



US\$ 690 million Cobalt Stream unlocks Vale's Voisey's Bay Mine Expansion

Rio de Janeiro, June 11th, 2018 – Vale S.A. (Vale) informs that it has concluded separate agreements with Wheaton Precious Metals Corp (Wheaton) and with Cobalt 27 Capital Corp. (Cobalt 27) to sell an aggregate total of 75% cobalt stream with reference to the cobalt by-product to be delivered from January 1st, 2021, which encompasses the ramp-down from the existing Voisey's Bay mine (Voisey's Bay) and from the Voisey's Bay underground mine expansion project (VBME), for a total upfront payment of US\$ 690 million plus additional payments of 20%, on average, of cobalt prices upon delivery, as detailed below.

The streaming deal enables development of VBME, Vale's first significant investment announcement in recent years. The transaction substantially improves the financial returns on invested capital of VBME to more than 35% p.a. at market consensus prices. It is aligned with Vale's rigorous capital allocation process in which projects must be capable to generate returns at current price levels, instead of depending upon future price expectations

The upfront payment of US\$ 690 million will be paid in its entirety upon closing of the transaction with US\$ 390 million to be paid by Wheaton and US\$ 300 million to be paid by Cobalt 27, and it is equivalent to 40% of the estimated VBME nominal capex of US\$ 1.7 billion.

Vale remains exposed to approximately 40% of future cobalt production from Voisey's Bay, through Vale's retained interest in 25% of cobalt production and the approximately 20% additional payments on the 75% cobalt stream. The cobalt stream is consistent with Vale's strategy to preserve optionality in nickel, a key input into electric vehicles. VBME will extend the mine life of Voisey's Bay, granting Vale access to nickel, copper and cobalt reserves and, thus, increasing to an estimated annual production of around 45 kt of nickel, on average, about 20 kt of copper and about 2.6 kt of cobalt, in total.

In order to secure a smooth transition from the open pit to the underground mine, nickel production from Voisey's Bay mine will be maintained at 38 ktpa from 2018 to 2020, ramping up to 45-50 ktpa of nickel contained in concentrate from 2024 onwards.

The transaction

Vale will receive an initial cash payment of US\$ 690 million (Upfront Payment), comprised of US\$ 390 million from Wheaton and US\$ 300 million from Cobalt 27. Cobalt 27 and Wheaton will make additional payments of 18% of the cobalt Metal Bulletin price for each pound of finished cobalt until the Upfront Payment has been fully depleted, after which the additional payments will increase to 22% of the cobalt reference market price. The additional payments will amount to approximately 20%, on average, of the cobalt Metal Bulletin price for each pound of finished cobalt delivered to Cobalt 27 and Wheaton under the agreements. Therefore, from January 1st, 2021 onwards, Wheaton will be entitled to receive finished cobalt equivalent to 42.4% of the future cobalt production from Voisey's Bay and Cobalt 27 will be entitled to receive finished cobalt equivalent to 32.6% of the future cobalt production from Voisey's Bay. The streamed percentages will be halved after the delivery of approximately 54.8 million pounds of cumulative cobalt to Cobalt 27 and Wheaton. As a result of this step down in the stream percentage, both Vale and the buyers are exposed to additional exploration upside at Voisey's Bay.

Through the streaming transactions Cobalt 27 and Wheaton are entitled to an amount of finished cobalt equivalent to a percentage of the cobalt by-products from VBME and, thus, share the production and geological risks after development and ramp-up, both on the upside and on the downside. As the underground mine is undeveloped, Vale granted a completion guarantee in relation to the VBME project, to be measured by the throughput rate from the underground mine in 2025. The completion guarantee is under Vale's control, given that licenses, contractors and suppliers have been secured for developing the VBME project.

The transaction unlocks important EV optionality for Vale and is consistent with Vale's rigorous discipline of capital allocation, as it reduces the financial risks of the VBME project.

Overview of Vale Newfoundland and Labrador operations

Voisey's Bay mine, located in Labrador, Canada, has been in production since 2005 and has produced over 600 kt of nickel, 400 kt of copper concentrate, and 12 kt of cobalt. Copper concentrate is sold on the open market, while nickel concentrate is transported to the Long Harbour Processing Plant.

Voisey's Bay mine is one of the most competitive nickel operations globally, being recognized for its safety records and cash costs in the bottom half of the industry cost curve. Current open pit mining in the Ovoid deposit is expected to continue until 2022.

The VBME project

Exploration around the Ovoid Deposit identified two major deposits (Reid Brook and Eastern Deeps) located from 200 m to 900 m underground. A feasibility study was completed in early 2015 to expand Voisey's Bay operations underground to mine both deposits via two decline and ramp systems and the project was approved in July 2015 by Vale's Board of Directors, with installation licenses already obtained. Due to difficult market conditions in recent years, the project was put on hold; today, Vale announced it will restart substantive work on the project allowing for a significant increase in Vale's exposure to the EV market. The project extends Voisey's Bay mine life from 2023 to 2034.

"By unlocking the value of the cobalt by-product at Voisey's Bay through this streaming deal, Vale has found a way to resume substantive work on the underground project in Voisey's Bay and support the market's increasing demand for nickel, copper and cobalt, as well as uphold its commitment to the Government, our Indigenous stakeholders and the people of Newfoundland and Labrador, Canada", commented Mr. Eduardo Bartolomeo, Executive Officer for Base Metals.

The scope of the project includes: (i) underground development to access the two deposits; (ii) fresh and return air fans; (iii) increased power generation and fuel storage; (iv) expansion to accommodations, offices, warehousing and maintenance shops; (v) upgrades to water and sewage treatment facilities; and (vi) paste backfill and shotcrete plants.

As a brownfield project, the mine expansion will use the existing concentrator, port and support facilities, as well as the Long Harbour Processing Plant, leading to reduced implementation risks. The total capital expenditures are estimated at approximately US\$ 1.7 billion: US\$ 100-150 million in 2018, US\$ 300-350 million in 2019, US\$ 450-500 million in 2020 and 2021, US\$ 150-200 million in 2022 and less than US\$ 50 million in 2023. The first full year of underground production is expected to be 2021, when current open pit mining begins to ramp down.

During 2021 and 2022, the Ovoid open pit is expected to produce an average of approximately 0.8 ktpa of refined cobalt, at average grade of 0.08% cobalt. During the initial ramp-up period of 4 years, commencing in 2021, VBME is expected to produce an average of approximately 1.8 ktpa of refined cobalt, at average grades of 0.15% cobalt. When operating at full scale, from 2025 to 2033, the underground mine is expected to produce an average of 2.6 ktpa of refined cobalt, at average grade of 0.13% cobalt.

Voisey's Bay Reserves and Resources

Voisey's Bay has total estimated mineral reserves of 32.4 million tonnes with a nickel grade of 2.13% and a cobalt grade of 0.13%. The open pit reserves and resources consist of the Main Ovoid, the Mini Ovoid and the SE Extension. The underground reserves and resources consist of Reid Brook and Eastern Deeps. Of the total estimated mineral reserves, the underground reserves contain 23.6 million tonnes with a nickel grade of 2.17% and cobalt grade of 0.14%. Below is a summary of the current mineral reserves and resources:

Proven & Probable	Tonnes	Grade (%)			Contained Metal (kt)		
	mt	Ni	Cu	Co	Ni	Cu	Co
Main Ovoid	5.8	2.67%	1.43%	0.13%	154	83	8
Mini Ovoid	0.2	1.37%	0.93%	0.07%	3	2	0
SE Extension	2.8	0.71%	0.39%	0.03%	20	11	1
Reid Brook	6.1	2.10%	0.87%	0.14%	128	53	9
Eastern Deeps	17.5	2.20%	0.93%	0.14%	386	163	25
Total	32.4	2.13%	0.96%	0.13%	691	312	42

Measured & Indicated	Tonnes	Grade (%)			Contained Metal (kt)		
	mt	Ni	Cu	Co	Ni	Cu	Co
SE Extension	3.8	0.67%	0.38%	0.03%	25	14	1
Discovery Hill	6.5	0.99%	0.80%	0.05%	64	52	3
Total	10.3	0.87%	0.65%	0.04%	89	66	4

Inferred	Tonnes	Grade (%)			Contained Metal (kt)		
	mt	Ni	Cu	Co	Ni	Cu	Co
Discovery Hill	6.8	0.9%	0.6%	0.1%	58	42	3
Reid Brook	5.9	2.1%	0.8%	0.1%	120	49	8
Total	12.7	1.4%	0.7%	0.1%	178	91	12

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Cautionary Note to U.S. Investors - The SEC permits a mining company, in its filings with the SEC, to disclose only those mineral deposits that a company can economically and legally extract or produce. We present certain information in this document, including 'measured resources,' 'indicated resources,' 'inferred resources,' 'geologic resources', which would not be permitted in an SEC filing. These materials are not proven or probable reserves, as defined by the SEC, and we cannot assure you that these materials will be converted into proven or probable reserves, as defined by the SEC. U.S. Investors should consider closely the disclosure in our Annual Report on Form 20-F, which may be obtained from us, from our website or at <http://us.sec.gov/edgar.shtml>.