

Due Diligence and Valuation Report

Arrowhead code:	17-05-02
Coverage initiated:	July 05, 2021
This document:	August 11, 2021
Fair share value bracket: (Blended Valuation)	CAD 0.287 to CAD 0.351
Share Price (August 10, 2021):	CAD 0.065

Analyst

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Market Data

52-Week Range:	CAD 0.06-0.14
Average Daily Volume:	112,331
Market Cap (August 10, 2021):	CAD 20.01 million

Financial Forecast (in CAD) (FY Ending – March)

CAD	'22P	'23P	'24P	'25P	'26P
NI (mn)	(2.3)	(2.3)	(2.3)	150.9	158.6
EPS (cents)	(0.01)	(0.01)	(0.01)	0.49	0.52

Company Overview

Rockcliff Metals Corporation (“Rockcliff” or “the Company”) is a Canadian metal resources exploration and development Company focused on copper, zinc, gold, and silver. The Company has three advanced-stage, high-grade copper and zinc dominant Volcanogenic Massive Sulfide (“VMS”) deposits, as well as a fully functional processing and tailings facility (the Bucko Mill) with a 1,000 tonnes per day (“tpd”) capacity in the Snow Lake area of central Manitoba, Canada. Rockcliff has a landholding of more than 4,500 square kilometers in the Flin Flon-Snow Lake (“FF-SL”) greenstone belt area, home to VMS deposits. Apart from the three advanced-stage projects, the Company also has two early exploration stage projects in the vicinity of the Bucko Mill and it plans to eventually use the Bucko Mill as a central processing unit for all these properties.

Key Highlights

1. Rockcliff’s key assets are located in, Manitoba, Canada, which is a tier-I mining jurisdiction and among the largest VMS districts in the world.
2. The Company is currently focusing on the development of its three advanced-stage projects, Tower, Rail, and Talbot, all of which are in the Manitoba region. The Company aims at developing a hub-and-spoke structure, with Bucko Mill as the



Company:	Rockcliff Metals Corporation
Ticker:	CNSX: RCLF
Headquarters:	Toronto, Ontario, Canada
President & CEO:	Donald Christie
CFO:	Christopher Stackhouse
Website:	www.rockcliffmetals.com

processing hub for the resources extracted from these three properties and other properties that the Company is currently exploring in the region. The Company plans to acquire and add more properties in the Manitoba region to this hub-and-spoke model once it is up and running with the current properties.

3. The Company’s immediate priorities are bringing the Tower and Rail into production and refurbishing Bucko Mill for copper ore processing. These plans are estimated to entail CAD 103 million capex.
4. The Talbot property is a gold-rich copper asset and is under a 49%/51% JV between Rockcliff and Hudbay Minerals Inc. (“Hudbay”). Profits from the JV are to be split 65%/35% respectively between Hudbay and Rockcliff after Hudbay’s capital is repaid.
5. Rockcliff is currently exploring its other properties in the region and they are all in the early exploration stage with production unlikely to commence in the medium term.

Key Risks

We believe that Rockcliff has a mid-high risk profile because all of its mining properties are currently in the pre-production stage and none of them is expected to generate revenue for another 2 to 3 years. The Company requires significant capex to bring all of its projects online and to support its aggressive future acquisition plans.

Valuation and Assumptions

Based on its due diligence and valuation estimates, Arrowhead believes that Rockcliff’s fair share value lies in the CAD 0.287 to CAD 0.351 bracket, calculated using a blended valuation method; with 50% weighting to the DCF method and 50% weighting to Comparable Companies Valuation method. Our DCF model suggests a fair value of CAD 0.540, while a relative valuation provides a fair value of CAD 0.098.

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Investment Thesis

Arrowhead is updating its equity research coverage of Rockcliff Metals Corporation (“RCLF”) with the following investment highlights:

Large portfolio of high-potential exploration properties with processing hub at the center

Rockcliff focuses on identifying, exploring, and developing copper- and zinc-dominated assets in regions that have a prolific history of producing high-grade metal. Most of the Company’s key properties are in Canada’s resource-rich central Manitoba region and adjacent to assets that have been in production for years. The Company’s properties have a combined area of approximately 4,300 square kilometers and include five high-grade copper dominant deposits and two zinc dominant deposits with near-surface mineralization, located in a VMS district in the Flin Flon – Snow Lake Greenstone Belt.

The Preliminary Economic Assessment (“PEA”) completed for Tower and Rail properties in January 2021 indicated multiple upside opportunities for the projects. The projected mill recovery after processing of mined copper and zinc is expected to be 97.2% and 74.2% respectively. Rockcliff has commenced a new PEA for the Tower and Rail projects to incorporate the results of a desk-top analysis that was conducted in May 2021 for the Tower project. The Desk-top analysis suggested replacing the method suggested by the PEA conducted in January 2021 with a traditional mining method since it is cost-effective. Rockcliff is looking to acquire more assets, both independently as well as through joint ventures (“JV”), that would complement its existing portfolio and support its objective of developing a hub-and-spoke operating structure with the Bucko Mill as the central processing hub and several high-grade properties as feeders in its close surroundings.

Increasing copper demand from the Renewable Energy sector a major tailwind

Despite an expected increase in global copper production in the coming years, the supply of copper is expected to fall short of demand and the demand-supply gap is expected to increase. This gap can be attributed to a significant increase in copper demand for usage in electric vehicles (“EVs”), electrical grids, and renewable energy production and storage infrastructure. Copper inventories are severely depleted and are likely to deplete further as the global economy begins to reopen and reflate. LME copper cash prices have almost doubled from USD 4,617.5 per tonne on March 23, 2020, to USD 9,311.5 per tonne on August 9, 2021, and are expected to reach USD13,000 per tonne in the coming years, assuming scrap usage at smelters and refineries increases significantly. In case scrap usage does not increase, copper prices are expected to cross USD 20,000 per tonne. Rockcliff is preparing to make the most of the expected copper price rally by quickly bringing two of its high-grade copper mining properties as well as its Bucko Mill processing facility online.

Ability to raise capital to advance projects and make acquisitions will be critical for growth

Rockcliff’s immediate priority is to bring the Tower and Rail assets into production and complete refurbishment work at the Bucko Mill. The Company expects these projects to entail a pre-production CAPEX of CAD 103 million, which is likely to go down based on the results of the desk-top analysis conducted in May 2021. The newly commenced PEA will incorporate the results of the desk-top analysis and once the PEA is complete, the information on pre-production CAPEX will be available. With Rockcliff also planning to continue exploration and development work at its other assets, the Company’s ability to raise capital will be critical going forward. The Company’s success thus far is attributable to its stringent asset selection process due to which it has high-grade reserves in resource-rich areas. However, as these

assets advance towards production, the Company will have to convince investors of its long-term vision and its ability to manage production-stage and milling operations to raise funds. The Company will also have to successfully negotiate offtake agreements to give investors and lenders confidence in its marketing and resource monetization abilities.

The Hudbay JV could produce critical learnings for other projects

Rockcliff does not have any experience in operating and managing in-production assets since none of its assets have entered production yet. However, the Company's leadership team has extensive experience in managing in-production assets at other organizations but has not worked with such assets together, as one team. The Company is exploring all its assets independently except for Talbot, which is under a 49%/51% JV with Hudbay. Being the majority stakeholder, Hudbay is the operator of the asset. Working as the non-operating partner, right from the early lifecycle stages of the project might be the management's first test of managing a development- and production-stage asset as a single unit going forward. The partnership with Hudbay could produce learnings that Rockcliff can apply to its other projects as they progress in their lifecycle.

Company Presentation

Founded in 2005, Rockcliff Metals (“Rockcliff” or “the Company”) (CNSX: RCLF, FRANKFURT: RO0, WKN: A2H60G) is a Canadian resource development and exploration company, having high-grade copper and zinc dominant VMS deposits and a processing mill in the Snow Lake area of central Manitoba, Canada. All the Company’s assets are in the exploration stage. The Company has completed a PEA on the processing mill (the Bucko Mill) and the Tower and Rail mining assets, and currently is in the process of conducting a new PEA on the two mining assets, Tower and Rail.

Property portfolio: Rockcliff’s portfolio of mining properties includes eight of the highest-grade, undeveloped VMS deposits and five lode-gold properties (held by Rockcliff’s wholly owned subsidiary Goldpath Resources Corporation (“Goldpath”). The Company also had six lode-gold properties include the historic Rex-Laguna gold mine under its subsidiary, Goldpath Resources Corporation (“Goldpath”), which is now sold to Kinross Gold Corporation (“Kinross”).

With a total landholding of more than 4,300 square kilometers, the Company claims to be the largest junior landholder in central Manitoba’s Flin Flon-Snow Lake (“FF-SL”) greenstone belt area, which is home to the largest Paleoproterozoic VMS district in the world, hosting mines and deposits that contain copper, zinc, gold, and silver.

The work completed to date on various mining assets has given Rockcliff an advanced understanding of the mineral resources, metallurgical characterization, ore sorting viability, and mining methods. The Company is focused on conducting advanced project evaluation studies.

Property selection criteria: Rockcliff invests in assets in regions with the following attributes:

- Locations with geologic evidence, known mines, deposits, and significant upside for discovery. For example, the FF-SL greenstone belt is the largest Paleoproterozoic VMS district in the world with 1000s of VMS targets that remain untested and ready for discovery. This area has a high discovery rate with more than 30 mines discovered over 100 years.
- Monopolized by a few mining companies but with generally underexplored areas. For example, the FF-SL greenstone belt had only one miner for 100 years. The discovery upside potential remains high in regions like these as mining companies generally focus on their mining business and not on further exploration and discovery.
- Where Rockcliff can de-risk and increase discovery opportunities by acquiring a large land position.
- Some pre-existing infrastructure, such as roads. The Company prefers to pay a driller for exploration rather than paying contractors for setting up infrastructure.

All the Company’s key deposits, including Tower, Rail, and Talbot, which are at advanced stages compared to the Company’s other deposits, are within trucking distance from the processing facility, Bucko Mill. Bucko Mill is a leased processing and tailings facility with a capacity of 1,000 tpd. It was purpose-built for nickel ore processing and Rockcliff has completed a PEA for refurbishing the facility for copper and zinc ore processing. The Company expects the refurbishment process to be complete within twelve months of commencing and increase the mill’s capacity to 1,500 tpd.

Company Milestones

Year	Event
2019	<ul style="list-style-type: none"> Rockcliff acquired the following in Manitoba from Norvista Capital Corporation ("Norvista") for a consideration of 88.39 million shares of the Company: <ul style="list-style-type: none"> – 51% interest in the Talbot property Hudbay – 100% interest in certain mining claims in the Tower property – 100% interest in CaNickel Mining Ltd ("CaNickel") excluding a lease of the mill and tailings facility The Company raised CAD 28.7 million in private equity financing comprising \$20.9 million flow through funds and \$7.8 million hard dollar funds. The transaction was led by Greenstone Resources ("Greenstone").
2020	<ul style="list-style-type: none"> Rockcliff commenced a 100,000 meter drill program and completed approx. 68,000 meters as of July 2020. Hudbay Minerals acquired 51% ownership interest in the Talbot project and became operator of the mining asset. Rockcliff completed the required expenditure of CAD 3 million to be able to earn a 100% ownership interest in the Bur Property pursuant to the Company's option agreement with Hudbay Minerals.
2021	<ul style="list-style-type: none"> Rockcliff released results of an updated NI 43-101 Mineral Resource Statement for Tower, Rail, and Bucko Mill. Rockcliff announced that its shares have started trading on the OTCQB Venture Market. Rockcliff sold its 100% owned subsidiary, Goldpath Corporation, to Kinross for a consideration comprising cash and NSRs on three of Goldpath's properties.

Corporate Strategy

Rockcliff aims to develop a hub-and-spoke structure with the Bucko Mill as the processing and tailings hub that is fed by a network of copper-rich mines within hauling distance of the mill. The Company already has several exploration stage assets (Tower, Rail, Talbot JV, and Bur) within a small radius of the mill and is looking to acquire more assets in the vicinity. The infrastructure around the mill has been specifically designed to ensure maximum reusability and connectivity across the Company's network of properties.

Rapid Development of Post-PEA Assets: Currently, Tower and Rail properties are the Company's most advanced mining assets because a PEA has been completed only on these two. Quickly developing these assets and completing refurbishment work at the mill are the Company's immediate strategic priorities so that the hub-and-spoke structure is operational, and the Company can make the most of the expected upsurge in copper prices over the next few years.

The PEA released by the Company for Tower and Rail projects in January 2021 suggested using Rail-Veyor (autonomous electrically powered light-rail haulage solution) system instead of traditional haul truck fleets. This autonomous electric system will be powered by the hydroelectric Manitoba grid resulting in lower GHG emissions. It will also improve site safety by taking human capital out of the mine and improve cost efficiency since it is less expensive to operate than traditional haul trucks. However, the Company will have to make a substantial upfront investment to acquire and install the Rail-Veyor system. The PEA also discussed the use of battery electric mine production equipment along with proven, autonomous, and remote operation kits as these kits also improve site safety by enabling many tasks to be performed remotely.

Capex Reduction for Post-PEA Assets: Rockcliff expects the development work at Tower, Rail, and Bucko Mill to entail a capital expenditure of approximately CAD 103 million. However, the Company has been exploring ways to bring this down by optimizing its mining technology and lowering its operating and transportation costs. The Company recently completed a 'comprehensive desk-top study' on an alternative mining method for its Tower copper project as part of the Company's value optimization efforts. The study looked at employing a more traditional mining method at Tower than the one discussed in the PEA on the property. The desk-top study concluded that the alternative mining method can potentially reduce pre-production capex materially while maintaining competitive operating costs. Rockcliff has commenced a new NI 43-101 PEA for the Tower and Rail projects incorporating the conclusions of the desk-top study.

Adding More Assets to the Hub-and-Spoke System: Rockcliff's next priority after developing the post-PEA assets is likely to be making Copperman, Freebeth, Pen, and Morgan properties operational because these properties are also close to the Bucko Mill and can be brought into the hub-and-spoke structure. The Company is also likely to continue exploring assets in other locations that are not intended to be added to the hub-and-spoke structure. However, exploration and evaluation activities on these projects are likely to remain slow until the Company's second-string assets for the hub-and-spoke system are up and running. We believe Rockcliff is also likely to continue making acquisitions around the Bucko Mill to further strengthen the structure.

News

[Rockcliff Completes the Sale of Non-Core Gold Assets to Kinross](#)

July 20, 2021

Rockcliff completed the sale of its 100% owned subsidiary, Goldpath, to a subsidiary of Kinross for a consideration comprising USD 3 million cash and Net Smelter Return royalties ("NSR") on three of Goldpath's properties.

[Rockcliff Announces Commencement of a new PEA for Tower and Rail projects](#)

July 14, 2021

Rockcliff announced the commencement of a new NI 43-101 PEA for the sequential development of the Company's 100% owned Tower and Rail projects. The purpose of this new PEA is to incorporate the results of an independent desk-top study of the Tower project completed in May 2021.

[Rockcliff Provides Strategic Update and Announces Management Changes](#)

June 2, 2021

Rockcliff completed a comprehensive desk-top study to consider an alternative mining method for its high-grade Tower copper project as part of the Company's value optimization efforts. The study concluded that the alternative mining method has the potential to materially reduce pre-production capex while maintaining competitive operating costs.

The Company also announced that Donald Christie, Chairman of the Board, has been appointed Interim President and CEO effective immediately. Mr. Christie, who will continue as a director of Rockcliff, replaces Alistair Ross, current CEO and director of the Company. Mark Sawyer, a current director of Rockcliff, has been appointed as the new Chairman of the Board.

[Rockcliff Hires Arrowhead for Investor Relations as its Shares Start Trading on the OTCQB](#)

April 15, 2021

Rockcliff announced that it has retained Arrowhead Business and Investment Decisions, LLC ("Arrowhead") to provide investor relations services as the Company's common shares started trading on the OTCQB Venture Market ("OTCQB") under the ticker symbol "RKCLF". The investor relations services are aimed at developing Rockcliff's international market awareness in compliance with regulatory guidelines.

[Rockcliff Initiates Rail Property Drill Programs](#)

April 8, 2021

Rockcliff announced that it has commenced a 6-hole, 1,800-meter drill program at its Rail Property. The program will be subsidized by a \$300,000 grant from the Manitoba Mineral Development Fund ("MMDF"). The drill program is designed to test 2 potential VMS targets south of the Rail Deposit with a focus to test geophysical VMS-type anomalies and to identify opportunities for significant deposit expansion.

[Kinross Earns 70% Interest at Laguna Gold Property](#)

March 11, 2021

Rockcliff has announced that an affiliate of Kinross Gold Corporation ("Kinross") has earned a 70% interest in the Laguna/Lucky Jack/Puella Bay properties ("Laguna") in Snow Lake, Manitoba. Rockcliff retains a 30% participating interest in Laguna. Pursuant to the July 2018 option agreement, Kinross has earned this stake by completing expenditures in excess of the required CAD 5,500,000 ahead of the third-year anniversary of the six-year option agreement.

[Rockcliff Files PEA for Tower and Rail Project on SEDAR](#)

January 25, 2021

Rockcliff has announced the filing on The System for Electronic Document Analysis and Retrieval ("SEDAR") of the PEA and accompanying Technical Report for the Company's Tower and Rail Project. The report, entitled "NI 43-101 Technical Report Preliminary Economic Assessment of the Tower and Rail Project, Manitoba Canada" is dated January 12, 2021, and was prepared in accordance with National Instrument 43-101 Standards of Disclosure for Mineral Projects by the independent firm of BESTECH.

[Laguna Gold Property 2021 Drill Program Underway](#)

January 20, 2021

Rockcliff has announced that Kinross has commenced a Winter 2021 drill program at the Company's Laguna Property and Lucky Jack Gold Property in Snow Lake, Manitoba. The planned 2,600 meters drill program will focus on areas below high-grade surface gold mineralization and northeast trending structures identified in previous work programs. The properties are located in the Flin Flon-Snow Lake Greenstone Belt which is host to volcanogenic massive sulfide (copper-zinc) and primary gold mines and deposits.

[Rockcliff Initiates Tower Property Drill Program](#)

January 14, 2021

Rockcliff has announced that a drill program has been initiated at the Company's Tower Property. The focus of the drill program will be on a highly prospective, buried, untested, geophysical anomaly termed the T3 Anomaly. The T3 is strategically located approximately 1,200 meters north of the copper-rich Tower Deposit where a recently completed PEA highlighted positive economics. The Tower Property is part of Rockcliff's extensive land package located in one of the most prolific and largest Paleoproterozoic volcanogenic massive sulfide districts in the world.

[Positive PEA Results Demonstrates Path to Copper Production](#)

December 11, 2020

Rockcliff has announced the results of a PEA for the Company's Tower and Rail Project, located in the Flin Flon-Snow Lake Greenstone Belt in the Snow Lake area of central Manitoba. The PEA indicates the Project has the potential to generate positive economic returns through its low capital intensity and low operating costs.

[Rockcliff Provides Results on Bur Project Metallurgical Testing](#)

October 29, 2020

Rockcliff has announced results from a metallurgical characterization study completed on the Bur Property. The results indicate that a selective separation of zinc and copper is feasible without the use of cyanide, and clean marketable concentrates can be made from the tested sample. Ore sorting was also successful in rejecting waste from the mineralized rock.

[Rockcliff Completes 100% Earn-In on Bur Property](#)

October 20, 2020

Rockcliff has announced that it has earned 100% ownership interest in the Bur Property pursuant to the Company's option agreement with Hudbay dated September 20, 2016. As per the agreement, Rockcliff had to spend CAD 3 million by March 22, 2021, to be able to earn 100% ownership interest in Bur. Rockcliff completed the required expenditure and delivered a written notice to Hudbay advising the achievement of this milestone.

[Rockcliff Announces Significant Drill Intercepts at Tower Deposits](#)

September 23, 2020

Rockcliff has announced that additional drilling completed at its Tower Property has expanded the Tower Deposit mineralization along strike and at depth. The Company's management has decided to add this additional mineralization to the PEA currently being prepared by the Company and its independent consultants. The Tower Deposit's mineralization strike length has increased to approximately 1,000 meters and has been intersected to depths of approximately 800 meters.

[Laguna Gold Property Summer 2020 Drill Program Underway](#)

August 28, 2020

Rockcliff has announced that Kinross has commenced a Summer 2020 drill program at the Company's Laguna Gold Property in Snow Lake, Manitoba. The planned 5,000 meters to 6,000 meters drill program will follow up on high-grade gold assay results from the Winder 2020 drill program. Laguna, located in Flin Flon-Snow Lake Greenstone Belt hosts the historic Rex-Laguna gold mine, Manitoba's first and highest-grade former gold mine.

[Hudbay Minerals Acquires 51% Ownership Interest in Talbot Project and Becomes Operator](#)

August 25, 2020

Rockcliff has announced that Hudbay has exercised its Buy-Back Right to acquire an additional 2% ownership interest in the Talbot Project, from the Company, pursuant to the option agreement with Hudbay dated April 14, 2014. Hudbay now owns 51% of the Project and Rockcliff owns 49%. Hudbay will now become the Operator of the Project.

[Rockcliff Initiates Drill Program on its High-Grade TGR Nickel-PGE Prospect](#)

July 10, 2020

Rockcliff announced that it will begin a 1,400 meter, 4-6-hole drill program on its recently discovered high-grade TGR Nickel-PGE (Platinum Group Elements) Prospect located on its Tower Property in approximately two weeks. Recently received Additional PGE assay results for TGR indicated significant

rhodium (Rh) as well as ruthenium (Ru), iridium (Ir), and osmium (Os) reserves. As a result, the NiEq grade across a down-hole interval of 2,40 meters increased from 3.82% to 4.93% including 1.25 meters with a NiEq grade increase from 6.79% to 8.84%.

[Rockcliff Continues Drill Program at Tower Property](#)

June 10, 2020

Rockcliff announced that an initial 3,000 meters drill program has commenced on its Tower Property. The drill program will initially focus on expanding the Tower deposit mineralization immediately south of hole TP20-080 which intersected 4.9% CuEq across a down-hole width of 13.5 meters including 12.4% CuEq across 2.7 meters. The Tower deposit remains open along strike to the south and at depth.

[Rockcliff identifies Near Surface High-Grade Copper and Zinc Mineralization at the Freebeth Property](#)

May 21, 2020

Rockcliff has announced the completion of its phase one drill program at the Freebeth Property. The drill program was successful in locating and identifying the historical Last Hurrah Zone ("LHZ"). The Freebeth Property is strategically located within trucking distance of Bucko Mill.

[Rockcliff Intersects Near Surface High-Grade Zinc-Copper Mineralization at Bur Property](#)

May 7, 2020

Rockcliff announced the completion of its phase four drilling program at the Company's Bur Property located in central Manitoba. The drill program was successful in identifying additional shallow, near-surface, high-grade Zinc-Copper mineralization along strike of the historical Bur Zinc-Copper Deposit.

[Rockcliff Achieves an Upgrade Ratio of at least 1.4 Using Ore Sorting on its Tower and Rail Properties](#)

May 1, 2020

Rockcliff announced the results from ore sorting test work indicating high potential for the use of ore sorting to preconcentrate mineralized material from the Tower and Rail deposits. Ore sorting is a technology that can separate rocks with mineralization from those without mineralization, thus upgrading the mineral content of the ore delivered to the mill.

[Rockcliff Makes Significant Nickel-PGE Discovery at the Tower Property](#)

April 30, 2020

Rockcliff announced a new high-grade Nickel-PGE discovery on its Tower Property. This discovery, termed the TGR Nickel-PGE Prospect, has shown significant assay results. The TGR mineralization was discovered in a previously unexplored area and is associated with the ultramafic rocks of the Thomson Nickel Belt ("TNB"), which is a 300+ kilometers long mining belt with over 60 years of production from high-grade nickel mines with associated copper and cobalt.

Listing Information

Rockcliff Metals Corporation, headquartered in Toronto, Canada, is listed on the Canadian Securities Exchange – (CNSX: RCLF) and Frankfurt Stock Exchange – (FSE: RO0).

Contacts

Head office	82 Richmond Street East, Toronto, Ontario, Canada M5C 1P1
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Top Shareholders as on 31 December 2020

Equity Holder	% Shareholding
Greenstone Resources	43.1%
Norvista Capital	26.9%
Management & Other Insiders	1.1%
Retail & Others	28.1%
Total	100.0%

Source – Rockcliff’s Investor Presentation Feb 2021

Management and Governance

Donald Christie

President & CEO, Director

- Interim President & CEO of Rockcliff since June 2021
- CEO and Director of Norvista Capital since 2014.
- Director of Nevada Zinc Corporation and Northern Graphite Corporation.
- Previously CFO of Continental Gold Limited and Calvista Gold Corporate, and was a senior investment banker at TD Securities and Newcourt Capital Group Inc.

Kenneth Lapierre

Vice President – Exploration, Director

- A professional geologist with over 25 years of experience in exploration, discovery, and mining in base and precious metals across North and South America, raising over \$165 million in equity markets.
- Discovered and acquired CAD\$ 10 billion worth of metal including Copper, Zinc, Gold, and Silver.
- Previously Vice President – Exploration at Tyranex Gold Inc., CEO at Rockcliff Resources Inc., President at JML Resources Limited, and Director at Grid Metals Corporation.
- Holds a B.Sc. Honors in Geology/Earth Science degree from Western University, Canada

Christopher Stackhouse

Chief Financial Officer (CFO)

- 15+ years of experience working with precious and base metal companies.
- Former interim CFO at Guyana Goldfields Inc. Was instrumental in finalization of feasibility study, financing, and development of \$ 250 million Aurora Gold Mine.
- Previously Manager at PwC LLP for 5 years within the Mining Assurance practice, managing CADits for a variety of publicly listed clients, ranging from small exploration to large multi-asset operations.
- CPA, CA, and BBA Honors from Wilfrid Laurier University, Canada.

Mike Romaniuk

Vice President – Projects

- Accomplished mining and processing specialist with 30+ years of experience in project and operations management
- Previously Vice President – Projects and Operations at Fortune Minerals Limited, President and CEO at Rail-Veyor Technologies, Vice President – Sudbury operations, and Director – Projects at Xstrata Nickel – Falconbridge.
- Degree in Geological Engineering – Mineral Processing from the University of Toronto and Mine Geology from Laurentian University, Canada.

Mark Sawyer

Chairman, Director

- Co-founded Greenstone Resources, a Tier-1 Private Equity Mining and Metals company, in 2013 after a 16-year career in the mining sector.
- Previously General Manager and Co-Head Group Business Development at Xstrata Plc.
- Held senior roles at Cutfield Freeman & Co (a boutique corporate advisory firm in the mining industry) and Rio Tinto Plc.
- Bachelor of Law degree from University of Southampton, UK.

Petra Decher

Independent Director

- 15+ years of mining industry experience, including public reporting, corporate governance, compliance, M&A, and investor relations.
- Independent Director of TSX-listed companies Coro Mining Corp. and Ascendant Resources Inc.
- Previously Vice President – Finance at royalty and streaming company Franco-Nevada Corporation, President and CFO at exploration company Geoinformatics Exploration Inc.
- Canadian CPA, Public Accountancy diploma-holder from McGill University, and Bachelor’s in Finance from Concordia University.

Gordon Graham

Independent Director

- 30+ years of experience in the Mining and Industrial sectors, leading operations and project development teams through the industrial lifecycle from project identification, development, and transition into operations.
- Previously held senior roles at several companies including ENGCOMP Engineering Professionals, DMC Mining Services, BHP Billiton Inc., and Barrick Gold Corporation.
- Degree in Mining Engineering from Queen’s University and MBA from Harvard University.

Processing Facility – Bucko Mill

Rockcliff leased the Bucko Mill and tailing storage facilities at the Bucko Lake Mine near Wabowden, central Manitoba, from CaNickel and currently controls a 7-year processing lease on both. The mill was originally designed to process nickel and has a nickel circuit with a processing capacity of 1,000 tpd. Rockcliff plans to refurbish the mill for copper and zinc processing for an expected capex of CAD 17 million.

The redevelopment plan includes adding a copper processing circuit and converting the existing nickel circuit into a zinc recovery circuit. It is estimated to take 12 months to complete once the redevelopment starts and expected to increase the mill's processing capacity to 1,500 tpd. The updated PEA released in Jan 2021 suggested 97% copper recovery, 75% zinc recovery, and 63% gold / silver recovery after processing. The capital required for the redevelopment will be raised as part of the project financing for the Tower project. All subsequent deposits that are mined and processed in the mill will benefit from this initial refurbishment and will not require additional capital investment for processing.

Mining Properties

Tower Property

The Tower property is a 9,530-hectare property that is 100% owned by Rockcliff and is located 130 kilometers from the Bucko Mill. The property is associated with a 12 kilometers long copper corridor and hosts a high-grade copper deposit. It consists of 1.03 million tonnes NI 43-101 Indicated mineral resource grading 4.69% Cu, 1.32% Zn, 0.85 g/t Au and 23.7 g/t Ag, plus a 0.4 million tonne. NI 43-101 Inferred mineral resource grading 3.53% Cu, 1.05% Zn, 0.57 g/t Au and 18 g/t Ag. The property has potential expansion opportunities with the present resource and additional nearby anomalies.

Tower Property Updated Mineral Resource Estimate at 1.5% CuEq effective February 28, 2020											
Classification	Tonnes (k)	Grades					Contained Metal				
		Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)	CuEq (%)	Cu (Mlbs)	Zn (Mlbs)	Au (Mlbs)	Ag (koz)	CuEq (Mlbs)
Indicated	2,194	2.33	1.79	2.06	36.00	4.40	113	87	145	2,541	213
Inferred	2,445	1.13	1.78	1.87	25.80	2.98	61	94	147	2,030	160

The Tower Deposit is a remobilized, single, steeply dipping, high-grade VMS lens that is located immediately below a 100 meters thick layer of Paleozoic limestone cover. The Tower Deposit remains open at depth where high-grade mineralization is associated with extensive conductive targets and to the south where recent drilling outside of the Tower Deposit envelope has intersected thick, high-grade copper mineralization with significant credits of zinc, gold, and silver (TP20-080).

Additional geophysical surveys have identified the Tower South Anomaly ("TSA") approximately 750 meters south of the Tower Deposit. Two exploratory drill holes have been completed, with one hole resulting in the discovery of significant Nickel – Platinum-Group-Element ("PGE") mineralization.

Within the property limits, the Tower Deposit and the TSA are associated within a 12 kilometer long arcuate trending magnetic horizon hosting several additional untested geophysical conductive targets that the Company believes merit follow-up exploration.

Drill Program: The purpose of the Tower Property drill program is to enhance the confidence and determine the growth potential of the present Tower deposit resource. As part of the program, step out drilling discovered a conductive, copper-bearing extension to the NI 43-101 Tower deposit. The discovery holes are located immediately south and up to 200 meters from drill holes intersected in the Tower deposit. A total of 50 holes totaling 22,117 meters were completed as part of the program that ended in early April 2020.

Drilling at TSA: TSA drilling resulted in the discovery of significant Nickel-PGE mineralization at a down-hole depth of 244.8 meters. Drilling intersected high-grade nickel, palladium and platinum mineralization over a down-hole interval of 2.40 meters grading 2.53% Ni, 3.35 g/t Pd, 1.04 g/t Pt, 0.48 g/t Rh, 1.53 g/t Ry, 0.45 g/t Ir, 0.696 g/t Os (5.0% NiEq) including 1.25 meters grading 4.46% Ni, 6.13 g/t Pd, 2.28 g/t Pt, 0.88 g/t Rh, 2.84 g/t Ru, 0.83 g/t Ir, 1.29 g/t Os (9.0% NiEq). The hole was designed to test the center of a large Time Domain Electromagnetic geophysical anomaly interpreted to have dimensions of 400 meters by 300 meters. The Company is planning additional geophysical surveys to determine the relationship between the high-grade interval and the geophysical anomaly.

Rail Property

Rockcliff's 100%-owned Rail Property is located 185 kilometers from the Bucko Mill. The near-surface Rail copper deposit has 61 completed drill holes (15,000+ meters) and is one of the strategic deposits that Rockcliff is expected to develop in the near term to feed the Bucko Mill centralized processing facility.

The Rail copper deposit presently hosts a NI 43-101 Indicated mineral resource of 1.2 million tonnes grading 2.73% Cu, 0.8 g/t Au, 0.9% Zn and 8.9 g/t Ag, and Inferred mineral resource of 0.7 million tonnes grading 3.11% Cu, 1.11 g/t Au, 0.7% Zn, and 8.5 g/t Ag. The deposit offers significant potential for resource expansion and discovery as the historic drilling program below the deposit intersected high-grade copper associated with the deep 1,000+ meters Deep Penetrating ElectroMagnetic ("DPEM") anomaly.

Rail Property Updated Mineral Resource Estimate at 1.5% CuEq cut-off March 27, 2020

Classification	Tonnes (k)	Grades					Contained Metal				
		Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)	CuEq (%)	Cu (Mlbs)	Zn (Mlbs)	Au (Mlbs)	Ag (koz)	CuEq (Mlbs)
Indicated	1,168	2.73	0.86	0.80	8.9	3.52	70	22	30	334	91
Inferred	728	3.11	0.72	1.11	8.5	4.09	50	12	26	200	66

The Rail copper deposit is within the 5 kilometer-long Rail copper horizon where several geophysical anomalies are ready for drill testing. The mineralization of the Rail copper deposit remains open along strike to the south and at depth where surface and bore hole geophysical surveys identified untested targets at depth below the current Rail copper deposit limits.

Drill Program: The objective of the Rail drill program is to increase resource confidence levels, and to determine if the near-surface NI 43-101 Rail deposit Indicated Mineral Resource Estimate continues along strike and at depth. The drill program will continue to focus on identifying additional copper mineralization below the Rail deposit. To date, 232 holes have been completed totaling 15,431 meters, with results identifying high-grade copper mineralization below the existing 100% owned NI 43-101 Indicated Mineral Resource Estimate at the Rail deposit.

New PEA based on desk-top analysis: Rockcliff has commenced a new NI 43-101 PEA for the sequential development of the Tower and Rail projects. This PEA is an update to the PEA filed on January 25, 2021, for the combined projects (Tower and Rail). Rockcliff conducted an independent desk-top study on the Tower project in May, 2021. The study concluded that employing a more traditional, alternative mining method could potentially materially reduce pre-production capital costs of the Tower project. Rockcliff believes that this alternative mining method can also be employed at the Rail project to further reduce capital requirements. The Company's board approved the commissioning of the new PEA for Tower and Rail to confirm the positive impact of the alternative mining method on the overall economics of the combined projects.

Talbot Property

Talbot Property is located about 50 kilometers north of Grand Rapids and about 160 kilometers from the Bucko Hill. This property is Rockcliff's flagship gold-rich copper asset and is part of the Company's Manitoba property portfolio in the FF-SL greenstone belt. In April 2020, the Company filed the Technical Report and Updated Mineral Resource Estimate of the Talbot Property meeting NI 43-101 standards.

Classification	Tonnes (k)	Grades					Contained Metal				
		Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)	CuEq (%)	Cu (Mlbs)	Zn (Mlbs)	Au (Mlbs)	Ag (koz)	CuEq (Mlbs)
Indicated	2,194	2.33	1.79	2.06	36.00	4.40	113	87	145	2,541	213
Inferred	2,445	1.13	1.78	1.87	25.80	2.98	61	94	147	2,030	160

30 mines have already gone into production in the FF-SL greenstone belt and Talbot's initial resource prior to production is the fourth largest of these. The producing mines with larger initial resources than Talbot are producing Flin-Flon mine, the Lalor mine, and the 777 mine.

A 51% Earn-In on Talbot Property from Hudbay: Talbot Property is under a JV between Rockcliff and Hudbay. In November 2019, Rockcliff earned a 51% ownership interest in the Property by completing certain expenditure requirements under the JV agreement. Hudbay exercised its back-in right to acquire 2% ownership interest back from Rockcliff in August 2020. The current ownership structure, therefore, is 51% Hudbay and 49% Rockcliff, making Hudbay the operator of the property. However, the JV agreement requires Hudbay to acquire another 14% of Rockcliff's interest and fund 100% of the capital upon making a construction decision. Rockcliff effectively has a 35% free carried interest in the property with no additional financing required as profits from the JV will be split in the ratio of 65%/35% respectively between Hudbay and Rockcliff after Hudbay's capital is paid back.

Drill Program: The Talbot drill program was designed to enhance the confidence of the existing Talbot deposit resource. A total of 4 drills tested the continuity of the high-grade VMS (copper, zinc, gold, silver) mineralization of the Tower deposit. As of today, a total of 19 holes have been completed for a total of 11,669 meters. The deposit remains open for expansion with multiple untested conductive targets. A +22,000 meters drill program is planned, out of which 11,700 meters of drilling has already been completed.

Bur Property (Historical Deposit)

The Bur Property is strategically located 22 kilometers away from Hudbay's VMS mill. The historical Bur Property hosts 1.35 million tonnes zinc-copper rich Bur Deposit and covers 86 mining claims, totaling 3,979 hectares. A NI 43-101 compliant technical report prepared on the property in 2007 returned the following resources estimates:

Resource	Tonnes (k)	Cu (%)	Zn (%)	Au (g/t)	Ag (g/t)	CuEq (%)	CuEq (Mlbs)
Historical Resource	1,352	1.8	8.7	0.1	11.5	5.0	149.0

Rockcliff acquired 100% equity interest on the property from Hudbay in October 2020 by meeting the CAD 3 million+ exploration expenditure target required under an option agreement. The Company also announced in October 2020 that it has completed a metallurgical characterization study on the Bur Property. The results indicate that a selective separation of zinc and copper is feasible without the use of

cyanide, and clean marketable concentrates can be made from the tested sample. Ore sorting was also successful in rejecting waste from the mineralized rock.

The Company expects that further investment required to develop this property for production will be less than the investment required for the Tower project as Hudbay had already commenced construction at Bur, including the road to the site and a box cut. Hudbay had completed a full feasibility study on the Bur Property and it will benefit Rockcliff as a lot of engineering and technical work has already been completed. This property was not included in the PEA as part of the hub and spoke strategy as Rockcliff did not have ownership at the time the study was being conducted.

The Bur Property is part of Rockcliff's continuous 100,000-meter drill program to identify additional resources. Approximately 9,800 meters of drilling has been completed on the property out of the planned 10,000 meters. The mineralized target at the Bur Property is 5 million tonnes. The three phases of drilling completed thus far have produced encouraging results and growth of the mineralized envelope south of the Bur Deposit.

Copperman Property (Historical Deposit)

The Copperman Property is 100% owned by Rockcliff. The property is located beside a highway and is less than 120 kilometers from the Bucko Mill. The Copperman Deposit was discovered in 1927-28 after surface trenching yielded a maximum of 2.73% copper and 4.24% zinc across 10 feet. Multiple reported zones were identified with high-grade intercepts. In 1967, it was reported that the "A" Zone is estimated to contain 170,000 tonnes grading 3.1% copper and 4.7% zinc. The "B" Zone was estimated to contain 74,200 tonnes grading 1.5% copper and 3.9% zinc. The resource was defined above 1,000 ft vertical. Later drilling identified depth extensions to the mineralization below 1,000 ft but was never included in a new resource estimate. The deposit remains open along strike and to depth.

The Copperman Property will be part of Rockcliff's 100,000-meter drill program where an estimated 7,000 meters are planned to be drilled. The focus of the drilling is to define the limits of the deposit to a vertical depth of 500m. The target at Copperman is 1.5 million tonnes of high-grade copper-zinc mineralization.

Freebeth Property (Historical Deposit)

Rockcliff owns 100% interest in the Freebeth Property subject to a 2% net smelter return ("NSR") royalty in favor of the former owner, Hudbay. The property totals 7,400 hectares and is located approximately 10 kilometers east of the Reed Copper Mine operated by Hudbay in the Snow Lake district in Manitoba. It hosts two known copper-rich zones, the Grid 4 Copper Zone and the LHZ. Both zones are located within favorable juvenile host rocks and numerous additional untested geophysical pulse anomalies are present on the property.

Rockcliff completed Phase I drill program in May 2020 and was successful in locating and identifying the historical LHZ. The Freebeth Property is strategically located within trucking distance of Bucko Mill.

Lon Property (Historical Deposit)

Rockcliff holds 100% interest in the Lon Property located in the Snow Lake district in Manitoba. The Company is required to pay 0.5% NSR royalty in two of the claims acquired under this property. The Company can purchase this NSR royalty for CAD 250,000. The historical Lon Deposit, discovered in the 1950s, is a steep-east dipping, shallow north plunging zone of base metal mineralization with a strike length of approximately 150m and a plunge extent of a minimum of 600 meters. It consists of two near

zones of roughly equal size, shape, and altitude. The deposit has been drill tested to a depth of 400m and is open in all directions. A historical geophysical anomaly below the zone has a strike length of 600m and remains untested by drilling. Rockcliff believes there is a potential to discover multiple high-grade deposits on this property.

Resource	Tonnes (k)	Cu (%)	Zn (%)	Au (%)	Ag (%)	CuEq (%)	CuEq (Mlbs)
Historical Resource	250	3.2	5.2	0.6	18.8	5.5	30.3

Morgan Property (Historical Deposit)

The Morgan Project comprises 36 claims currently held by Rockcliff. The property boundaries include a historical Morgan zinc deposit resource, and two nearby gold showings called the Finlayson Find and Blue Zone. The Morgan zinc deposit is a VMS-style deposit that is hosted within an interpreted felsic dome nestled above a thick blanket of andesitic volcanoclastics. The volcanic rocks belong to the Amisk Group of the FF-SL greenstone belt. The VMS body averages 2-3m thick, 60m wide, and 500m long. Limited drilling on the Morgan zinc deposit has identified 272,000 tonnes grading on average 15% zinc and 3.4 g/t gold. The deposit remains open for potential expansion with additional drilling.

Rockcliff acquired 100% interest in this property (including Morgan Lake, Woosey Lake, and Cook Lake properties) from Copper Reef Mining Corporation ("Copper Reef") in FY 2017. Copper Reef retains a 2% NSR royalty on the Morgan Lake property subject to a 10% net profits interest royalty in favor of the original owner, a 2% NSR royalty on the Woosey Lake property, and a 1% NSR royalty on the Cook Lake property which is also subject to a 2% NSR royalty in favor of a former joint venture party.

A third party holds certain rights to the Morgan Lake and Cook Lake properties, including a back-in right to acquire a 60% interest in these properties if a mineral resource is identified with 225,000 tonnes of contained CuEq or a 20% back-in right if the Company transfers these properties to a major company. Rockcliff will pay a CAD 1 royalty payment to Copper Reef in advance if it commences commercial production on the Morgan property. The Company has the right to purchase one-half of the Copper Reef NSRs for CAD 1 million at any time and retains a Right of First Refusal on Copper Reef's remaining NSRs.

Pennex Property (Historical Deposit)

Rockcliff holds a 100% interest in the Pennex zinc property in the Snow Lake District in Manitoba. The Pennex zinc property is contiguous with the Morgan property. It hosts the down-dip continuation of the Pen Deposit at an approximate vertical depth of 350m. Geophysical surveys suggest the conductivity on Rockcliff's property strengthens at depth and could represent significant volumes of sulfide mineralization. Additionally, a 2.6 kilometers long airborne geophysical survey located west of the deposit remains untested by drilling. The estimated target at the Pennex Property is 2 million tonnes of high-grade VMS (copper and zinc) mineralization.

Snow Lake South ("SLS") and Danlee Properties

Rockcliff holds a 100% interest in the SLS properties, which surround the Danlee Property. The properties are located in the Snow Lake district in Manitoba.

MacBride Property

Rockcliff acquired a 100% interest in the MacBride Property during FY 2017. The property is located in the Leafs Rapids District in Manitoba. The vendor retains a 2% NSR royalty on the property of which 1% NSR royalty can be purchased at any time for CAD 500,000 per 0.5% NSR royalty. The vendor's remaining NSR royalty will be subject to a first right of refusal in favor of the Company.

Jackfish Property

The Company owns a 100% interest in the jackfish property subject to a 3% NSR royalty. The property total 3,712 hectares and is located approximately 30 kilometers south of Snow Lake. The property hosts a underexplored low-grade copper zone worthy of additional drilling.

Tramping Property

Rockcliff owns a 100% interest in the property totaling 904 hectares. The Tramping Property is located approximately 15 kilometers south of Snow Lake, Manitoba and 7 kilometers south of Hudbay's Lalor mine. The property hosts favorable juvenile arc rocks associated with a coincident, untested, mag, and pulse anomaly.

Rockcliff's Subsidiary – Goldpath Resources Corp.

Goldpath Resources Corporation ("Goldpath") was a wholly-owned subsidiary of Rockcliff. It has consolidated six high-grade gold properties. On July 20, 2021, Rockcliff closed the sale of Goldpath to Kinross. Kinross acquired the shares of Goldpath through a subsidiary. The following are the six Goldpath projects sold to Kinross.

- Snow Lake Gold – Rockcliff held an option to earn a 100% interest
- Ber – previously 100% owned by Rockcliff
- Dick Stone North – previously 100% owned by Rockcliff
- Laguna – previously 30% owned by Goldpath and 70% owned by Kinross
- Lucky Jack – previously 30% owned by Goldpath and 70% owned by Kinross
- Puella Bay – previously 30% owned by Goldpath and 70% owned by Kinross

The consideration to be paid by Kinross to Rockcliff comprises USD 3 million cash and the following NSRs:

- Ber Property – 2.0% NSR
Kinross has the right to purchase up to a 1.0% NSR in 0.5% increments from Rockcliff at USD 500,000 per increment for an aggregate purchase price of USD 1 million
- Dick Stone North Property – 2.0% NSR
Kinross has the right to purchase up to a 1.0% NSR in 0.5% increments from Rockcliff at USD 500,000 per increment for an aggregate purchase price of USD 1 million
- Snow Lake Gold Property – 0.5% NSR, upon Kinross exercising its 100% option on the property, with no repurchase rights.

Kinross has the right of first refusal to acquire the residual NSRs on all the properties.

Industry Analysis

The Mining industry comprises companies that extract or provide support for the extraction of minerals, metals, and other valuable materials, including sand, gravel, coal, and stones, from the earth. The industry has five main segments:

- Copper, Nickel, Lead, and Zinc
- Metal Ore
- Coal, Lignite, and Anthracite
- Stones
- General Minerals
- Mining Support Activities

The global Mining industry had a revenue of USD 1,641.6 billion in 2020. The Asia Pacific region held the largest share of the industry's revenue (71%), followed by North America (9%), and the Middle Eastⁱ. The industry's revenue is expected to reach USD 1,845.6 billion in 2021 (12.4% growth rate) and USD 2,427.9 billion in 2025 (8.1% Compounded Annual Growth Rate, "CAGR"). A large share of this expected growth is attributable to a gradual resumption of mining activity and return of demand for mined resources after the covid-induced lockdowns and general slowdown in economic activity.

Metals (including Metal Ore and Copper, Nickel, Lead, & Zinc) and Coal, Lignite, and Anthracite are the two largest segments of the Mining industry because of the diverse applications of these materials. The prices of most metals fell in 2020 because of the economic slowdown following the Covid-19 outbreak. However, by the end of 2020, prices of most major metals such as copper and iron, rebounded and reached multi-year highs, driven particularly by China's rapid economic recovery.ⁱⁱ

Metal prices continued to be high in early 2021 with lockdowns easing in most countries and economic activity beginning to normalize. According to the International Monetary Fund ("IMF"), world GDP is expected to grow at 6.0% in 2021 after an estimated 3.5% contraction in 2020. This return to growth is likely to support metals prices since they are positively correlated to economic growth.

Copper

Copper Demand

The demand for copper mostly comes from the Construction, Electrical & Electronic Equipment, Infrastructure, Transportation, and Industrial Machinery sectorsⁱⁱⁱ. However, the demand from the EV sector has grown at the highest rate in recent years and is expected to continue growing strongly over the coming years as EVs become more mainstream. 31% of the global demand for refined copper came from the Electrical & Electronic Equipment sector in 2019, followed by Construction (28%), Infrastructure (16%), and Transportation (13%) sectors.^{iv} According to Bank of America ("BoA"), global copper consumption is expected to increase from 23.3 million tonnes in 2020 to 24.7 million tonnes in 2021, at a 6% YoY growth rate.^v This growth is likely to be driven by growing copper demand from China, which is the world's largest copper consumer, as well as from the EV manufacturers worldwide.

Growing Chinese demand supporting high copper prices: China's copper demand is expected to increase from 12.9 million tonnes (i.e 55.3% of the global demand) in 2020 to 13.6 million tonnes (i.e., 55.0% of the expected global demand) in 2021^{vi}. The country is the world's largest copper importer

despite being the world’s 3rd largest copper producer, with an annual production of 1.7 million tonnes in 2020^{vi}. China’s copper imports increased from 1.9 million tonnes in April 2021 to 1.95 million tonnes in May 2021, translating to a 2% MoM growth^{viii}. China’s industrial production index increased from 7.3% in December 2020 to 35.1% in early 2021, at an implied growth rate of 380.8% – the highest since 1990^{ix}. This growth was dominated by sectors that consume the highest quantities of copper, such as Machinery, Power Equipment, Electronics, and Transportation Equipment.^x

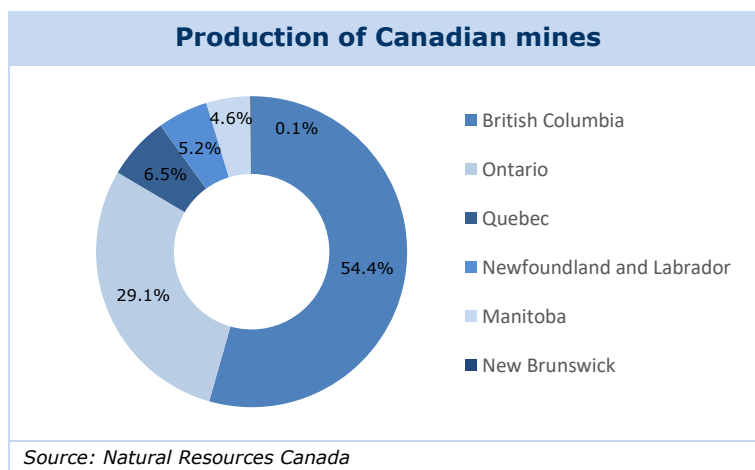
China’s copper consumption is likely to continue increasing over the coming years as it continues to account for a disproportionate share of the world’s electronics manufacturing and works towards increasing its reliance on renewable energy to meet its peak emission targets before 2030.

Home renovation and “Buy American” policy to promote US copper demand: The US is the second-highest consumer of copper after China. The Country’s copper demand was 1.7 million tonnes (i.e. 7.3% of the global demand) in 2020 and is expected to increase significantly in 2021 and beyond. Increased home purchases and renovation boosted the demand for copper in the US because home construction and renovation frequently require copper products such as wires and electrical fittings.

The Biden administration’s “Buy American” policy is expected to complement strong US home buying trends in boosting copper demand as this policy encourages Americans to buy locally manufactured products in a bid to support domestic manufacturing of essential components. The Buy American policy covers components for Construction, Appliances, Electronics, and Automotive industries, a high percentage of which are made from copper.

Copper Production

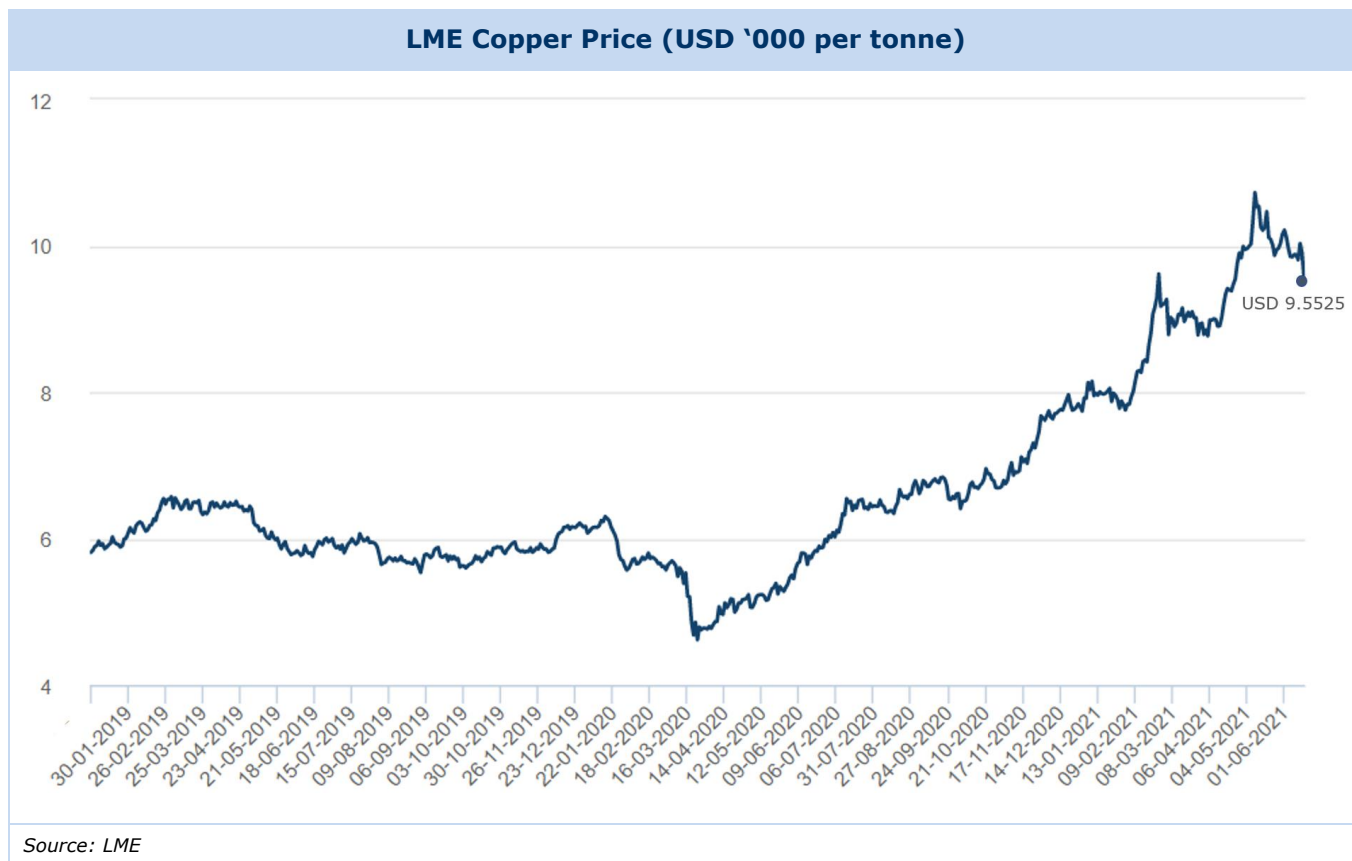
The global production of copper was 20 million tonnes in 2020. Chile (28.5%) contributed the highest share of this output, followed by Peru (11.0%) and China (8.5%).^{xi} Canada produces less than 4% of the world’s copper output exported USD 7 billion worth of copper in 2019. In 2019, Canadian mines produced 543,608 tonnes of copper in concentrate, which is a 3% increase over the production in 2018. This increase was due to higher output from British Columbia (which accounted for more than 50% of Canada’s total production), as well as Ontario, Quebec, and Newfoundland and Labrador.^{xii}



After significant Covid-19 disruption in 2020, copper mining operations are gradually normalizing across the world. Consequently, global copper production is expected to increase from 20 million tonnes in 2020 to 21.3 million tonnes in 2021, at an implied growth rate of 5.9%.^{xiii} Additional output from projects in Panama, Russia, and the Democratic Republic of Congo have contributed to this increase in production. However, despite this increase, the demand-supply mismatch is expected to increase in the coming years due to increasing consumption. According to BoA, copper inventories are severely depleted and, measured in tonnes, are now at levels seen 15 years ago. Current copper stocks are enough to cover just over three weeks of demand and are likely to deplete further as the global economy begins to reopen and reflate.^{xiv}

Copper Prices

LME copper cash prices increased from USD 4,617.5 per tonne on March 23, 2020, to USD 9,311.5 per tonne on August 9, 2021. The price crossed USD 10,000 per mt for the first time in ten years in May 2021, and peaked at USD 10,724.5 per tonne on May 10, 2021. This price rise has been fueled by expectations of massive growth in copper demand due to the Covid-related stimuli provided by various central banks as well as from a growing worldwide push for decarbonization and green technologies. The push towards green technologies supports high copper prices because large quantities of copper are used in the production of EVs, electrical grids, and renewable energy production and storage infrastructure. At the same time, global copper inventories are depleting, and production is unlikely to keep pace with demand going forward.^{xv}



BoA copper deficits to increase in 2021 and 2022, resulting in copper prices reaching USD13,000 per tonne in the coming years. Prices could moderate going forward with an expected significant increase in scrap usage at smelters and refiners. However, without an increase in the supply of secondary material, prices could cross USD 20,000 per tonne.

Gold

Approximately 3,200 metric tonnes of gold were produced globally in 2020, with China producing the highest quantity of 380 metric tonnes (11.8% of global production), followed by Australia (10%), Russia (9.3%), the US (5.9%), and Canada (5.3%).^{xvi}

There were noticeable gold production drops in many regions across the world in 2020 due to Covid-related mining suspensions, especially in North America, South America, and Africa. In Canada, gold production fell 22% to 1,160 koz in Q2'20 compared to 1,482 koz in Q2'19. This fall in global production coupled with import curbs in many countries produced a demand-supply mismatch and, consequently, a sharp rise in gold prices and made gold one of the best performing major assets in 2020.

Fitch forecasts that global gold production will increase at an average annual growth rate of 2.5% between 2020 and 2029. Higher gold production in Russia is expected to lead to this increase, as Russia is likely to overtake China as the largest gold miner. Gold production in China, on the other hand, is expected to remain stagnant until 2029, with an expected average annual growth rate of 0.2%. Australia's gold production is also expected to grow modestly over this period, supported by a strong project pipeline, rising gold prices, and competitive operating costs.

Zinc

Zinc is the 23rd most abundant element found in the earth's crust. The global zinc output in 2020 was 12.2 million metric tonnes. China was the world's highest zinc producer in 2020 with a total production of 4.2 million metric tonnes, which was 34.4% of global production. Peru was the second-highest producer with an 11.4% share of global production, followed by Australia (10.6%), India (6.5%), and the US (6.3%).

According to Fitch Solutions, global zinc production is likely to enter a multi-year uptrend starting 2021 after contracting by almost 10% between 2013 and 2020. Fitch expects zinc production to grow at an average of 1.8% between 2021-2029.

Global zinc consumption fell sharply in early 2020 due to the Covid-19 outbreak. However, consumption recovered rapidly in the following months and matched 2019's full-year consumption by October 2020. Zinc consumption continued to increase steadily from Q4'20, largely due to a faster-than-expected economic recovery in China, which is the world's biggest zinc consumer.^{xvii}

The average price for zinc on the LME stood at USD 2.35K per metric tonne in January 2020. With the coronavirus hitting the market hard, by March 2020 prices fell to their lowest level for the year to USD 1.90K per metric tonne. However, prices recovered sharply in the second half of 2020 and ended the year at USD 2.78K per metric tonne in December. This price increase has been largely supported by robust Chinese infrastructure demand, rebounding global auto output, and surging demand for consumer durables.

Silver

Global silver production in 2020 was 25,000 metric tonnes. Mexico was the largest producer of silver with an output of 5394.9 metric tonnes (21.5% of global output). Peru was the second with an output of 3,838.5 metric tonnes (15.3% of global output) and China was the third-largest producer with an output of 3,138.2 metric tonnes (12.5%)^{xviii}.

Global silver mine production contracted by 5.6% from 26,500 metric tonnes in 2019 to 25,000 metric tonnes in 2020, owing to lockdowns and other Covid-related restrictions in top silver-producing countries. Nine out of the top ten silver-producing countries have witnessed a fall in their silver output in 2020. However, silver mine production output is expected to recover in 2021 with Covid restrictions gradually being relaxed.

The demand for silver is expected to increase to 1.03 billion ounces in 2021 from 923 million ounces in 2020 at an implied growth of 11%. The demand is expected to grow because of an increase in demand for EVs and electronics. Growing 5G penetration is also likely to increase the demand for silver because silver is used in 5G hardware, such as semiconductors, multi-layer ceramic capacitors, and micro electro-mechanical systems.

Risk Profile Analysis

1. Operational Risk

Rockcliff has a moderately high operational risk profile since all its projects are currently in the exploration stage. The success of these projects depends on discovering high-grade metal reserves and establishing the economic viability of production. The Company's Tower project and Bucko Mill are likely to be the first ones to become operational. However, the Tower project is likely to take another 2-3 years to be ready for production. The timely implementation of these plans will depend on the unpredictable Covid-19 situation, especially with experts expecting a 'third wave' to occur soon.

The Talbot property, which is among the Company's key properties, enjoys a lower risk profile because it is under a JV with Hudbay. The experience of working closely with Hudbay is likely to produce learnings that Rockcliff can apply to its other projects.

Hudbay is an established company with a stable operating history and a strong financial position. It can generally be trusted to fulfill its JV commitments on time. However, at a time when several companies are facing Covid-19 related challenges, including liquidity concerns and operational uncertainties, the risk of Hudbay failing to meet its JV commitments on time cannot be completely ruled out. We believe that for these reasons, Rockcliff has a MID-HIGH operational risk profile.

2. Financing Risk

Rockcliff is currently in the pre-revenue stage and is unlikely to generate any meaningful revenue in the near future since the Tower property and Bucko Mill are unlikely to become operational soon. The Company has funded its research, exploration, and development activities by raising equity capital until now, and needs to raise another CAD 103 million soon to meet the CAPEX requirements of Tower, Rail, and the Bucko Mill. The Company will have to raise further capital to finance the exploration activities at other properties as well as its aggressive growth plans that include acquiring new assets around the Bucko Mill.

The ability to convince debt and equity investors about the viability of the Company's future plans and the management's ability to execute these plans successfully will be critical to raise funds. Consequently, we believe Rockcliff has a HIGH financing risk profile.

3. Political and Regulatory Risk

All of Rockcliff's assets are in Canada and the Company plans to continue acquiring more assets in the country with a view of developing a hub-and-spoke structure with the Bucko Mill at the center. The Company enjoys a low political and regulatory risk profile because Canada has a stable political environment and a mining-friendly regulatory framework at the state and the provincial levels. Regulatory procedures in Canada, although strict in terms of environmental impact and the rights of indigenous people, are clearly defined, transparent, and predictable both at the state and the provincial level. The governments have taken some important steps since 2019 that make the Country's regulatory environment more amiable to mining investors. These steps include enacting the Impact Assessment Act that streamlines and accelerates the environmental assessment process for mining projects and extending the time period for incurring the necessary expenditures for issuing flow-through shares.

We do not see the Company facing any significant regulatory obstacles as it develops its existing assets and acquires new assets in Canada. However, the Company could face some hurdles once these assets approach the production stage and the Company starts considering export options and offtake agreements. For these reasons, we feel that the Company currently has a LOW political and regulatory risk profile.

4. Key Personnel Risk

Rockcliff's leadership team is knowledgeable and has decades of experience in the Mining industry, including extensive experience in managing in-production assets at several leading organizations. However, the Company's leadership has no experience in managing an in-production business as a single team yet. Its real test will come when Rockcliff starts producing and marketing copper because this is when the leadership will have to come together to make tough decisions and face stiffer challenges. Consequently, we believe that the Company has MEDIUM key personnel risk.

Financial Analysis

Rockcliff has not generated any significant cash flows yet because it is a pre-production company. It has been focusing on acquiring and exploring promising copper and gold mining assets, with the expectation of generating cash flows once reserves are discovered and these assets enter production. The Company expects its Tower project to soon enter the developing stage and start generating cash flows by FY 2025. The Company has been incurring substantial operating expenses, which is typical of pre-production mining companies.

The Company's major costs until now have been exploration and acquisition related. However, a high percentage of the Company's costs over the next few years are likely to be development-related since development work at the Bucko Mill and the Tower property is expected to begin soon, with a target of making both the properties production-ready in four years. In addition to supporting these development costs, the Company will require significant capital to meet its routine operating expenses and support its ambitious growth plans, which is typical of pre-production mining companies. The Company's ability to sell its vision to investors and its execution capabilities will be critical to raise these funds.

Revenue and Profitability: Rockcliff's financials are primarily driven by Tower, Rail, and the Bucko Mill, because these are the closest to production and are the only assets (besides the Talbot JV) that might generate revenue in the medium term. Since none of Rockcliff's assets is generating revenue yet and the Company is investing heavily on asset exploration (especially at the Tower project), Rockcliff is currently in deep losses.

Rockcliff's operating expenses (which primarily include employee costs and administrative costs) increased from CAD 2.2 million in FY 2018 to CAD 28.3 million in FY 2020. However, the operating expenses for FY 2020 also include exploration and acquisition costs of CAD 25.3 million. Excluding these expenses, the Company's operating expenses increased to CAD 2.9 million, translating to a CAGR of 14.8%. We expect Rockcliff's operating costs to remain relatively stable between CAD 2.0 million to CAD 2.3 million between FY 2022 to FY 2024, unless the Company acquires new assets or accelerates exploration and development work at one of exits existing assets.

Rockcliff made a Net Loss of CAD 2.2 million in FY 2018 and this loss increased to CAD 23.8 million in FY 2020. The Company's losses are likely to decrease going forward and reach CAD 2.2 million in FY 2024. We expect the Company to become profitable from FY 2025 once both the Tower project and Bucko Mill are operational and generate a Net Profit of CAD 150.9 million for the year. We expect the Company's profitability to continue increasing each year starting FY 2025 unless it works aggressively on bringing its other assets online.

Capital Requirement: Rockcliff's share capital increased from CAD 27.0 million in FY 2018 to CAD 60.7 million in FY 2021 because of private placement of shares worth CAD 28.7 million and shares issued for mineral exploration worth CAD 11.5 million in FY 2020. The Company had no major liabilities on its books as of March 31, 2021, except for a CAD 0.4 million CEBA government loan. The Company will need to raise an estimated CAD 103.0 million to finance the development of the Bucko Mill, Tower, and Rail projects. We believe that this amount would comprise equal parts of debt and equity to leverage the Company's capacity for more debt.

With such a significant amount of additional capital required to run the business, Rockcliff's ability to convince investors about the business's future potential and the Company's ability to manage the execution phase will be critical. Although this is typical of early-stage mining businesses, the inability to raise enough capital could be a significant threat going forward.

Valuation

Equity value of Rockcliff stands between **CAD 88.36 million and CAD 108.00 million**

Equity Value per share for Rockcliff stands between **CAD 0.287 and CAD 0.351**

	Variance	Equity Values as on 08/10/2021 (in CAD thousands)	Price per Share (in CAD)
Downside Case	-10%	88,365	0.287
Base Case	0%	98,184	0.319
Upside Case	10%	108,002	0.351

Important information on Arrowhead methodology

The principles of the valuation methodology employed by Arrowhead BID are variable to a certain extent, depending on the sub-sectors in which the research is conducted. But all Arrowhead valuation research possess an underlying set of common principles and a generally common quantitative process.

With Arrowhead commercial and technical due diligence, Arrowhead researches the fundamentals, assets and liabilities of a company, and builds estimates for revenue and expenditure over a coherently determined forecast period.

Elements of past performance such as price/earnings ratios, indicated as applicable, are mainly for reference. Still, elements of real-world past performance enter the valuation through their impact on the commercial and technical due diligence.

We have presented the discounted cash flow estimate approach for FCFE valuation. We have also presented Comparable Company Analysis. The fair value bracket is built on the basis of these two methods.

Arrowhead BID Fair Market Value Bracket

The Arrowhead Fair Market Value is given as a bracket. This is based on quantitative key variable analyses such as key price analysis for revenue and cost drivers or analysis and discounts on revenue estimates for projects, especially relevant to projects estimated to provide revenue near the end of the chosen forecast period. Low and high estimates for key variables are produced as a valuation tool.

In principle, an investor comfortable with the high brackets of our key variable analysis will align with the high bracket in the Arrowhead Fair Value Bracket, and, likewise, in terms of low estimates. The investor will also note the company intangibles to analyze the strengths and weaknesses, and other essential company information. These intangibles serve as supplementary decision factors for adding or subtracting a premium in investor's own analysis.

The bracket should be taken as a tool by Arrowhead BID for the reader of this report and the reader should not solely rely on this information to make his decision on any particular security. The reader must also understand that while on the one hand global capital markets contain inefficiencies, especially in terms of information, on the other, corporations and their commercial and technical positions evolve rapidly. This present edition of the Arrowhead valuation is for a short to medium-term alignment analysis (one to twelve months).

Estimation of Equity Value

(Figures in CAD thousands)

Valuation Approach	Equity Value as on 08/10/2021	Price per share (CAD)	Weight (%)
Comparable Company Analysis	30,113	0.098	50%
DCF Valuation	166,254	0.540	50%
Weighted Average Equity Value	98,184	0.319	100%

Following is the detailed methodology of the two valuation approaches:

1. Comparable Company Analysis

Comparable Company Analysis method operates under the assumption that similar companies will have similar valuation multiples, such as P/B, P/S. We have shortlisted companies similar in business with Rockcliff Metals Corporation based on parameters such as market size, regions of operations etc.

The weights allocated to the comparable companies were based on the degree of their business match with the subject company.

(Figures in CAD thousands)

Relative Valuation based on:	Weights	Equity Value as on 08/10/2021	Implied Share Price (CAD)
EV / Proven & Probable Reserves	100%	30,113	0.098
Weighted Average	100%	30,113	0.098

Business Match Score

We have considered 11 copper, gold, and zinc mining companies in our Comparable Company Analysis. Most of these companies are Canadian and have assets in Canada, US, Peru, Mexico, and Ireland. A majority of these companies are in pre-production stage and have completed their PEA and DFS.

We have assigned a business match score to these companies based on the country in which their assets are located, the lifecycle stage of their assets (exploration / development / production), and the nature of their resources (measured / indicated / inferred).

Stock Exchange	Ticker	Company Name	Business Match %	EV/Proven & Probable Reserves
XTSX	GCX	Granite Creek Copper Ltd.	75%	48.8
XTSX	QTA	Quaterra Resources Inc.	65%	0.2
XTSX	KZD	Kaizen Discovery Inc.	75%	291.7
XTSX	DCMC	Dore Copper Mining Corp.	80%	57.3
XCNQ	CBK	Copperbank Resources Corp.	75%	-
XTSX	QCCU	QC Copper and Gold Inc	70%	-
XTSX	OCO	Oroco Resource Corp.	75%	92.3
XTSX	ADZN	Adventus Mining Corporation	70%	73.9
XTSX	HI	Highland Copper Company Inc.	75%	3.7
XTSE	DNT	Candente Copper Corp.	70%	0.3
XTSX	WCU	World Copper Ltd.	80%	-
Median				53.0
Mean without Outliers				68.1
Weighted Average without Outliers				67.8
CNSX	RCLF	Rockcliff Metals Corporation		28.6

2. Discounted Cash Flow (DCF) Approach

- **Valuation Methodology:** The Arrowhead fair valuation for Rockcliff Metals Corporation is based on the Discounted Cash Flow (DCF) analysis of the Company's Tower and Rail projects and the leased Bucko Mill.
- **Time Horizon:** The time period chosen is based on the production reserves available for the Tower and Rails assets. Period chosen for valuation is 9 years (2022 – 2030).
- **Terminal Value:** Terminal Value is considered to be zero as the production reserves are depleted by the end of FY 2030.

Valuation	
Risk free rate (Rf)	2.0%
Beta	1.1
Expected Return on Market	9.0%
Additional Discount Rate for Company Specific Risk	15.0%
Cost of Equity	24.7%

FCFE (Figures in CAD thousands)					
	2022E	2023E	2024E	2025E	2026
Net Income	(2,302)	(2,293)	(2,290)	150,995	158,585
Add: Depreciation	21	11	5	3	1
Add: Right-of-Use Asset Amortization	15	15	15	9	-
Add: Amortization Expense – Pre-Production Asset	-	-	-	19,225	19,225
Less: Increase in Non-Cash Working Capital	(873)	0	0	6,705	0
Less: Capital Expenditure	34,339	34,308	34,313	(11)	(1)
Add: Increase in Debt	17,167	17,167	17,167	(7,020)	(7,582)
Free Cash Flow to Equity	(18,566)	(19,410)	(19,418)	156,517	170,230
Present Value	(14,888)	(12,482)	(10,014)	64,728	56,455

FCFE (Figures in CAD thousands)				
	2027E	2028E	2029E	2030E
Net Income	161,518	108,130	134,604	89,079
Add: Depreciation	1	0	0	0
Add: Right-of-Use Asset Amortization	-	-	-	-
Add: Amortization Expense – Pre-Production Asset	19,225	13,605	19,225	12,495
Less: Increase in Non-Cash Working Capital	(67)	(1,957)	1,799	(2,369)
Less: Capital Expenditure	(1)	(0)	(0)	(0)
Add: Increase in Debt	(8,188)	(8,843)	(9,551)	(10,315)
Free Cash Flow to Equity	172,623	114,849	142,479	93,628
Present Value	45,909	24,494	24,368	12,841

Valuation	
Equity Value as on 03/31/2022	191,412
Discounted Value as on 08/10/2021	166,254
Number of Shares Outstanding (in thousands)	307,769
Value per Share (CAD)	0.540

The equity value of the Company is sensitive to cost of equity. The following table captures the sensitivity of Rockcliff's Value to these assumptions.

(All figures in CAD thousands)

Cost of Equity	Equity Value
10%	402,404
11%	377,481
12%	354,324
13%	332,791
14%	312,752
15%	294,089
16%	276,693
17%	260,467
18%	245,321
19%	231,173

Rockcliff's DCF valuation is significantly higher than its market capitalization because of highly encouraging outcomes of the PEAs on the Company's assets. However, PEA is only the first step in establishing a project's economic viability and does not offer a comprehensive assurance of the project's success. Rockcliff faces several risks that are typical of exploration-stage mining companies and may significantly reduce the Company's valuation. However, these risks cannot be entirely factored into the valuation model until further studies have been completed. A more accurate valuation of the business can only be conducted once PFS and DFS have been completed as these studies provide better resource estimates and expected timelines for the projects' production-readiness.

Analyst Certifications

I, Aman Sabherwal, certify that all of the views expressed in this research report accurately reflect my personal views about the subject security and the subject company, based on the collection and analysis of public information and public company disclosures.

Important disclosures

Arrowhead Business and Investment Decisions, LLC received fees in 2021 and will receive further fees in 2021 from Rockcliff Metals Corp. for researching and drafting this report and for a series of other services to Rockcliff Metals Corp., including distribution of this report, investor relations and networking services. Neither Arrowhead BID nor any of its principals or employees own any long or short positions in Rockcliff Metals Corp. Arrowhead BID's principals expect to seek a mandate for investment banking services from Rockcliff Metals Corp. in 2021.

Aside from certain reports published on a periodic basis, the large majority of reports are published by Arrowhead BID at irregular intervals as appropriate in the analyst's judgment.

Any opinions expressed in this report are statements of our judgment to this date and are subject to change without notice.

This report was prepared for general circulation and does not provide investment recommendations specific to individual investors. As such, any of the financial or other money-management instruments linked to the company and company valuation described in this report, hereafter referred to as "the securities", may not be suitable for all investors.

Investors must make their own investment decisions based upon their specific investment

objectives and financial situation utilizing their own financial advisors as they deem necessary. Investors are advised to gather and consult multiple information sources before making investment decisions. Recipients of this report are strongly advised to read the information on Arrowhead Methodology section of this report to understand if and how the Arrowhead Due Diligence and Arrowhead Fair Value Bracket integrate alongside the rest of their stream of information and within their decision-making process.

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Appendix

Glossary

VMS	Volcanogenic Massive Sulfide
TPD	Tonnes Per Day
Hudbay	Hudbay Minerals Inc.
PEA	Preliminary Economic Assessment
JV	Joint Venture
EV	Electric Vehicles
Goldpath	Goldpath Resources Corporation
FF-SL	Flin Flon-Snow Lake
Norvista	Norvista Capital Corporation
CaNickel	CaNickel Mining Ltd
Greenstone	Greenstone Resources
Arrowhead	Arrowhead Business and Investment Decisions, LLC
OTCQB	OTCQB Venture Market
MMDF	Manitoba Mineral Development Fund
Kinross	Kinross Gold Corporation
Laguna	Laguna/Lucky Jack/Puella Bay properties
SEDAR	System for Electronic Document Analysis and Retrieval
LHZ	Last Hurrah Zone
TNB	Thomson Nickel Belt
TSA	Tower South Anomaly
PGE	Platinum-Group-Element
NSR	Net Smelter Return Royalty
Copper Reef	Copper Reef Mining Corporation
SLS	Snow Lake South
SLG	Snow Lake Gold
KGE	KG Exploration (Canada) Inc.
CAGR	Compounded Annual Growth Rate
IMF	International Monetary Fund
BoA	Bank of America
DPEM	Deep Penetrating ElectroMagnetic

Notes and References

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