ONTARIO MINING Review

e-newsletter ISSUE 2 • 2023



Mining Industry Human Resources Council launches "Safe Workplaces for All: Addressing Sexual Harassment in Canadian Mining" program

Ontario adopts new diesel exposure limit for underground mines Newmont Porcupine to improve site water management, support watersheds in partnership with local communities







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Welcome to another issue of the Ontario Mining Review e-newsletter

e have lots of exciting mining content

to share and hope you enjoy this

On page 6, Minister of Mines George
Pirie discusses the rich history of Ontario's mineral exploration and mining sectors and how they are responsible for building up the province's economy.
The Ontario's government's Building More Mines
Act, 2023 was given Royal Assent on May 18 and is setting the stage for the province to become the leading global jurisdiction for mineral investment and development. The act will create legislation for companies to build mines more efficiently while also supporting a made-in-Ontario critical minerals supply chain for the global electric vehicle revolution.

On page 14, you will learn about Agnico Eagle's Ontario operations which, in 2022, included a merger of equals between Agnico and Kirkland Lake Gold. As of a result of this merger, Agnico Eagle now has seven operating mines in Canada. Of the seven, two are based in Ontario: Macassa and Detour Lake Mine. Collectively, these mines are projected to produce 930,000 ounces of gold this year alone.

ORIGIN and Newmont Musselwhite are using virtual reality to recruit for remote mining careers. ORIGIN's ImmersiveLink Careers Library enables users to join different tradespeople in a virtual reality tour

of their daily work. When users put on the Oculus headset and connect to the Library, they are instantly transported to the site, breaking down the geographical barrier and creating a memorable experience for users. You can read more about this on page 21.

These stories are just a small preview of what we have in store for you in this edition of *Ontario Mining Review* e-newsletter. We wish to thank all the companies who have a contributed a story, including:

- Workplace Safety North;
- · Canada Silver Cobalt;
- SPC Nickel:
- MiHR;
- · Becker Varis;
- Easylease;
- Newmont:
- Avalon Advanced Materials:
- Palmer Creative Group.

Thank you for reading our newsletter. As always, if you have any story ideas, please feel free to email me.

Kelsey James

kelsey@delcommunications.com



Message from the Ontario Minister of Mines

GEORGE PIRIE

ining has long been the economic backbone of Ontario. Our province's mineral exploration and mining sectors have a rich history and are responsible for building up our economy, especially in the north. The discoveries made by our tremendous minerals sector have led to stronger communities that rely on and benefit from mines, both new and existing. Thanks to our government's efforts, our mining sector is thriving. Today, there is global interest and urgency

to find the critical minerals the world needs to build smartphones, batteries, electric vehicles, and the technologies of tomorrow.

Jurisdictions across the world need the critical minerals we have an abundance of in Ontario. That is why our government is focusing on building a made-in-Ontario supply chain so we can take advantage of this generational opportunity by mining the critical minerals and then manufacturing batteries and electric vehicles right here in our province.

Ontario's future economic growth will depend on our government's efforts to continue to educate, recruit, and retain highly skilled workers, increase mineral development rates, and accelerate innovation and entrepreneurship. We're also focused on improving regulatory efficiency, predictability, and transparency while enhancing Indigenous voices and increasing meaningful participation. We are attacking this challenge head-on and from all angles.

To that end, our government's Building More Mines Act, 2023, which was given Royal Assent on May 18, is setting the stage for our province to become the leading global jurisdiction for mineral investment and development. The Building More Mines Act, 2023 will create the right legislative and regulatory environment for companies to build mines more efficiently and support building a made-in-Ontario critical minerals supply chain for the global electric vehicle revolution. The Building More Mines Act, 2023 is all about ensuring the ministry operates at the speed of business without sacrificing our world class environmental standards or how we conduct the Duty to Consult.

Unlocking northern Ontario's critical minerals is key to our province's future economic wellbeing. That's why our government



is also promoting a competitive business climate through strategic investments, like the Ontario Junior Exploration Program (OJEP), which helps exploration companies fund early-stage projects and supports grass roots mineral exploration.

As announced in our 2023 budget, Building a Strong Ontario, we are investing an additional \$6 million over the next two years in OJEP. This brings the total OJEP investment to \$35 million, which will help more companies search for potential mineral deposits and attract further investment in this growing sector.

In addition to OJEP, the Critical Minerals Innovation Fund (CMIF) supports Ontario's critical minerals sector by funding research, development, and the commercialization of projects to create investments in our province's critical minerals supply chain. This \$5-million fund is supporting innovative Ontariobased projects ranging from mining and mineral processing to the recovery and recycling of minerals. These projects prove that Ontariohas the mineral resources, brilliant workforce, and industry expertise to supply and manufacture innovative technologies, such as batteries and electric vehicles.

Ontario has some of the best mining expertise in the world and our government is committed to bringing this knowledge and experience together to work towards common goals. From exploration to innovation and helping companies build more mines, our government continues to provide support throughout the mining life cycle. The drills are already turning up north and we are building on Ontario's competitive advantages, securing our place as the number one mining jurisdiction in the world, and adding another exciting chapter to our province's storied history of mining. Mining is the backbone of our economy and together we can ensure the industry continues to grow and creates prosperity for generations to come. 🛠

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Law reduces exposure to harmful chemicals and allows robots to detect hazards

ew rules to improve ventilation requirements in underground mines and lower exposure to harmful diesel exhaust to the most protective levels in North America came into effect July 1. Long-term exposure to diesel exhaust can be a significant cause of lung cancer in miners.

Regulations will also allow for the use of track-mounted robots in mines to increase safety. These specialized machines with a high-definition camera will be controlled by an operator to identify loose rocks, misfired explosives, and other safety hazards, while keeping workers out of danger.

These amendments respond to calls from unions for a reduction of how much diesel particulate miners can be exposed to underground and follow recommendations

from the Mining Health, Safety, and Prevention Review and recent coroner's inquests.

QUICK FACTS

- Regulatory amendments will come into force on July 1, 2023, and others in effect on September 1, 2023, to allow employers time to comply.
- Effective September 1, 2023, the new exposure limit will be a time-weighted average exposure to elemental carbon of not more than 0.12 milligrams per cubic metre of air, instead of 0.4 milligrams per cubic metre of air based on total carbon.
- Ontario's allowable level of exposure to harmful substances from diesel exhaust in underground mines will now be the most protective in North America.

• Ontario has approximately 5,000 operating mines, 37 of which are underground. About 12,000 miners work below ground and Ontario mines employ approximately 29,000 workers in total.

ADDITIONAL RESOURCES

- Mining regulation.
- Occupational Health and Safety Act.
- Health effects of diesel exhaust in mines.

- Free training resources on diesel emission hazards for all industries.
- Hazards Associated with Diesel Exhaust Emissions.
- Mining safety guideline for reducing diesel emissions underground.
- Reducing diesel particulate matter in underground mines: Two successful examples.



CCW drives forward in the energy transition with a unique combo of silver and battery metals projects

ritical minerals for the energy transition are the focus of Canada Silver Cobalt Works Inc. (CCW) as it actively pursues exploration and development in northern Ontario and Ouebec.

The company is unique among junior explorers in having such a wide range of these important minerals including nickel, cobalt, and lithium (all needed for electric vehicle [EV] batteries), copper (EVs and grid wiring), and silver (electronics and solar panels). CCW has also developed an ESG-compliant processing technique, called Re-20x, which produces commercial products needed by battery makers while minimizing pollution and energy use.

CCW's most advanced property is the Castle Mine in northern Ontario's historic Cobalt Camp, where mining produced 600 million ounces of silver and 30 million pounds of cobalt as a byproduct during the 1900s.

The past-producing Castle property has the potential to

resume mining activity due to all the silver and cobalt left behind by previous miners (the mine shut down in 1989 due to low silver prices, not because metal resources were depleted), as well as the company's recent exceptional high-grade silver discovery at Castle East, two kilometers east of the Castle Mine shafts. This discovery has grades as high as 89,853 g/t silver (2,621 oz/ton) over 0.3 meters,a rare situation in the silver mining sector where grades are commonly considered high if they reach above 1,000 g/t silver. See an example of the Castle East spectacular high-grade silver veins in the drill core photo below.

The company has already published an inferred resource estimate for the Castle East deposit and is working towards the construction of an underground exploration ramp to the high-grade veins to extract the silver, with the cost expected to be largely covered by revenue from the silver that would also pay for the production of the cobalt and nickel

and any other metals that occur with the silver. Also present and can be extracted are bismuth and antimony, which are both listed as critical minerals in Canada and the U.S., as well as arsenic, which is on the U.S. critical minerals list.

Another aspect of CCW's operations, which makes it unique and gives it an advantage over other junior companies in the Cobalt Camp, is its acquisition of the Temiskaming Testing Laboratory (TTL) in the town of Cobalt, Ont. TTL is an assay lab and bulk processing facility that served mining companies in the camp in the 1900s as a provincial government entity and has seen been updated and made fully operational by CCW.

The mineralized material from Castle and other mines in the area can easily be separated through gravity processing into two parts: a silver concentrate containing native silver and a sulphide concentrate containing cobalt and other base metals, as well as some remaining silver.



Spectacular high-grade 89,853 g/t silver or 2,621 oz/ton averaged over 0.3 meters.



Location of CCW's early-stage nickel-copper-cobalt properties.

Matt Halliday, P.Geo., president and chief operating officer (left), and Frank Basa, P.Eng., chairman and chief executive officer (right).

The silver concentrate can then be processed at TTL right up to producing silver dore bars with about 90 per cent silver that would then be shipped to a refinery for the final stage of conversion into pure silver bars sold in markets around the world.

The sulphide concentrate can be processed in an environmentally friendly way using CCW's Re-20x hydrometallurgical process, which was developed in-house by chief executive officer Frank Basa, a highly experienced metallurgical engineer and milling expert. Re-20x has been shown in lab tests at the world renown SGS Laboratory in Lakefield, Ont. to successfully convert mineralized material from Castle into cobalt sulphate needed in EV batteries, and it has been configured to also produce nickel, copper, and manganese sulphates as well as extracting arsenic, antimony, and bismuth. This process, remarkably, is closed loop with no discharge and avoids the problem of pollution and energy use through smelting or burning. It further has the potential to be adapted and used widely at other



mines to achieve more ESG-compliant operations.

As for its battery metals properties in northern Quebec, CCW has accumulated 14 mostly early-stage exploration properties that it is evaluating. The flagship property of that initiative is the Graal property in the Lac St-Jean area, which has high-grade nickel and copper as well as some cobalt,

platinum, and palladium. Lac StJean is slated to be spun out into a
separate company soon. The Graal
property is regarded by geologists
as potentially being a very large
mining operation as it has numerous
massive sulphide lenses containing
these minerals. The company has
been drilling shallow targets but
believes the mineralization goes
quite deep based on geophysical
anomalies.





ith a historic resource in what is arguably one of the most prolific and stable mining regions of the world, SPC Nickel Corp. is hard at work this summer further defining nickel mineral resources at its 100 per cent-owned Lockerby East Property, tucked neatly in the Sudbury Basin in northern Ontario.

The Lockerby East Property, which hosts the West Graham Deposit, contains over 100 million pounds of nickel and 75 million pounds of copper, with an indicated resource of 8.55M tonnes based on a 2009 technical report.

Early in 2023, SPC Nickel struck a historic cooperation agreement with nickel giant Vale Canada, the first of its kind in decades. The deal consolidated SPC's West Graham Deposit and Vale's Crean Hill 3 Deposit, which runs contiguous and adjacent to West Graham, into one

The Lockerby East Property, which hosts the West Graham Deposit, contains over 100 million pounds of nickel and 75 million pounds of copper, with an indicated resource of 8.55M tonnes based on a 2009 technical report

much larger land-package.

Crean Hill 3 hosts a historic mineral estimate of 16.78Mt @ 0.43 per cent Ni and 0.30 per cent Cu.

The deal also presented SPC with a transformative opportunity to redefine the historic resources and turn the deposit into high-quality nickel-copper asset in one of the top nickel mining camps globally.

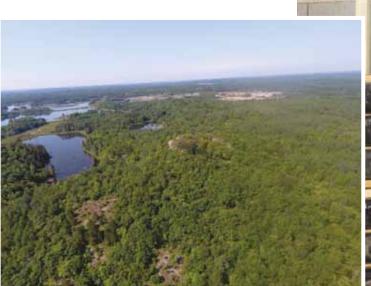
The Lockerby East Property is located in an area with a rich mining history that has already produced over 25 million tonnes of ore from a series of underground and open pit mines. Since the late 1880s, more than 70 mines have produced nearly two billion tonnes of ore in the Sudbury area, worth an estimated \$330 billion using current metals prices.

"With the addition of the Crean Hill

3 Deposit, we believe the property has significant potential for a large tonnage, open-pit resources close to infrastructure in a proven and stable jurisdiction," said SPC Nickel chief executive officer Grant Mourre.

Recently, the company wrapped up its 5,000-metre Phase 1 drilling program on the Crean Hill 3 Property, the first activity of its kind on the property since 1960. By the end of May, the company had drilled 5,338 metres in 27 holes, further confirming the extension of the West Graham mineralization across the adjacent Crean Hill 3 Property. Assay results from 16 holes have been received to date.

"The first phase of drilling intersected wide zones of nickel-copper mineralization of grades equal to or better than that of



The Lockerby East Property is located in an area with a rich mining history that has already produced over 25 million tonnes of ore from a series of underground and open pit mines.

the historic resource. We really confirmed our initial investment thesis that the mineralized zone extends across the property boundaries into the Crean Hill 3 property," said Mourre.

Recent results underscore this with hole WG-23-042 returning the highest grades of mineralization yet. Hole WG-23-042 intersected a zone of high-grade mineralization grading 1.71 per cent Ni and 0.46 per cent Cu over 20.0 metres from 286.0 to 306.0 metres. This interval is part of a wider interval that returned 1.06 per cent Ni and 0.46 per cent Cu over 50.0 metres from 256.0 to 306.0 metres.

Now, with the closing of the recently announced private placement on June 29, 2023, SPC is ready to launch into a Phase 2 drilling program and Mourre is confident about the project's prospects. Ultimately, the company is working towards delivering a combined updated mineral resource estimate at the West Graham Project, which is expected before year's end.



Recently, SPC Nickel wrapped up its 5,000-metre Phase 1 drilling program on the Crean Hill 3 Property, the first activity of its kind on the property since 1960.



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gnico Eagle is a highquality, low-risk senior Canadian gold mining company. It's the largest gold producer in Canada and the third largest in the world. With operations spanning across Canada, Mexico, Australia, and Finland, Agnico Eagle has produced 3.14 million ounces of gold in 2022 and is expected to produce

between 3.24 to 3.44 million ounces of gold in 2023.

On February 8, 2022, Agnico Eagle Mines Limited and Kirkland Lake Gold completed a merger of equals. As a result of this merger, Agnico Eagle now has seven operating mines in Canada. Of the seven, two are based in Ontario: Macassa and Detour Lake Mine. Collectively, these mines are projected to produce 930,000 ounces of gold this year alone.

The Macassa underground mine is located in Kirkland Lake, Ont. and is one of the highest-grade gold mines in the world. It produced 180,833 ounces of gold in 2022 and is expected to produce 215,000 ounces this year. The mine also



Overall, the company is one of the lowest greenhouse gas emitters in the gold industry with nine out of 10 operations outperforming the industry average for GHG emission intensity per ounce of gold produced in 2022.

715,000 ounces of gold in 2023 with the capacity to rise to an imposing 740,000 ounces per year in 2025.

The success seen at Agnico Eagle is attributed to its strong operational track record and its sustainability commitments. Producing gold in a sustainable and responsible manner for the benefit of all is one of the organization's main priorities and its long-standing approach to doing business.

From an environmental perspective, Agnico Eagle aims to eliminate, minimize, and mitigate the impacts of its operations on the environment and maintain its viability and diversity. Overall, the company is one of the lowest greenhouse gas emitters in the gold industry with nine out of 10 operations outperforming the industry average for GHG emission intensity per ounce of gold produced in 2022. Agnico Eagle is committed to achieving net-zero emissions by 2050. In 2022, the company accelerated efforts to ensure a climate resilient business by setting an interim reduction target of 30 per cent of absolute Scope 1 and 2 emissions by 2030. Energy efficiency and GHG reduction initiatives include electrification of mining operations where clean energy is available. For example, Macassa has been an industry leader in the adoption and utilization of battery electric (BE) scoops and trucks, and Detour

Lake mine is now trialing one of the first Sandvik BE loaders in the operating in the world. Detour Lake is also evaluating the potential to implement a trolley-assist system to electrify the haul trucks in the open-pit; a system similar to a city tram.

As for the economic footprint in Ontario, there are close to 3,900 employees and contractors that are responsible for the success of Agnico Eagle. In 2022, there were approximately \$553 million allocated for wages and benefits in Ontario alone. The company has also made major strides to explore existing and new potential sites by investing \$141 million into exploration in the past year.

Finally, Agnico Eagle is very involved in the communities in which it operates and contributed a little over \$10 million in community donations and sponsorships in Ontario in 2022. The company also has 11 agreements with Indigenous Nations to ensure that it maintains respectful relationships and engagements with Indigenous Peoples.

Agnico Eagle's contributions to not only the mining industry, but also the communities in which it operates, speak volumes as to who the company is and what it stands for. With continued opportunities for growth, the future is gold for Agnico Eagle.

recently celebrated an impressive milestone; its six millionth ounce of gold was poured in January 2023.

Detour Lake Mine is Canada's largest gold producing mine. After the merger between Kirkland Lake Gold and Agnico Eagle, there has been significant growth at the mine. The open pit mine is already expected to produce an astounding

"Safe Workplaces for All" program addresses workplace harassment in Canada's mining industry

veryone deserves to work in a safe, respectful, and welcoming environment, yet sexual harassment and violence still occur in the mining workplace. Through industry collaboration and research, as well as the design and evaluation of public legal education and information (PLEI), the Mining Industry Human Resources Council (MiHR) launched "Safe Workplaces for All: Addressing Sexual Harassment in Canadian Mining" in April 2021. With funding provided by the Government of Canada through the Department of Justice, the program aims to help build sector capacity to support mineral

exploration and mining companies to expand their knowledge of, and response to, workplace sexual harassment and violence.

Safe Workplaces for All has four key objectives: 1) support exploration and mining companies to identify sexual harassment and violence, and effectively respond to allegations as well as understand and comply with legislated requirements; 2) identify effective policy and procedural approaches; 3) enhance sector understanding to identify next steps for research, action, strategic engagement, and partnerships; and 4) affect systemic, organizational change to support respectful workplace cultures and advance inclusion and safety within the sector.

The Safe Workplaces for All Steering Committee (SWSC) oversees the program and is comprised of industry human resource and inclusion and diversity experts from academia and various organizations. Members contribute to sector capacity and performance by sharing research findings, innovative approaches, and effective practises in relation to addressing sexual harassment and advancing workforce inclusion and diversity.

"Canada's mining industry is on a journey towards more inclusive workplaces," said MiHR executive director Ryan Montpellier. "While the industry has made progress, there is still much work to be done in the areas of equity, diversity, and inclusion. It is a critically important issue for the sector and MiHR is pleased to address it with our partners to help build more welcoming, inclusive, and safe workplaces for all."

Montpellier spoke alongside Leslie Woolcott, MiHR's director of equity, inclusion, and diversity, at the Safe Workplaces for All - Launching a Dialogue webinar on



December 6, 2022 (available for viewing at https://youtu.be/wjawM1B-WS8) which coincided with the National Day of Remembrance and Action on Violence Against Women. The webinar featured Jackie Scales, director of equity, diversity, and inclusion at Teck Resources, Sharon Singh, partner at Bennett Jones LLP and the program's legal consultant, and Dorena Quinn, senior vice-president, people at IAMGOLD and chair of the SWSC. With over 50 people in attendance, the webinar announced the launch of two resources that help facilitate ongoing inter- and intrasectoral dialogue on the important social issues the program highlights.

First, the Safe Workplaces for All report provides an analysis of the obligations, risks, and opportunities for addressing sexual harassment and violence in mining, and informs the development of educational resources for use by employers, unions, and employees. Second, the Safe Workplaces infographic provides an overview of legislative frameworks related to sexual harassment

and violence in the industry. Both documents are available at www.MiHR.ca.

Most recently, the program spurred the creation of a suite of educational posters, postcards, and stickers highlighting the rights, responsibilities, and supports available for employers, unions, and employees, including complainants, respondents, and witnesses. They are available to download at www.MiHR.ca and there is also a limited supply of printed materials available. Employers can reach out to inclusion@mihr. ca to order delivery of materials.

Looking forward, Safe Workplaces for All is developing additional materials as well as a mechanism for supporting ongoing discussion, particularly engaging male voices in the dialogue around sexual harassment and violence in mining workplaces. Visit www.MiHR. ca for more program information and latest updates, and contact inclusion@mihr.ca to get involved with the program.



Mining 4.0 – ST4RT THE CHANGE

t's human nature to get caught up in the moment and forget about the important aspects in life. Mining is a complicated eco-system with many different processes that are all interrelated, and if one of them stops functioning (as it should and often does), the whole system might be affected.

All too often we tend to have tunnel vision and focus on the problem at hand while forgetting to take a step back and look at the problem from a different perspective (and, more specifically, what effect that problem has on the system/process at large). Most systems installed in mines today are isolated/silo installations, not allowing for integration or interconnectivity. Becker Mining Systems prides itself on being both a hardware and software provider that facilitates interconnectivity/operability of our hardware and software to the client's infrastructure.

As a company primarily focused on safety solutions for mines, Becker

Mining Systems takes great pride in being a leading supplier in mining infrastructure and the transition to Mining 4.0.

As mines adopt a more dataintensive approach to their
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a key requirement. As the industry
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infrastructure, the need for reliable
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contributing to continuous improvement and optimization of production processes while also increasing security levels and assisting our clients in their drive for sustainable development.

smartflow is a 3D web monitoring and control software that increases safety and productivity levels, digitizes the movements of operating personnel, and measures the conditions and parameters of the operation to obtain control of the operational management, allowing for a unique user experience and integration of all mine processes into a single software platform. It also allows for modular expansion while growing with the client's needs to not overpower the client through data overload and installation concerns.

As such, the smartflow software package has several modules, allowing the clients to expand as they grow:

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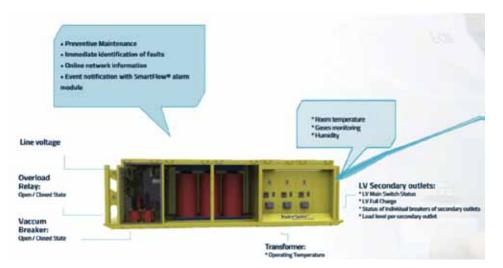


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Leasing your equipment is a smart business decision

ne misconception about equipment leasing is that it is always more expensive than purchasing equipment outright. While leasing does involve regular payments over a period of time, it can actually be a costeffective option in certain situations.

The misconception stems from the fact that, over the long term, the total cost of leasing may be higher than the cost of purchasing the equipment outright. However, this viewpoint often overlooks several important factors.

Firstly, leasing allows businesses to acquire and use equipment without a large upfront capital investment. This can be particularly beneficial for small or new businesses with limited funds. By leasing, they can access the latest equipment and technology necessary for their operations without depleting their cash reserves.

Secondly, leasing offers flexibility and convenience. Businesses can tailor lease terms to their specific needs, including the duration of the lease and the option to upgrade or replace equipment as technology advances. This flexibility can be especially valuable in industries where equipment quickly becomes outdated or needs frequent upgrades.

Furthermore, leasing often includes additional services such as maintenance, repairs, and equipment upgrades, depending on the agreement. These services can help reduce operational costs and ensure that the equipment remains in optimal condition, saving the lessee from incurring additional expenses.

Lastly, leasing can provide tax benefits for businesses. In many jurisdictions, lease payments can be fully deducted as operating expenses, reducing the taxable income. This can result in significant savings, particularly for businesses with high tax liabilities.

It's important to note that the decision to lease or purchase equipment depends on various factors, such as the specific needs of the business, the expected duration of equipment usage, cash flow considerations, and tax implications. It's advisable to carefully analyze the costs and benefits of both options before making a decision.

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How ORIGIN and Newmont are using virtual reality to recruit for remote mining careers

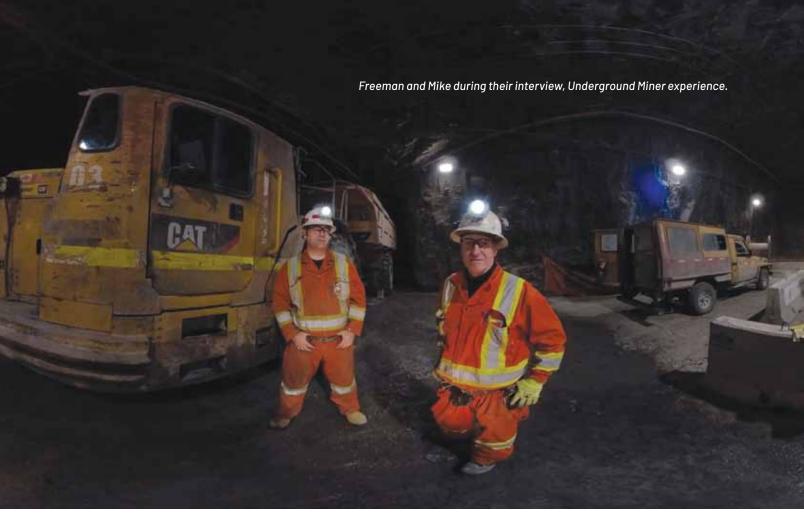
Setting up the shot with our production team, Mill Operator Experience.

ike many other trades, mining offers a range of career opportunities many students and job seekers are unaware of, even those who are already familiar with the trades and considering career paths outside the traditional domains of science, engineering, or business. There is often a lack of understanding around both the jobs available within the industry, as well as the education, training,

and certifications needed to pursue these paths. ORIGIN created our ImmersiveLink Careers Library, which enables users to join different tradespeople in a virtual reality tour of their daily work, to bridge this gap. This article will explain how our customer, Newmont, the world's largest gold mining company, uses the ORIGIN ImmersiveLink Careers Library to educate prospective job seekers about career opportunities at their

fly-in, fly-out Musselwhite mine in northern Ontario.

Located about 500 kilometres north of Thunder Bay on the traditional territory of North Caribou Lake First Nation, Musselwhite is a remote mine that few people have the opportunity to visit, so the ORIGIN ImmersiveLink Careers Library is a critical education tool for Newmont. This technology enables prospective employees to immerse themselves in the



worksites and daily responsibilities of various tradespeople at site. When users put on the Oculus headset and connect to the Library, they are instantly transported to site, breaking down the geographical barrier and creating a memorable experience for users.

So far, ORIGIN and Newmont

Musselwhite have produced four
virtual reality experiences for
prospective job seekers. The first
experience we created has all users

begin their journey by meeting mine safety leader and host, Freeman Ledrew. From there, the user takes a virtual drive into the mine to watch different machinery at work, explore the site, and listen to an interview wherein Freeman shares what he enjoys about the job.

"This was the starting point of our careers library and really showed us the opportunity that creating these experiences can provide," said ORIGIN president Melissa Hardy-

"However, recruiting and supporting our growing Indigenous workforce can be challenging in a remote setting. What I love about these virtual experiences is they can be viewed offline and brought into classrooms, offices, and remote communities."

Giles. "It's awesome to see students get excited about opportunities to work in the mine after viewing this experience."

The success of this early experience encouraged ORIGIN and Newmont to produce three more virtual reality experiences showcasing some of the many skillsets needed to operate a mine. Users can now spend a day in the life of a mill operator, chef, and environmental technician.

The ORIGIN ImmersiveLink
Careers Library has also played
an important role in helping the
Newmont Musselwhite mine meet
its commitments to the signatory
First Nations surrounding their
operations. Embedded in the
agreements that Musselwhite has

with its First Nations partners are targets for Indigenous employment and training.

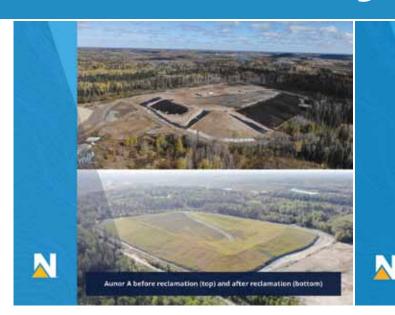
"Meeting those commitments is both essential to Newmont's purpose of creating value and improving lives, and a critical step towards economic reconciliation with First Nations," said Shane Matson, sustainability and external relations manager at Musselwhite. "However, recruiting and supporting our growing Indigenous workforce can be challenging in a remote setting. What I love about these virtual experiences is they can be viewed offline and brought into classrooms, offices, and remote communities."

The ORIGIN ImmersiveLink Careers
Library has been a critical tool to
help Newmont's Musselwhite mine
highlight career opportunities
for all job seekers, and especially
Indigenous youth in signatory First
Nations. If you're interested in
learning more about how you can
capture career opportunities in
virtual reality, visit
www.immersivelink.ca.





How Newmont Porcupine engages communities to support sustainable mining outcomes





ocated in and around Timmins, Ont. within Treaty 9 territory, the Newmont Porcupine operations are part of a historic mining district that has long been a cornerstone of the local economy (the region has produced more than 67 million ounces of gold since 1910). After more than a century of mining, the next phase of operations at the Newmont Porcupine mine is an opportunity to regreen the region, improve site water management, and support the local watersheds in partnership with local communities.

Covering 100 square kilometres, the Newmont Porcupine portfolio includes dozens of historic mine properties that Newmont is reclaiming so the land can be used productively by local

communities. Whereas closure has historically been an end-ofmine-life consideration, Newmont plans early with the end in mind and engages in progressive reclamation during operations. When reclaiming a historic mine property called Aunor A, for example, the Newmont Porcupine team engaged our signatory First Nations communities (Mattagami, Matachewan, Apitipi Anicinapek, and Flying Post First Nations) at an early stage to incorporate Indigenous community teachings and learnings. The overall remediation budget of \$11 million was spent locally, with the work carried out by a First Nations business partner and contractor that was founded to create economic opportunities and stems for Newmont's Resource

Development Agreement with the four signatory communities.

The Newmont Porcupine team regularly includes community perspectives on land use. For example, Porcupine has convened the Hollinger Project Community Advisory Committee for more than a decade to engage and document a broad range of community, municipal, and industry perspectives about our social, environmental, and operational performance and contemplate future land use planning. The site also participates in the Integrated Watershed Committee, which is chaired by the local Mattagami Region Conservation Authority and is preparing a scope of work for a consulting firm to develop an integrated watershed management plan that will allow companies to

share and benefit from a broader set of data.

Newmont is proud to support the past, present, and future of the Porcupine operations and is making landmark investments to demonstrate that commitment. In preparation for a proposed return to operations at a previously mined site, Pamour, the mine has designed and constructed a water collection system to capture run-off with various ditches, excavated sumps, and sheet pile walls. Throughout 2021 and 2022, Newmont invested \$160 million into a state-of-the-art water treatment plant that will facilitate the dewatering of the open pit to allow for resumed operations while providing treatment prior to final discharge. Once operational, the plant will have among the lowest effluent discharge limits in the province within the mining sector and return up to 13 million cubic metres of treated clean water to the Mattagami, Frederickhouse, and Upper Kapuskasing watersheds - significantly improving site water management and supporting local watersheds.

Taken together, these projects demonstrate how industrial and environmental interests can be aligned to create value for northern Ontario. For more than a century, the people who live and work in the Porcupine mining district have transformed natural resources into the vibrant communities that exist today.





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Avalon completes purchase of industrial site in Thunder Bay as key next step in becoming Ontario's first vertically integrated lithium producer

s part of its strategic transformation to become a vertically integrated lithium producer, Avalon Advanced Materials Inc. is pleased to announce the successful acquisition of an industrial site in Thunder Bay, Ont. (965 Strathcona Ave.) which has existing road, rail, deep-water port, and utilities services for its planned midstream lithium-hydroxide (LiOH) processing facility.

The planned facility will ensure the long-term security of domestic lithium processing capacity required for North America's electric vehicle (EV) and battery supply chain, a core objective of both the Ontario and Canadian governments.

"In addition to accelerating onshore EV production capacity, our plan will help achieve a geo-strategic priority for Canada and other G7 nations to establish stable, secure access to refined raw material," said Avalon president Zeeshan Syed. "While there is more work to do with our government and community partnerships, we are confident we will help close the

gap between increasing demand and domestic supply of this key resource and help fortify North American energy security."

Thunder Bay, with a population of 125,000, is strategically located at a provincial midpoint between the resources of the north and downstream EV battery and automotive manufacturing hubs in the south.

"Thunder Bay has long served as a strategic port for Canadian industry, facilitating trade between Ontario's north and the rest of North America," Ken Boshcoff, Thunder Bay mayor, said. "We're thrilled to be partnering with Avalon to continue that tradition while bringing jobs and new economic opportunities to the region."

With the finalization of this site purchase, Avalon's focus moves to build upon its relations with First Nations partners, the local community, and government. Deepening this collaboration is key to ensuring members of the regional ecosystem all benefit from the project and prioritize environmental stewardship. First Nations communities are valued partners, and the company looks

forward to an ongoing dialogue of mutual respect and seeking innovative partnerships in the new green economy.

The company also continues to advance discussions with a range of other parties interested to join in the project and help contribute to the province's industrial competitiveness.

When complete, the integrated project will:

- Create an estimated 500 jobs in the City of Thunder Bay as well as in Kenora, Ont., and their surrounding regions, respectively.
- Enable broader development of northwestern Ontario's lithium assets by producers seeking to utilize the proximity of Avalon's processing capacity.
- Create tangential benefits, including the intention to create a regional critical-minerals innovation and R&D hub in partnership with local university and college stakeholders.
- Create new economic development opportunities for local and regional First Nations communities.

- Demonstrate best-in-class environmental and sustainability process innovation and enable novel Canadian IP.
- Create supply chain efficiencies by connecting lithium assets in the north with regional processing capacity, thus leading to a decreased life-cycle carbon footprint compared to producers who ship raw materials to processing facilities overseas.

Localizing the EV battery supply chain creates a multiplier effect of investment opportunities. In just the few short months since the Inflation Reduction Act (IRA) was passed, the United States has seen more than \$40 billion worth of new investment announcements across the battery supply chain. These investments help spur local economic development by supporting surrounding industries, fostering spinoff entrepreneurship, and contributing to the development of industry

clusters that improve productivity and growth.

The Thunder Bay site acquisition follows Avalon entering a strategic partnership with SCR-Sibelco NV ("Sibelco"), a global leader in materials solutions. The agreement with Sibelco secured \$63 million of new investment to facilitate the development of Avalon's vision of becoming a vertically integrated lithium producer. The transaction, in which Antwerpbased Sibelco received 19.9 per cent of outstanding AVL shares, provides Avalon with a first tranche of funding to advance the firm's lithium production and processing goals across its suite of lithium mineral assets, led by Separation Rapids in northwestern Ontario.

"Sibelco congratulates Avalon on achieving its next strategic milestone of acquiring the Thunder Bay site, strengthening its EVB market focus," said Sibelco chief executive officer Hilmar Rode, "We are proud to contribute and support Avalon through Sibelco's focus on development of the lithium mine JV with the aim to expand the mineral resource and develop the mining operations to meet the needs of the downstream markets in both technical glass and ceramics and the Avalon refinery project."

ABOUT AVALON ADVANCED MATERIALS INC.

Avalon Advanced Materials Inc. is a Canadian mineral development company aimed at vertically integrating North America's lithium supply chain. The company is currently focusing on developing its Separation Rapids Lithium Project near Kenora, Ont. while continuing to advance other projects in its portfolio, including its 100 per cent-owned Lilypad Spodumene-Cesium-Tantalum Project located near Fort Hope, Ont. Social responsibility and environmental stewardship are corporate cornerstones.



Meet the team at Palmer Creative Group



KEVIN PALMER (PARTNER, PALMER CREATIVE GROUP)

Kevin Palmer is a registered professional marketer certified by the Canadian Institute of Marketing in 2007. Kevin has provided marketing expertise to clients in Thunder Bay, Sudbury, Toronto, Vancouver, and across Canada. In addition, the Palmer Creative Group has amassed a large following on social media, including LinkedIn, Facebook, Twitter, and Instagram. Post impressions often see 10,000 to 25,000 views on a regular basis. Being a target marketing specialist in the mining field means that a certain level of trust has already been established with our company and we have an excellent track record of bringing millions of dollars in sales to our clients through our sales and marketing techniques. We gently and professionally interview your existing best clients, utilizing their opinions to help us tell your story best - and use our media excellence to attract the initial attention of your prospects. Our hourly rate is typically \$100 and we have offered retainers to geophysics, geology, mining supply companies, scanning companies, and core tray manufacturers in the past. Our sales and marketing work in the tourism business is somewhat legendary and chalk-full

of heightened participation from lodges/outfitters and massive industry-leading sponsorship negotiations with sport show operators and coverage in television/radio/outdoor/print/ newspaper throughout the U.S. Midwest, Texas, Arizona, and across Canada, Germany, and China. Welcome to the Palmer Creative Group! Many more examples of our work are available at www.youpic.com/kevinpalmer14.



BARRY HARRIS (PARTNER, PALMER CREATIVE GROUP)

Barry Harris owns and operates Majaid Web Solutions, a professional WordPress/ WooCommerce development, integration, and troubleshooting company. Barry has clients across British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Ouebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland. He loves working on problems that are outside of the typical WordPress installation. He thrives on challenges and doesn't stop until he finds a solution. Sometimes, the solution is easy to implement and other times he must write custom code to get the exact functionality required. Barry has installed, configured,

updated, and managed over 350 WordPress websites. His speciality is customizing WooCommerce. He has custom coded solutions for clients who are operating e-commerce sites bringing in millions of dollars each year. As well, Majaid Web Solutions migrates websites between different hosts, modify existing WordPress websites to correct coding errors, upgrade interfaces, and improve overall performance. Barry optimizes web sites for search engine visibility, incorporating Google Analytics and Google Search Console. He also manages the technical integration of thirdparty services such as PayPal, Stripe, Moneris, MailChimp, and Constant Contact. Additionally, he continuously monitors security, hosting, and databases to ensure websites are functioning properly and optimally.



KELLI THOMPSON (PARTNER SPECIALIZING IN VISUAL GRAPHIC DESIGN AND SPECIAL PROJECTS, PALMER CREATIVE GROUP)

Kelli Thompson has been a graphic designer since 2014, with her focus being on print. She has designed for different association magazines including OSSGA and EACO. She

has created and maintained many catalogue guides in the food service industry for sales associations to use while meeting with clients and making it easier for them to get a visual on what they want and how to achieve their goal. She has worked with clients across the country, including in British Columbia, Alberta, Manitoba, and Ontario. She prides herself on having a clean, modern, and eyecatching layout while achieving the look the client desires. She has done logo design, business cards, invitations, flyers, brochures, menus, and full magazine redesigns and layouts.



(CONTENT CREATOR, PALMER CREATIVE GROUP)

Danielle Williams is an accomplished writer, graduate of the University of Toronto, and a full-time freelance copywriter and content creator. In recent projects, she has worked with Lighthouse Immersive and Starvox Entertainment on the Van Gogh Immersive exhibit in Toronto. After

working with Lacure and Storeys, Danielle has become an expert in luxury real estate and vacation rental content - and is now turning her attention towards the mining sector. Her aspirations include creating meaningful and engaging content to build notoriety for brands that focus on equality and sustainability in business. She also engages in creative endeavors in her free time such as writing poetry and creating hand-made ceramics. She is open to exploring innovative opportunities that align with her goals as she continues to grow and find her place in the corporate world. 🛠

For more information about Palmer Creative Group, visit www.awarenessdevelopmentcoordinators.com.





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