



**Ramu NI 43-101 Highlights**

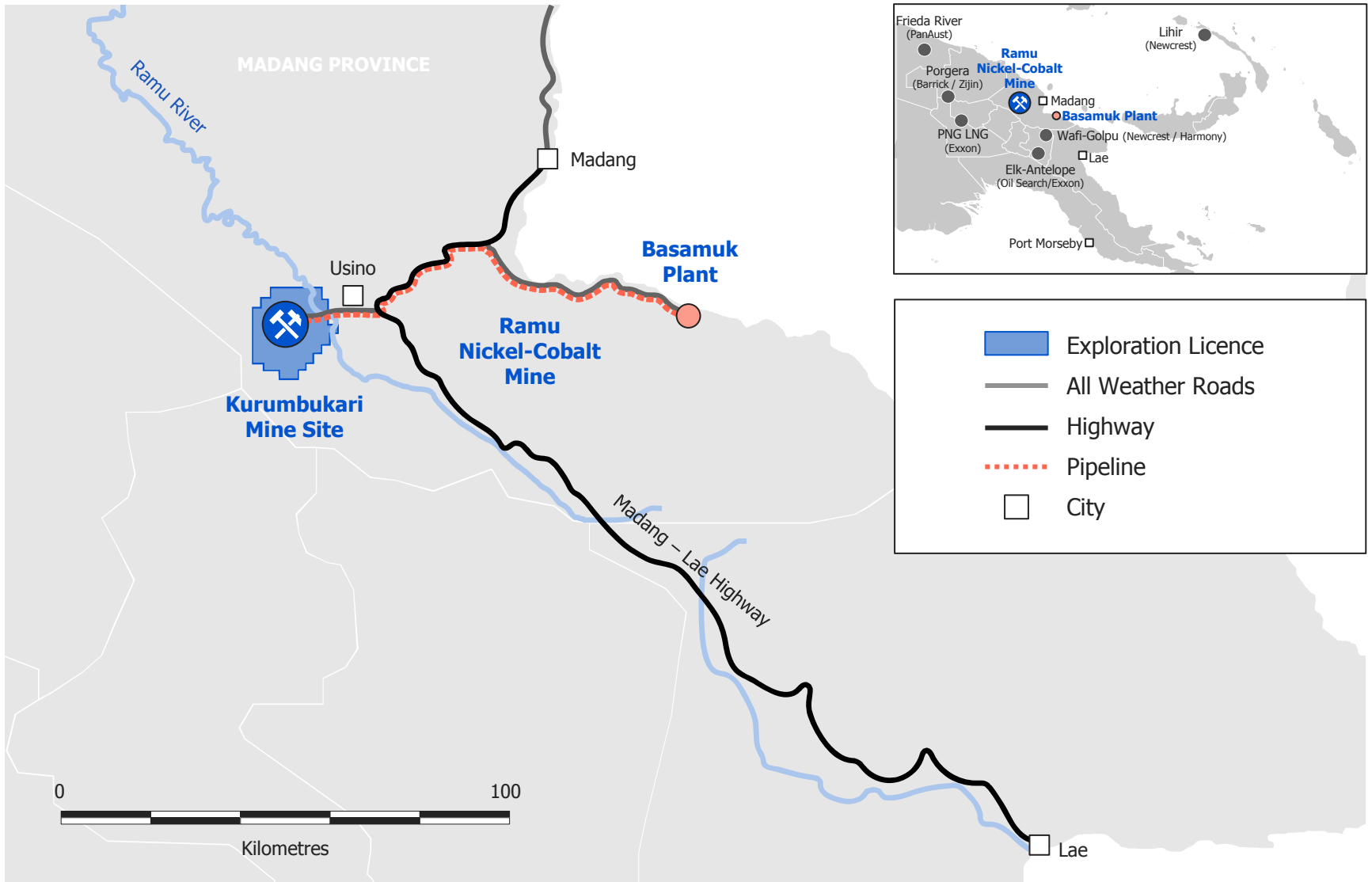
**Investor Presentation  
July 2019**

## Ramu Highlights

- Constructed in 2008 and commissioned in 2012 with ~US\$2.1 billion in capital expenditures
- Consistently ranks at or near first-quartile of global nickel cost curve<sup>(1)</sup>
- Production exceeded nameplate capacity in 2017 and 2018 and is on track to repeat in 2019
- Project consists of a nickel-cobalt mine and beneficiation plant connected via a 135km pipeline to a processing plant strategically located on the coast
- NI 43-101 report highlights significant additional resource and reserve potential
- Resources covers less than 15% of Ramu's exploration license
- Project operator MCC is evaluating a doubling of capacity at Ramu given significant resource base

(1) As reported by Wood Mackenzie

# Detailed Map of Ramu Nickel-Cobalt Mine



# Ramu Mine Performance

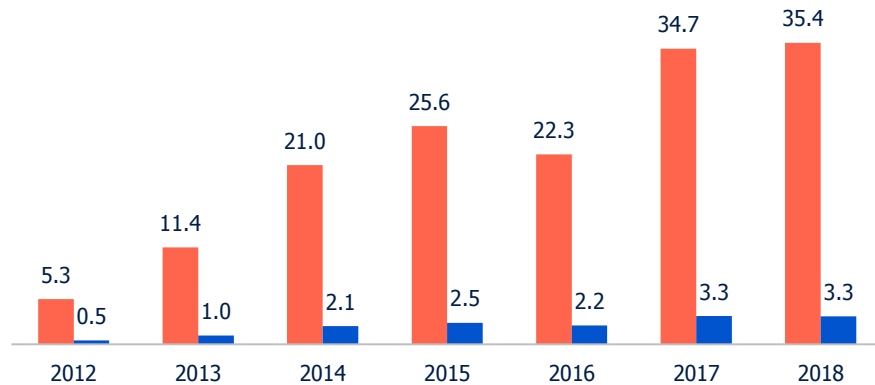
- Attractive production and cost profile, with potential to deliver 30+ years of mine life
  - Nickel and cobalt production has risen over six-fold between 2012 and 2018
  - Low cost operation; consistently ranks in the first-quartile
  - Projected LOM site operating cost of US\$57.27/tonne of ore processed as per NI 43-101 technical report

**Ramu mine achieved record annual production of 35,355 tonnes of nickel and 3,275 tonnes of cobalt in 2018**

## Production in Mixed Hydroxide

000s of Tonnes

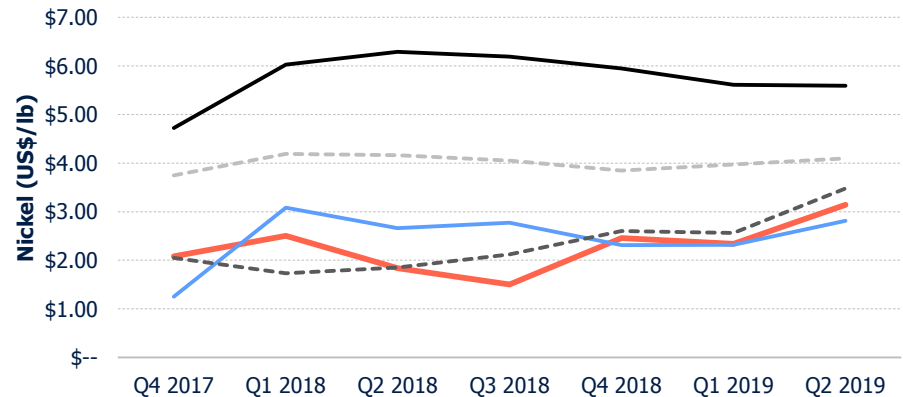
■ Nickel ■ Cobalt



## Ramu Historical Cost Curve

US\$/lb Nickel

— LME YTD Price — Ramu C1 — Voisey's Bay C1  
 - - 25<sup>th</sup> Percentile - - 50<sup>th</sup> Percentile



Note: Quarterly figures are calculated on a YTD basis, Ramu figures are estimated by Wood Mackenzie  
 Source: Wood Mackenzie

# Ramu Mine Overview

- Ramu is a producing, lateritic open-pit nickel-cobalt mine located on the coast of the Bismarck Sea in the Madang Province of Papua New Guinea (“PNG”)
  - In 2018, PNG’s total population was ~8.6 million and its total GDP was ~US\$23 billion
- Ramu was constructed in 2008 and commissioned in 2012 with ~US\$2.1 billion in capital invested
- Joint venture between the following:
  - Metallurgical Corporation of China Ltd. (operator, majority owner)
  - Cobalt 27 (8.56% ownership), to be transferred to Nickel 28
  - PNG Government and local landowners (6.44% ownership)
- MCC is evaluating a potential expansion of the Ramu mine, which could cost in the order of ~US\$1.5 billion
- Nickel 28 would have the opportunity, but not an obligation, to participate in any potential expansion and increase its attributable production
- Record annual production in 2018 of 35,355 tonnes of nickel and 3,275 tonnes of cobalt (in concentrate)
  - Potential to deliver 30+ years of mine life

**Kurumbukari  
Mine Site**



**Basamuk  
Processing  
Plant**



Source: World Bank

# Ramu NI 43-101 Highlights

- Ramu is an integrated nickel-cobalt operation located in Madang province on the north coast of Papua New Guinea and is comprised of the Kurumbukari mine and beneficiation plant and the Basamuk processing plant on the coast
- Beneficiated ore is pumped from the mine as a slurry to the plant via a 135km pipeline, producing a mixed nickel-cobalt hydroxide product
- An independent NI 43-101 report was prepared by Behre Dolbear Australia Pty Ltd. ("BDA") after conducting two sites visits during 2019 and several months of working with MCC to complete their required due diligence
- The NI 43-101 report highlights significant additional resource and reserve potential at Ramu, as the currently drilled area for defining mineral resources is about 25km<sup>2</sup> which is only ~12.9% of Ramu's exploration license which has an area of 194.95km<sup>2</sup>
- BDA concludes that "it is likely that the total mineral resource will increase significantly when additional drilling is conducted"

## Ramu Reserves & Resources

As at Dec 31 2017

Category	Tonnage (Mt)	Nickel Grade (%)	Cobalt Grade (%)
Proven	24	0.9	0.1
Probable	33	0.9	0.1
<b>Total Reserves</b>	<b>56</b>	<b>0.9</b>	<b>0.1</b>
Measured	34	0.9	0.1
Indicated	42	0.9	0.1
<b>Measured &amp; Indicated</b>	<b>76</b>	<b>0.9</b>	<b>0.1</b>
Inferred	60	1.0	0.1

Reserves & Resources at a cut off of 0.5% Ni; Resources are inclusive of Reserves; the figures may not add exactly due to rounding

# Disclaimer

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The scientific and technical information in this presentation has been prepared, reviewed and approved in accordance with Canadian regulatory requirements by, or under the supervision of Dr. Qingping Deng, Peter D. Ingham, Roland Nice, and Adrian Brett, of BDA, all of whom are independent Qualified Persons as set out in NI 43-101.

The Mineral Resource estimate set out in this presentation was classified according to the CIM Definition Standards for Mineral Resources and Mineral Reserves (November 2010) by Dr Qingping Deng, of BDA.

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# **COBALT27**

TSXv: **KBLT**

OTCQX: **CBLLF**

FRA: **270**