Rockcliff Announces PEA Results Demonstrating a Robust Low-Capital Project with Highly Attractive Economics

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Toronto, February 1, 2022 - Rockcliff Metals Corp. (CSE: RCLF) (OTCQB: RKCLF) ("Rockcliff" or the "Company") is pleased to announce the results of its Preliminary Economic Assessment ("PEA" or the "Study") for the Company's 100% owned Tower and Rail Project ("the Project"), located in the Flin Flon-Snow Lake Greenstone Belt in the Snow Lake area of central Manitoba. All references to currency herein are in Canadian dollars unless otherwise specified.

Highlights of the PEA:

- After tax NPV_8 of $127.6 million and an IRR of 67%;
- Initial capital of $81.0 million;
- Near term production possible with a 16-month construction period;
- Initial capital paid back within 12 months of Commercial Production; and
- 9.5 year life of mine, with opportunities for mine life expansion.

Ken Lapierre, Interim President and CEO of Rockcliff, commented "we are delighted with the excellent results of this PEA that clearly demonstrates a traditional mining scenario is a legitimate path forward for both the Tower and Rail Deposits. The results are robust highlighted by a $81.0 million capital investment generating an after tax NPV_8 of $128.6 million and 67% IRR. The short 12-month payback period from a 9.5-year life of mine generates an approximate 12,000 CuEq tonnes per year at an all-in sustaining cost of US$2.46 per pound copper. Both deposits remain open with a real possibility of adding Mineral Resources to extend the life of mine. An additional pipeline of four 100% owned deposits at various stages of exploration and an extensive portfolio of prospective ground in and around the Snow Lake mining camp bodes well for the future of Rockcliff. With two drills presently testing 3 different properties and advancing our knowledge at the Tower and Rail Deposits we remain extremely active in moving forward with our Manitoba assets."

The Study was commissioned in 2021 with the aim of exploring alternative development approaches in order to reduce initial capital requirements and improve financeability of the Project. It is proposed that the Project be constructed as underground mines, using the Alimak raise mining method, with dual concentrates of copper and zinc produced on site through the use of a modular mill. Rockcliff considers the study a huge success as the results support the view that the Project can be developed in a low capital intensive manner with a very short payback period. The forecast potential economic returns from the Project justify further development and advancing work to secure the required permits for operation. The Study supersedes all previous studies and incorporates the updated Mineral Resource Estimates for the Tower and Rail Properties. The study was authored by A-Z Mining Professionals Ltd. ("AMPL").

Summary of Study Results:

	Base Case (Nov 30, 2021 trailing 18 month average)	Spot Price Case (Jan 19, 2022)
Metal Price Assumptions (US$)	$3.76/lb Cu $1.25/lb Zn $1,828/oz Au $24.64/oz Ag	$4.44/lb Cu $1.63/lb Zn $1,840/oz Au $24.12/oz Ag
FX Rate (CAD: USD)	0.78	0.80
NPV pre-tax (8% discount) / IRR (100% equity)	$206.6 million / 83%	$318.6 million / 123%
NPV after tax (8% discount) / IRR (100% equity)	$128.6 million / 67%	$208.9 /105%
LOM undiscounted pre-tax free cash flow	$344.5 million	$514.5 million
LOM undiscounted after-tax free cash flow	$216.9 million	$336.7 million

	Base Case (Nov 30, 2021 trailing 18 month average)	Spot Price Case (Jan 19, 2022)
Initial capital investment (incl 20% contingency)	$81.0 million	$81.0 million
Profitability index (NPV_8/IRR)	1.6x	2.6x
Construction period	16 months	16 months
Payback from commencement of commercial production ("CP")	12 months	7 months
Life of mine ("LOM")	9.5 years	9.5 years
Annual CuEq production (years 1-4)	14.0ktpa	14.0ktpa
Annual CuEq production (LOM)	11.9ktpa	11.9ktpa
All-in sustaining cost/lb Cu (net of by-products)	US$2.46/lb	US$2.13/lb

Updated Mineral Resource Estimates

The updated Mineral Resource Estimate used in the PEA supersedes previous estimates published by the Company. The mineral resource estimate uses a recovered value cut-off of $80/tonne. Apart from updated specific gravity calculations, no additional information or drill results were included in this Mineral Resource Estimate.

Tower Mineral Resource Estiamte[1-7]

Category	Tonnes	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)
Indicated	1,711,000	3.28	1.04	0.7	16.5
Inferred	499,000	1.74	1.16	0.2	8.4

Rail Mineral Resource Estimate[1-7]

Deposit	Tonnes	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)
Indicated	2,053,000	1.87	0.59	0.6	6.1
Inferred	1,079,000	2.14	0.83	0.9	7.6

Notes:

1. CIM definitions were followed for Mineral Resources.
2. Resources calculated using MineSight® software
3. Mineral Resources are estimated at a cut‐off grade of $80 per tonne in-situ value
4. The Mineral Resource figures herein are estimates based on information at the time calculation and are not Mineral Reserves, i.e., they do not yet demonstrate economic viability of the deposit.
5. The mineable in‐situ resources constitute approximately 65% of the global Mineral Resources.
6. Mineral Resources were estimated using the following prices in US$: Copper, $3.52/lb, Zinc, $1.18/lb, Gold, 1817/Tr oz, and Silver, $23.75/Tr oz
7. The numbers for tonnage, average grade and contained pounds metal as well as ounces of precious metals are rounded figures.

Study Approach

The PEA envisions developing the Tower Deposit as an underground mine over a 16-month construction period before commercial production is achieved. The development of the Rail Deposit will be funded out of cash flow produced from the Tower Deposit. Both Tower and Rail underground mines will employ the Alimak raise mining method, achieving production rates of 1,100 tonnes per day ("tpd"). Mineralized material will be fed to a Company owned modular mill at 1,100tpd, with tailings to be deposited in an on-site permitted dry stack tailings facility. The modular mill will be transferred to the Rail Property once the Tower Deposit has been fully mined out, which is envisioned to occur in the 5th year of the PEA mine plan. The combined LOM of the Tower and Rail deposits is 9.5 years.

Permitting

AECOM, a multinational engineering firm and Rockcliff's permitting consultant in Manitoba, was engaged to support the Study with a view on permitting requirements and closure plans under the proposed development and operating plan. All work completed suggested that all required permits could be obtained within 24 months, allowing for mining, processing and dry stack tailings deposition on site.

Development

The initial development focusses on bringing the Tower Deposit into production. The Rail Deposit will be developed subsequent to declaration of commercial production, and assumed to be funded out of free cash flow from operations. The Tower development schedule is 16 months from commencement to first mineralized material delivered through the mill. Underground mine develop will be a single heading, estimated at $4,311/metre with an advance rate average 6 metres/day. An allowance has been provided for slower development through the sand seam and regolith material. Development costs used in the study have been estimated on first principles basis, incorporating 2021 vendor quotations for all major costs.

Mining

Alimak raise mining method was chosen as best suited for the Project's deposits. Various mining methods were assessed in a trade-off study, considering safety, production rates and operating cost. Since the Tower and Rail deposits are near surface and have similar geometry (steeply dipping, narrow, and relatively long strike length), the same extraction approach and design principles are applied to both deposits. Both deposits will support an average mining rate of 1,100 tpd, upon declaration of commercial production. Mining rates and costs have been reviewed by a contract miner, which specializes in Alimak raise mining.

The following illustrates mining production rates over the LOM. Year 5 has scheduled down time to accommodate the transfer and recommissioning of the modular mill from the Tower site to the Rail site.

Annual Mining Rates

To view an enhanced version of this graphic, please visit:
https://orders.newsfilecorp.com/files/3071/112297_rockcliff1.jpg

Metallurgy and Processing

The PEA relied on the results of previous work done for the Company by Base Metallurgical Laboratories ("BML") in Kamloops, British Columbia. The BML test work was conducted in January and February 2020 using core drilled late in 2019 for the express purpose of conducting metallurgical testing. Metallurgical test work to date suggests the recoveries of clean copper and zinc concentrates is achievable, with indicative total metal recoveries to concentrate as follows:

Metal	Mill Recovery
Copper	97.2%
Zinc	74.2%
Gold	63.0%
Silver	63.0%

The Study incorporated the use of a Company owned modular mill. Modular mills are designed to allow the rapid deployment and commissioning of a complete mineral processing plant. Mobile mill systems are ideal for smaller tonnage operations and mining operations with short mine life. The mill equipment is mounted on road transportable custom built trailer assemblies, which require minimal site civil works to install and commission.

The modular mill is designed to run at 1,100 tpd over the LOM. In year 5, once the mineral inventory at Tower has been mined out, the modular mill will be relocated to the Rail Deposit. The modular mill capital cost and operating costs (labour and consumables) were all estimated using 2021 vendor quotations.

Saleable copper equivalent tonnes on an annual basis are as follows:

Annual Saleable CuEq Production

To view an enhanced version of this graphic, please visit:
https://orders.newsfilecorp.com/files/3071/112297_rockcliffimg2.jpg

Dry Stack Tailings

The PEA incorporated the use of dry stack tailings facility ("DSTF"). In the dry stack method, tailings are placed and compacted in a mound that is concurrently reclaimed with native soil and vegetation. There's no need for a dam to hold them in place, no possibility of dam failure, and no long-term storage issues. The Study's preliminary design of the DSTF utilizes the flat terrain of both the Tower and Rail properties as well as the latest technologies to ensure long-term stability of the earthen structures coupled with membranes ensuring containment of the stored material. All work done by AECOM to date, in conjunction with the Study, indicates that permitting a DSTF on both the Project is feasible within the indicated project timelines.

Off-Site Processing

Concentrates produced on-site are envisioned to be transported from mine sites by rail to Glencore's Horne smelter in Quebec for copper and the Valleyfield facility for zinc concentrate. Smelter and transport costs were updated for 2021 benchmark forecasts, provided by Glencore. Glenore has a first right of refusal on the Tower off-take, providing that treatment and refining charge terms are within standard market rates.

Closure Plan

AECOM was engaged to provide a preliminary closure plan design and cost estimate. The closure plan has modelled the closure costs as being funded out of cash flow, and lodged with the government of Manitoba, in accordance with the Manitoba Mines Branch closure funding schedule. A total of $10.6 million has been included in the cash flow for closure costs.

Capital and Operating Costs Estimates

Capital and operating costs were generally developed using current vendor pricing quotations and first principals. A summary of initial and sustaining capital, expressed in millions of Canadian dollars is as follows:

Capital Expenditure	Initial Capital	Sustaining Capital
Permitting	0.2	-
Underground lateral development	15.4	77.6
Underground vertical development	0.3	13.9
Underground infrastructure and facilities	3.2	22.6
Mine equipment	2.3	-
Infrastructure	18.7	32.0
Surface mobile equipment	0.2	0.5
Tailings storage facility	0.6	7.8
Modular mill	22.5	-
Owners indirects	4.1	2.9
Reclamation and closure	-	10.6
Working capital	-	-
Contingency	13.5	-
Total	$81.0	$ 168.0

Operating costs, expressed in Canadian dollars per tonne is as follows:

Operating Cost	C$/tonne
Underground Mining	78.60

Mine Equipment Rentals	7.50
Surface Equipment Rentals	0.88
Processing & TMF	25.99
Haulage	3.00
Surface Services	2.83
General and Administration	19.12
Environmental and Sustainable Development	1.00
Total operating cost/tonne	$138.91

Financial Results and Sensitivities

The results of the PEA demonstrate the potential for substantial economic returns, which suggest the project should continued to be advanced.

	Base Case (Nov 30, 2021 trailing 18 month average)
Metal Price Assumptions (US$)	$ 3.76/lb Cu $ 1.25/lb Zn $ 1,828/oz Au $ 24.64/oz Ag
FX Rate (CAD: USD)	0.78
NPV pre-tax (8% discount) / IRR (100% equity)	$ 206.6 million / 83%
NPV after tax (8% discount) / IRR (100% equity)	$ 128.6 million / 67%
LOM undiscounted pre-tax free cash flow	$ 344.5 million
LOM undiscounted after-tax free cash flow	$ 216.9 million
Payback period (from Commercial Production)	12 months

The project was tested for sensitivities to changes in metal prices, foreign exchange, capital, and operating costs. The analysis illustrates that the project is most sensitive to changes in metal price and foreign exchange.

Cu Price Sensitivity

Cu Price (US$/lb)	$3.00	$ 3.40	$3.76 (Base Case)	$4.10	$4.50
After-tax NPV8	$ 32,078,000	$ 82,776,000	$ 128,586,000	$ 170,420,000	$ 219,101,000
After-tax IRR	23%	46%	67%	87%	110%
Pay-back from CP (months)	40	16	12	9	7
NSR C$/t	$ 257.23	$ 287.81	$ 315.34	$ 341.34	$ 371.92

Initial Capital Sensitivity

	80%	90%	Base Case	110%	120%
Initial capital	$64,811,525	$72,912,966	$ 81,014,406	$89,115,847	$ 97,217,288
After-tax NPV_8	$143,814,000	$136,275,000	$128,586,000	$120,827,000	$113,117,000
After-tax IRR	95%	79%	67%	57%	49%
Pay-back from CP (months)	8	10	12	14	15

Operating Cost Sensitivity

	80%	90%	Base Case	110%	120%
Operating cost/tonne milled	$111.13	$125.02	$138.91	$152.80	$166.69
After-tax NPV_8	$171,554,000	$150,286,000	$128,586,000	$106,276,000	$83,955,000
After-tax IRR	84%	76%	67%	58%	49%
Pay-back from CP (months)	10	11	12	13	15

FX sensitivity

	80%	90%	100%	110%	120%
CAD:USD	0.63	0.70	0.78	0.86	0.94

After-tax NPV_8	$254,512,000	$ 184,856,000	$ 128,586,000	$ 80,898,000	$ 41,418,000
After-tax IRR	127%	94%	67%	45%	27%
Pay-back from CP (months)	5	8	12	16	33

Qualified Person

The Preliminary Economic Assessment was prepared by A-Z Mining Professionals Ltd under the supervision of Eric Hinton, P.Eng, Brian LeBlanc, P.Eng and Finley Baker, P.Geo whom are "qualified persons" under the standards set forth in NI 43-101. All three are independent of Rockcliff Metals Corp. for purposes of NI 43-101. All parties have reviewed and approved their respective content of this press release. Full details of the PEA in the form of a technical report for the purposes of NI 43-101 will be filed on SEDAR within the next 45 days.

About Rockcliff Metals Corporation

Rockcliff is a Canadian exploration and resource development Company with several advanced-stage, high-grade volcanogenic massive suplphide ("VMS") copper-zinc dominant deposits in the Snow Lake area of central Manitoba. The Company is a major landholder in the Flin Flon-Snow Lake Greenstone Belt which is the largest Paleoproterozoic VMS district in the world, hosting high-grade mines and deposits containing copper, zinc, gold and silver. The Company's extensive portfolio of properties totals approximately 4,000 km² and includes six 100% owned high grade, undeveloped VMS deposits. Rockcliff's (49% ownership) seventh high grade VMS deposit, the Talbot Copper Deposit, is a joint Venture with Hudbay (51% ownership).

Find out more, visit our website and social media:

Book a meeting with our CEO: https://calendly.com/rockcliffmetals/30min
Website: http://rockcliffmetals.com
Twitter: @RockcliffMetals
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Cautionary Note Regarding Forward-Looking Statements: This news release contains "forward-looking information" within the meaning of applicable Canadian securities laws . Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "plans", "expects", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates", or "believes", or the negatives and / or variations of such words and phrases, or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur", "be achieved" or "has the potential to". In particular, the forward-looking statements in this press release include, without limitation, statements regarding: future projected production, capital costs and operating costs, recovery methods and rates, development methods and plans, commodity prices and Mineral Resource Estimates. Statements relating to "Mineral Resources" are deemed to be forward-looking information, as they involve the implied assessment that, based on certain estimates and assumptions, the Mineral Resources described can be profitably produced in the future.

Forward looking statements are based on the certain assumptions opinions and estimates as of the date such statements are made, and they are subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking statements. Factors that could cause actual results to differ materially from those in forward-looking statements include: delays resulting from the COVID-19 pandemic, changes in market conditions, unsuccessful exploration results, possibility of project cost overruns or unanticipated costs and expenses, changes in the costs and timing of the development of new deposits, inaccurate resource estimates, changes in the price of copper, zinc, gold or silver, unanticipated changes in key management personnel and general economic conditions. Mining exploration and development is an inherently risky business. The Company believes that the expectations reflected in the forward-looking statements are reasonable but no assurance can be given that these expectations will prove to be accurate and results may differ materially from those anticipated in the forward-looking statements. For a discussion in respect of risks and other factors that could influence forward-looking statements, please refer to the factors discussed in the Company's Management Discussion and Analysis for the year ended March 31, 2021 and subsequent quarterly financial reports under the heading 'Risk Factors'. These factors are not, and should not be construed as being exhaustive.

Accordingly, readers should not place undue reliance on forward-looking statements. The forward-looking information contained in this news release is expressly qualified by this cautionary statement. Any forward-looking information and the assumptions made with respect thereto speaks only as of the date of this news release. The Company does not undertake any obligation to publicly update or revise any forward-looking information after the date of this news release to conform such information to actual results or to changes in the Company's expectations except as otherwise required by applicable legislation.

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