B.C. MINING Review

2023 Issue 2

e-newslette

bcminingnews.ca

A look at HydroTech Mining's cutting-edge pumping stations

Osisko Development's Cariboo Gold Project sets new industry standards in sustainability

Exploring Cascade Copper's Rogers Creek Copper Gold Project

AME ROUNDUP.

Registration Now Open

January 22 - 25, 2024
Vancouver Convention Centre East

roundup.amebc.ca

Exploring for Value

IN THIS ISSUE

DEL COMMUNICATIONS INC.
www.delcommunications.com

President & CEO
DAVID LANGSTAFF

Managing Editor
KELSEY JAMES
kelsey@delcommunications.com

Director of Online Marketing & Sales
MIC PATERSON
mic@delcommunications.com

Advertising Manager
DAYNA OULION

Contributing Writers
LOVELY ES AMUAN
GORDON CLARKE

DEL Communications Inc. and bcminingnews.ca are extremely grateful to our advertisers for their support in this publication. Click here to download the media kit..

MESSAGE FROM
THE EDITOR

Kelsey James

Welcome to the second issue of *BC Mining Review* e-newsletter! We have lots of exciting mining content to share and we hope you enjoy the final edition of 2023.

On page 24, Adamera Minerals Corp., a Canadian mineral exploration company known for exploring high-grade gold and copper in Washington State, discusses its exportation approach for the company's large claim block near and adjacent to multiple past producing mines near Hedley including Barrick's Nickel Plate mine. Adamera initiated exploration to locate new mineralization in the region, which also included a recently conducted detailed exploration on a broad area with anomalous copper, tellurium, and gold.

On page 18, you will learn about Romios Gold Resource's work in B.C.'s Golden Triangle, which includes the Trek porphyry property (located along the proposed road route to the Galore Creek deposits). Romios is currently evaluating various options for drilling this exciting target with or without an external partner. The company holds 13 other claim blocks in the center of the Golden Triangle, such as its "Red Line" claims, which is currently the subject of an option agreement with Copperhead Resources Inc.

Women in Mining Canada examines the uses of drones in mining operations and how they can assist in surveying and mapping, monitoring and inspection, and exploration. Nutrien, the largest soft rock miner and potash producer in the world, uses submersible drones to inspect and monitor structures like tanks, pipelines, rake structures, and pond intakes. You can read about this on page 10.

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 contributed a story, including:

- Komatsu
- Discovery Group
- Osisko Development
- HydroTech Mining
- Bit Service
- Mining Industry Human Resources Council
- Acres Enterprises
- British Columbia Geological Survey
- Cascade Cooper

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

Kelsey James
kelsey@delcommunications.com ✪

Understanding PEA, pre-feasibility, and feasibility studies

Preliminary Economic Assessments (PEA), Pre-Feasibility (PFS), and Feasibility Studies serve as economic and engineering evaluations conducted to assess the viability of developing and operating a profitable mining operation on a specific mineral deposit.

PEA and PFS represent the final stages of mineral exploration, acting as crucial transitions that bridge the gap between exploration and advanced development activities, and actual mining operations.

After a junior mining company finalizes a resource estimate, it faces a pivotal choice: either to halt the project, carry on drilling in pursuit of expanding the resource, or move forward by conducting a preliminary economic assessment or pre-feasibility study.

PRELIMINARY ECONOMIC ASSESSMENT (PEA)

Preliminary assessments, also known as scoping studies, serve as an initial evaluation of the economic viability of developing a mine on a mineral deposit. These assessments rely on industry standards rather than specific on-site details such as mining methods, rates of production, recovery, and equipment. This is usually performed to assess whether conducting a pre-feasibility study and, subsequently, a feasibility study is justifiable in terms of cost.

PRE-FEASIBILITY AND FEASIBILITY STUDIES

Pre-feasibility studies are detailed studies that employ project-specific factors and data, in conjunction with industry standards. These comprehensive studies typically encompass various options pertaining to the technical and economic aspects of a project. The primary purposes of pre-feasibility studies are to support ongoing exploration efforts, attract potential joint venture partners, and provide a rationale for advancing to a complete feasibility study.

Full feasibility studies focus on a particular development option and are comprehensive and extensive investigations conducted to validate and support mine development plans. These studies typically serve as the foundation for securing mine financing. During a feasibility study, all facets of the operation are meticulously examined, and the data utilized

to construct the economic model are tailored to the specific deposit under consideration.

Pre-feasibility and feasibility studies yield several crucial outcomes, including the mine's production rate, mine life, metal recovery rate, capital cost, net present value (NPV), and internal rate of return (IRR). These outcomes play a vital role in evaluating the project's feasibility and comparing it to other similar projects.

Komatsu's 980E-5SE ultra-class electric drive mining truck offers the highest-in-class horsepower available

Komatsu's 980E-5SE is designed with a high-performance 4,400-HP engine for greater productivity.

Redesigned, ergonomic automotive-style cab offers an upgraded driving experience

The economics of surface mining require the highest production at the lowest lifetime cost per ton (CPT). By combining outstanding build quality with multiple features designed to improve fuel efficiency and reduce downtime, the 4,400-HP Komatsu 980E-5SE electric drive mining truck offers increased speed on grade in deep pit applications. The truck's redesigned ergonomic automotive-style cab works to increase operator comfort and lessen driving fatigue.

Leveraging Komatsu's electric drive truck experience, the 980E-5SE offers the highest-in-class horsepower available on an ultra-class truck. Engineered to promote increased productivity and a reduced carbon footprint, the 980E-5SE's electric drive means fewer mechanical components, less maintenance, and potentially reduced life cycle costs.

Quick specs for the 980E-5SE electric mining truck:

- Gross horsepower: 4,400 HP (3,281kW) @ 1,800 rpm
- Operating weight: 1,400,000 lbs (635,029 kg)
- Capacity: 400 st (363 mt)

When cycling through big loads, durability is key. The 980E-5SE was developed using advanced computer-aided design, finite element analysis, and full-scale dynamic testing. Its truck frame is verified to carry a rated payload with the utmost structural reliability.

CRUISE AND TRACTION CONTROL

Automotive-style cruise control governing acceleration and deceleration helps operators maintain a constant speed while concentrating on steering and situational awareness. Traction control helps operators stay on task

and operate more efficiently, even in slippery conditions. Wheel traction control technology detects and corrects wheel spin or slide events and engages automatically and independently of the service brakes.

MONITOR EFFICIENCY WITH PAYLOAD DATA

To support increased production and optimized payload, Payload Meter IV (PLM IV) can help maximize cycle efficiency to reduce the machine's life cycle costs. Standard on Komatsu mining trucks, PLM IV tracks and records key production parameters, including payload weight, empty carry weight, haul cycle time, average speed, and much more.

Learn more about how Komatsu's 980E-5SE electric drive ultra-class truck can help mines reach higher production and lower lifetime cost per ton (CPT) by visiting our website.

(Note: all comparisons are to the prior Komatsu model unless otherwise specifically stated).

ABOUT KOMATSU

Komatsu develops and supplies technologies, equipment, and services for the construction, mining, forklift, industrial, and forestry markets. For more than a century, the company has been creating value for its customers through manufacturing and technology innovation, partnering with others to empower a sustainable future where people, business, and the planet thrive together. Front-line industries worldwide use Komatsu solutions to develop modern infrastructure, extract fundamental minerals, maintain forests, and create consumer products. The company's global service and distributor networks support customer operations to enhance safety and productivity while optimizing performance. To learn more, visit www.komatsu.com. ✪

Above left: Osisko's ore sorter.
Right: Osisko's Sandvik roadheader.

A new age of mining

Osisko Development's Cariboo Gold Project set to lead a generational change in mining, setting new industry standards in sustainability

A small town in rural British Columbia is on the cusp of hosting an exciting project that will set new standards for sustainable development in the extraction industry.

Wells, B.C. is the home of Osisko Development's Cariboo Gold Project and, in October 2023, it was the first project to meet the rigorous requirements set out by the province's updated and strengthened Environmental Assessment Act.

The project – a gold mine – takes the community back to its historic gold mining roots, but with an innovative vision.

In addition to major environmental and safety commitments, the project aspires to be fully electric, relying on an electric fleet of vehicles and equipment, with the intent of using electricity exclusively for all energy needs.

A CLEANER, QUIETER, GREENER MINE

The Cariboo Gold Project will make full use of Osisko's substantial investments in industry-leading clean technology. Everything from the mining equipment, the treated water, and the tailings will be optimized to be cleaner and greener.

The project benefits from substantial government support for greener technology and received grants to produce a Feasibility Study for the complete electrification of the mine. It also received a government grant for the connection to the B.C. Hydro grid.

This commitment will result in the project producing substantially less greenhouse gas than conventional mines. This includes bringing in clean hydroelectric power to the mine site as an alternative to diesel generators.

As the project advances, the company is making major investments to protect employee safety and improve environmental sustainability. Osisko is using the Sandvik RoadHeader, which is fully electric, autonomous, and can tunnel underground without the need for explosives. This results in a quieter and more environmentally friendly mine all the while allowing the crew to operate the equipment more safely from a distance.

Having tele-operation and autonomous equipment means the Cariboo Gold Project will be a more inclusive mine.

"Equipment will be operated from a control centre on the surface, providing opportunities to a wider and more diverse workforce," said François Vézina, Senior Vice-President of Technical Services and Environment at Osisko. Individuals with mobility issues, who have historically been excluded from the mining industry, will also be able to earn a good wage in an industry-leading project.

A COMMITMENT TO CLEANER TAILINGS

The company is setting the bar higher for itself to substantially reduce tailings. In addition to storing the tailings at a previously used facility (preventing the need for development of a new site), the project will make use of

The company is setting the bar higher for itself to substantially reduce tailings. In addition to storing the tailings at a previously used facility (preventing the need for development of a new site), the project will make use of cutting edge – literally – technology.

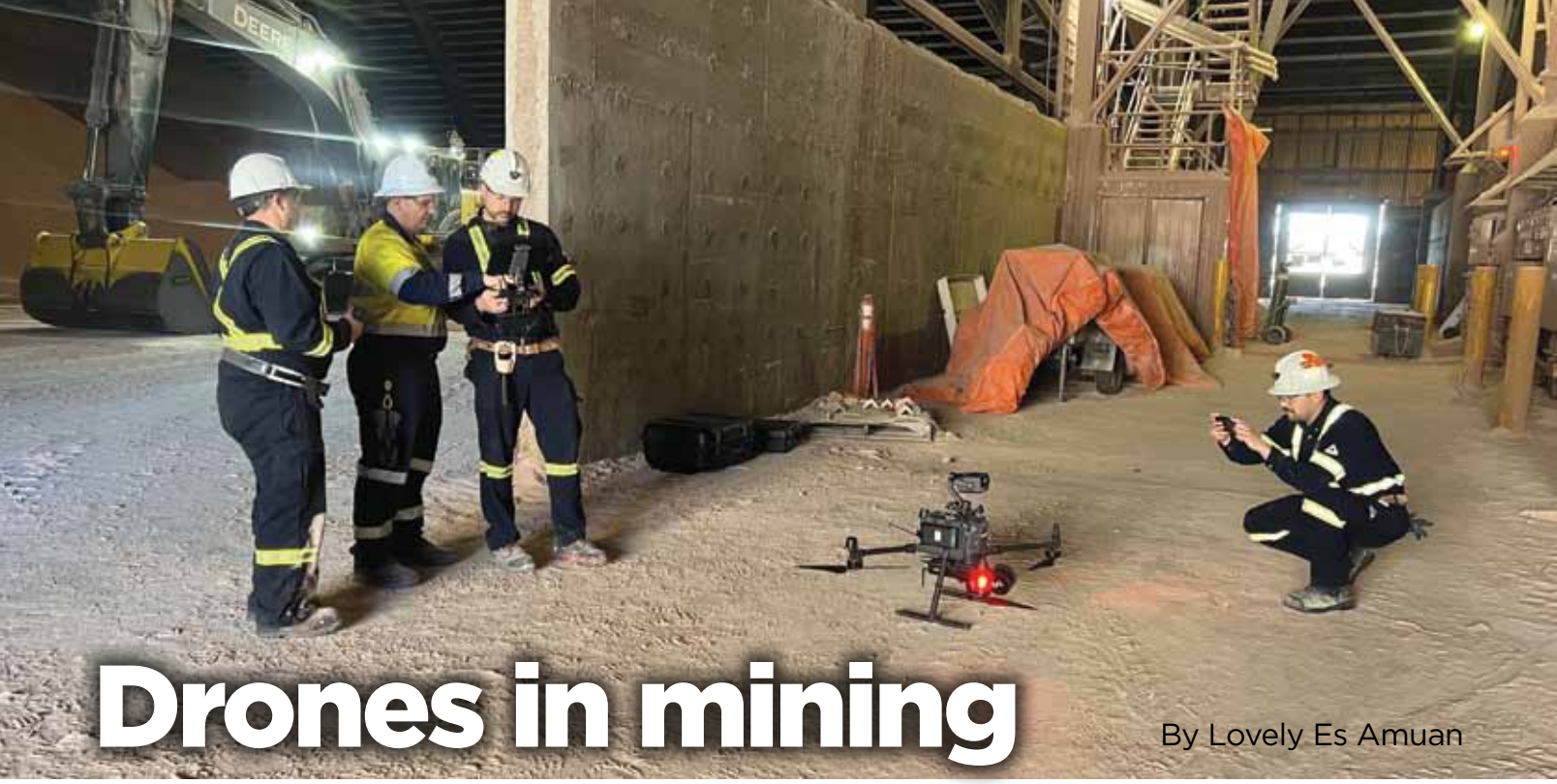
cutting edge – literally – technology. Thanks to favorable mineralogy, ore can be sorted by density. The X-ray technology sorts extracted rock by separating barren rock from ore, reducing by roughly 50 per cent the ore required to be processed conventionally. The use of this technology means only 13 per cent of all extracted rock will generate tailings to be stored as filtered tailings. The rest of the sorted material will be used at the project site.

Sean Roosen, Chair and CEO of Osisko, sees another positive to the cutting-edge technology, saying that it will "enable us to substantially reduce the amount of process water, chemicals, and energy required in comparison to conventional processing. These industry-leading standards allow us to mine cleaner."

MINING DONE RIGHT

Since day one, Osisko's Cariboo Gold Project has been considerate of the environmental impact of mining. The company is committed to doing mining the right way and continuing to engage with all stakeholders. Today, that means proactively ensuring any project puts sustainability at the forefront of its mandate. The company has pledged to build on its legacy of environmental stewardship through the Cariboo Gold Project, and to continue the long legacy of gold mining in the region. ✪



Drones in mining

By Lovely Es Amuan

As the world's population grows, the demand for products and services increases accordingly. Businesses constantly seek ways to enhance operations and improve production efficiency to meet demands. In today's market, many companies are turning to technology to achieve this goal, and one such technology that is gaining popularity is drones.

Drones, also known as unmanned aerial vehicles (UAVs), were primarily built for military use but have become increasingly prevalent across various industries. Drones come in multiple sizes, ranging from the size of an aircraft to the size of a palm. Drones have proven valuable in mining operations, serving various purposes such as surveying and mapping, monitoring and inspection, and exploration.

Mining operators have traditionally used expensive and inefficient surveying and mapping methods. To overcome these limitations, corporations like Nutrien, a globally renowned potash producer, have purchased the DJI Matrice 300 RTK drone, which is equipped with AI technology and Emesent Hovermap leverages simultaneous location and mapping (SLAM) technology and Light Detection and Ranging (LiDAR) to ensure safe navigation in areas where GPS signals may be obstructed above the surface.

It is also essential to prioritize the safety of workers in the mining industry given the inherent hazards present, including rock falls, gas leaks, dust explosions, and high humidity. Regular monitoring and inspections of the environment are critical in achieving this goal. Nutrien successfully addressed these challenges by incorporating innovative drone technology, leading to more frequent and comprehensive safety checks.

Nutrien uses submersible drones to inspect and monitor structures like tanks, pipelines, rake structures, and pond intakes. To perform underwater work, Nutrien chose a Deep Trekker remotely operated vehicle (ROV) for its excellent quality, availability, and service. Initially, Nutrien purchased the Pivot ROV base model but upgraded it in 2022 with ultrasonic thickness measurement capabilities, a sediment blaster, a grabber claw, and sonar to enhance navigation in cloudy or murky conditions. This inspection and safety strategy has proven to be a cost-effective and efficient solution.

Nutrien has also acquired Mavic 2 Enterprise and Elios 2 drones to capture high-quality 4K images and videos and inspect hard-to-reach areas. For instance, during the 2020 fire incident at the Vanscoy mine site in Saskatchewan, the Mavic 2 Enterprise was deployed for outdoor structural assessment, while the Elios 2 was flown indoors to assess the damage and perform an initial evaluation before allowing workers into the building. The Elios 2, upgraded to Elios 3, has also been used for underground inspections requiring more specific and confined space assessment.

Lastly, exploration is crucial for mining companies to locate minerals before extraction. Therefore, drones have become an indispensable tool to cover extensive land areas in an efficient amount of time. By analyzing the data obtained from these drones, mining companies can quickly determine areas suitable for extraction and those that require further exploration. Drones also play a critical role in ensuring the safety of mining sites by detecting gas leaks and other potential hazards on the surface and subsurface. Miners can be alerted using advanced sensors, such as infrared cameras, giving them the necessary time to take prompt action and prevent potential incidents.

Unmanned aerial vehicles, commonly known as drones, have many uses, such as surveying, mapping, inspection, and exploration. Drones play a crucial role in providing valuable insights and data, which helps improve productivity and efficiency. Nutrien, a leading Potash producer, has successfully integrated drones into its mining operations, a testament to the technology's effectiveness. As the demand for drone technology increases, we look forward to witnessing further innovative applications in the industry. ✪

A comprehensive overview of our cutting-edge pumping stations

The mining sector is always looking for innovating solutions to operational challenges, to increase productivity while reducing cost. At HydroTech Mining, we were honoured to be chosen by our client to work on their reclaim water pump project. We knew it was going to be a technical and engineering challenge, but we were happy to tackle it and innovate.

The reclaim water pump project consist of two custom buildings each equipped with a split case centrifugal pump, an 800-horsepower motor, a driving system, piping, and electrical distribution ranging from 4160V to 120/208V. Couple with those buildings, there is two pontoons or raft equipped with a submersible pump and two de-icing agitators for winter use. The general concept of the project is to feed the water to the mill using two submersible pumps feeding two pumping stations put in series to overcome the static pressure.

The need of the project was to pump water from the reclaim pond

to the mill at a flow of 1070 m3/h while fighting a pressure loss of 317 meters of head. To meet this duty point, we knew we had to propose an innovative system to be able do it effectively and reliably in a rather remote location where maintenance is harder to do. During the design phase, we had tackled the potential vibration issue with having a big motor and a pump moving a large volume of water. We found that the most cost-effective solution was to have a reinforced concrete floor in the two mobile pumping stations to have weight and remove vibrations. The additional weight would generate additional strain and load to the building structure specially during lifting. We then had to design a structure capable of withstanding the load with no deformation.

Another challenge we faced was the drainage of the line in the event of a power outage. Since the two main pumping stations are in series, there were potential problems with a pump having a lot of pressure near shutdown. We have added special valve and directive in our control philosophy to prevent it from happening. We also added a drainage line with automatic valves in each station. The challenge to find a solution was not technical, but more physical; meaning, we did not have a lot of available space in the station due to having already a big pump, motor, and 12-inch piping line with valves, check valve, and instruments like flow meter. A few iterations were needed to find the best position for each instrument, valves, and pipe location to be in accordance with the best practices.

The reclaim water pump project ranged over a year passing through early design, applying requested changes, redoing the design, optimizing the structure to be the most cost efficient, adding electrical equipment, approbation of the design, fabrication, inspection, and testing. We are almost at the end, waiting for the moment to push the start button and see a year's work of so many dedicated people in action. HydroTech Mining as a company was honoured to have the opportunity to work on this challenging project and to be able to tackle technical issues that gave it an opportunity to grow and develop new ways to do dewatering better. ✪

Belt scraper innovation

On the important topic of reliability, we want to address the maintenance and protection of the conveyor belt system. When optimized, conveyor belts are the standard for moving bulk material around and out of a mine, through the processing plants, and out the loadout. However, when not optimized, they are subject to sticky material adhesion issues, material spillage at transfer points, and generate dust underground.

For years, these troubling conveyor issues were observed by our personnel when underground and visiting sites, and in many cases the mines had just evolved to deal with it in creative ways. In an effort to improve and even solve these conveyor maintenance issues, we came to meet and partner with STARCLEAN® as we were amazed by the technological advances the company had made in the areas of conveyor tending equipment.

Most impressive in STARCLEAN®'s innovative collection are its clever versions of belt scrapers and cleaners. Finding these were fortunate, as the biggest issue maintenance planners and engineers had reported to us was that the mine site did not employ belt scrapers for removing adhered material. There were legitimate reasons for not doing so, such as existing damage to belt coverings of the use of mechanical belt splices. In either case, the predicament remained: These workers had tried a scraper in the past, and the aggressive nature of the scraper would compromise the splice or peeled belt cover, risking tearing the belt.

This is exactly why we were so impressed with the unique design of the STARCLEAN® belt scraper. Not only does the scraper employ a variable tensioning system to keep the scraper blades on the belt, but the individual scraper segments on each scraper blade provide their own tension and articulation. This allows for the required flexibility to both remove adhered material from the belt, as well as articulate over and avoid damaged areas and splices. A feature loved by maintenance staff is that the worn scraper

Not only does the scraper employ a variable tensioning system to keep the scraper blades on the belt, but the individual scraper segments on each scraper blade provide their own tension and articulation.

blade segments do not require any tools when replacing, which reduces the time for the job, and increasing safety.

A recent and further innovation on the belt scraper from STARCLEAN® is the Smart Scraper. This unique system with electric drive, in combination with their smart cloud dashboard, enables early detection of damage to the conveyor belt and predictive repair of the segments through automatic wear detection. Thanks to the digital innovation, the scraper has the ability of self-regulating wear behaviour, and at the same time, enables an optimized pre-tensioning force, completely automatically.

What this means to the mine's maintenance program is that it provides continuous monitoring of the conveyor belt. The information collected can classify any discovered damage to the belt in terms of severity, detect the position of the belt damage, and initiate user-determined functions based on alarm level. The collected data of damaged belts, wear status, and other information will share via cloud services, accessible from any browser via log-in.

This represents the next level in belt monitoring, and with it, empowers the site operators to predict conveyor belt issues before they cause extensive downtime from a failure.

At Bit Service, we are excited to bring innovations like these to the mining sector, and are eager to discuss how we can help apply this innovative technology to your material handling system. Contact our technical representatives to see how we can apply this to begin providing advanced protection to your existing and upcoming conveyor systems. ✪

Persistence paying off for Romios Gold in the heart of the Golden Triangle

Romios Gold Resources Inc. has been exploring in the centre of BC's Golden Triangle since 2005 and now owns 473 square kilometres of highly prospective claims situated between Eskay Creek, KSM, and Brucejack to the south and Galore Creek and Schaft Creek to the north.

The company's most advanced project is the Trek porphyry property (located along the proposed road route to the Galore Creek deposits) where drilling from 2008 to 2011 partially outlined the Trek North alkalic porphyry Cu-Au-Ag deposit which remains open at depth both vertically and down-dip. In recent years, melting of a nearby glacier at Trek South has revealed a one-kilometre-wide network of Cu-Au-Ag bearing pyrite-quartz veins and an extensive epidote alteration zone, suggestive of a buried porphyry copper system.

- An IP survey undertaken over this alteration zone in 2022 identified a strong chargeability high (≥40 mV/v), indicative of sulphide mineralization, and a coincident resistivity low, over a strike length >850 metres. The IP anomaly widens quickly at shallow depths to 500 metres and continues to a depth >650 metres. A subsequent

magnetotelluric (MT) survey indicates that this sulphide zone continues to a depth of about two kilometres.

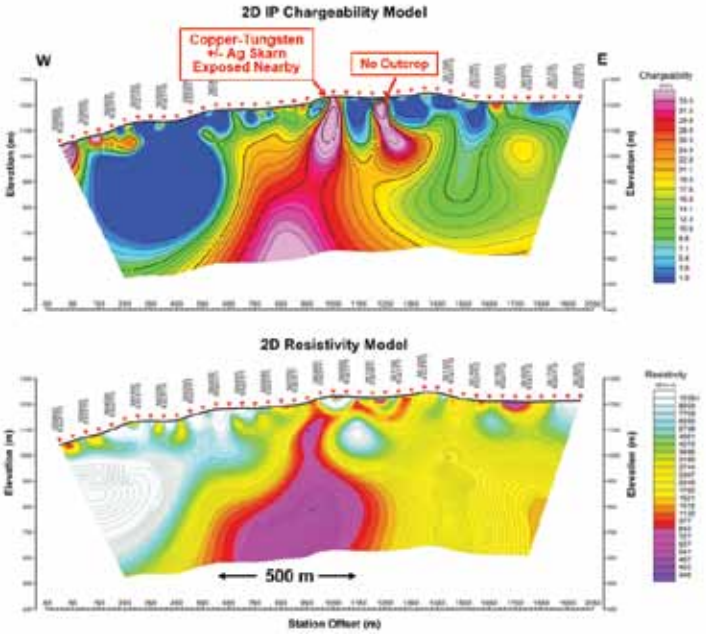
- 3D modelling of an aeromagnetic survey supported the presence of a one-kilometre-wide pluton beginning about 200 metres below surface.
- In 2022, an extensive series of copper-tungsten bearing skarn outcrops were discovered across an area 175 x 250 metres. Even though these skarns are 200 to 300 metres from the suspected pluton, numerous samples returned assays averaging 0.24 per cent WO3 and 0.27 per cent Cu, providing further support for the presence of a well mineralized porphyry system at depth nearby.

The Trek South porphyry prospect has never been drilled and Romios is currently evaluating various options for drilling this exciting target with or without an external partner. This site is not only <2 kilometres from the partially cleared access road to the Galore Creek deposits, but it is also within sight of the proposed Galore Creek mill site 13 kilometres away.

In addition to the Trek North and South porphyry prospects, Romios owns the JW porphyry occurrence located six kilometres NW of Galore Creek. This two kilometre long, multi-phase pluton is exposed along its margin in a series of highly epidotised, locally copper bearing outcrops and is surrounded by a number of high-grade Au-Ag veins (e.g. 31.8 g/t Au over 2.4 metres). Historic drilling on the southern fringe of this pluton returned 45 metres @ 0.24 per cent Cu in a porphyry setting. The main body of the pluton has not been drilled, however, and presents another high-potential target.

Romios holds 13 other claim blocks in the centre of the Golden Triangle. These cover a variety of early stage prospects and include the North West block, where sampling of quartz veins in 2022 returned numerous high-grade gold assays up to 72.6 g/t Au, and the adjacent Royce claim which has so far returned elevated gold (0.45-2.2 g/t Au) and copper (0.1-1.37 per cent Cu) in scattered outcrops over an area 100 x 75 metres.

Romios' "Red Line" claims, currently the subject of an option agreement with Copperhead Resources Inc., are located 26 kilometres north along strike from the former high-grade Eskay Creek Au-Ag mine and cover some of the same stratigraphy. Work in 2023 has located three highly prospective intrusions on these claims, including a



coarse K-feldspar porphyritic syenite with extensive pyrite gossans. This pluton visually appears to be very similar to those at Galore Creek and Enduro Metals' Burgundy Ridge prospect.

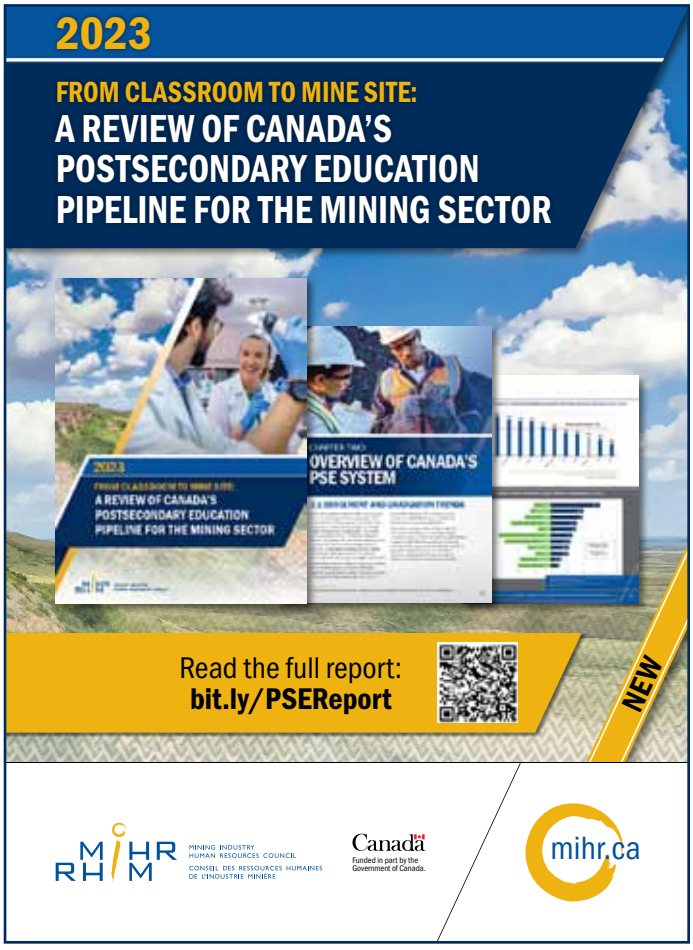
For further information on Romios' projects, please visit www.romios.com. ✪

New study and polling shed light on challenges faced by mining-centric post-secondary education programs

By the Mining Industry Human Resources Council (MiHR)

Mining has grown increasingly reliant on workers with specialized skills. As industry has become more technologically advanced, the need for workers with post-secondary education (PSE) has become more important.

As the world begins to shift to low-carbon technology and infrastructure, demand for critical minerals is expected to increase substantially in the coming decades. To support this expansion and avoid ongoing labour shortages, Canada's mining sector will need a robust pipeline of qualified and skilled workers. As such, a well-functioning PSE system is vital for the sustainable growth of the industry.



The Mining Industry Human Resources Council (MiHR) recently released a report titled "From Classroom to Mine Site: A Review of Canada's Post-Secondary Education Pipeline for the Mining Sector," which delves into the PSE system and its capacity to support Canada's mining labour market.

Through in-depth interviews and quantitative data analysis, the report sheds light on the challenges faced by mining-centric PSE programs and offers strategic guidance to address them. These challenges include declining enrolments in mining programs, their geographical concentration, unresponsiveness to labour demand, and struggles with diversity. Three critical occupations in the mining industry – mining engineers, geologists, and mining technicians – were selected as case studies to better understand their specific difficulties.

In 2020, MiHR undertook mining perception polling with 3,000 youth aged 15 to 30 and recently completed a second polling exercise with 1,500 youth to build on the previous results. Mining continues to be viewed less favourably among those polled compared with other sectors, but there has been a slight increase in positive perceptions from 24 per cent in 2020 to 27 per cent today.

Report findings show that negative connotations surrounding the mining industry, shaped throughout people's formative years, discourage PSE entrants from considering mining-related programs. According to MiHR's polls, young Canadians view mining as the least desirable industry in which to work. These

Through in-depth interviews and quantitative data analysis, the report sheds light on the challenges faced by mining-centric PSE programs and offers strategic guidance to address them.

negative views are often reinforced by parents, teachers, academic and community leaders, and the media, who may themselves hold an unfavourable opinion of the industry.

Based on these findings, some of the recommendations include providing youth with mine visits and interactions with professionals to better understand what the mining industry entails; fostering teachers' enthusiasm and knowledge about mining as well as related careers through curriculum changes; arranging speaking opportunities involving diverse industry ambassadors able to engage various groups and showcase the sector; incorporating preliminary courses or exposure to mining in common first-year engineering programs; and providing incentives for industry professionals with practical mining expertise to participate in developing and updating mining program curricula.

To learn more about these challenges and recommended solutions, please visit www.mihr.ca to download the report.

ABOUT MIHR

MiHR is Canada's knowledge centre for mining labour market intelligence. An independent, non-profit organization, MiHR drives collaboration among mining and exploration companies, organized labour, contractors, educational institutions, industry associations, and Indigenous groups to identify opportunities and address the human resource and labour market challenges facing the Canadian minerals and metals sector.

The multi-faceted solution for tailored mining services

Every client has a unique set of needs; Acres Enterprises understands that and tailors services to meet those specific demands. Acknowledged as the "multitool" of contractors, Acres has solidified its reputation by adeptly customizing an extensive array of services to meet those distinctive needs of each client. In the realm of mining operations, precision, versatility, and adaptability stand as essential cornerstones for success. Acres, a distinguished player in the field, comprehends this fundamental necessity, aligning its business model with the ethos of personalized service delivery.

This year, Acres was requested to provide construction and maintenance services for

underground work. As a result, they invested in equipment, training, and personnel to deliver a wide range of services for the client. Now, they offer support directly to mine development and construction including – but not limited to – rock anchor installation, grouting, concrete construction, structural and hoisting installations, access doors, shotcrete, and other miscellaneous needs. With a specialized team completing technical scopes of work, theses services allow Acres' clients to focus on what they perform best and increase efficiency.

The pivotal essence of Acres' approach lies in understanding and catering to the unique requirements prevalent at various mining sites. Embracing this, the company has strategically designed its business model, ensuring a suite of services meticulously aligned with individual client demands. This diverse suite of services stands as a testament to Acres' commitment to facilitating its clients in focusing on their core strengths while ensuring amplified operational efficiency through the adept handling of more technical scopes of work.

Acres Enterprises understands the inherent risks associated with the mining sector. With teams that operate underground as well as above, they have implemented rigorous safety protocols and provide regular training to their workforce, ensuring that every employee is equipped with the necessary knowledge and skills to perform their tasks safely. By maintaining the highest safety standards, Acres Enterprises not only protects its workers but also instills confidence in its clients, leading to successful partnerships and project outcomes.

Partnering with Acres translates to harnessing the expertise of a diversified team of professionals. This team is primed to navigate the intricacies of mining operations, guaranteeing project delivery punctuality, adherence to budgetary constraints, and incident-free endeavors. By tailoring services to the specific needs of each client, Acres emerges not merely as a contractor but as a strategic ally, ensuring seamless operations and unlocking the potential for unprecedented success in the dynamic realm of mining. ⚒

Rogers Creek Copper Porphyry Project

Cascade Copper Corp's (CASC:CSE) Rogers Creek Copper Gold Project is comprised of eight contiguous mineral claims covering approximately 82.34 square kilometres. The Rogers Creek project is located within southwestern British Columbia 25 kilometres southeast of Pemberton and is being explored for porphyry and epithermal-style copper, gold, and molybdenum mineralization associated with intrusive activity that is part of the post-accretionary Tertiary age Cascade Magmatic Arc. Several very large porphyry and epithermal deposits occur within the Cascade Belt in neighbouring southeast Alaska and Washington State and in other similar aged magmatic belts around the world. This project has the potential to host large tonnage porphyry style mineralization.

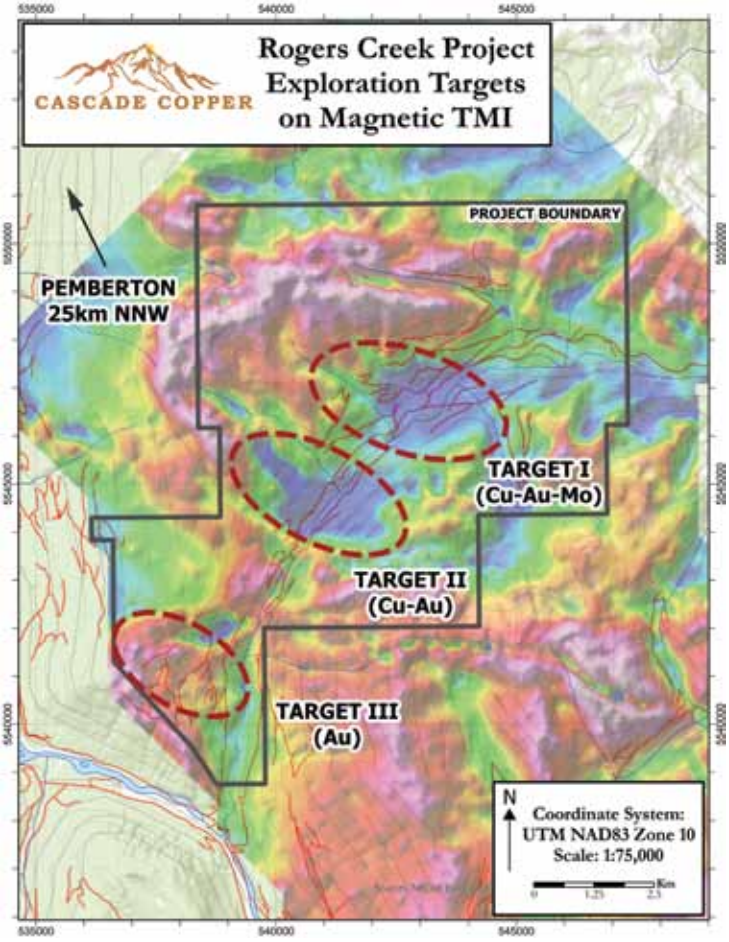


Figure 1: The Rogers Creek Property located southeast of Pemberton, B.C., showing priority targets areas for exploration.

TARGET 1

The Target 1 area at Rogers Creek has been identified by eight lines of Induced Polarization (IP) surveys that were completed over several campaigns between 2009 and 2019. A compilation and modelling exercise of the IP data has been combined and modelled by 3D Inversion. This new inversion model shows two large >500 metre wide, 30ms chargeability anomalies in the centre of Target 1 encompassed by a broad >two kilometre wide, 20ms isoshell interpreted to represent mineralized porphyry centres and their associated phyllic alteration halo. In addition to the IP, previous soil and rock sampling have returned over 500ppm Cu in soil and over one per cent Cu in rock grab samples. Geological and alteration mapping has indicated porphyry style veining with propylitic, phyllic, and potassic alteration on surface. Mineralization observed in historic drill core directly correlates with the IP chargeability highs, which together with the surface mapping indicate a "buried" porphyritic body at Target 1.

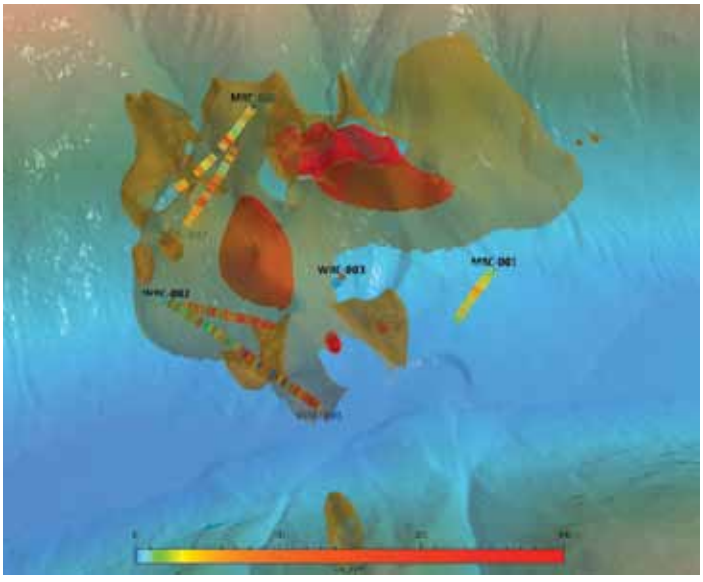


Figure 2: Historic drilling intersected significant copper and gold mineralization but "skirted" the higher IP chargeability anomalies that are interpreted to represent the core of the mineralized porphyry system. Image shows an oblique 3D image of the 30ms IP chargeability isoshell in red and the 20ms isoshell in brown below the surface at Target 1.

PREVIOUS DRILLING

Previous diamond drilling at Target 1 intersected wide intervals of copper mineralization, especially when nearing chargeability highs. Several historic drill holes intersected significant intervals of gold enrichment. Drill hole MRC-007 intersected over 150 metres of elevated copper including 0.172 per cent Cu over 12.3 metres and WRC-002 intersected 0.2

g/t Au over 120 metres including 1.05 g/t Au over 13.5 metres. These two holes were drilled pre-IP surveying and targeted below known surface mineralization. It is important to note that these two holes were drilled the closest to the current priority chargeability anomaly at Target 1 and coincidently returned the best copper and gold values. None of the historic drilling has intersect the core of either IP anomaly. The company believes that these holes only "skirted" the periphery of the larger mineralized system.

PLANNED DRILLING

Cascade Copper plans to drill test the higher chargeability anomaly centres at Rogers Creek Target 1 to investigate the interpreted copper porphyry system. Drilling will focus on intersecting the deeper IP anomaly centre where surface investigation has indicated D-type porphyry veins, copper mineralization, and significant porphyry style alteration above and peripheral to it. As well, historic drilling has encountered copper and gold mineralization when in close proximity. A two to three hole, 1500 metre program is planned and the collars for the holes will be set on existing forestry access roads allowing for higher cost efficiency and lower impact. The drill permitting process has been initiated.

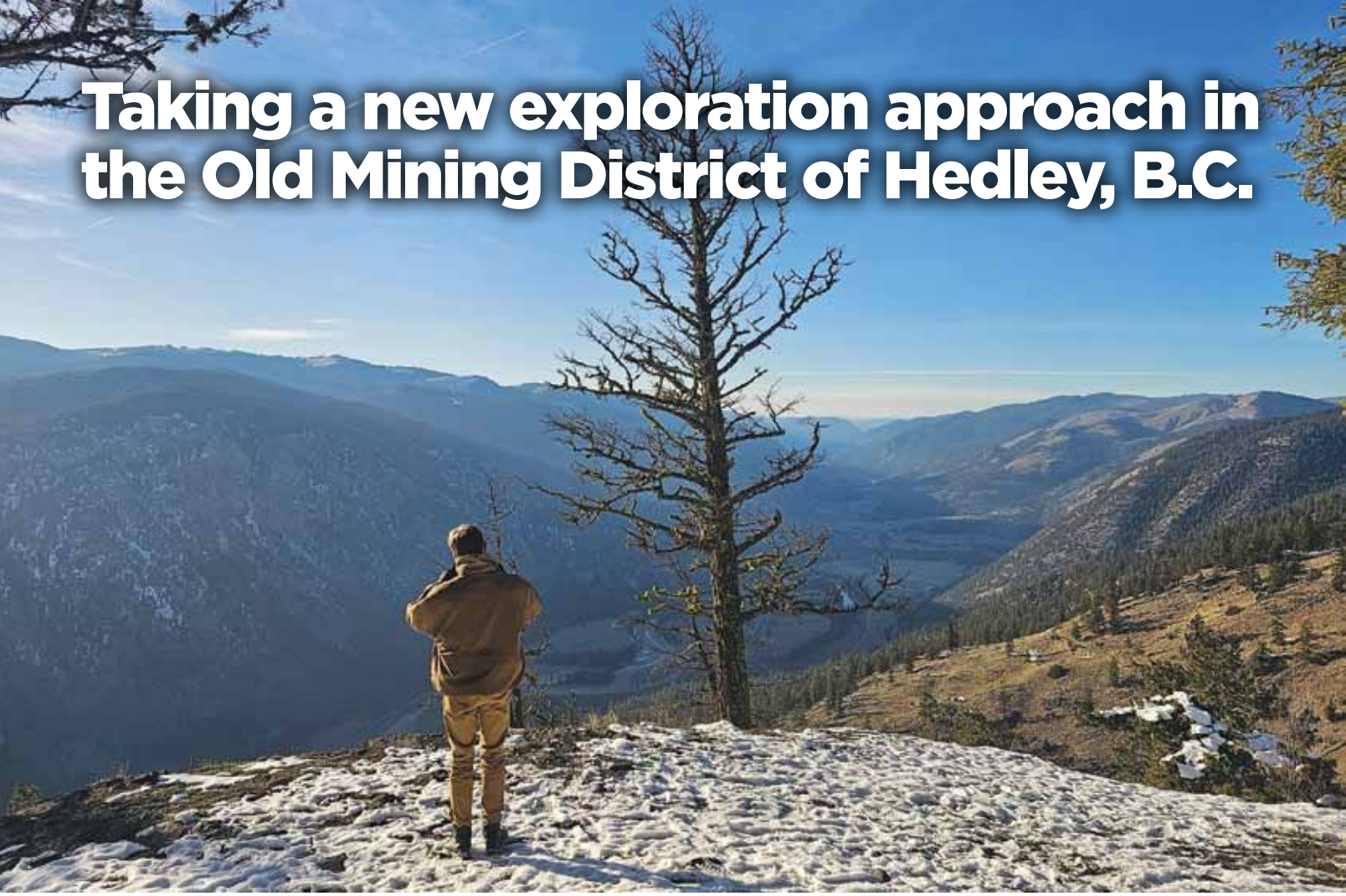
The qualified person responsible for the technical content of this press release is Shannon Baird, P.Geo, Vice President Exploration of Cascade Copper Corp.

ABOUT CASCADE COPPER

The corporation is an exploration stage natural resource company engaged in the evaluation, acquisition, and exploration of mineral resource properties with the intention, if warranted, of placing them into production. Cascade is focused on exploration, development, and acquisition of quality exploration properties. More specifically, Cascade's objective is to conduct an exploration program on its flagship Rogers Creek Property located in the Coast Mountain Belt of British Columbia about 90 kilometres northeast of Vancouver in the Southwest Mining Region. Cascade currently now has four projects, including the Copper Plateau Copper-Moly Project, Fire Mountain Copper-Gold Project, the Bendor Gold Project, and the flagship Rogers Creek Copper-Gold Project.

For more information, please contact:
Jeffrey S. Ackert, President and CEO
820-1130 West Pender St., Vancouver, BC V6E 4A4
T: 1-613-851-7699 | E: info@cascadecopper.com
www.cascadecopper.com

Taking a new exploration approach in the Old Mining District of Hedley, B.C.



Adamera Minerals Corp, a Canadian mineral exploration company, known for exploring for high-grade gold and copper in Washington State, has brought its style of exploration back to Canada just north of the USA border. Exploring mineral properties adjacent to or near past producing mines and leveraging existing infrastructure has been a long-time strategy for the company in Washington State, a tactic Adamera has now implemented in Southern B.C. near Hedley.

In the past couple of years, Adamera has steadily amassed a large claim block near and adjacent to multiple past producing mines near Hedley including Barrick's Nickel Plate mine. After staking, Adamera initiated exploration to locate new mineralization in the region. The size of the land package clearly demonstrates Adamera's commitment to the district and its confidence in generating targets and discovering new deposits.

Located 38 kilometers east of Princeton along Highway 3 in the Similkameen Valley is the quiet village of Hedley. Amazing rock formations, historic monuments, old mining structures perched on near vertical rock cliffs of Nickel Plate Mountain provide clear signs of an industrious gold mining past. Gold was first discovered at Hedley in 1898. Mining began in 1904 at the Nickel Plate Mine and in 1935 at the Mascot mine. Mining continued until 1955. Ore grades of 17 g/t to 13 g/t were mined underground from approximately 200 kilometers of tunnels and excavations. The Nickel Plate Mine began operating again in 1986 until 1996.

The Hedley gold district has produced more than 2.5 million ounces of gold and for nearly a century was one of B.C.'s most important gold producing areas. This part of southern B.C. is also well endowed with respect to copper which is currently being mined less than 20 kilometres to the west at the Copper Mountain copper mine, operated by Hudbay Minerals Inc.

"Mineral deposits are rare, forming in areas with specific geological conditions. Where these conditions exist, mineral deposits typically occur in multiples. Therefore, the best place to look for a mine is next to a mine and Hedley is clearly one of these

areas," said Adamera Minerals Corp. president and CEO, Mark Kolebaba.

Adamera's interest in the Hedley area began a couple years ago when it recognized key geological similarities with its Washington State projects. Since that time, Adamera has acquired more than 22,000 hectares of mineral rights in the Hedley area. The claim block covers at least 10 known mineral occurrences and is adjacent to several past producing mines. An exploration strategy and methodology developed over a decade working in the similar geological setting of Washington state provides Adamera with an immediate strategic advantage at Hedley.

Despite the historic mining activity around Hedley, there has been very little modern exploration in the past 30 or more years. Extensive areas with overburden cover are greatly underexplored and represent the best exploration opportunities for Adamera. In areas lacking outcrop exposure, classic prospecting techniques of the past would have been ineffective in identifying covered mineralization. Adamera has taken a fresh exploration approach and is deploying modern geochemical and geophysical methods to find buried and previously undetected mineralized zones.

Adamera initiated exploration with regional property scale sampling and prospecting methods to define broad areas with greater mineral potential. This work has identified more than 10 new zones with subtle geochemical anomalies.

The company has recently conducted detailed exploration on a broad area with anomalous copper, tellurium, and gold. To further evaluate this area, additional soil sampling methods coupled with comprehensive ground magnetic and VLF-EM surveying was conducted. The results of this work have identified at least four new significant zones of interest, including a zone with 1.34 g/t gold in soil within a linear topographic feature. Several lines of self-potential and more detailed VLF-EM surveying was carried out over new discrete anomalies as initial follow-up work and drill targets are developing.

Adamera Minerals Corp. is a Canadian company trading on the TSX-Venture exchange under the symbol ADZ. For more information, visit www.adamera.com. ✪

Copper, British Columbia's most abundant critical mineral

By Gordon Clarke, Director Mineral Development Office, British Columbia Geological Survey

Low-carbon energy technologies require raw materials produced by mining. The global demand for these raw materials, currently referred to as "critical minerals," is projected to increase significantly in the next several decades and shortages may result. Based on specific demands and vulnerabilities to supply, different countries have produced different critical minerals lists. Canada's list, released in 2021, includes a suite of 27 elements, two groups of elements (platinum group metals and rare earth elements), and two minerals (fluorspar and potash). The list is considered critical for the continued economic success of Canada as it transitions to a green economy.

Of the elements on the Canadian critical minerals list, British Columbia mines currently produce copper, molybdenum, and zinc. The province also has near-term potential to produce nickel, rare earth elements, niobium, magnesium, and tungsten and potential for chromium, cobalt, graphite, platinum group metals, scandium, tantalum, and vanadium (as primary or accessory commodities). Other critical minerals may also be produced as by-products.

By far, copper is the most significant item on Canada's critical mineral list produced in the province. British Columbia is Canada's largest producer of copper, typically accounting for almost half the national production, and copper typically makes up close to 30 per cent of the total provincial mine production value, second only to metallurgical coal. Of the nine major producing metal mines in British Columbia, eight produce copper. Of these, seven are porphyry deposits and one is a volcanogenic massive sulphide (VMS) deposit. Proposed mine projects include large porphyry deposits (Galore Creek, KSM, and Kemess Underground) and one VMS deposit (Kutcho). Advanced porphyry deposit projects with reported resources include Schaft Creek, Tatogga, Kwanika, Lorraine, Woodjam, Ootsa, Berg, Lac La Hache (Aurizon South), and North Island. Other copper deposit types in the province include VMS (Yellowhead), epithermal (Homestake Ridge), carbonatite replacement (Stardust and Lac La Hache, Spout and G1), and quartz vein (Bull River). New discoveries are continuously being made.

Without mining, a green future will never be realized. Low-carbon technologies will increasingly need copper, and long-term global shortages have been predicted. There may be pressure to source copper from jurisdictions that do not operate with the high environmental, sustainability, and governance standards practiced in British Columbia. Continued exploration and development in British Columbia will help reduce global supply pressures with ethically sourced copper.

To meet the general critical minerals challenge, the British Columbia Geological Survey (Ministry of Energy Mines and Low Carbon Innovation) has initiated a multi-year program to inventory all critical minerals in the province, assess the geological settings most favourable to host deposits, and develop exploration techniques to guide future discoveries.

Previously published in January 2023 in the *Resource Connector North* magazine.

Canada Kids Destinations & School Field Trips

Search British Columbia, Alberta, Saskatchewan, Manitoba, Ottawa, Hamilton-Niagara, and Greater Toronto.

Fun and educational for the children.

Teachers – Subscribe to the digital publication, browse the online directory, contact transportation companies, field trip check list.

Parents - Browse the online directory and subscribe to the digital publication.

Advertisers - Promote your destination. Includes a free write-up to correspond with the size of ad.

DIGITAL Communications Inc.

Learn more at

canadaschooldestinations.com