								
Measured	18	1,276	1,030	10.9	191	18.3	1,935	3.4
Indicated	59	788	631	6.9	123	37.1	4,062	7.2
Inferred	41	781	619	7.2	123	25.6	2,979	5.1
<b>Total</b>	<b>118</b>	<b>859</b>	<b>687</b>	<b>7.6</b>	<b>133</b>	<b>81.1</b>	<b>8,968</b>	<b>15.7</b>

1 (CoEq = Co + S % × 18.0078 + Ni ppm × 0.2639). Note minor rounding errors may have occurred in compilation of this table.





# BHCP MHP & Cobalt Sulphate Production Flowsheet



Source: Cobalt Blue Holdings Limited



# BHCP – Pilot Plant Achievements

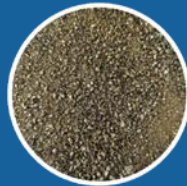
## Proven COB Process at Pilot Plant scale

Study Level	Period	Concentrate	Circuit	Pyrolysis Circuit	Leaching/Purification
Scoping Study	2017	20–30 kg	Lab scale	1 kg	Lab scale
Pre-Feasibility Study	2018	820 kg	Bulk trial in batch mode	100 kg	2–3 kg batches
Project Update	2020	45 tonne	Continuous pilot circuit 2–3 t/hr	150 kg	Continuous pilot circuit 4–8 kg/hr
Pilot Plant	2021	45–50 t	Continuous pilot circuit 2–3 t/hr	Up to 15 t	Commercial sized furnace 100–150 kg/hr
Demonstration Plant	2022	3000 t	Mobile plant 10–15 t/hr	Up to 500 t	Commercial sized furnace 100–150 kg/hr

Source: Cobalt Blue Holdings Limited



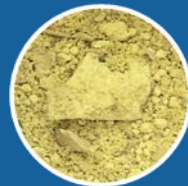
**Ore**  
Pyrite/Albite



**Concentrate**  
Pyrite - FeS<sub>2</sub>



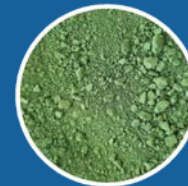
**Calcine**  
Pyrrhotite - Fe<sub>7</sub>S<sub>8</sub>



**Elemental Sulphur**



**Leach Residue**  
Fe<sub>2</sub>O<sub>3</sub>



**Co-Ni Mixed Hydroxide**



**Cobalt Sulphate**  
CoSO<sub>4</sub>.7H<sub>2</sub>O



# BHCP – MHP

## BHCP – Co-Ni Mixed Hydroxide Product (MHP)

- High Grade: 37% cobalt.
- Byproduct Credit: 7% nickel.
- Low trace metal impurities – Cu, Fe, Mn.
- Trading terms typical grade is 30% Co content.

### Typical content from testwork:

Ca	Co	Cl	Cu	Fe	Mn	Ni	Zn
2.5 %	37 %	7 %	0.01 %	0.07 %	0.85 %	7 %	0.1 %





# BHCP – Cobalt Sulphate

## BHCP – Cobalt Sulphate Heptahydrate ( $\text{CoSO}_4 \cdot 7\text{H}_2\text{O}$ )

- High Grade: 20.8% cobalt.
- Low trace metal impurities.



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: Cobalt Blue Holdings Limited



# BHCP – Elemental Sulphur

## BHCP – Elemental Sulphur

- >99% purity (max 0.2% Fe, 0.5% SiO<sub>2</sub>)
- Physical Form: Prills (2–5 mm)
- Australia: 1 mtpa deficit market:
  - fertiliser feedstock (55%)
  - metallurgical consumption (43%)

Al	600	ppm
Ca	160	ppm
Co	<20	ppm
Fe	0.10	%
Mg	60	ppm
Na	100	ppm
SiO <sub>2</sub>	0.45	%
S	99.3	% by difference

Source: Cobalt Blue Holdings Limited



# Strategic Arrangements / Partnerships

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## Existing commercial partnerships

- LG International: First Mover partnership provides capital and technical assistance on high purity battery grade cobalt sulphate
- Cooperative Research Centre & Future Batteries Industries project to fund and validate our refining process research and participate in development of Australian battery industry
- Sojitz Corporation (cobalt), Mitsubishi Corporation (sulphur)
- Cobalt in Waste Streams Project (CWSP) – key QLD Govt agreement executed.

## Other important external fundamentals

- Granted [\*Major Project Status\*](#) by the Australia Government (Federal)
- Participant in in bilateral discussions between Australia and South Korea MOU on Cooperation in Critical Mineral Supply Chains





# Disclaimer

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# Compliance Statements

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

The information is extracted from the reports referenced below which are available to view at <https://www.cobaltblueholdings.com/>.

Slide 8: The Mineral Resource estimate is as released on 16 September 2021 in the market announcement titled 'BHCP Resource Update'. The 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. In addition to cobalt, the revised cut-off grade incorporates revenue streams from elemental sulphur and nickel; economic by-products of the processing pathway defined in the 2018 PFS and subsequent 2020 Project Update. The cobalt equivalent grade has been derived from the following calculation;  $\text{CoEq ppm} = \text{Co ppm} + (\text{S ppm} \times (\text{S price} / \text{Co price}) \times (\text{S recovery} / \text{Co recovery})) + (\text{Ni ppm} \times (\text{Ni price} / \text{Co price}) \times (\text{Ni recovery} / \text{Co recovery}))$ . This equates to  $\text{CoEq} = \text{Co} + \text{S} \% \times 18.0078 + \text{Ni ppm} \times 0.2639$ . The parameters used for this calculation are listed below:

Assumption	Input
Cobalt Price	US\$27.50/lb
Sulphur Price	US\$145/t
Nickel Price	US\$16,000/t
Cobalt Recovery	85%
Sulphur Recovery	64%
Nickel Recovery	85%
Exchange rate (A\$ to US\$)	0.70

The Company confirms all elements included in the metal equivalence calculation have reasonable potential to be recovered and sold.



# Compliance Statements

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Slide 9: The BHCP process flowsheet and production target parameters are as released in the market announcement titled 'Broken Hill Cobalt Project (BHCP) Project Update 2020'.

Slide 11: The metallurgical results are as released on 28 April 2020 in the market announcement titled 'Mixed Hydroxide Product (MHP) testwork delivers premium product' and further described in the market announcement released on 16 July 2020 titled 'Broken Hill Cobalt Project (BHCP) Project Update 2020'.

Slides 12 - 13: The metallurgical results are as released on 14 July 2020 in the market announcement titled 'BHCP testwork – High purity cobalt and sulphur products' and further described in the market announcement released on 16 July 2020 titled 'Broken Hill Cobalt Project (BHCP) Project Update 2020'.

