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21 August 2024

Dear Investors,

Project Acquisition Manager, Dr. Helen Degeling, will present at the AusIMM Critical Minerals Conference in Brisbane, Australia, on 26 August 2024.

We are pleased to publish the presentation which focuses on Cobalt Blue's patented process to extract valuable metals and sulphur from mine waste to minimize environmental risks. The document also includes a link to a short video detailing our ReMine+ Strategy.

This announcement has been authorised for release by the Company's board of directors.

Joe Kaderavek
Chief Executive Officer
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Pyrite re-processing of critical-metal bearing waste for environmental gain

Helen Degeling

AusIMM Critical Minerals Conference
August 2024

ASX: COB

CobaltBlue | ReMine+

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Strategic Priorities

ReMine+

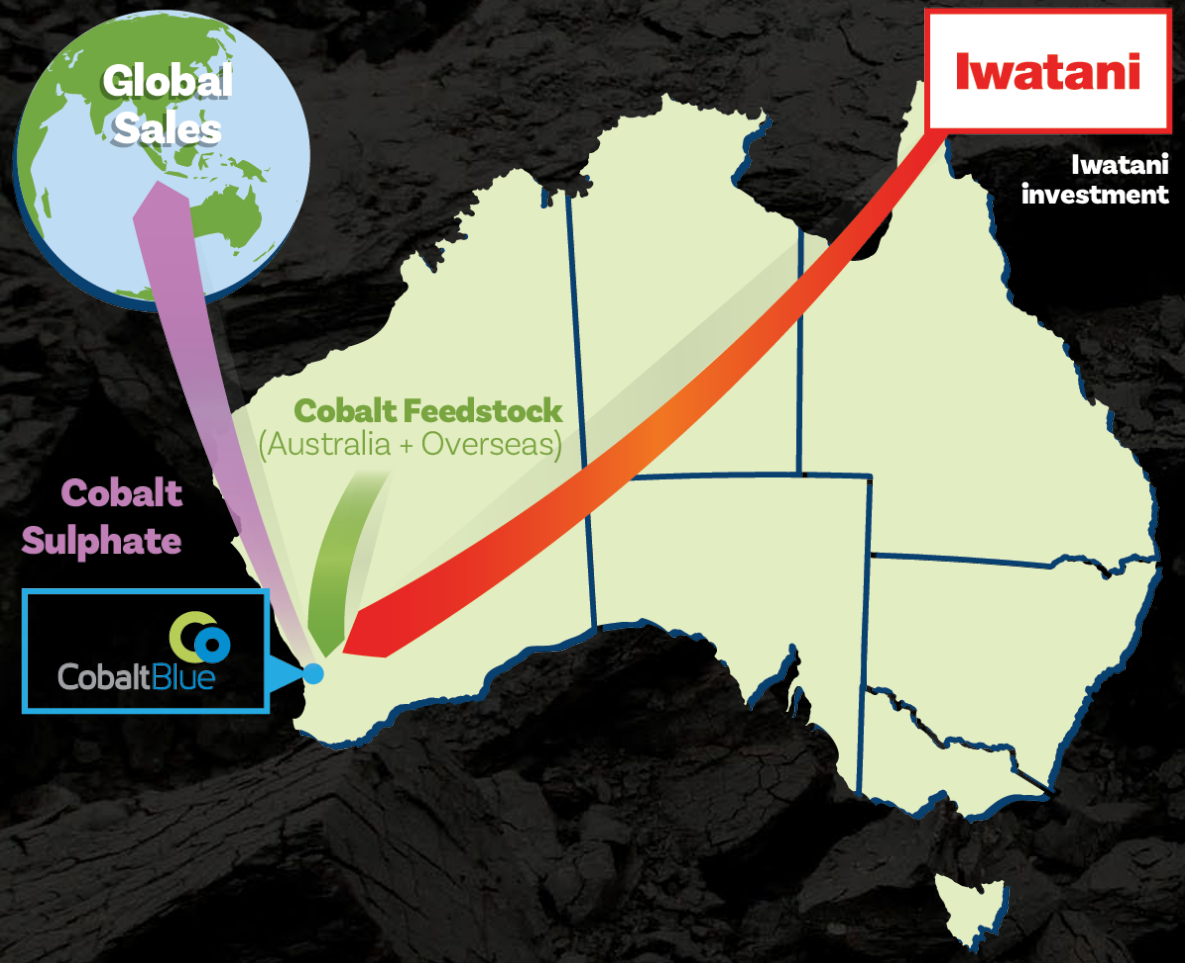
Global
Unlocking Value and Positive Impact from Mine Waste

Cobalt–Nickel Refinery

Kwinana, WA
Metal Processing for the Battery Supply Chain

Broken Hill Cobalt Project

Broken Hill, NSW
Responsibly Sourced Cobalt



Source: Cobalt Blue Holdings Limited

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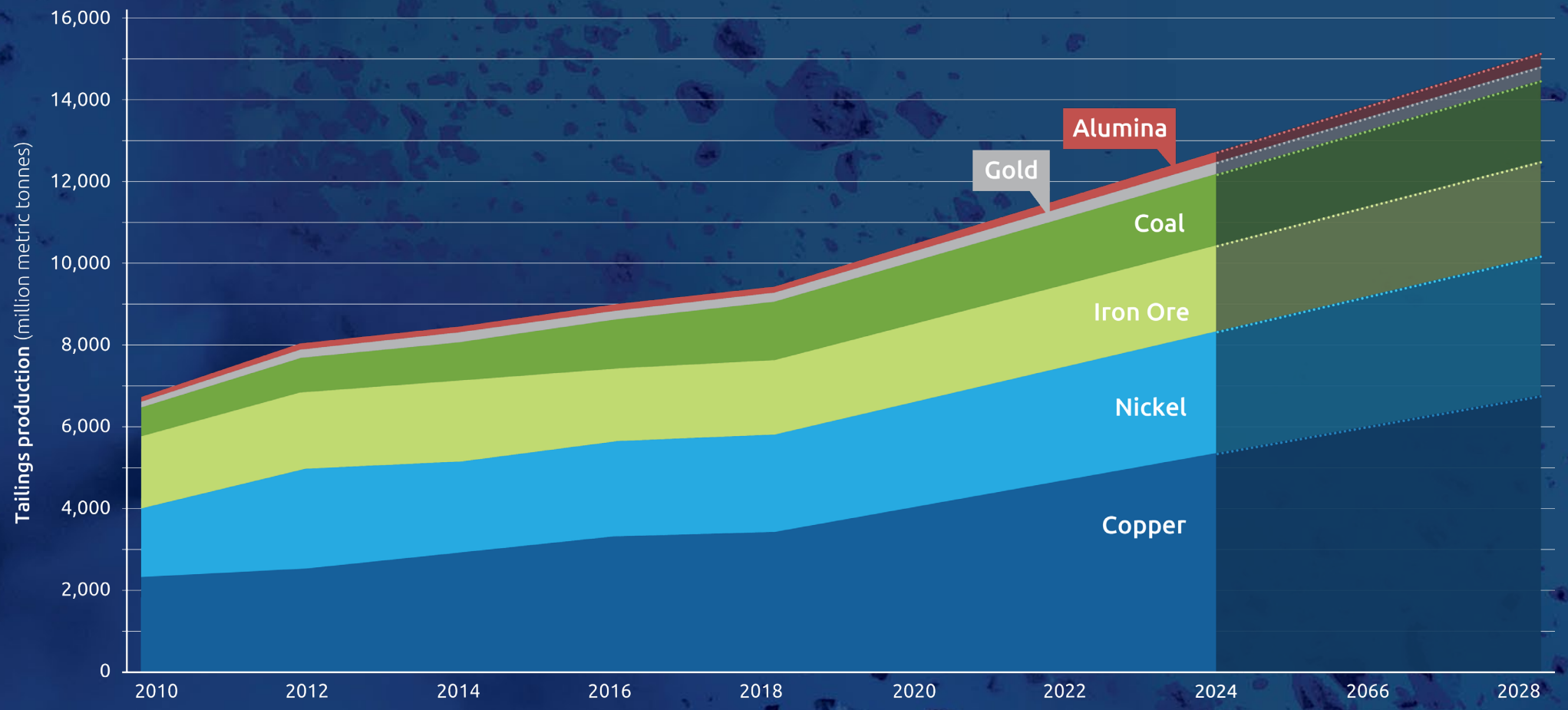
Global Mine Waste



Source: International Council on Mining and Metals; Roadmap for Tailings Reduction, 2022; Global Mining Review, 2022; Valenta et al., 2023

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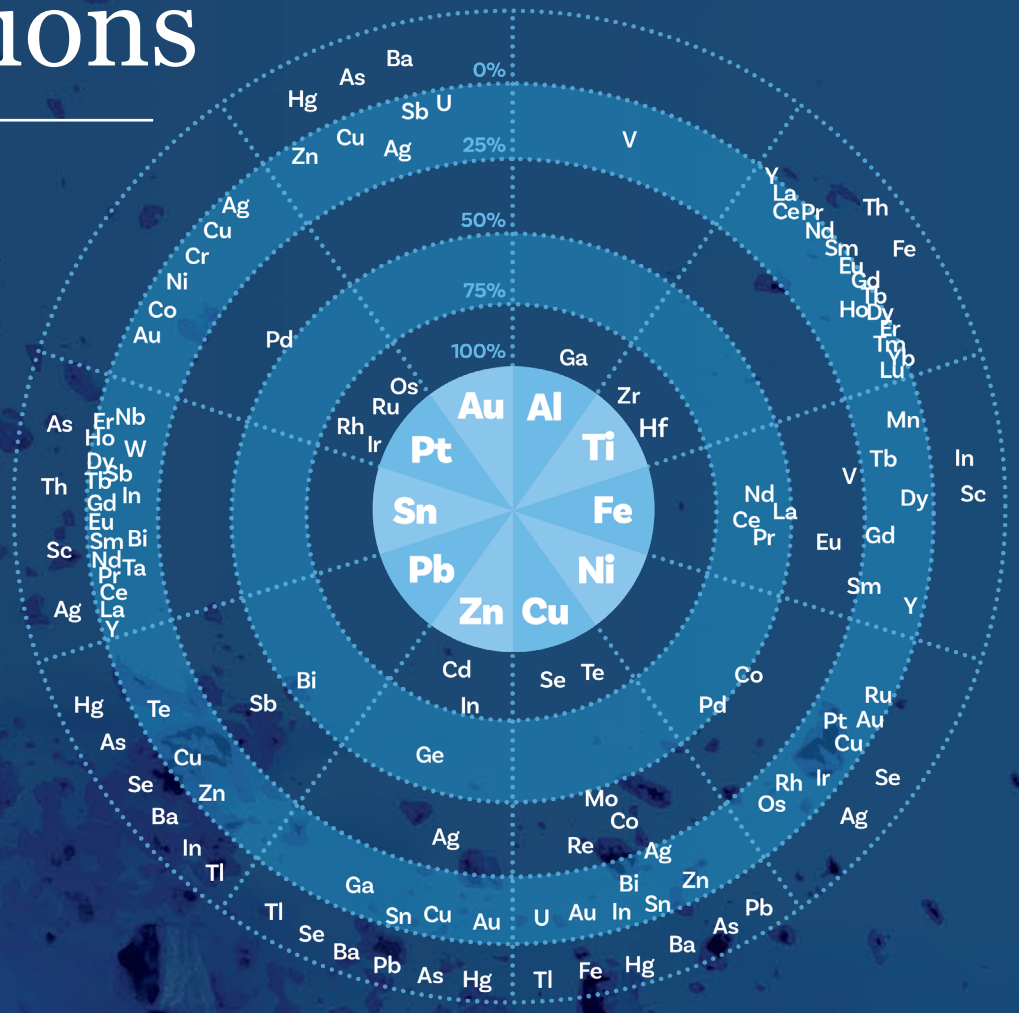
Predictive metal associations

- Natural ore deposits are a mix of commodities, though often with one dominant
- Mining operations focus on one or two commodities for efficiency of operation.
  - The remaining metals are sent to waste
- For example, cobalt is commonly associated with both nickel and copper ore. However the majority of mine operators have previously not extracted the cobalt.
  - It can therefore be predicted that many large copper and nickel mines will contain potentially economic concentrations of cobalt
- Other metals, many critical to the energy transition, may also be predicted to occur in mine waste based on their known ore associations



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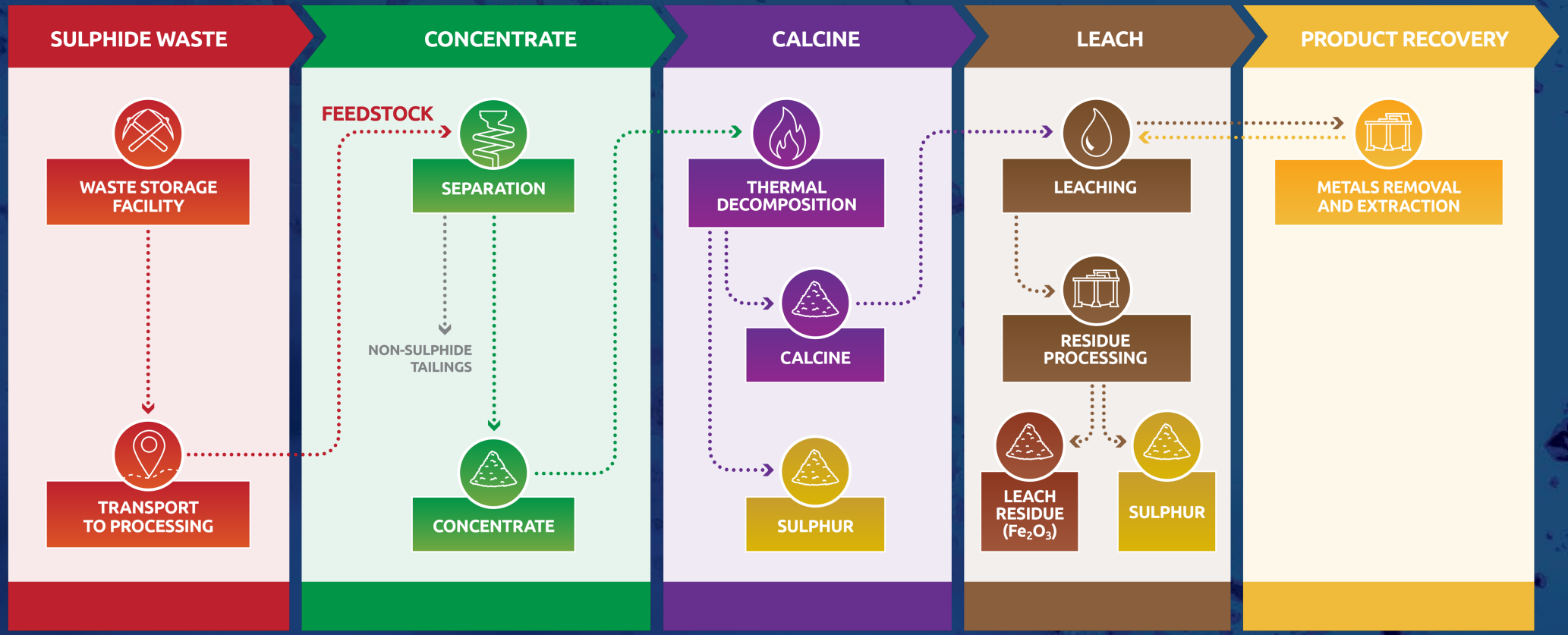
Source: https://www.nordicinnovation.org/2021/nordic-supply-potential-critical-metals-and-minerals-green-energy-transition

The Cobalt Blue flow sheet



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Source: Cobalt Blue Holdings Limited

Science of acid reduction

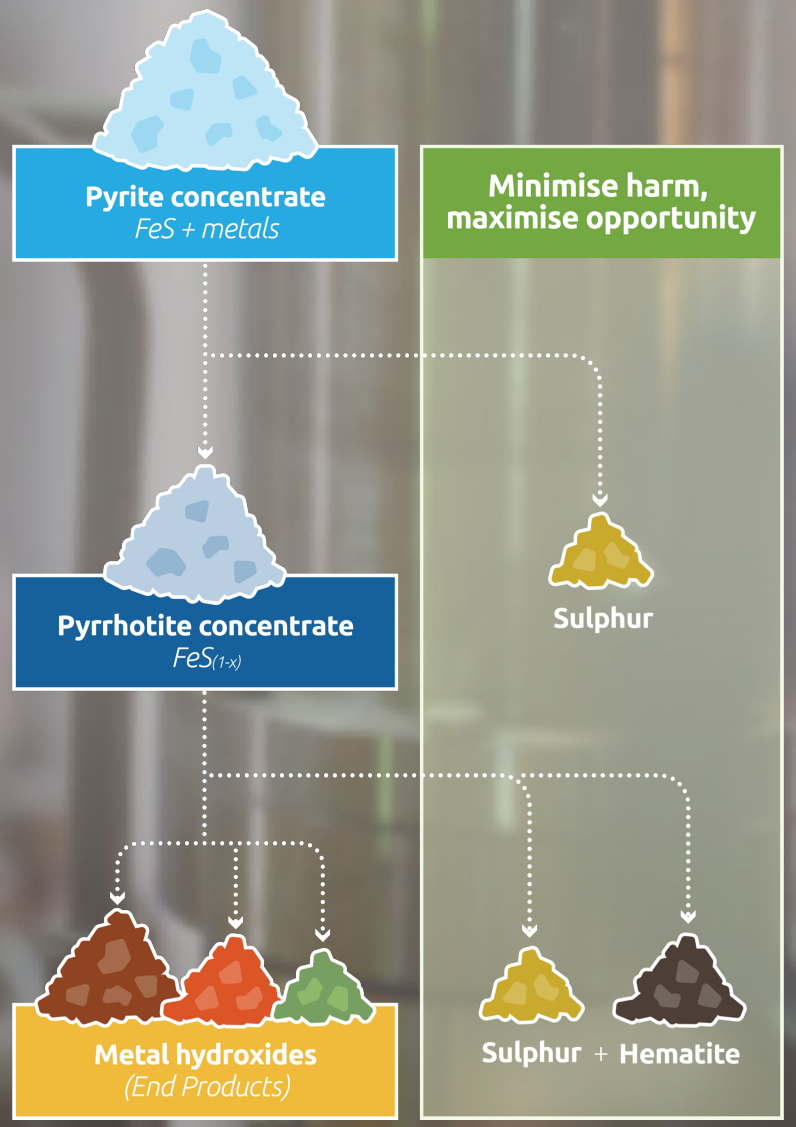
Cobalt Blue's patented process mitigates potential environmental harm and produces saleable elemental sulphur

A key step in the Cobalt Blue process is to convert pyrite (FeS) to the mineral pyrrhotite ($FeS_{(1-x)}$).

Pyrrhotite contains less sulphur than pyrite, and the rejected sulphur is captured as a gas and cooled to crystallise as elemental sulphur.

A second sulphur extraction step is achieved during leaching, during which the pyrrhotite molecules are oxidized to make hematite ((Fe_2O_3). This process liberates sulphur, as well as any other metals (such as Co, Ni, Co, Ag and others) that may be contained in the pyrrhotite lattice.

By capturing the sulphur at each stage, any additional waste therefore has a much lower ability to form sulphuric acid; the main culprit in acid mine drainage.



Source: Cobalt Blue Holdings Limited

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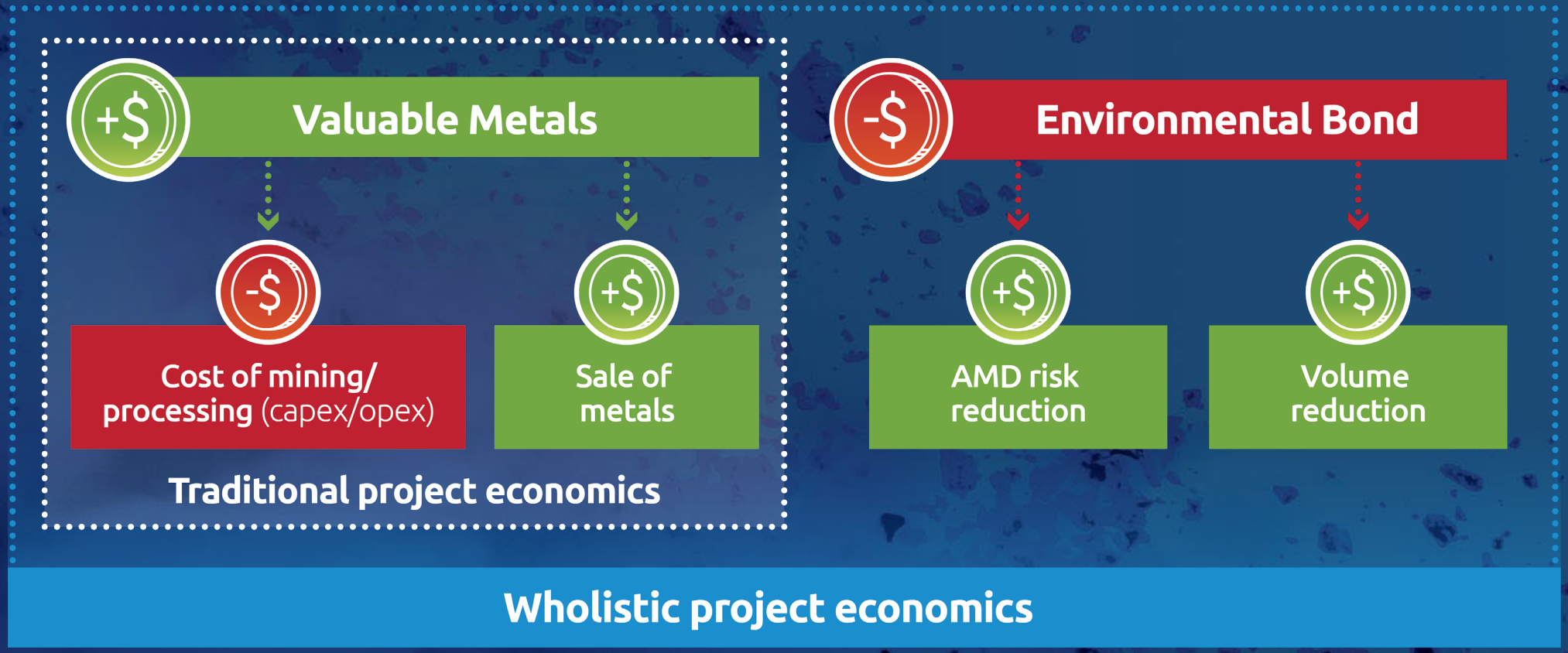
The Case for Tailings Re-Processing



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Source: Cobalt Blue Holdings Limited

Case Study: Flin Flon tailings project

Market Update

23 November 2023

Cobalt Blue Holdings Limited

A Green Energy Exploration Company

Highlights

Positive Results - Preliminary Flin Flon Tailings Test Work

KEY POINTS

- Cobalt Blue Holdings Limited (COB) (ASX:COB) and Hudbay Minerals Inc. (Hudbay) previously announced a test work co-operation agreement examining the use of COB technology to treat Hudbay's Flin Flon tailings.
- COB has now completed preliminary roasting test work with positive results warranting further evaluation in the next stage of test work.
- The overall results successfully achieved greater than 90% conversion of the pyrite into pyrrhotite and elemental sulphur.

Background

COB previously announced (ASX: 27 June 2023) that it had entered into a testwork co-operation agreement with respect to Hudbay's wholly-owned Flin Flon tailings storage facility located in the Province of Manitoba, Canada (the "Tailings Facility"). Hudbay estimates that the Tailings Facility contains over 100 million tonnes from approximately 90 years of operations, which ceased in 2022.

In 2021, Hudbay identified the opportunity to reprocess Flin Flon tailings and subsequently completed a confirmatory drilling program covering approximately two-thirds of the Tailings Facility. The assay results from Hudbay's drilling program indicated higher zinc, copper and silver grades than predicted from historical mill records while confirming the historical gold grade. The COB test work agreement is assessing the ability to recover valuable minerals while converting sulphides into stable and benign sulphur.

COB Technology

COB has been developing minerals processing technology for extraction and recovery of cobalt and elemental sulphur from cobalt-pyrite feedstocks. The minerals processing technology is focused on the treatment of pyrite, to recover payable metals, elemental sulphur, and generate environmentally stable iron oxide leach residues. The process specifically avoids the simultaneous production of sulphuric acid, which normally occurs when roasting pyrite, or leaching pyrite via pressure oxidation.

Estimated >100 million tonnes contained in tailings dam at Flin Flon. Tailings contains Zn, Cu, Ag and Au.

HUDBAY

Cobalt Blue and Hudbay Minerals collaborating to apply Cobalt Blue's processing technology to the Flin Flon tailings facility, Manitoba.

Testwork results to date have achieved >90% conversion of pyrite to pyrrhotite + sulphur.

An overall flowsheet is now being designed for the final stepof testwork.

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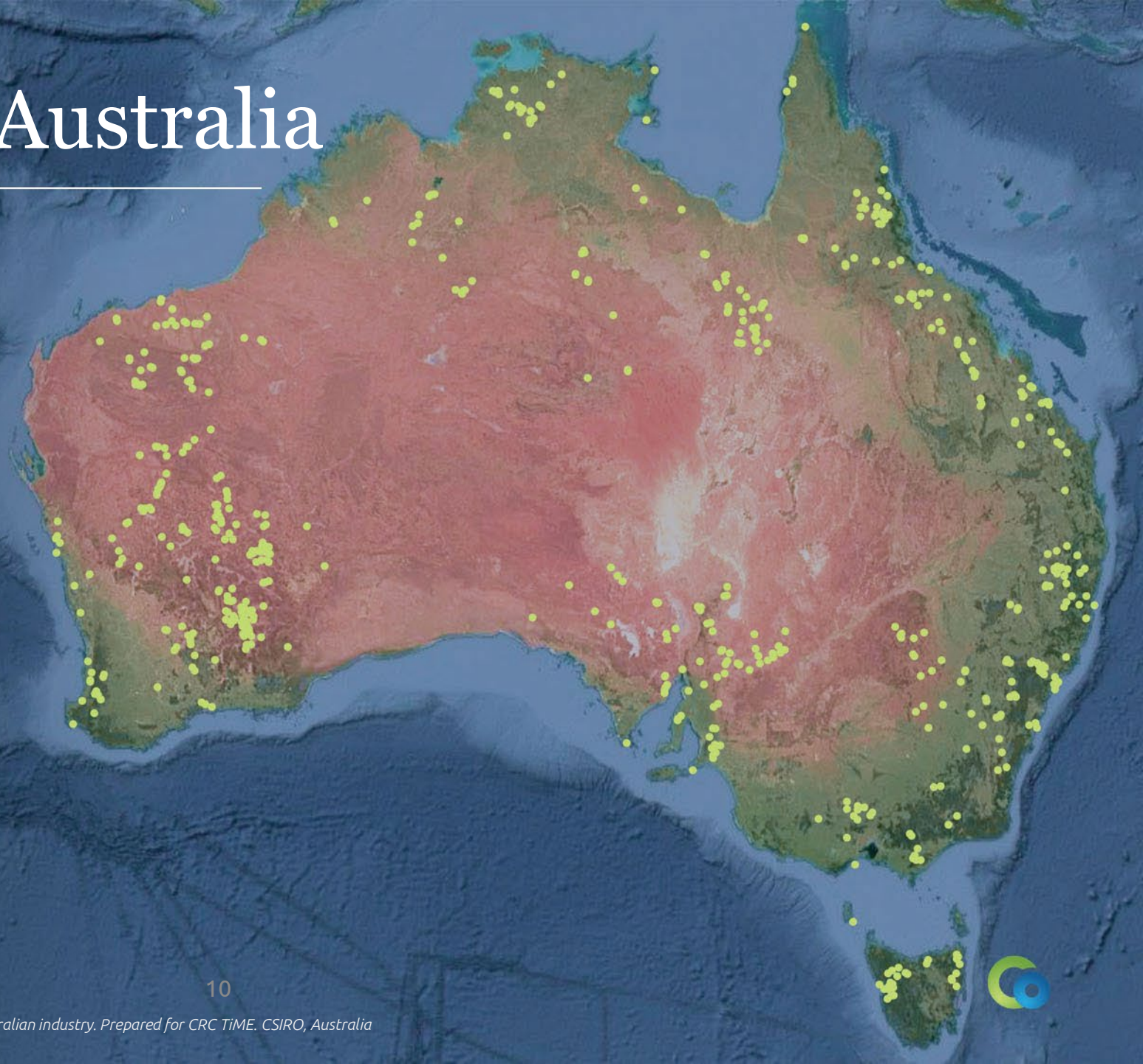
Source: Cobalt Blue Holdings Limited

Mine Waste in Australia

- Long history of mining
- >3,500 active and inactive sites
- Most will have associated waste
- Potential for valuable raw materials in the waste



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Source: CSIRO (2023) Enabling mine closure and transitions: Opportunities for Australian industry. Prepared for CRC TiME. CSIRO, Australia

Case Study: Osborne Testwork

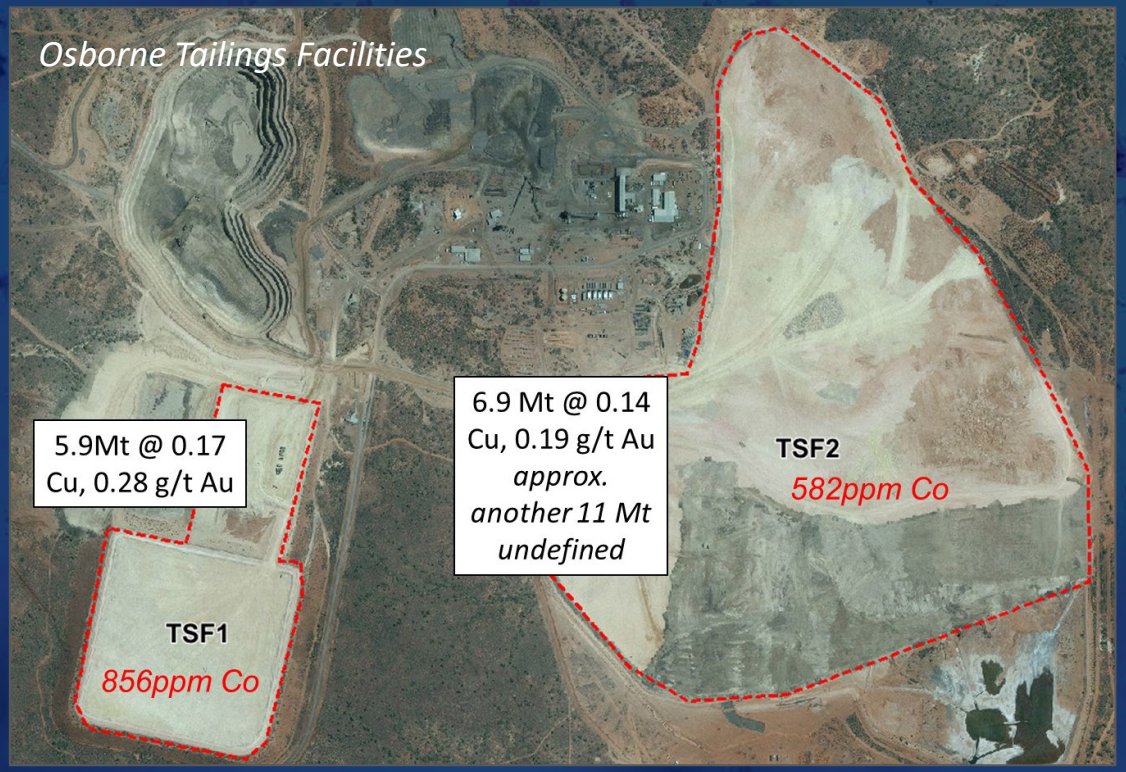

Image credit and sampling data: A. Parbhakar-Fox, University of Queensland.

Two flowsheets tested:

Tails → float → POX

Tails → kiln → POX (COB Process)

	Float	POX	TOTAL recovery
Cobalt	90%	46%	41.4%
Copper	74%	98%	72.5%

	Kiln	POX	TOTAL recovery
Cobalt	99%	90%	89.1%
Copper	99%	90%	89.1%

Further recovery of cobalt and copper required from leach solutions.

The University of Queensland Australia

Queensland Government

Note: Cobalt Blue completed testwork on material obtained from the Osborne Tailings Facility under the Secondary Prospectivity Project MOU with the State of Queensland, acting through the Department of Resources, to assess opportunities for the recovery of cobalt (and any coexisting base and precious metals) from mine waste (see ASX Announcement 'COB executes MOU with State of Queensland: Recovery of cobalt from mine waste' released 21 December 2021). The Osborne Project is owned by Chinova Resources. COB has no economic interest in the project".

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CobaltBlue

ReMine+
Positive impact
from mine waste

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