# ONTARIO MINING Review

digital magazine

ISSUE 2 • 2024

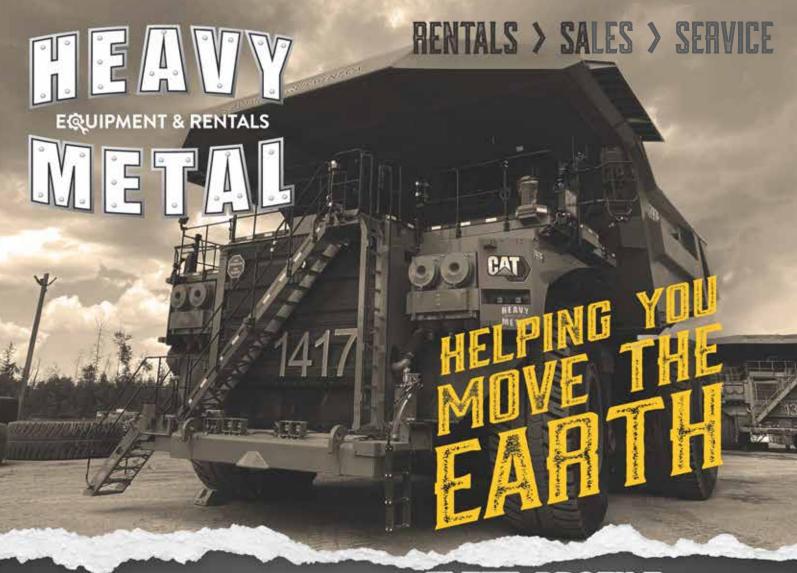


Agnico Eagle forges lasting partnerships

Tartisan Nickel Corp. is making inroads at the Kenbridge Nickel-Copper Deposit, Northwestern Ontario

Electrication transforms the mining landscape in Canada

www.ontariominingnews.ca



**Heavy Metal Equipment & Rentals is** North America's largest heavy equipment rental company servicing all four earth-moving industry sectors: Mining, Construction, Pipeline and Forestry.

Established with integrity, we pride ourselves on providing our customers with exceptional service, safe and reliable rental equipment, and a partnership that ensures they get the best equipment to get the job done.

1.877.672.7946 **Operating in:** Canada & United States



# Don't see what you're looking for?

We are always adding equipment to our fleet. Contact us today and let us find a solution that is right for you.

FOLLOW US ON: f in







**HEAVYMETALEQUIPMENT.CA** 



Sleipner DB Series lowbed trailers deliver faster loading and agile transporting for the wheeled advantage you need.

#### **Improved Productivity**

Smoother transportation on drill and dozer fleet increases productivity by up to 12–20%

#### **Improved Maintenance**

Getting rid of tramming reduces maintenance on drill fleet undercarriage maintenance by up to 50%

#### **Improved Mobility**

Versatile, agile design delivers greater maneuverability on upward slopes, descents, and tight corners.

**brandt.ca** 1-888-227-2638





DEL COMMUNICATIONS INC. www.delcommunications.com

President & CEO DAVID LANGSTAFF

Managing Editor **SHAYNA WIWIERSKI** shayna@delcommunications.com

Project Manager MIC PATERSON mic@delcommunications.com

Advertising Manager DAYNA OULION

Sales Representatives

BRIAN GEROW MIC PATERSON ANTHONY ROMEO

Contributing Writer ISABELLE LEBLANC

© 2024 DEL Communications Inc.

All rights reserved. Contents may not be reproduced by any means, in whole or in part, without the prior written permission of the publisher.

While every effort has been made to ensure the accuracy of the information contained in and the reliability of the source, the publisher in no way guarantees nor warrants the information and is not responsible for errors, omissions or statements made by advertisers. Opinions and recommendations made by contributors or advertisers are not necessarily those of the publisher, its directors, officers or employees.

## IN THIS ISSUE

Message from the editor, Shayna Wiwierski - 6

Message from the Ontario Minister of Mines, the Honourable George Pirie - 8

Government of Canada announces \$10 million to support critical minerals mining in northern Ontario - **10** 

Agnico Eagle forges lasting partnerships - 12

Tartisan Nickel Corp. making inroads at the Kenbridge Nickel-Copper Deposit in Northwestern Ontario - **15** 

On the green road:

Electrification transforms the mining landscape in Canada - 18

North Bay, Ontario: A hub for mining innovation - 20

MineConnect expands from northern Ontario to province-wide representation - **24** 

Workplace Safety North launches new hybrid training pilot for mining supervisors - **26** 

Mining transformed: The one-stop-shop for mining innovation - 28

The talent crisis: A critical risk to critical minerals - 32

An engineered solution for dust containment in conveyor transfers - 34

Protecting mining assets: The multifaceted benefits of specialty coatings - 36

Sling-Choker Manufacturing: 50 years of expertise - 38

Canadian Mining Hall of Fame to honour four new members in 2025 - 40

Memorable moments, events, and experiences from the world's premier mineral exploration and mining convention in Toronto - 44

#### DEL Communications Inc. is extremely grateful to our advertisers for their support in this publication.

#### **CLICK HERE TO DOWNLOAD THE MEDIA KIT.**

Agnico Eagle Mines Limited13	Corriveau J.L. & Ass. Inc37	Maslac
Air Separation Technologies Inc	Davis Controls	Park Derochie Inc11
AME Roundup41	Dumas Mining23	PDAC 45
Barrick Gold Corporation9	Fast Air47	Richwood35
BBA19	GPR Geophysics5	Sling Choker Mfg. (Thunder Bay) Ltd 39
Bit Service43	Green Technology Metals21	SPC Nickel48
Brandt Tractor Ltd 3	Greg MacDonald Equipment Services Inc 25	Tartisan Nickel Corp17
Certarus Ltd31	Hardrock-Vertex42	Timberland Equipment Limited 46
Continental Mine & Industrial Supply Ltd 14	Heavy Metal Equipment & RentalsIFC	Valard Construction





# MAKE YOUR NEXT DISCOVERY WITH AMBIENT NOISE TOMOGRAPHY (ANT)

- Be 10 to 100 times more productive
- Reduce your technical staff by 75%
- Get 3D results for depth of 2 to 3 km
- Quickly assess the mineral potential of a property
- Reduce your environmental footprint

# Let's revolutionize the exploration industry with IoT and AI-Driven Technologies

CAUR Technologies +1 438 336-0880 www.caurtech.com





## Message from the editor SHAYNA **WIWIERSKI**

#### Welcome to another edition of the **Ontario Mining Review digital magazine**

s we delve into this latest issue of the Ontario Mining Review, I am filled with a sense of optimism and anticipation for the future of mining in our province. The stories within these pages highlight a pivotal moment in Ontario's mining sector, marked by strategic investments, innovative partnerships, and a renewed commitment to sustainable practices.

One of the standout stories features the Government of Canada's announcement of a \$10-million investment aimed at supporting critical minerals mining in Northern Ontario. This funding not only underscores the government's recognition of the vital role that critical minerals play in our economy, but also positions Ontario as a key player in the global supply chain. As the world increasingly turns towards green technologies and renewable energy sources, our region's rich mineral deposits are more important than ever. This investment promises to enhance exploration and production capabilities, creating jobs and fostering economic growth in communities that depend on mining.

Another significant highlight is Agnico Eagle's ongoing efforts to forge lasting partnerships across Ontario's mining landscape. Their commitment to building relationships with local communities, Indigenous groups, and various stakeholders reflects a deep understanding of the interconnectedness of mining operations and community well-being. Agnico Eagle's approach exemplifies the industry's shift towards more inclusive and responsible mining practices, ensuring that the benefits of resource development extend beyond the mine site. Such partnerships are crucial for the long-term sustainability of our industry, as they cultivate trust and mutual respect between mining companies and the communities they impact.

In addition to these features, this issue also covers the latest advancements in mining technology and

the importance of environmental stewardship. As we strive for progress, it is vital that we balance our economic ambitions with our responsibility to protect the environment. The advancements in sustainable mining practices showcased in this issue demonstrate how innovation can lead to more efficient resource extraction while minimizing ecological footprints.

As you explore the pages of this issue, I encourage you to reflect on the collective effort that is shaping the future of mining in Ontario. Each story serves as a reminder that our industry is not just about extracting resources; it is about creating opportunities, fostering relationships, and building a sustainable future for all stakeholders involved.

Looking ahead, we face challenges that require our collective action and cooperation. The global push for sustainability, the need for skilled labour, and the impacts of climate change are all pressing issues that will shape the trajectory of mining in Ontario. However, I am confident that through collaboration and innovation, we can address these challenges head-on.

I would like to express my gratitude to our contributors, partners, and readers for your continued support. Your engagement is crucial as we navigate this transformative period in the mining industry. Together, let us work towards a future that embraces both economic prosperity and environmental stewardship, ensuring that Ontario remains at the forefront of the mining sector.

Thank you for your interest in the Ontario Mining Review and we invite you to check out our website, OntarioMiningNews.ca, for more news, as well as to subscribe to future issues.

#### Shayna Wiwierski

Shayna@DELCommunications.com



# We've been connecting people and powering communities throughout Canada, for over 40 years.



# EXTENSIVE, COLLECTIVE CAPABILITIES

Over 35 electric power and telecommunications infrastructure services, performed by the Valard Group of Companies.

EPC⁺			
ENGINEERING	PROCUREMENT	CONSTRUCTION	

We work with expert partners to seamlessly produce turnkey solutions for our clients.

Through a single contract and point of contact, we can, collectively, put together a full service team to successfully deliver every aspect of a project.

Valard has a 45+ year history of building strong partnerships with communities and Indigenous peoples across Canada, from major urban centers to the most remote locations.

Our work has reached many Indigenous communities, and we are proud to work alongside many as employees of our organization.



#### Message from the Ontario Minister of Mines

# HONOURABLE GEORGE PIRIE

e all know mining is a cornerstone of Ontario's economy, with immense potential for further growth. Almost a quarter of all the direct mining jobs in Canada are found right here in Ontario and around two-thirds of these are in northern Ontario.

Our world-class labour, health and safety, and environmental standards make the province an attractive jurisdiction for mineral development and processing. Today, the mining industry in Ontario generates more than \$13.4 billion in annual mineral production and supports 77,000 direct and indirect jobs in Ontario.

Our government knows the value and potential of this important sector. That is why we have invested an additional \$15 million to expand the Critical Minerals Innovation Fund (CMIF), bringing our total investment to \$20 million. Projects funded through CMIF range from mining and mineral processing to the recovery and recycling of minerals. Our government also launched the Ontario Junior Exploration Program (OJEP) to help junior companies find the mines of tomorrow.

However, we know we must do more to ensure we maximize opportunities in the mineral exploration and mining sector and that is why we are working towards developing resources in the Ring of Fire in Ontario's far north. The Ring of Fire is one of the most promising mineral deposits in Canada and it's development will support better jobs with bigger

paycheques for folks living in northern and Indigenous communities.

Our government has committed \$1 billion to support critical infrastructure in the Ring of Fire region, including developing the all-season road network, investing in high-speed Internet, road upgrades, and community supports.

These investments and the projects they support prove Ontario is hard at work creating a globally competitive and integrated mining supply chain to strengthen our economy. Our province can also boast of billions in processing and manufacturing investment that will play an important role in supporting innovative technologies for high-growth sectors such as batteries, electronics, electric vehicles, and the technologies of tomorrow.

Ontario has what the world needs. Together with our industry and Indigenous partners, we are building a strong and vibrant mineral sector. Together, we are keeping the industry competitive and current, and creating real opportunities for people all over Ontario.

If you have any questions, please feel free to reach out to us.



# DRIVING VALUE, BUILDING GROWTH



#### Barrick consistently delivers sector-leading returns to its shareholders

while the benefits it generates for all stakeholders drives economic development and social upliftment in its host countries. Its ability to sustain the profitability which enables this is secured by the world-class growth projects embedded in its asset portfolio. Organic growth alone is expected to increase its attributable gold and copper production by some 30% by the end of this decade, a likely peerless achievement.

# BARRICK

World-class mines. World-class people.

NYSE: GOLD • TSX: ABX www.barrick.com

# Government of Canada announces \$10 million to support critical minerals mining in northern Ontario

ritical minerals present a once-in-a-generation chance for Canada to drive historic economic growth, create jobs, and support the fight against climate change. Already, mining and related industries employ more than 625,000 Canadians and contribute around \$100 billion a year to Canada's GDP, providing a strong supply chain and technical expertise we can leverage. As a global battery metals hub with the world's largest integrated mining industrial complex and the world's second-largest nickel deposit, northern Ontario is uniquely well positioned to seize this opportunity and become a key player as the shift to electric vehicles and other technology requiring nickel and other critical minerals grows.

In June, the Honourable Jonathan Wilkinson, Minister of Energy and Natural Resources, announced two investments of \$5 million each to the Mining Innovation Rehabilitation and Applied Research Corp (MIRARCO) and Electra Battery Materials Corporation (Electra) to support the critical minerals sector in Canada, and in northern Ontario specifically. These projects join nearly 130 mining projects under construction or planned over the next 10 years in Canada, representing a combined value of \$93.5 billion, according to Natural Resources Canada's Major Projects Inventory.

Funding to MIRARCO aims to advance technological readiness of the recovery of battery metals like nickel, cobalt, and copper from mine tailings from the Vale and Glencore mines in the Greater Sudbury area, while reducing the long-term social and environmental costs associated with mine waste. Through this project, MIRARCO will directly feed into the battery supply chain, potentially unlocking significant amounts of nickel and cobalt in Sudbury, Ont.

Funding to Electra will be used to advance the next phase of its battery materials recycling project. Electra is constructing North America's only battery grade cobalt refinery, five hours north of Toronto, as part of a multiphase effort to build the North American supply chain for battery materials. Electra successfully ran a demonstration recycling program on a batch basis at this facility in 2023. Funding will advance the project, demonstrating the process on a continuous basis and showing that Electra's proprietary technology is scalable, profitable, and can be implemented at other locations. The battery materials recycling program will help conserve resources, reduce waste, and reduce the environmental impact of battery production in North America's critical minerals sector. Electra's recycling program uses a new

environmentally conscious process that will contribute to building a resilient Canadian electric vehicle battery supply chain.

For a historic mining nation like Canada - where we have residuals and tailings in communities across the nation - technologies like these present a significant opportunity to increase circularity in our economy and turn mining residuals and waste into an economic opportunity for Canadians. Funding for these projects comes from the Critical Minerals Research, Development and Demonstration (CMRDD) program. The CMRDD aims to support the development of innovative processing technologies for the critical minerals industry, which will help advance Canadian mining projects toward production and is part of Canada's Critical Minerals Strategy.

Creating domestic processing streams and developing further expertise within Canada will create and grow jobs and help us move toward a sustainable, prosperous low-carbon future. By making smart investments like those in MIRARCO and Electra, Canada is ensuring our natural resources, and the workers and economic benefits they bring to northern Ontario and Canada, remain among the most sought after in the world, spurring innovation and helping us meet climate goals.



### **YEARS OF MINING SERVICES ACROSS CANADA**

COATINGS FIREPROOFING INSULATION SCAFFOLDING ABRASIVE BLASTING METALIZING SPRAY FOAM



POTASH, URANIUM, GOLD, AND MORE!

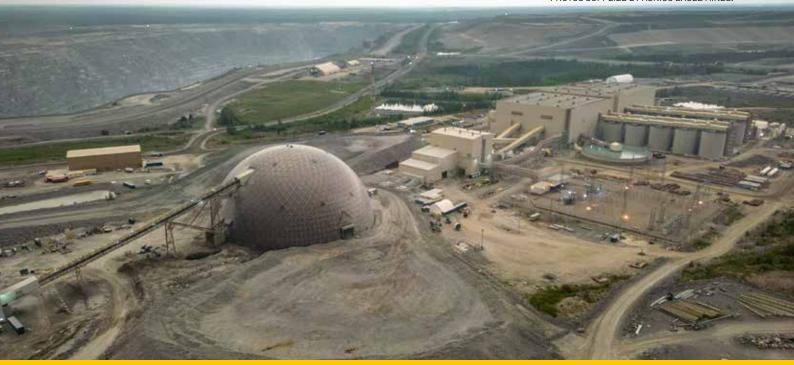
226-313-4378











# Agnico Eagle forges lasting partnerships

Aerial view of the storage dome and open pit at Detour Lake Mine.

## With a rich history of sustainable development, Agnico Eagle continues to forge lasting partnerships across Ontario's mining landscape

gnico Eagle Mines, the largest gold producer in Canada and the third largest in the world, has long been recognized for its commitment to operational excellence, community engagement, and sustainable development. With more than six decades of experience, Agnico Eagle contributes significantly to the economic and social well-being of the regions in which it operates. Ontario plays a crucial role in Agnico Eagle's operations with well-established and new projects.

Agnico Eagle's contributions to Ontario's economy are substantial. The company employs thousands across the province, providing stable, well-paying jobs in mining, engineering, and related industries. Beyond direct employment, Agnico Eagle supports an extensive network of suppliers, service providers, and local businesses, creating a thriving ecosystem that fuels local economic growth and development. The company's commitment to Ontario extends beyond financial contributions, as it invests in community

initiatives, ensuring that Agnico Eagle's presence benefits local communities in a lasting and meaningful way.

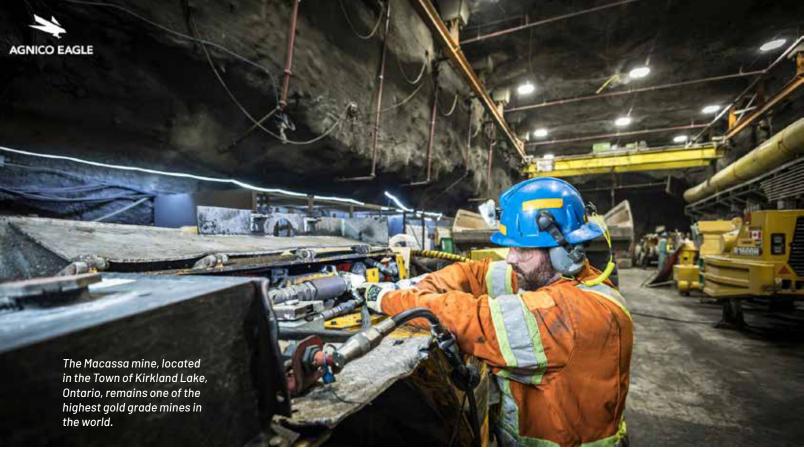
At the heart of Agnico Eagle's Ontario operations is the Detour Lake mine, the largest open-pit mine in Canada. Detour Lake is poised for further expansion with the potential for underground mining. It is believed there is substantial potential, that if realized, could position Detour Lake as a unique one-million-ounce producer with combined parallel open-pit and underground



# Building for Tomorrow, Delivering Today

Rooted in Canadian values, we deliver on our commitments, take care of our families, and actively work to reduce our environmental impact while driving performance across our operations. Agnico Eagle strives to build a sustainable future for our communities and stakeholders—that's how #WeMakeMiningWork.





operations, cementing its importance to both the company and Ontario's economy.

Agnico Eagle's portfolio in Ontario also includes the Macassa Mine in Kirkland Lake, known for its highgrade gold production. Recent modernization efforts, including the completion of a new shaft, have improved operational efficiency and extended the mine's life.

In addition to Detour Lake and Macassa, the Upper Beaver project could potentially begin production by 2030. Extensive exploration and development are underway to

unlock its full potential.

Beyond operational success, Agnico Eagle has earned a reputation as a trusted partner for local communities, Indigenous groups, and governments throughout Ontario. Agnico Eagle's Reconciliation Action Plan highlights its commitment to building meaningful relationships with Indigenous communities and integrating their voices into its operations. This focus on respectful partnerships is central to the company's philosophy and contributes to its role as a responsible corporate citizen.

Agnico Eagle Mines remains focused on community engagement and responsible development. With a strong portfolio of projects, a commitment to sustainability, and a proven track record of building lasting partnerships, Agnico Eagle will continue to play a vital role in Ontario.



# **Tartisan Nickel Corp.**

# Making inroads at the Kenbridge Nickel-Copper Deposit in Northwestern Ontario

By Lynnel Reinson Communications



rtisan Nickel Corp. (CSE:TN, OTC:TTSRF, FSE:8TA) is a Canadian mining exploration and development company focused on battery metals headquartered in Toronto, Ont. Tartisan's flagship project is the whollyowned Kenbridge Nickel-Copper Deposit, located in the Kenora mining district of northwestern Ontario. The company's portfolio also includes two polymetallic projects in Ontario, the Sill Lake Lead-Silver Project and Turtle Pond Night Danger Nickel Project. Tartisan Nickel is poised to help deliver the critical metals necessary for the North American supply chain and the global transition to clean energy.

President and CEO Mark Appleby describes how the company saw the opportunity in 2018 to reposition Tartisan upon acquiring their flagship Kenbridge Project as part of the Canadian Arrow Mines Limited deal.

"We saw the need for battery metals and the looming adaptation of electric

vehicles," said Appleby to the Northern Miner.

Since acquiring the Kenbridge Project, Tartisan Nickel Corp. has directed its focus towards the three critical metals—nickel, copper, and cobalt—in advancing work on their Kenbridge Project.

Tartisan Nickel Corp. has updated the mineral resource estimate and completed a preliminary economic assessment and is now looking to get permits in place and further defining and expanding the mineral resource, which is open at depth and along strike. Definition drilling to bring the inferred ore deposits into the indicated category is a near-term goal as one-million tonnes plus could move into the indicated resource calculation.

Tartisan benefits from existing infrastructure such as the 622 metre, three-compartment shaft sunk by Falconbridge in 1954 that remains in good condition. Access is game-

changing when attempting to develop a mining project; atop the benefit of this existing shaft, the Kenbridge road is being refurbished and developed to allow all-season access to the main deposit.

Dean MacEachern, Tartisan's geological advisor for the Kenbridge project, was a part of both Falconbridge and Canadian Arrow Mines during the periods they each held the asset, prior to the global adoption of large batteries and electric vehicles that began driving the significantly increased demand for nickel.

"At the top of the Kenbridge deposit, it's more disseminated and as you go deeper into the zones, it gets more semi-massive and massive. It gets narrower but the grade gets better," said MacEachern to the Northern Miner.

This variable grading in the deposit will allow Tartisan to more readily accommodate price variations for nickel, and with the pre-existing shaft, MacEachern says that the expected capital expenditure will be substantially lower than other similar projects.

"It's under \$140 million to get started. That compares with a lot of large low-grade deposits that will take \$2 billion to get going," said MacEachern.

The asset has undergone extensive drilling and surveying since 1937 with 100,000-plus metres of surface





and underground drilling conducted, including 11,700 metres drilled by Tartisan in 2021. The results of the drilling are a measured and indicated resource of 117 million pounds of nickel (Ni), 66 million pounds of copper (Cu), and a million pounds of cobalt (Co).

Necessary next steps for the project are refurbishing and upgrading the road to the main deposit; Tartisan has retained Northwest Solutions Inc. to build out this all-season access to the Kenbridge project. Northwest Solutions is an Ontario-based services company offering forestry, mining, and environmental services, as well as training, project management support, and communications consulting services (Newsfile). A family ownedand-operated business since 2014, Northwest Solutions has designed an all-season access solution and now provides support to Tartisan Nickel, including permitting and project management assistance. Brandi Shorthouse is the road project's finance and communications manager, and Kevin Shorthouse is the road project's design and road permitting project manager, bringing unique expertise to the endeavour, as well as their connection to the local area, which Tartisan CEO, Mark Appleby believes will provide tremendous value to the Kenbridge project.

When attempting to refurbish and put in an all-season road, as well as potentially building out the larger project as a whole, local community and First Nations support are key to the success of any project. Appleby first addressed how much he and the company value the relationships that they have built in the area. In support of these relationships, Tartisan Nickel named Greg Edwards as the overall project manager for Kenbridge and as the company's First Nations liaison. Edwards has been consistent in his desire to work with, build, and support good relationships with the First Nations near the project: Naotkamegwanning First Nation, formerly known as the Whitefish Bay First Nation, Northwest Angle #33 First Nation, and Northwest Angle #37 First Nation. Since 2007, the company has been engaged with Treaty #3 and recognized the First Nations' rights to lands, seeking their consent, agreement, and continuing to engage all First Nations in our area of influence.

As part of Tartisan's ongoing practices and ongoing community relations, the Kenbridge project received a blessing in an October 2021 ceremony conducted by an elder from one of the First Nations. With current road upgrades underway, Tartisan will be a

part of the next ceremonial blessing occurring this autumn. Working with First Nations and engaging local companies for the Tartisan project, Tartisan intends to continue advancing project goals and hiring local First Nations personnel whenever possible. Looking at 2024-25, Appleby says that there are multiple, on-going initiatives coming together. Alignment with Indigenous communities, summation of the baseline studies for project permitting, and the commencement of all-season access construction.

"These, combined with new geophysical initiatives and a drill program, will lead to expansion of the Kenbridge Resource Estimate and support a substantially higher enterprise value," said Appleby. "Our efforts should prove to have a profound impact on increasing shareholder value and make for exciting times over the next 24 months."

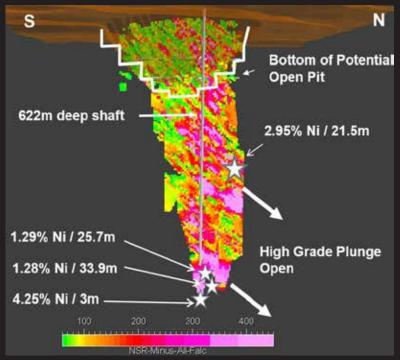
#### **SOURCES**

https://www.northernminer.com/news/ jv-article-tartisan-nickel-outlines-lowcost-underground-nickel-sulphide-mine-atflagship-kenbridge-project/1003846160/

https://www.newsfilecorp.com/
release/203101/Tartisan-Nickel-Corp.-RetainsNorthwest-Solutions-Inc.-to-Complete-theKenbridge-Nickel-Project-AllSeason-AccessRoad-Names-Gregory-Edwards-as-FirstNations-Liaison. X



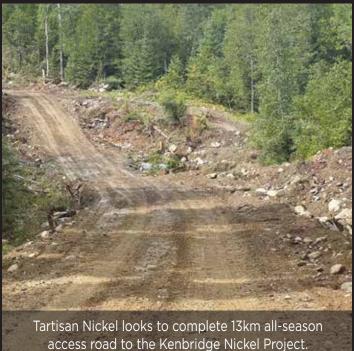
CSE:TN, OTCQB:TTSRF, FSE:8TA



Tartisan Nickel Corp's flagship Kenbridge Nickel Project is a high grade nickel sulphide deposit covering 4,110 hectares in the Atikwa Lake area, Kenora Mining District, Ontario. Hosting a 622 meter shaft, Tartisan Nickel is continuing exploration and development as we look to expand our mineral resource estimate. Tartisan Nickel Corp. trades on the Canadian Securities Exchange symbol "TN".









#### By Isabelle Leblanc, Vice-President, Mining and Metals, BBA

# On the Green Road

Electrification transforms the mining landscape in Canada

hen it comes to reducing carbon emissions, the mining industry has two roles to play. First, it needs to meet and supply the growing demand for minerals that are essential to decarbonization. Second, it needs to make profound changes to reinvent an industry that has been established for over 100 years and reduce its own greenhouse gas emissions.

Driven by social and economic imperatives, the mining industry in Canada is undergoing significant changes, prompting various stakeholders to speed up their shift toward cleaner energy.

With many Canadian mines planning their renewable energy transition, the focus is turning toward transport, which accounts for most of the sector's greenhouse gas (GHG) emissions. Electrifying transport operations can make it possible to fight climate change and meet GHG reduction targets while improving worker health and safety with cleaner air and reduced noise.

Electrification can also lower operating costs over the long term and reduce dependence on fossil fuels, future-proofing operations. Since digitalization and electrification also tend to go hand in hand, production forecasting accuracy can also increase while the mine improves its ESG report and supports social acceptance.

For example, implementing a trolley-assist system (TAS) can have a substantial impact on fuel consumption and corresponding greenhouse gas emissions.

Implementing a TAS on a haul ramp segment can lead to a significant reduction in GHG emissions when compared to using diesel-powered haul trucks. It can also reduce operating costs by tapping into hydroelectric power instead of diesel, and by improving truck-cycle time, enabling mines to be more efficient.

There may also be public funding opportunities in your area to assist with feasibility studies and the actual electrification process.

However, this transition is neither quick nor easy; electrifying transport requires a great deal of planning.
This can mean adapting facilities, supporting employees in adopting new work methods, and investing substantial funds upfront.

Making an informed decision requires

a detailed assessment that reflects several factors. Some factors that must be considered include the remaining mine life, the brownfield limitations, and the impact of electrification on mining activities, as well as

any tax and government incentives.

There are also other options to consider if electrifying transport is not feasible. Using a conveyor or train, tapping into alternative fuels, and even optimizing routes to reduce vehicle distances can all be viable options. Many promising technologies are also currently under development that should enable more mines to one day electrify their transport.

#### **ABOUT BBA**

BBA has been providing a wide range of **Transmission:** consulting engineering services for over 40 How are you years. Today, its engineering, environmental, connected? and commissioning experts team up to quickly and accurately pinpoint the needs of industrial and institutional clients. The firm's expertise is recognized in the energy and natural resources industry. With 20 offices in Canada and internationally (USA and Chile), offering clients local support and field presence, BBA provides some of the industry's most innovative, sustainable, and reliable engineering solutions. X

Cost:

Is this a financially

viable option for you?

Infrastructure:

Is vour site

optimized for this?



**Baseline:** 

What are your

electrification

goals?

Mining:

Do your design

and planning

support

electrification?

**Distribution:** 

Will it be easy to

distribute power

to these areas?



# North Bay, Ontario: A hub for mining innovation

orth Bay, Ont. is a hub for mining supply and services, serving the needs of the mining industry not only in northern Ontario but around the globe. Companies in this region are at the forefront of technological advancements, with expertise spanning advanced manufacturing, mining equipment design, to a variety of specialized mine operating services including software design, engineering, and geotechnical services

North Bay's mining suppliers have earned a reputation for developing

durable and reliable technology and tools essential for underground and surface mining.

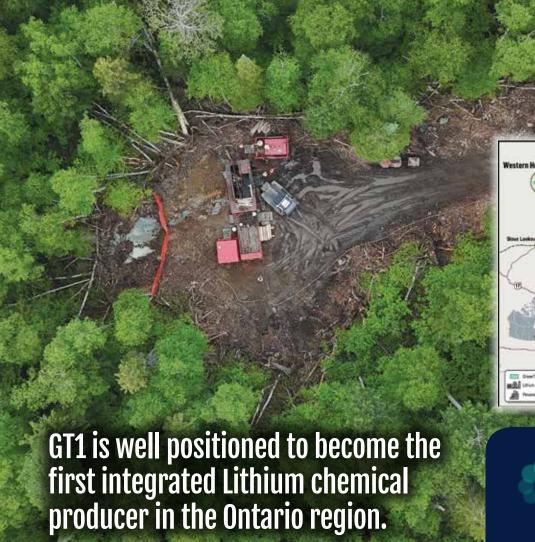
#### INNOVATION AT THE CORE: NORTH BAY'S CAN-BLAST ENHANCES EXPLOSIVE LOADING FOR MINING OPERATIONS

A notable example of this innovation-driven approach is Can-Blast, which has unveiled a new hose for explosive loading, designed to improve safety, efficiency, and performance in blasting operations. Can-Blast, known for its expertise in manufacturing equipment such as

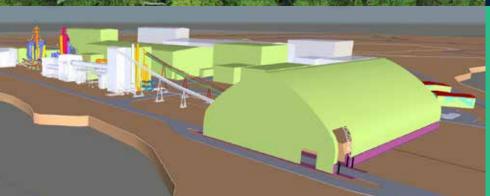
pneumatic cartridge loaders, ANFO tanks, and semi-conductive hoses, exemplifies the innovative spirit driving this sector. Their products are not only critical for mining operations but also represent cutting-edge solutions that meet the evolving needs of the industry.

Can-Blast's latest offering, a hose specifically designed for loading water gel and emulsion-type explosives, addresses some of the most pressing challenges in mining operations today.

Blasting efficiency and safety are paramount, and this new hose introduces features aimed at









- Located in a Tier-1, low risk mining jurisdiction
- Surrounded by excellent existing infrastructure
- Prime position to support the North American EV market
- Supportive and proactive government
- 100% owned projects with a de-risked development pathway
- Preliminary Economic Assessment delivered indicating robust economics

#### **MILESTONES ACHIEVED**

- EcoPro Innovation strategic partnership and an \$8m equity investment
- Integrated Preliminary Economic Assessment released
   Mining lease granted over Seymour construction area
  - Strategic Partnerships AMCI Group, LG Energy Solution & Lithium Americas Corp.
    - · Offtake agreement executed for the first 5 years of production
  - Government funding of up to \$5.5m conditionally awarded towards the Seymour Project from the Critical Minerals Infrastructure Fund (CMIF)
    - Application for Invest Ontario for funding for the Conversion Facility

#### CONTACT US

**CANADA** 

160 Logan Avenue, Thunder Bay, Ontario P7A 6R1 241 Yonge Street, Toronto, Ontario M5B 1N8 Phone: +1 807 621 0854 Email: community@greentm.ca AUSTRALIA
Level 1, 338 Barker Road
Subiaco, WA 6008 Australia
Phone: +61 8 6557 6825
Email: info@greentm.com.au

minimizing risks and maximizing operational efficiency.

One of the standout features is its grooved bore design, which facilitates smoother, more reliable loading of explosive cartridges into blast holes. The grooves create air pathways around the explosives, allowing the cartridges to selfcentre. This reduces friction, prevents blockages, and avoids costly delays caused by equipment malfunction. Moreover, the grooves help manage pressure spikes that can occur if a cartridge slows down or jams, offering a safeguard against operational disruptions.

## ENHANCED SAFETY: A TOP PRIORITY

Safety is a cornerstone of blasting operations and Can-Blast's new hose prioritizes this with several key features. The hose is designed to minimize the risk of static electricity buildup. By safely dissipating static charges, it protects against accidental sparks, which are a primary concern when handling explosives. Electrical resistance capabilities ensure that stray electrical currents do not pose a risk to the blasting circuit, further enhancing safety. These innovations help reduce the potential for misfires or unintended detonations, giving mining operators greater confidence in their operations.

To address low-visibility environments, Can-Blast's hose is equipped with a continuous yellow stripe, ensuring it is easily visible under underground lighting



Safety is a cornerstone of blasting operations and Can-Blast's new hose prioritizes this with several key features.

conditions. This not only aids in quick identification but also helps to differentiate it from other hoses or equipment on-site, improving operational efficiency and safety.

## DURABILITY FOR HARSH MINING ENVIRONMENTS

With equipment durability being a critical factor for maintaining productivity, Can-Blast's new hose is built to withstand the abrasive conditions of underground and surface mining. Its durable exterior and interior offer superior wear resistance, extending the lifespan of the hose. Despite its ruggedness, the hose is also designed for ease of use as it remains flexible enough to handle the tight confines of underground mining, yet rigid enough to maintain precision when reaching steeply inclined blast holes. This combination of durability and flexibility, along with weather resistance, ensures that operators can work efficiently even in challenging conditions.

## NORTH BAY'S ROLE IN DRIVING INNOVATION

The introduction of Can-Blast's new explosive loading hose exemplifies the ongoing innovation that defines North Bay's mining supply and services sector. This region, with its rich history in mining, continues to be a hub for technological advancements that benefit mining operations both locally and internationally. As the demands of the mining industry evolve-particularly in response to deeper exploration, automation, and stricter safety standardscompanies in North Bay are wellpositioned to deliver the next generation of solutions.

Can-Blast's latest development reinforces North Bay's position as a key contributor to the advancement of mining technology. As the industry continues to demand more efficient and safer solutions, North Bay companies will undoubtedly be at the forefront of delivering these essential innovations. \*



# MineConnect expands from northern Ontario to province-wide representation



From left to right: Paul Lefebvre, mayor of the Greater City of Sudbury; Zaib Shaikh, Consul General of Canada in Los Angeles; Marla Tremblay, executive director of MineConnect; Ryan McEachern, managing director of the Mining Suppliers Trade Association Canada; Stephen Crawford, MPP, Oakville & Associate; Minister of Mines George Pirie, MPP for Timmins & Ontario.

ineConnect, a
leading organization
representing suppliers
in the mining sector,
has announced an ambitious
expansion plan that will extend
its reach from exclusively
serving northern Ontario to a
province-wide presence. The
official announcement was
made at MINExpo International, a
prestigious event that showcases

the latest innovations and technologies in the mining industry. This strategic move is designed to enhance collaboration among suppliers, miners, and other stakeholders, ultimately bolstering the mining industry's contribution to Ontario's economy.

The decision to broaden its scope comes in response to the growing demand for mining supplies and

services, driven by a resurgence in mining activity across the province. As mineral exploration and extraction ramp up, there is an increasing need for reliable suppliers who can provide high-quality equipment, technology, and services. By expanding its representation province-wide, MineConnect aims to create a more cohesive network that facilitates better communication, resource

sharing, and innovation within the industry.

Executive director Marla Tremblay emphasized the significance of this expansion during the announcement.

"By broadening our reach beyond northern Ontario, we can better serve our members and the mining community as a whole," Tremblay said. "This initiative will create a stronger network that fosters collaboration and innovation across the province."

Tremblay also noted that this expansion allows MineConnect to work more closely with organizations such as the Ontario Mining Association (OMA), enhancing industry representation and advocacy efforts.

In recent years, the mining sector has faced numerous challenges, including fluctuating commodity prices, regulatory hurdles, and environmental concerns. MineConnect believes that uniting suppliers from all corners of Ontario under one umbrella will allow for a more effective approach to addressing these challenges. The organization plans to offer a range of services to its members, including access to industry research, training programs, and networking opportunities that cater to the diverse needs of the mining supply chain.

The mining industry plays a critical role in Ontario's economy, contributing billions of dollars and providing thousands of jobs. MineConnect's expansion is expected to stimulate economic growth further by attracting new investments and fostering



By expanding its representation province-wide, MineConnect aims to create a more cohesive network that facilitates better communication, resource sharing, and innovation within the industry.

innovation across the province. By connecting suppliers with mining companies, the organization aims to create a more resilient supply chain that can withstand market fluctuations and respond quickly to emerging opportunities.

In conclusion, MineConnect's expansion from northern Ontario to province-wide representation, as announced at MINExpo

International, marks a significant step forward for the mining industry. By fostering collaboration and innovation among suppliers across Ontario, the organization aims to strengthen the entire sector and position it for long-term success. As the province continues to invest in its mining capabilities, MineConnect's efforts will be crucial in ensuring that the supply chain remains robust and efficient. **X** 



# Workplace Safety North launches new hybrid training pilot for mining supervisors

# New format offers flexible options for completing mandatory safety courses

The new hybrid training pilot is designed to make supervisor courses more accessible and convenient.

s a leading provider of safety training for the mining industry in Ontario, Workplace Safety North (WSN) announced the launch of a new hybrid training pilot program for the Mining Common Core for First Line Supervisors course suite.

This pilot program, which runs from September 2024 to March 2025, combines in-person and virtual learning, making it easier and more convenient for participants across Ontario to complete their training.

#### **UNDERSTANDING HYBRID TRAINING**

Hybrid training combines two methods of learning: inperson and online. This means participants can choose
to attend classes either in a physical classroom or
virtually from anywhere in the province. Whether you're
in the room or joining remotely, you'll be able to interact
with safety experts and other participants in real
time. Special technology, such as a sound-activated
camera that tracks the instructor's voice and classroom
discussions, ensures that virtual participants feel like
they're part of the classroom experience.

## IMPORTANCE OF COMMON CORE MANDATORY SKILLS TRAINING

WSN offers a range of courses that meet the mandatory skills training requirements set by the Ministry of Labour, Immigration, Training, and Skills Development (MLITSD). Among these, the Mining Common Core for First Line Supervisors program is essential for anyone looking to become a supervisor in the mining sector.



These programs cover essential skills and knowledge that supervisors need to ensure safety in both underground and surface mining operations. The programs are designed to ensure supervisors have the expertise to keep their teams safe and are tailored for different types of mining.

Mining Common Core for First Line Supervisors programs offered by WSN include:

- Underground Hard Rock Mining (Program #770121)
- Underground Soft Rock Mining (Program #770131)
- Surface Mining, Surface and Underground Diamond Drilling Operations, and Surface and Underground Mining Trades (Program #770141)

"These programs teach the core skills needed to supervise teams safely and effectively in these challenging environments," said Tiana Larocque, WSN education programs manager. "The training is divided into modules, each focusing on specific skills and knowledge areas."

After completing each module, participants must return to their workplaces to demonstrate their skills. A qualified trainer assesses whether they understand how to apply what they've learned according to government regulations, company standards, and equipment specifications used at their work sites.

This hands-on assessment is crucial to becoming fully accredited as a mining supervisor.

# KEY BENEFITS OF PILOT PROJECT: ACCESSIBLE, FLEXIBLE, AND EFFICIENT TRAINING

The new hybrid training pilot is designed to make supervisor courses more accessible and convenient. By offering a mix of in-person and virtual training, the program allows participants from different locations to join without travelling long distances. This is particularly beneficial for those in remote areas or those who might have missed an in-person course.

#### **GOALS OF PILOT PROGRAM**

- Streamlined completion: The hybrid schedule is designed so participants can complete all common core modules within 12 to 16 weeks. The timeline is based on WSN training data, ensuring the schedule meets the needs of both the participants and their employers.
- 2. Accessibility: By offering courses in a hybrid format, WSN makes it easier for mining supervisors from all over the province to attend. Participants who might have missed an in-person course, or only need one more course to complete their training, can now join virtually without the need to travel long distances.
- 3. Improved convenience: The hybrid format reduces the need for travel, which can be costly and timeconsuming, especially across the large geographical distances of northern Ontario and in winter. Participants can join the virtual sessions from their own locations, saving both time and money.
- 4. Trial for non-technical courses: During this pilot, only non-technical courses will be offered in the hybrid format. Technical courses, such as those on occupational hygiene, ground control, and mine ventilation, will remain in-person due to the hands-on nature of the training.

Larocque adds that the new hybrid training approach is a significant step forward for WSN and the mining industry in Ontario. It reflects a commitment to making essential training more accessible and efficient, helping to ensure that mining supervisors are well-prepared to keep their teams safe.

"By combining the flexibility of virtual learning with the effectiveness of in-person training, WSN is setting a

new standard for safety training in the mining sector," added Larocque.

#### **RECOMMENDED PREREQUISITES**

To get the most out of the common core courses, WSN recommends participants first take the "Act and Mining Regulations" and "Introduction to Mining Safety Programs" courses. These foundational courses provide essential background knowledge that will help participants succeed in the modules.

The new hybrid training pilot program is an exciting development for the mining industry in Ontario. By combining in-person and virtual learning, WSN is making its Mining Common Core for First Line Supervisors courses more accessible, flexible, and cost-effective. This pilot program reflects the commitment by WSN to providing high-quality training that meets the needs of the industry and helps keep workplaces safe.

For more information about the common programs and to view the upcoming training schedule, visit the WSN website, or contact customer care or your local WSN health and safety specialist. \*\*





## The one-stop-shop for mining innovation

he second edition
of NORCAT's Mining
Transformed event
took place from May
27-29, 2024 in Sudbury, Ontario,
bringing together over 500 industry
professionals for an unparalleled
showcase of mining technology and
innovation.

Unlike conventional tradeshows,
Mining Transformed uniquely
connects the builders of
mining innovation—technology
developers—with the buyers—
mining companies looking for
the latest solutions to enhance
their operations. Hosted at the
NORCAT Underground Centre, the
only underground mine dedicated
to testing and demonstrating

technologies, Mining Transformed provided a platform for live demonstrations of cutting-edge innovations in an operational mining environment.

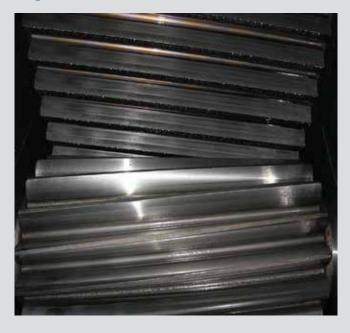
Over the two-day exhibition, more than 50 exhibitors presented their latest advancements to an engaged audience of industry leaders. Attendees witnessed live demonstrations of autonomous mining vehicles, electrified equipment, and communication systems designed to boost safety, efficiency, and sustainability. The opportunity to see these technologies in action within a functioning mine empowered mining companies to better evaluate their value and application

in challenging conditions.

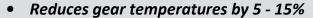
One standout underground demonstration featured autonomous vehicles navigating through narrow mine tunnels, showcasing how Al-driven systems can improve both operational efficiency and safety by reducing the need for human presence in hazardous conditions. On the surface, battery-powered equipment showed how the mining industry is moving toward reducing emissions and noise pollution. The integration of real-time data and communication systems further highlighted how modern technologies can streamline coordination between surface and underground operations, ensuring

# **Full Circle Reliability**

# Pyroshield® Syn Hvy & XHvy Open Gear Lubricants



## **Beneficial Qualities**



- Lowers lubrication consumption by up to 80%
- Appears translucent in use, allowing for visual inspections
- Does not plug nozzles, resulting in unnecessary downtime
- Lengthens gear life by creating a film on metal surfaces, preventing destructive metal-tometal contact.

9011 INTL Canada Gold Mine Testimonial

Scan to learn more about Lubrication Engineers of Canada



CANADA

#### **New Advancements in Wire Rope Lubrication**

#### **Beneficial Qualities**

- Extend rope life with industry leading EP protection
- Extend intervals between drum end cuts by reducing cross over wear
- Eliminate mess with efficient automatic lubrication systems
- Reduce fling off with outstanding adhesive strength
- Resist oxidation, water and abrasive contaminants, all while remaining pliable

1488 Gold Mine Canada Testimonial



Unlock the power of precision with our hoist rope lubrication products, reducing friction and wear to save you time and money in every lift!



smooth and efficient workflows.

Mining executives left the event with a clearer understanding of how these technologies perform in challenging conditions. Seeing the tools in action helped them evaluate their potential value, enabling quicker decision-making. This connection between innovators and

industry leaders helps ensure that new technologies transition from concept to operational reality more efficiently.

Adding to the event's excitement, the Future of Automation

Demonstration was live-streamed during the Mining Transformed

After Party at Science North,

directly from the NORCAT
Underground Centre. Attendees
witnessed a groundbreaking
achievement: the first seamless
and secure transition from an
underground private network to
a public network in Canada. This
innovative technology enhances
industrial operations' security,
reliability, and productivity by
ensuring uninterrupted and secure
connectivity during the transition—
marking a significant milestone in
mining technology.

This after-hours demonstration captivated attendees and underscored NORCAT's capabilities in integrating advanced communication networks with operational technologies, setting a new benchmark for secure, real-time connectivity in industrial environments.

One of the most valuable outcomes of Mining Transformed was the feedback from exhibitors and attendees. The majority of participating technology companies reported making meaningful connections with prospective clients and partners. Many exhibitors noted that the live demonstrations and real-world environment provided a unique opportunity to directly engage with decision-makers, leading to high-quality leads and promising partnerships.

By creating an interactive and immersive experience, Mining Transformed facilitated conversations beyond traditional networking, allowing exhibitors to demonstrate their technology's





tangible benefits and long-term potential. This interactive format enabled mining companies to see the practical applications of new technologies, fostering trust and speeding up the decision-making process.

As the mining industry evolves, events like Mining Transformed play a crucial role in driving technological innovation. By offering a platform for live demonstrations and fostering meaningful connections between innovators and industry

leaders, NORCAT is proud to support the mining sector in advancing toward a future that is not just safer, more efficient, and more sustainable, but also filled with potential and optimism for the future. **X** 





Gaz naturel comprimé en Ontario et dans le nord-ouest du Québec Compressed natural gas in Ontario and Northwestern Québec

705.274.5444

**CERTARUS.COM** 

# The talent crisis: A critical risk to critical minerals

anada possesses significant amounts of the critical minerals needed for the transition to a green economy. The nation can be a world leader in supplying these critical minerals, but the opportunity cannot be seized without attracting more workers into the sector.

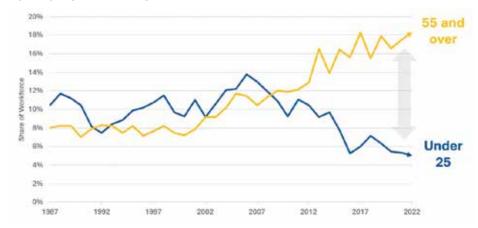
Workforce skills shortages are one of the biggest risks when it comes to supplying the world with critical minerals and metals. A robust supply of skilled exploration and mining workers is needed to support expansion, avoid ongoing labour shortages, and ensure the minerals and metals sector's sustainability and competitiveness.

Yet, Canada's mining talent pipeline is shrinking. Long-term forces undermine the labour supply's ability to respond to periods of growth – such as rising retirements, a widening worker age gap, and continued underperformance in attracting underrepresented groups.

Post-secondary enrolment in geoscience- and mining-related programs is also dwindling. While undergraduate enrolment across all engineering programs is increasing, mining engineering enrolment decreased by 50 per cent from 2012 to 2023 – the largest decline of any engineering discipline. Geological engineering enrolment was down nearly 40 per cent, and other mining-related programs are experiencing similar declines – highlighting a bottleneck for attracting new talent.

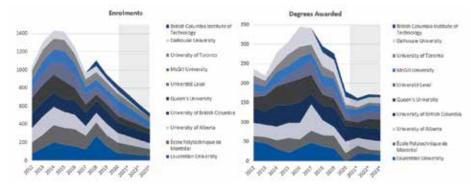
Mining has also historically struggled to

### Widening Age Gap: Share of Workforce by Age Category, mining, quarrying & oil and gas extraction



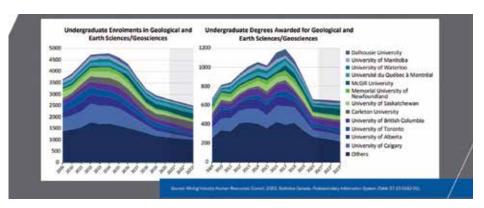
Source: Mining Industry Human Resources Council; Statistics Canada, Labour Force Survey, 2023.

### Undergraduate Enrolments and Degrees Awarded in Mining or Mineral Engineering (2012 to 2023)



\*Forecast from 2021 onwards assumes present trends continue. Source: MiHR; Engineers Canada, Canadian Engineers for Tomorrow: Trends in Engineering Enrolment and Degrees Awarded Report; Canadian Mining Schools Committee (CMSC), Survey of Canadian Mining Engineering Schools, 2023.

### Post-Secondary Enrolment (Bachelor's and Below) and Graduates by Institution, Geosciences (2009 to 2023)



diversify its workforce. For instance, the latest trends on representation in the workforce show that, relative to other industries, mining continues to underperform with women and newcomers. Women make up just under half of the Canadian labour force but only represent 14 per cent of the mining industry – and while 30 per cent of the overall workforce is made up of immigrants, they only represent eight per cent in mining.

These stagnant and shrinking supplies of talent come at a time when demand for critical minerals is increasing along with the industry's demand for skilled personnel. The industry has grown significantly since 2020, with employment having gone up by about 40 per cent, and approximately 50 per cent of the sector's workforce required some form of post-secondary education in 2020. That number is now closer to 75 per cent.

Higher job vacancy rates are also being experienced and labour market pressures may get more intense.

Solutions require an all-hands-ondeck mentality. No organization or company can do this alone. Companies of all sizes and academia are needed to collaborate to grow and sustain a healthier talent supply.

A sustained, unified voice is needed to reach the next generation of minerals and metals workers. Addressing the challenge starts with communicating the sector's importance and the breadth of careers it offers to Canadian youth, immigrants, and other underrepresented groups who are unaware of, or look negatively on mining careers. They need to be inspired to create the change required to increase post-secondary educational enrolment and diverse sources of labour.

As the national organization that provides labour market information and leads collaboration across Canada's mining sector to identify opportunities and develop solutions, the Mining Industry Human Resources Council (MiHR) is working towards operationalizing a pan-Canadian coalition of industry stakeholders to coordinate efforts through its Mining Needs You (www.miningneedsvou. ca) brand to address the sector's talent crisis. Mining Needs You was launched in 2021 to showcase to youth and other key audiences what modern mining looks like, its use of innovative technologies, and industry's commitment to environmental sustainability and equity, diversity and inclusion (EDI).

By prioritizing EDI initiatives, Canada's mining industry has also been taking important steps to create inclusive workplaces where everyone feels valued, respected, and empowered to succeed. To help drive systemic change, members of the Mining Association of Canada (MAC), who account for most of Canada's base and precious metals production, adopted a Towards Sustainable Mining (TSM) Protocol on Equitable, Diverse and Inclusive Workplaces. Globally recognized, TSM drives mining companies' performance in managing key environmental and social risks, including biodiversity conservation, water stewardship, Indigenous and community relations, and more.

The TSM EDI Protocol requires MAC member companies to develop and implement corporate EDI strategies, processes to foster welcoming workplace cultures, and approaches to EDI objective setting at mine sites. To assess performance and measure progress, the Protocol outlines criteria associated with three indicators:

1) corporate-level leadership and strategy, 2) facility-level advancement of EDI, and 3) facility-level monitoring, performance and reporting.

Mining companies can leverage three key tools to establish workplaces in line with the protocol and its criteria: MiHR's EDI Toolkit for Mining Companies, its diversity eLearning, and ENSEMBLE: The Mining Diversity Network.

MiHR's EDI Toolkit helps companies develop and implement corporate EDI strategies. Organized by TSM performance indicators, it helps mining organizations streamline their efforts and move from ideation to implementation, evaluation, and reporting. Visit mihr.ca/inclusiondiversity/mining-edi-supports to learn more.

MiHR's diversity eLearning modules provide professional development and micro credentials for Canada's mining industry. Taken by thousands of learners by registering at mihr. ca/cmsds/elearning, they focus on intercultural awareness; Indigenous awareness; gender equity in mining; and bias, systemic discrimination, and anti-racism.

ENSEMBLE: The Mining Diversity
Network enables its members to
network and collaborate in identifying
and addressing barriers to full
and equitable participation in the
workplace. ENSEMBLE also includes
resources to assist individuals and
organizations along their journey
towards inclusion in mining.
Individuals can sign up at mihrensemble.com.

Despite the challenges, long-term efforts will yield material progress. To help Canada transition to a green economy, the minerals and metals sector needs to come together to communicate its importance and inspire key audiences to consider exploration and mining education and careers. X

# An engineered solution for dust containment in conveyor transfers



 $Engineered\ passive\ dust\ containment\ offers\ a\ sophisticated\ solution\ that\ eliminates\ the\ need\ for\ traditional\ dust\ suppression\ methods.$ 

n modern mining operations, ensuring safety and minimizing environmental impact are top priorities. Dust containment is crucial – not just for regulatory compliance, but for protecting workers, equipment, and product integrity.

Uncontrolled dust can lead to serious safety hazards, environmental issues, increased maintenance, and costly product loss.

The key to effective dust management is addressing its root causes. Anytime material is in motion – especially at conveyor transfers – dust and fines are generated. This risk is heightened at points where material is free-falling or moving through multiple transfer points, a common occurrence in mining environments.

Engineered passive dust containment offers a sophisticated solution that eliminates the need for traditional dust suppression methods, such as chemical sprays or vacuum systems. By creating a system that allows dust to settle naturally, this approach minimizes active interference and maximizes efficiency. The system

retains material on the conveyor throughout its journey by utilizing a chambered design, which slows air velocity and allows dust and particles to settle back onto the belt before exiting the transfer area.

The design of the passive dust containment system adheres to guidelines from the Conveyor Equipment Manufacturers Association (CEMA), which recommends specific settling times and distances in the load zone to optimize material handling. This ensures that the length of the skirtboard and overall system configuration is tailored to the site's operational needs.

This engineered solution is built around three essential components:

- 1. Correct belt elevation and support: Establishing proper belt elevation is critical for consistent performance. An impact-resistant cradle, such as the Impact Saddle® with seal bar, ensures reliable trough support with no pinch points, promoting optimal sealing. According to CEMA 575 standards, these components are directly interchangeable with impact idlers, offering enhanced support for dust containment.
- 2. Multi-layered material containment: For effective dust sealing, internal wear liners

and external skirting media work together to manage bulk materials. Depending on the application's needs, components such as rubber, ceramic, or combination canoe liners can be used, supported by skirtboards or skirt clamps to create a durable seal.

3. Comprehensive system design: Once the core components are in place, additional dust control elements, including entry and exit dust curtains, dust settling chambers, and end pieces, can be added to create a fully integrated containment system.

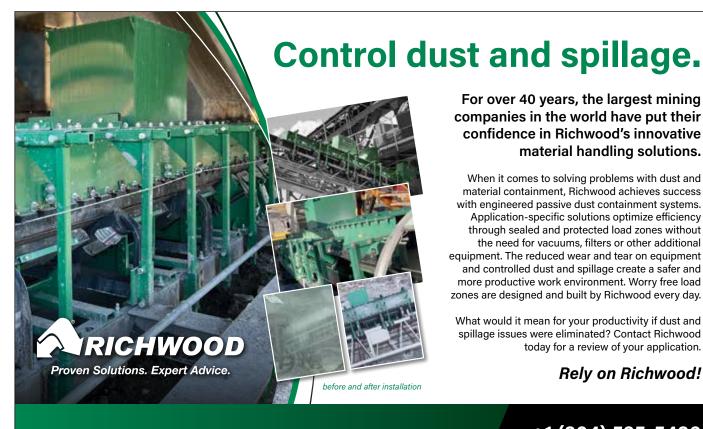
With a well-engineered passive dust containment system, mining



With a well-engineered passive dust containment system, mining operations can significantly reduce dust-related risks.

operations can significantly reduce dust-related risks, ensuring that transfer areas are equipped to meet the industry's demanding standards for safety, efficiency, and productivity.

Richwood provides industryleading solutions for dust containment in conveyor transfers to some of the world's busiest mines. For more information, visit www.richwood.com. X



For over 40 years, the largest mining companies in the world have put their confidence in Richwood's innovative material handling solutions.

When it comes to solving problems with dust and material containment, Richwood achieves success with engineered passive dust containment systems. Application-specific solutions optimize efficiency through sealed and protected load zones without the need for vacuums, filters or other additional equipment. The reduced wear and tear on equipment and controlled dust and spillage create a safer and more productive work environment. Worry free load zones are designed and built by Richwood every day.

What would it mean for your productivity if dust and spillage issues were eliminated? Contact Richwood today for a review of your application.

Rely on Richwood!

richwood.com

+1 (304) 525-5436 Located in Huntington, WV USA

# **Protecting mining assets**

#### The multifaceted benefits of specialty coatings

In the mining industry, equipment and infrastructure face harsh conditions – extreme temperatures, abrasive materials, and corrosive chemicals. These factors degrade steel and concrete assets, leading to costly repairs, downtime, and safety hazards. Applying specialty coatings designed for corrosion protection is one of the most effective strategies to combat these challenges.

#### BEYOND THE BARRIER: HOW COATINGS PROTECT

While protective coatings act as a barrier between assets and corrosive elements, their capabilities extend beyond this basic function. Specialty coatings employ multiple mechanisms to safeguard mining assets:

# 1. Cathodic protection (sacrificial coatings):

• Galvanic action: Coatings
with anodic metals like zinc or
aluminum corrode preferentially,
protecting the underlying steel
through galvanic corrosion. This
sacrificial method effectively
prevents rust and prolongs the
life of steel structures common in
mining equipment.

#### 2. Corrosion inhibitive pigments:

• Chemical inhibition: Coatings with inhibitive pigments release ions that slow down corrosion. These pigments react with the metal surface to form a passive layer,



reducing reactivity and enhancing long-term protection.

#### 3. Electrochemical neutralization:

 pH stabilization: Certain coatings neutralize acidic or alkaline environments by buffering pH levels at the metal surface, reducing corrosion rates in fluctuating conditions.

#### 4. Chemical resistance:

• Barrier to chemicals: Specialty

coatings resist specific chemicals, solvents, or gases that could degrade the substrate. In mining operations where equipment is exposed to harsh substances like sulfuric acid or saline water, chemically resistant coatings prevent damage.

#### 5. UV protection:

• Ultraviolet light resistance:

UV-resistant coatings absorb or reflect harmful rays, preventing

degradation of both the coating and the substrate. This protection is crucial for assets exposed to sunlight.

#### **6. Thermal protection:**

• Heat resistance: Hightemperature coatings shield assets from thermal degradation, oxidation, or stress caused by temperature fluctuations. Equipment near furnaces or involved in high-temperature processes benefits from these coatings.

#### 7. Hydrophobic properties:

• Water repellency: Hydrophobic coatings repel water, reducing moisture contact with the substrate – a key factor since water facilitates corrosion. These coatings are essential for assets in humid or wet environments.

#### 8. Self-healing capabilities:

• Automatic repair: Advanced coatings can heal minor scratches or damages through microcapsules filled with healing agents that release upon damage. This innovation reduces maintenance needs and prevents minor issues from escalating.

#### 9. Abrasion and impact resistance:

• Mechanical protection: Coatings enhance surface hardness and impact resistance, safeguarding against physical wear that could expose the substrate to corrosive elements – vital for equipment handling abrasive materials.

#### 10. Insulative properties:

• Electrical insulation: Some

coatings provide electrical insulation, preventing galvanic corrosion between dissimilar metals in electrical contact within a corrosive environment. This protects electrical components and reduces overall corrosion.

#### EXTENDING ASSET LIFESPAN AND ENHANCING SAFETY

By leveraging these advanced mechanisms, specialty coatings significantly extend the service life of mining equipment and infrastructure. This longevity yields a higher return on investment and enhances safety by maintaining structural integrity. Corroded equipment poses safety risks and potential regulatory violations; coatings help mitigate these issues, ensuring compliance with industry standards.

## IMPROVING OPERATIONAL EFFICIENCY AND SUSTAINABILITY

Unplanned downtime due to equipment failure drains

productivity and profitability.

Protective coatings reduce
unexpected breakdowns, allowing
for proactive maintenance and
better resource allocation. By
reducing the need for frequent
repairs and replacements, coatings
contribute to environmental
sustainability, minimizing
waste and energy consumption
associated with manufacturing new
components. This aligns with green
initiatives and corporate social
responsibility efforts.

In an industry where asset performance is critical, investing in specialty coatings is a strategic decision offering multifaceted benefits. From advanced corrosion protection to enhancing safety and efficiency, these coatings play a vital role in mining operations' success. As challenges evolve, embracing the full spectrum of protective capabilities ensures mining companies remain resilient, efficient, and forward-thinking in a competitive landscape. \*\*



#### CORRIVEAU J.L. & ASS. INC. ARPENTAGE

JEAN-LUC CORRIVEAU, PRÉSIDENT A.-G. A.T. C.

Ortho Photo | 3D Topography | Monitoring Exploration and Mining Survey | Bathymetry Airborne and Ground 3D Lidar | Cavity Scan Gyro-Theodolite | Borehole Deviation (Gyro) Photos and DTM by Drone and Drone-Lidar

#### **RENTALS & SERVICES**

1085, 3<sup>e</sup> Avenue Ouest, Val-d'Or (Québec) Canada J9P 1T5 www.corriveauil.com Tel: (888) 825-3702 Fax: (819) 825-2863 bureau@corriveaujl.com

## Sling-Choker Manufacturing 50 years of expertise



n the early 1970s, while Paul Villgren was working as an industrial technical sales representative specializing in mining supplies and equipment, he noticed a significant gap in the market while he was working in northern Ontario, where very few companies were focused on selling wire rope, chain, and rigging supplies and services. Motivated by this opportunity, Villgren founded Sling-Choker Manufacturing Ltd. in 1975 in Sudbury, Ont., a key mining area. Initially, Sling-Choker produced wire rope slings for the mining and construction industries, and chokers for the forestry sector. Soon, the company expanded to also manufacture nylon and chain slings.

Sling-Choker quickly gained a reputation as a comprehensive source for rigging supplies and solutions, and recognizing the need for more specialized industrial products, the inventory was expanded to include products for the mining and construction industries. As the company continued to grow, the rising demand from out-of-town customers necessitated additional locations. This growth has expanded the company to 14 manufacturing locations across Canada, with a product catalogue now exceeding over 320 pages. Today, Sling-Choker has strategically placed branches in Ontario, Québec, and

Sling-Choker sets itself apart with exceptional customer service, a wide range of expertise in various product lines, and an understanding that continued success requires investment in its employees.

Manitoba. Each branch boasts manufacturing capabilities and a dedicated sales team, allowing them to develop specialized product lines and expertise tailored to the local market needs while leveraging the group's collective knowledge.

Sling-Choker primarily offers lifting, rigging, and inspection services as a traditional rigging shop. Each branch also focuses on products and services to serve their markets, from products for the cellular tower market, fall arrest repairs and servicing, safety and workplace training, and overhead crane installation and servicing. To better serve its customers, Sling-Choker has formed strategic partnerships with reputable industry brands like Bridon-Bekaert, Crosby, Columbus McKinnon, Apex Tools, Kito, Vulcan, Polydeck, Selene Plastic Bags, Rezplast, and more. These partnerships, along with the ability to produce custom slings, ensure Sling-Choker can meet any project's needs.

"Crane rope designs have become more sophisticated, incorporating multi-strand, compacted, and plastic components, replacing the simpler 6x25 or 6x36 constructions," explains Kane Butcher, general manager at Sling-Choker (Hamilton) Ltd. "We work with our manufacturers to match the right rope to the right application, demonstrating that operational cost savings can often be more economical than upfront costs."

Despite the rise in online sales of rigging products, Sling-Choker sets itself apart with exceptional customer service, a wide range of expertise in various product lines, and an understanding that continued success requires investment in its employees.

Butcher emphasizes the importance of recognizing every team member's value in contributing to Sling-Choker's success.

"By working as a team, we can provide outstanding quality and service, and we greatly appreciate the positive feedback from our customers," says Butcher. Sling-Choker has strategically placed branches in Ontario, Québec, and Manitoba. Each branch boasts manufacturing capabilities and a dedicated sales team.

Reflecting on nearly five decades of service, Butcher nostalgically recalls the early days of the company.

"Back then, companies had ample staff, allowing for strong customer relationships and loyalty. Today, with minimal staff and an influx of inconsistent imported products, multitasking is the norm," he says. "While we offer global products, we select them based on quality and suitability."

Sling-Choker holds the distinction of being the longest-serving member of the Web Sling and Tie Down Association (WSTDA) for 45 years. The company values its membership, appreciating WSTDA's role in setting industry standards.

"The WSTDA brings together resources from all stakeholders to develop the standards we rely on as an industry," says Butcher.
"By adhering to these standards for raw materials, threads, and finished products, we ensure market safety."

Looking ahead as Sling-Choker celebrates their 50th anniversary in 2025, they plan to continue their growth and adapt to evolving market conditions while sharing its quality and expertise with customers. **X** 





## Canadian Mining Hall of Fame to honour four new members in 2025



#### CANADIAN MINING

HALL OF FAME



Sean Boyd



Frank Giustra



Donald Roderick MacLean



Patricia Ann Sheahan

#### Canadian Mining Hall of Fame

hese four members are pillars in the mining community, having dedicated their careers to advancing a more sustainable, responsible and prosperous industry.

#### **SEAN BOYD**

Sean Boyd dedicated his career to transforming Agnico Eagle from a modest single-mine operation into one of Canada's largest public corporations and most successful mining companies in the world.
Under Boyd's stewardship, Agnico Eagle grew its market cap from \$400 million to over \$55 billion, and expanded its operations beyond

Québec into Finland, Mexico, Australia, and Nunavut. He has held key leadership positions that significantly shaped the trajectory of Agnico Eagle, from becoming the company's chief financial officer in 1990 to serving as CEO from 1998 to 2022, and later becoming executive chair and chair of the board.

Boyd's dedication to mining is matched by his commitment to the communities in which Agnico Eagle operates. From supporting the Inuit in Nunavut to contributing \$1 million to the Historic Cobalt Legacy Fund in 2015, he ensured that mining could have a positive, lasting impact. A strong advocate for

mentorship and leadership, Boyd established the Dr. Leanne Baker Scholarship and Development Program in 2023, which supports women advancing into leadership positions in the mining industry.

His contributions have earned him Northern Miner's Mining Person of the Year, and Harvard Business Review's List of Best-Performing CEOs in the World. Boyd's legacy is one of vision, hard work, and a deep belief in the power of people.

#### **FRANK GIUSTRA**

Frank Giustra is a visionary entrepreneur, financier, and philanthropist whose career



**AME Roundup 2025** 

## **Register Now**

January 20-23, 2025
Vancouver Convention Centre East
roundup.amebc.ca



has left an indelible mark on the global mining industry. He was instrumental in the formation and growth of Wheaton River Minerals, orchestrating its merger with Goldcorp.

In 2001, he became chairman of Endeavour Financial. Giustra demonstrated a long history of leadership and innovation, having founded Endeavour Mining and Silver Wheaton (now Wheaton Precious Metals). The company would form UrAsia Energy in 2005, which was subsequently acquired by SXR Uranium for \$3.4 billion. Giustra served as chairman of Leagold Mining from 2016 to 2019, which successfully merged with Equinox Gold. Giustra's commitment to innovation led to the creation of Nations Royalty, which has become Canada's largest majority Indigenous-owned public company. He also built one of the world's largest independent film companies, Lionsgate Entertainment.

Philanthropy is a central part of Giustra's legacy. In 1997, he established The Giustra Foundation that supports initiatives focused on women, children, education, and refugee resettlement, and he is a founding partner of the Global Refugee Sponsorship Initiative. In 2007, he co-launched Acceso that fights global poverty through entrepreneurial solutions in Colombia, El Salvador, Haiti, and Guatemala.

Currently, as president and CEO of the Fiore Group, Giustra has received several honours and awards for his contributions and

achievements, including the Order of Canada and the Order of British Columbia.

#### DONALD RODERICK MACLEAN

The sole focus of Donald Roderick MacLean's 60-year career was to enhance the safety of underground mining worldwide, and reflects an exceptional blend of engineering expertise, safety advocacy, and innovative entrepreneurship.

MacLean spent his formative years in small mining towns in Québec where his father Don 'Ducky' MacLean managed local mines. He was immersed in the industry from a young age, gaining valuable hands-on experience working underground. During his career underground as a shift boss at International Nickel (INCO) he



witnessed the move from rail-based to mobile equipment mining. In 1973 he founded MacLean Engineering, which has become a global leader in mobile equipment for underground mining with over 1,000 employees across six countries.

Following MacLean's passing in 2024, his legacy continues under the leadership of his son Kevin and Kevin's children. MacLean Engineering celebrated its 50th anniversary in 2023 and his influence remains central to its mission. MacLean's impact on the industry earned him induction into the International Mining Technology Hall of Fame (2014), the SAMSSA Hall of Fame (2016), and the CIM Mining Safety Leadership Medal (2023). His vision and dedication to safety have left an enduring mark on mining worldwide.

#### **PATRICIA ANN SHEAHAN**

Patricia Ann Sheahan is a pioneering geologist and distinguished industry leader. For nearly 60 years Sheahan published her renowned monthly newsletters through Sheahan Literature Service, which became an indispensable resource to the mining industry.

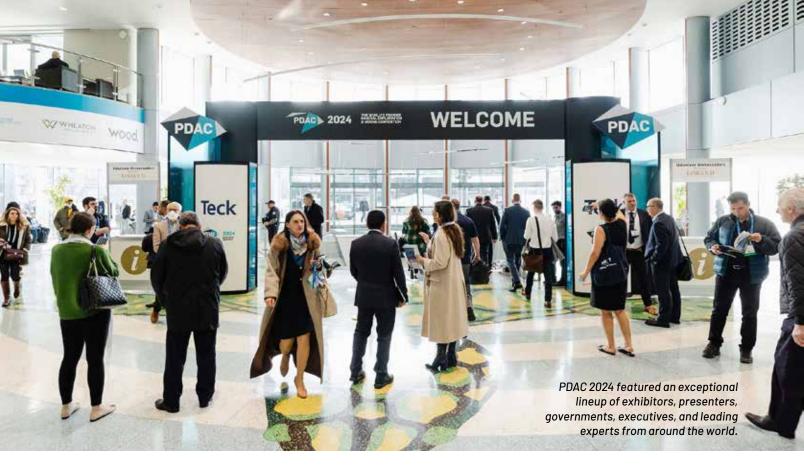
Her career started at Selco
Exploration Corporation, and by
1962 she went on to excel in a
consultancy career offering her
services to Selco and other industry
players. In 1978, Sheahan founded
Konsult International Inc. from
which she operated the Sheahan
Literature Service. The newsletter
she began in 1963 continued until
her retirement in 2022 and was a
cornerstone resource for over 400
clients globally, including major

and junior miners, academics, and consultants.

Sheahan's influence extended to her volunteer work with numerous professional associations, such as the Engineers' Club of Ontario, Ontario Business Club, the Geological Association of Canada, Mineralogical Association of Canada, Society of Economic Geologists, and the Prospectors &

Developers Association of Canada (PDAC). Her contributions have garnered her numerous honours, including the PDAC Distinguished Service Award and the Queen Elizabeth II Diamond Jubilee Medal. As an honourary professor at the University of British Columbia, and a fellow of the Society of Economic Geologists, she has inspired generations of geoscientists. \*\*





## Memorable moments, events, and experiences from the world's premier mineral exploration and mining convention in Toronto, Canada

rom March 3 to 6, 2024, attendees from across the globe came to the Metro Toronto Convention Centre (MTCC) for best-in-class professional programming, exhibits, networking, events, and more at PDAC's annual award-winning show.

Spread across both the North and South Buildings of the MTCC, as well as special events held in the Fairmont Royal York Hotel, PDAC 2024 featured an exceptional lineup of exhibitors, presenters, governments, executives, and leading experts from around the world.

Arriving from 138 countries, the 2024 convention welcomed a wide range of attendees from the industry including investors, miners, geoscientists, community leaders, and students.

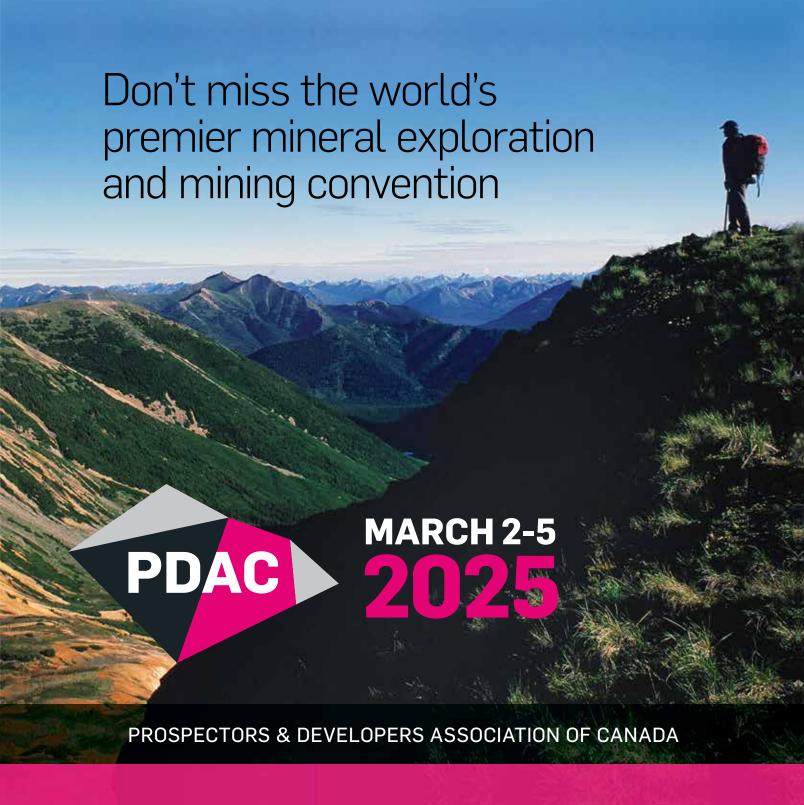
"It's undeniable – this is the largest convention and gathering of mining and exploration companies in the world," said Valerie Pascale, founder of Modern Core, a consultancy.

Raymond Goldie, PDAC president, added that the PDAC 2024 carried forward the convention's 92-year legacy, serving as the premier venue for unveiling new trends,

technological innovations, and industry discussions.

#### **HIGHLIGHTS:**

- Hosting more than 1,100
   exhibitors, the convention
   continued to serve as the premier
   venue for unveiling new trends,
   technological innovations, and
   industry discussions.
- Extensive programming featuring topics that focused on capital markets, Indigenous relations, sustainability, industry trends, and technical research, plus student and early career development.
- A new Investment Hub on the



Up to **30,000** attendees ■ **700**+ hours of programming **1,100**+ exhibitors ■ Delegates from **130**+ countries

Meet investors & senior executives ■ Unrivaled networking

pdac.ca/convention | Toronto, Canada







Hosting more than 1,100 exhibitors, the convention continued to serve as the premier venue for unveiling new trends, technological innovations, and industry discussions.

The convention provided a venue for dialogue between industry and government.

Investors Exchange floor was created to host the popular Corporate Presentation Forum for Investors and Investment Leaders Forum programs, giving attendees enhanced investment opportunities.

 Keynote presenters included Rio Tinto's Jakob Stausholm, The World Bank's Michael Stanley, Caterpillar Inc.'s Denise Johnson, and Wojtek Wodzicki from the Lundin Group Vicuña Exploration Team.

- The convention provided a venue for dialogue between industry and government. PDAC's leadership seized the opportunity to underscore the important role public policy has in supporting the competitiveness of Canada's mineral sector.
- Five of the industry's top performers were honoured at the prestigious PDAC 2024 Awards
   Gala & Nite Cap, held at Toronto's
   Fairmont Royal York Hotel.



- 26,926 attendees
- 138 countries represented
- 33.3 per cent international attendees. Outside of Canada, the largest number of attendees came from the United States, Australia, the United Kingdom, Brazil, Peru, Chile, Argentina, Mexico, Mongolia, Germany, Turkey, and Kazakhstan.
- 693 presenters
- 10 short courses
- 167 sessions
- 1,105 total exhibitors
- 73 government exhibitors



- 366 accredited media
- 35 sponsors
- 1,115 student attendees
- 492 investors exchange booths
- 1.054 trade show booths
- 40 core shack exhibitors
- 20 prospector's tent exhibitors

#### THE LEISHMAN EXPERIENCE 2: THE SECOND-ANNUAL DR. DONALD M. LEISHMAN CONVENTION EXPERIENCE

With the success of the inaugural experience in 2023, the Leishman family and PDAC were honoured to provide another five students all-expense paid trips to Toronto to attend the World's Premier Mineral Exploration and Mining Convention.

The five students selected for this rare opportunity at PDAC 2024

were Christina Matchett, University of Victoria; Hayley Newell, Acadia University; Tatiana Pillajo, Laurentian University; Kaylee Tymo, University of Regina, and Sepideh Vafaei, Institut national de la recherche scientifique (INRS).

All coming from geology, environmental geoscience, and earth sciences programs, the selected students had their flights, meals, and accommodations covered at a nearby downtown hotel. With just a short walk to the MTCC, this lucky quintet received complimentary All-Access passes to PDAC 2024, as well as exclusive access to programs and invitation-only events during the four-day convention.

"Attending the PDAC Convention 2024 was a unique and rewarding

experience for me," said Tatiana
Pillajo, student from Laurentian
University. "I gained important
feedback about projects and how
the mining industry is working to be
innovative and sustainable."

Their passes included events such as the President's Reception, S-IMEW Alumni Reception, and the Awards Gala & Nite Cap, where they made new connections with industry leaders, government representatives, fellow students, and mentors.

"The convention was so much larger than I could have imagined, but this community is so incredible and I'm so glad to be a part of it," said Hayley Newell, student at Acadian University. "The experience and connections I made at my first PDAC Convention



are invaluable and would not have been possible without the Leishman family."

Echoing this sentiment, Christina Matchett said she was "thankful for the Leishman family's generosity in providing me the opportunity to attend the 2024 PDAC Convention. Attending the technical sessions and seminars increased my awareness of recent developments and trends in the mineral exploration industry."

The Leishman Experience also provided the students with access to PDAC's board of directors, association professionals, and even government representatives, who offered advice and guidance for their future careers.

"The most beneficial part of this experience for me was attending the Awards Gala, where I met top company executives and learned about industry achievements and innovations," Matchett added. "I will encourage other students to apply for next year's Leishman's Experience to expand their network

and benefit from the Student and Early Career Program."

Dr. Leishman was a family physician with a passion for geology and mining. As an enthusiastic participant at many PDAC Conventions, he made countless friends within the mineral exploration and development industry and left a legacy of generosity as a mentor for students. In his honour, the Leishman family created this unique opportunity for students to experience the convention held each year in Toronto to make connections, expand their networks, and access other mentorship opportunities to help advance their careers in the industry.

To learn more about the experience and the application process for PDAC 2025, visit pdac.ca/drdonald-m-leishman-convention-experience.

Thank you to everyone who participated in PDAC 2024, including our volunteers, presenters, sponsors, exhibitors, and attendees.

The annual PDAC 2025 Convention

- The World's Premier Mineral
Exploration & Mining Convention

- will take place from March 2 to
5, 2025 in Toronto, Canada. The
award-winning PDAC Convention
is widely considered the "Super
Bowl" of the mineral exploration and
mining community and is the leading
event for people, companies, and
organizations connected to mineral
exploration.

The convention brings together up to 30,000 attendees from over 135-plus countries for its educational programming, networking events, business opportunities, and fun.

Since it began in 1932, the convention has grown in size, stature, and influence. Today, it is the event of choice for the world's mineral industry hosting more than 1,100 exhibitors and 700 presenters.

For more information, please visit www.pdac.ca/convention.

Portions of this story originally ran in the summer 2024 issue of CORE magazine. ★





### More mining publications









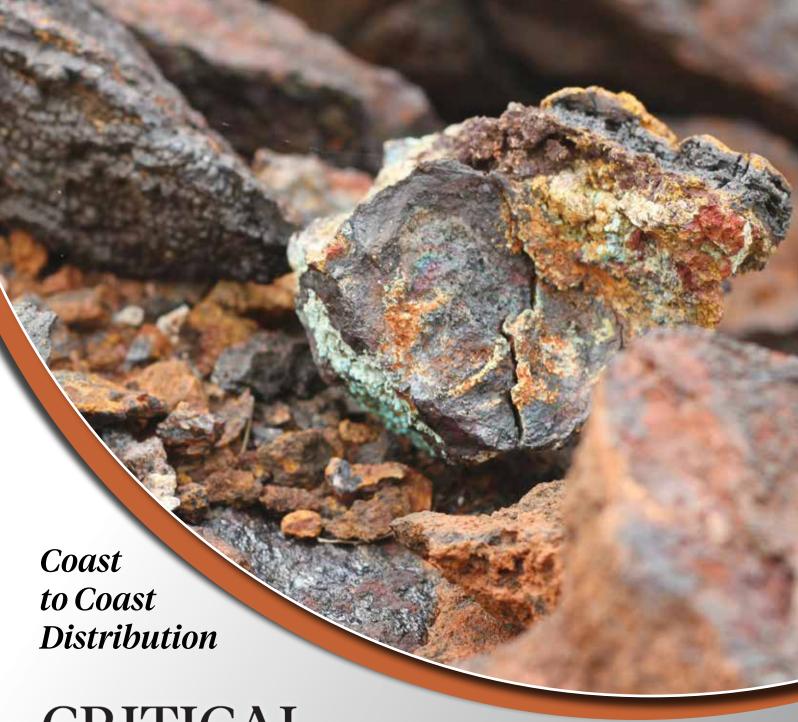






Revue minière du Québec Mining REVIEW

Click on a logo to open full-screen mode



# CRITICAL MARINE CRITICAL CRITICAL CRITICAL CRITICAL CRITICAL SALVER CRITICAL CRITICA

Open full-screen mode



Biannual digital magazine

Ad prices

criticalmineralsreview.com