



Mining Matters

Annual Newsletter

2017



Message from the President and CEO



Dear Friends and Colleagues,

Over the past 23 years I have had the pleasure of serving as President and CEO of **Mining Matters** and I am continually impressed by the accomplishments and vision of the organization. As we celebrate Canada's 150th birthday, I am excited about **Mining Matters** future as we continue to develop innovative programs and expand programming from coast to coast to coast. When I reflect on our 2017 accomplishments, it has been a busy year and a year of many rewarding moments and firsts:

- New environmental activities and resources introduced in our *Mining Rocks* Programs for Indigenous communities
- A new school program called *Rocks + Kids = Opportunities* delivered in underserved communities in the Greater Toronto Area
- Bilingual website launched
- New relationships established with the Fundy Geological Museum, Redpath Museum, Canada Science and Technology Museum, Royal Ontario Museum and the APGO Education Foundation

We are grateful to have many of our funders, sponsors, donors and partners continue to support us and to have new contributors join us. I want to personally thank this strong and committed group of supporters for their confidence in our mission and a heartfelt thanks to the Board of Directors and staff with whom I am proud to work.

Our annual newsletter is filled with informative articles highlighting our accomplishments across Canada. I trust you will enjoy reading how we fulfill our mandate to broaden students' understanding of Earth science and the vital roles rocks, minerals, metals and mining play in everyday life and to increase awareness of the many career opportunities in the minerals industry.

Patricia Dillon
President and CEO
Mining Matters



Highlights

2,583

Individuals reached through our Indigenous Communities Education and Outreach Programs

1,042

Educators trained on **Mining Matters** curriculum resources

650,000+

Teachers, students and members of the public reached since **Mining Matters** inception in 1994

33

Mining Rocks Earth Science Programs

delivered to

1,817

youth participants

32,000+

Total individuals who enjoyed Earth science activities at schools, camps, conventions, conferences and public events across Canada igniting interest about the wonders of Canadian geology *

19,000+

Students reached through our Teacher Training and School Programs *

600+

Students participated in a new school program called *Rocks + Kids = Opportunities* delivered in underserved communities in the Greater Toronto Area

* estimated



Raising Money for Minerals Education

Since the early Yukon gold rush days, whenever the miners came to town excitement grew. This year, the 2017 Canadian Mining Hall of Fame Dinner and Induction Ceremony was no exception. An amazing group of 1,000 guests had an exceptional opportunity to gather with peers and colleagues to celebrate mining industry icons and inductees and mining's long history.

Recognizing the uniqueness of this year being the Sesquicentennial, an idea was born to not only celebrate mining's illustrious past, but to also educate the next generation of mining leaders. Pierre Lassonde, Norman Keevil and Edward Thompson, mining icons in their own right, conceived the idea of a special fundraising call to action, with funds being donated to **Mining Matters** and MineralsEd, both leaders in the delivery of mineral resources education to students.

Dr. Keevil offered to provide a special, leather-bound, signed copy of his upcoming book *Never Rest on Your Ores: Building a Mining Company, One Stone at a Time* to any donor pledging \$5,000 or more. Bob Quartermain learned of this and offered to match any such donations, up to a total of \$50,000. Ross Beaty heard of this and made an identical offer, followed by Dr. Keevil himself, Peter Brown, Robert Friedland, Don Lindsay and Pierre Lassonde. As a result, an initiative to raise an anticipated \$100,000 for the two mining education programs at the dinner actually raised \$632,380. The book has now been published and each donor has received his or her special copy. Kudos to each of them, and to the seven matching donors.



We had the opportunity to ask Mr. Lassonde why he agreed to lead this fundraising initiative.

"Canada, having the second largest landmass in the world, has a tremendous competitive advantage when it comes to exploration and mining. Our other competitive advantage that is key to successfully finding and exploiting our resources, is the quality and number of graduates our Universities produce. The Research and Development generated by the industry is also an important factor in our ability to continuously improve our practices.

Mining is one of few industries where Canada is truly world class and no one will ever know unless we tell our story to our fellow Canadians and the world.

Human ingenuity knows no bounds! Today we produce twice as many minerals as we did 30 years ago with half the people. That trend will not stop.

To continue to be world class we need the best and brightest talent Canada can produce to become geologists, mining engineers, metallurgists, environmental engineers etc.

In my experience, it's vital that we reach and touch the minds of our students when they are still open-minded and curious about the world they are growing up in.

When my youngest daughter was in grade 5, I was asked by her teacher to come and teach a mineral class to the entire fifth grade. That was 42 kids. I had brought ore samples of gold, nickel, copper, coal and diamonds. It had to be the most demanding 2 hours I've ever had and I developed a newly appreciated respect for teachers! These students were switched on, inquisitive and incredibly participative. The questions came at me like semi-automatic weapons! To this day I have mothers asking me what on earth did I tell their kids about diamonds! It seems that the girls all want some!

My career in the mining industry has been one long treasure hunt that as kids we never wanted to end! To be capable of creating one billion dollars of wealth with one drill hole is something only we can do and what incredible satisfaction when you see that wealth shared by the communities and

people who surround you. When you drive around Toronto, Vancouver, Ottawa or any cities where our industry is present you will see tangible signs of the generosity and care we are known for. From the Peter Munk Cardiac Center to the McEwen Regenerative Center, The Schulich Heart Center and Business School at York to name a few.

Education is pivotal to the future success of our industry and it's absolutely vital that we all engage and support the organizations and people who devote their time and resources to engage all Canadians on our industry."

Pierre Lassonde
Chairman, Franco Nevada



We were also fortunate to have several of the major donors share their reasons for supporting **Mining Matters** and MineralsEd at the event.



“Mining Matters and MineralsEd give young students who might otherwise never think about mining and geology a chance to appreciate the wonders of minerals and metals, and what they mean to civilization. The people whose efforts make these two programs work deserve the support of everyone in this important industry, and it has been my pleasure that our book *Never Rest on Your Ores* could help generate some much-needed funding for them at the CMHF Dinner. Keep up the great work.”

Dr. Norman B. Keevil, Chairman of the Board, Teck Resources Limited

“I would encourage children to get into mining as it can be very satisfying and rewarding performing a job that is more essential to society than most others. This may be in any branch of the business which requires a whole set of skills most of which will find some application elsewhere. I also find the vast majority of people I have met over the years to be very happy in mining and would not change careers. Mining can also take a person just about anywhere in the world for those who like to do so.”

D. Grenville Thomas, Chairman of the Board, Strongbow Exploration

“After graduating from Queen’s University in Mining Engineering I started my career as a foreman at the Iron Ore Company of Canada in Newfoundland. The education and experience I had there instilled in me a lifelong respect for the importance of mining education, and for getting youth excited about the opportunities in mining.

Today, as President and CEO of Teck, I am even more keenly aware of the importance of these programs. Mining provides the fundamental building blocks of our modern society. The ability of our industry to continue providing these materials relies entirely on the skills and knowledge of our people. Just as a mining company must always be putting resources into exploration to replenish mineral reserves, we as a society must continue to invest in education to ensure we will have the next generation of skilled and passionate people to lead our industry into the future.”

Don Lindsay, President and CEO, Teck

“I was happy to contribute at the CMHF to minerals education. It’s important that kids learn about how minerals are found, extracted and used in everyday society. Mining is a core industry for Canada and a core building block for our industrial society. Education and rational dialogue are the best ways to reduce the conflict that arises between proponents of mining and opponents of mining. Without education, ignorance rules the day and that’s bad for everyone. I’ve really benefited from a world-class education in geology at UBC. Our great universities have helped create Canada’s great minerals industry. These need to be nurtured and that’s why we need to support minerals education even more.”

Ross Beaty, Founder and Chairman of Pan American Silver Corp., Founder and Chairman of Alterra Power Corp.

“Our future in mining will be one of challenge and opportunity. We’ll need to improve our exploration efficiency by orders of magnitude to locate hidden, remote mineral reserves. We’ll need to leverage new ubiquitous sensors to measure all aspects of the mining process to best control it. We’ll need to be connected in real time to each step process to optimize the entire value chain. And we’ll need to master core competencies in the digital space in addition to a solid background in minerals education.

Our collective goal is to ensure that future generations of miners will be able to solve our sector’s toughest challenges. We know that our children’s future aspirations are defined early in their schooling, so want to connect with them early. Our support of Mining Matters and MineralsEd is key to achieving that goal.”

John Bianchini, Chief Executive Officer, Hatch

“I have had the good fortune to finance mining activity all my life and, as the industry has been good to me, it is enjoyable to be able to give something back. The industry has produced some of Canada’s great achievements from individuals who, for the most part, had the entrepreneurial skills, a capacity for risk and a deep understanding of the science. Mining has always been a great contributor to the Canadian economy and provided extraordinary opportunities for those that had the commitment to their project and the courage to see it through. A great discovery can be decades in the making.”

Peter M. Brown, OBC, LL.D., LittD, CBHF, Chairman, Fraser Institute

“I strongly support Mining Matters’ efforts to build awareness with the general public about the critical role that mining plays in supplying strategic metals that are vital to “green-development” initiatives to improve the quality of life on our planet.

The unprecedented rate of global urbanization in recent decades has unfortunately resulted in many of the world’s major cities being enveloped in toxic smog, which is now is the greatest environmental risk to health, according to the United Nations World Health Organization.

Canada has long had a reputation for producing many of the best and brightest within the global mining industry. Collectively, we need to apply these talents to educate all stakeholders on the key role that miners play in supplying the metals critical to address the air pollution crisis.

The remarkable pace of advancement in green technologies, energy storage and clean-energy initiatives, is encouraging. At Ivanhoe Capital, we are at the leading edge of many transformative and collaborative initiatives that are accelerating the transition to a clean energy future.

Working together, I believe that it is possible to lead a global paradigm shift where miners are viewed as a key part of the solution, not the problem, and mining is viewed as an industry that is critical to the progression of humanity.”

Robert Friedland, Chairman and President of Ivanhoe Capital Corporation

Mining Matters sends a heartfelt thank you to the donors, guests and Canadian Mining Hall of Fame Board of Directors and staff for their generosity and incredible support for mineral resources education.

The names of all donors from the CMHF are included in our list of contributors on pages 14 and 15.

Women in Mining



This past spring **Mining Matters** joined Yukon Women in Mining (WIM) on their Mining Experiential Extravaganza as they travelled to Pelly Crossing, Faro and Dawson engaging youth across the territory. The tour began in Pelly Crossing where presenters teamed up with community members and set up a prospector's tent village (no small feat!) to house all the mining and career-related displays. The event was open to everyone and many teachers brought their classes to participate. Grade 7 and 8 students across Yukon gathered in Faro and participated in fun, educational opportunities. Many of these students elected to participate in the Extravaganza activities, mentioned an interest in geology and enjoyed the **Mining Matters** activities.

Students and adults alike loved the activities including *Mineral Discovery*, *Product Matching* and *Core Logging*. A favourite activity was *Gold: Yes or No?*

which challenged participants to differentiate between chalcopryite and gold. Teachers were also excited to walk away with a **Mining Matters** Deeper and Deeper Teacher Resource Kit equipped with lesson plans and activities. After a fun afternoon of mining-related games and activities the day finished with a community BBQ.

The final stop on the tour was at the Gold Show in Dawson City. Despite cold, wet weather the **Mining Matters** activity tent was packed for the weekend with children challenging their parents to identify minerals.

The tour was an overwhelming success. **Mining Matters** thanks Yukon WIM for organizing the events and partnering with **Mining Matters** to engage students from the region.

15-Year Milestone for Indigenous Communities Education and Outreach Programs

May 2002 marked the beginning of **Mining Matters** focused effort to deliver workshops to Indigenous youth, as part of our Indigenous Communities Education and Outreach Programs (ICEOP). In our first year we visited Cambridge Bay, Nunavut delivering one week-long program fueling enthusiasm for mineral resources, mining and Earth science.

Fifteen years later, ICEOP has expanded to more than 33 communities, offering current material, relevant hands-on activities and location-tailored information. In 2016–2017 the program reached 2,583 participants in Yukon, Northwest Territories, Manitoba, Ontario, Québec and Newfoundland and Labrador.

Teachers receive curriculum-linked classroom resources and professional development training to effectively teach curriculum related to mineral resources, exploration, mining and Earth science. We involve youth in exploring Earth science, mineral exploration and mining, and we highlight career opportunities in the industry. We also include community members in the learning process with our popular Community Nights.

Thrilled as we are with our expanded programs, we know they could not happen without the support of our generous sponsors. We can't thank them enough!

Confederation College and Lakehead University co-sponsored a four-day program in partnership with Outland Camps to deliver *Mining Rocks* Earth Science Programs to youth attending the First Nations Natural Resources Youth Employment Program and Mink Lake Natural Resources Youth Employment Program. Participants explored career opportunities, gained foundational knowledge in Earth science and mineral resources and had an opportunity to tour the New Gold Rainy River Project.

Goldcorp sponsored programs, including community nights and teacher training, in the Cree Nation of Wemindji, Wunnumun Lake First Nation, Red Lake, Chapleau and Timmins. Career mentors from Goldcorp shared first-hand mining experiences.

New Gold sponsored programs in Fort Frances, Rainy River, Emo and Mine Centre. Representatives from New Gold acted as mentors for the youth at each program. In addition, **Mining Matters** partnered with New Gold to deliver educational workshops to high school students attending the Fort Frances Mining Trade Show.

De Beers Group of Companies co-sponsored programs and teacher workshops in the James Bay Lowlands, in partnership with the Ontario Ministry of Northern Development and Mines. In addition to core activities, we added customized activities about diamonds.

The Anishinaabeg of Kabapikotawangag Resource Council engaged **Mining Matters** to deliver hands-on activities during their Annual Gathering in the Kenora area. Attendees enjoyed identifying mystery minerals, matching career descriptions with education requirements, making connections between minerals and everyday items, carving soapstone and crafting pendants from polished amethyst and copper wire.

We entered into an agreement with **Natural Sciences and Engineering Research Council of Canada (NSERC)** to support the expansion of our *Mining Rocks* Programs to an estimated 6,000 Indigenous youth and teachers. The funds provide support for program materials, equipment and staff travel to remote communities.

Thank you sponsors, for making our fifteenth year delivering programs such a memorable and successful one!



Indigenous and Northern Affairs Canada – Our Valued Supporter

Indigenous and Northern Affairs Canada (INAC) continued to demonstrate their strong commitment to Earth science education for Indigenous youth, giving **Mining Matters** \$150,000 for educational programming, double the amount received in 2016.

With such outstanding support, we were able to exceed our project deliverables. This funding allowed us to engage new audiences, including the Sheshatshiu Innu First Nation in Newfoundland and Labrador, and in Québec, Kangisualujuug and Natasquan First Nation.

Eleven new environmental activities were developed with their funding support.

INAC recently announced that funding for our Indigenous Communities Education and Outreach Programs will continue in 2017–2018. This tremendous support will allow us to develop six new hands-on activities related to metals and continue to reach new Indigenous communities with programs and resources.

We are grateful for INAC's significant financial commitment and for the confidence placed in our ability to raise awareness of the Canadian mining industry and the role it plays in everyday lives.

Ring of Fire Partnership

2017 marked the sixth anniversary of a very successful partnership between **Mining Matters** and the Ontario Ministry of Northern Development and Mines (MNDM). Community events and educational activities were held in 15 locations including the First Nation communities of Nibinamik, Constance Lake, Ginoogaming, Animbiigoo Zaagi'igan Anishinaabek, Fort Albany, Kashechewan,

Marten Falls, Attawapiskat, Neskantaga, Aroland, Webequie, Eabametoong, Long Lake #58 and the towns of Kapuskasing and Hearst. Delivery of a mix of summer camps and school programs provided an introduction to the fundamental concepts of Earth science and the mining industry.

RING OF FIRE HIGHLIGHTS

Mining Matters participated in a youth camp in **Nibinamik First Nation** where traditional skills were taught by elders to attendees from multiple communities at the Breathing Grounds; just five kilometres outside the community. **Mining Matters** participated as part of the Youth Wilderness Retreat that was first held in 1999. Our program was attended by 75 participants, both children and adults. It was wonderful to collaborate with the Four Rivers Matawa Environmental Services Group on shared interests in educating the youth.

New environmental activities were introduced in **Aroland First Nation** and **Webequie First Nation**.

We were pleased to receive such positive feedback from participants.

Mining Matters focused on engaging primary and junior students in **Long Lake #58 First Nation**. In previous years, activities were focused on high school students with shorter sessions for elementary students.

More than 1,000 students, educators and community members experienced a combination of classroom and field-based learning and enjoyable, engaging events thanks to MNDM.



“My favourite activity of the program was peatmoss (floculation) because I planted my own plant”
Participant, Male, Grade 7, Age 13, Webequie FN

“My favourite activity was Legos of Soil”
Participant, Male, Grade 6, Age 11, Webequie FN

“[I liked] the human water cycle activity, because my students were active and they learned”
Teacher, Webequie FN



Science Literacy Week

Mining Matters partnered with libraries in Halifax, Winnipeg and Regina during National Science Literacy Week, September 18 to 24, 2017, offering workshops that engaged youth ages 9 to 13 to work collaboratively to identify properties of Earth materials and understand where and how these resources form. The goal of the workshops was to enhance skills in science literacy, numeracy, teamwork, technology use and problem solving for youth. Funding was provided by Natural Sciences and Engineering Research Council of Canada (NSERC).



Mining Matters Celebrates National Aboriginal Day

Mining Matters took part in National Aboriginal Day festivities in two communities, offering unique, engaging activities to all in attendance. One team partnered with Goldcorp Porcupine Gold Mines at Participark in Timmins, Ontario during the city's annual celebration. Attendees learned about Ontario's fossils, mineral identification and the uses of minerals in everyday products. Visitors created amethyst pendants and had their picture taken "in" an underground mine, courtesy of our new photo booth.

The second team visited the Greenstone community of Geraldton, Ontario, a town renowned for gold discoveries. The residents welcomed the team to the community gathering celebrating National Aboriginal Day at the

Thunderbird Friendship Centre and Geraldton Community Centre. Children and their parents enjoyed fun, thought-provoking games and activities that increased their interest in and knowledge of rocks and minerals. The program raised awareness of the relationship between everyday products and mining, land reclamation and careers in the industry

Mining Matters has provided educational programs in partnership with Indigenous communities for more than a decade. We look forward to celebrating National Aboriginal Day next year.



Carassauga

Mining Matters participated in an outreach event at the Carassauga Festival of Cultures in Mississauga. Carassauga is recognized as the largest multicultural festival in Ontario and recorded more than 380,000 visits this year.

Located in the ever popular Kids Zone, **Mining Matters** entertained children and their families with exciting hands-on activities. At the *Sand Castle Mining Activity* children discovered "mineral deposits" in sand castles and took home their souvenir magnetite mineral sample. They also practised being geologists and learned scientific methods using tools for identifying minerals. Both parents and children were active in the *Mineral Product Challenge* and the *Operating Mine to Reclaimed Land Site* matching games. It was obvious, that the entire family enjoyed the opportunity to learn more about rocks, minerals and the importance of mining to our lives!



Intern Develops Broader Vision

Since its launch in 1997, NRCan's Science and Technology Internship Program (STIP), led by Employment and Social Development Canada, has provided funding to eligible organizations for internships to assist youth in finding valuable work experiences. Thanks to STIP funding, **Mining Matters** retained recent graduate, Emilie Hebert-Houle. Emilie came to **Mining Matters** with a background in physical geography (B.Sc., Université de Montréal) that evolved to critical and human geography (M.Sc., Environmental Sciences, Université du Québec à Trois-Rivières). The latter focuses on education in Indigenous communities from a decolonizing perspective, with the goal to build educational programs that will educate and empower Indigenous youth about the environmental challenges present in their community.



Thanks to Canada Summer Jobs

Funding from the Government of Canada's grant program, Canada Summer Jobs, allowed **Mining Matters** to hire Kimberley Taylor (St. Francis Xavier University), Kaden McCulloch (University of Waterloo), Jimi Wei (University of Toronto) and Jonathan Taylor (University of Western Ontario) as part of the Indigenous Communities Education and Outreach Program team. These students traveled across Ontario this summer to deliver *Mining Rocks* Earth Science programs in rural and remote communities, facilitated workshops as part of STEM Camp across urban centres in southern Ontario and received extensive training in Indigenous cultural competency. Our summer students were also involved in National Aboriginal Day festivities in Geraldton and Timmins, Ontario.

"I had a tremendously satisfying four-month internship. I worked with a team of devoted and experienced educators using amazing education material; discovered the vastness, complexity and essential role of the mining industry; and met people in remote Indigenous communities living next to mines...I enjoyed meeting students, having thought-provoking discussions and sharing information about the mining cycle, diverse job opportunities and environmental management practices. Working with Indigenous youth in their communities was extremely gratifying. I leave this experience clearly enriched, with a broader vision and a sincere appreciation for the mining industry and Indigenous relations." - Emilie Hebert-Houle

*"It has been a great privilege to work with **Mining Matters** as a summer student. Teaching people across the country about Earth science and the importance of mining to society was a unique and amazing experience. I learned a lot from all the people that I interacted with, especially when travelling to remote communities. After completing an undergraduate degree in Earth Sciences from St. Francis Xavier University, I will be continuing on with graduate studies with the St.FX Flux Lab to obtain a Masters of Earth Sciences with a focus on hydrogeology. In the future I hope to have a position in the industry that focuses on sustainability and the green future of mining." - Kimberley Taylor*

*"Working for **Mining Matters** has given me the opportunity to take my passion for Earth science and the mining industry, knowledge from my education and my hope of making a difference for other young people into a fantastic summer job opportunity." - Kaden McCulloch*

Mining and the Environment - New Activities

Mining and the Environment is a set of new educational activities developed for grades 7 to 9 students attending our Indigenous Communities Education and Outreach Programs.

At the outset, a focus group of educators, mining technical specialists and consultants in education and Indigenous cultures was assembled to gauge interest and direction for the activities. The activities demonstrate a progression of learning, focus on hands-on learning, data collection and analysis, technology, modeling, engineering design challenges and inquiry-based learning. Innovative practices employed in the mineral industry are also highlighted.

After a technical review, the activities were tested with educators during the PDAC Convention **Mining Matters** Teachers' Day. Youth in the First Nation communities of Webequie and Aroland were among the first to experience the activities this spring.

This process of collaboration and feedback along with recommendations from **Mining Matters** staff, led to the themes and ultimately the activities that were developed.

1. *The Water Cycle* introduces water molecules in various states and their movement through the water cycle.
2. *Water Use and Management* explores where and how water is used on a mine site.
3. *Sediment and Soil* investigates the formation of soil, soil types, models soil horizons with building blocks and explores the importance of soil conservation.
4. *Aquatic Ecosystems* examines balanced and unbalanced aquatic ecosystem through the creation of an art project with images of aquatic species.
5. *Wetland in a Pan* demonstrates the roles played by wetlands in the environment.
6. *Waste Rock Management* models a waste rock pile that successfully directs water.
7. *Environmental Careers in Mining* matches environmental job descriptions with education requirements and salaries.
8. *Water Chemistry* tests the pH, O₂, conductivity, temperature and hardness of water, snow or ice collected in the community.
9. *Reclamation and Closure* matches photos of operational mines with photos take after reclamation and closure.
10. *Flocculation* models how water used in processing can be treated and how tailings can be reclaimed and used to support vegetation.
11. *Activity, Concern, Solution* matches mining activities with environmental concerns and innovative solutions used to minimize impacts on the environment.

Mining Matters thanks Indigenous and Northern Affairs Canada for providing funding for the *Mining and the Environment* activities.



Innovation: Mineral Exploration, Mining and Education

"Innovation: Mineral Exploration, Mining and Education" was the theme of the 2017 PDAC Convention **Mining Matters** Education Program.



Teachers' Day

Teachers' Day featured hands-on learning sessions focused on exploration geophysics, geochemistry and computer modeling, diamond and environment, engaging plenary and panel speakers, and access to the Trade Show. Twenty educators from elementary, secondary and post-secondary schools in Ontario, and for the first time, from Québec and British Columbia participated in the event.

"The presenters were knowledgeable and provided hands-on activities that can be taken back to the classroom. It has been an enriching experience in that I am more confident in teaching about rocks and minerals at the elementary level. I was also not aware of how important mining is in our lives."

- Mary Spiropoulos, Bayside Public School, Hastings and Prince Edward County District School Board, Belleville, Ontario

Junior Day

The program immersed 78 grade 3 and 4 students and their teachers in Earth science using a series of hands-on educational activities that focused on minerals, their uses, their optical properties and the types of careers available in the minerals industry. Students also toured the Trade Show Floor as part of the Exploration Challenge.

"I learned that there are 7 minerals in toothpaste and I really enjoyed the Earth-Minerals-Rocks! activity."

- Grade 3 student, Richmond Hill Montessori and Elementary Private School, Richmond Hill, Ontario

Senior Day

Sixty-eight grade 9 students and teachers enjoyed activities focused on understanding mineral properties and the array of mineral uses as well as the techniques used in mineral exploration. Senior Day students also participated in guided tours of the Trade Show Floor, where they visited a series of booths.

"I learned that the mining industry is more important than I thought. Everything that is not from a plant comes from a mine. I really enjoyed the Core Logger Basics activity."

- Grade 9 student, École secondaire Jeunes sans frontières, Brampton, Ontario



Field Trips Grow in Popularity

The Field Trip Subsidy Program was developed to bring Earth science to life by providing students and teachers with exciting real-life experiences relating to minerals education.

A total of 881 students and 76 teachers and parents took part in 18 field trips throughout the provinces of Québec, Ontario, Manitoba and New Brunswick with assistance from the **Mining Matters** Field Trip Subsidy Program. Generous support from individual and corporate donors allowed us to nearly double our reach over last year.

Class trips ranged from quarry and rock outcrop visits to tours at Earth science museums, where students explored the wonders of geology and witnessed extraction, processing and reclamation initiatives by the industry.

This year, **Mining Matters** joined efforts with Demix Laval Quarry, Laval, Québec, a division of CRH Canada Group Inc., to create lifelong memories for the students of École Victor Rousselot from Verdun, Québec. CHR Canada Group Inc. generously sponsored a half-day visit to their quarry for teacher Sabrina Bélair and her 24 students. Ms. Bélair and her class also enjoyed a visit to the Redpath Museum, subsidized by **Mining Matters**.

"We visited the Demix quarry this week and WOW! What a welcome! What an extraordinary field trip this was! The children were and are still amazed!

Thanks to your Field Trip Subsidy, we had the privilege of enjoying a visit at McGill University's Redpath Museum as part of our geology project. Our students loved this field trip, during which they were able to handle various minerals such as talc, this soft and crumbly mineral. They marvelled at the colours and shapes of the minerals on display and were impressed by the dinosaurs, fossils and stuffed animals.

This outing was among the most educational ever!" - Sabrina Bélair (quote translated from French)

Mining Matters and the Canadian Mining Industry Rock!

Creating Jobs

The Canadian mining industry will need 106,000 new workers over the next decade to 2025.

– *Mining Association of Canada, Facts & Figures 2016*

Coast to Coast

Vancouver features the world's leading cluster of exploration companies, while Montreal is home to major aluminum and iron ore firms. Edmonton has become a global centre for oil sands expertise and Saskatoon for uranium and potash. – *Mining Association of Canada, Facts & Figures 2016*

Global Leader

Canada is the world's largest producer of potash and a major producer of aluminum, cobalt, diamonds, nickel, platinum group metals, titanium, tungsten, uranium and zinc. – *Mining Industries, international.gc.ca/*

On Track

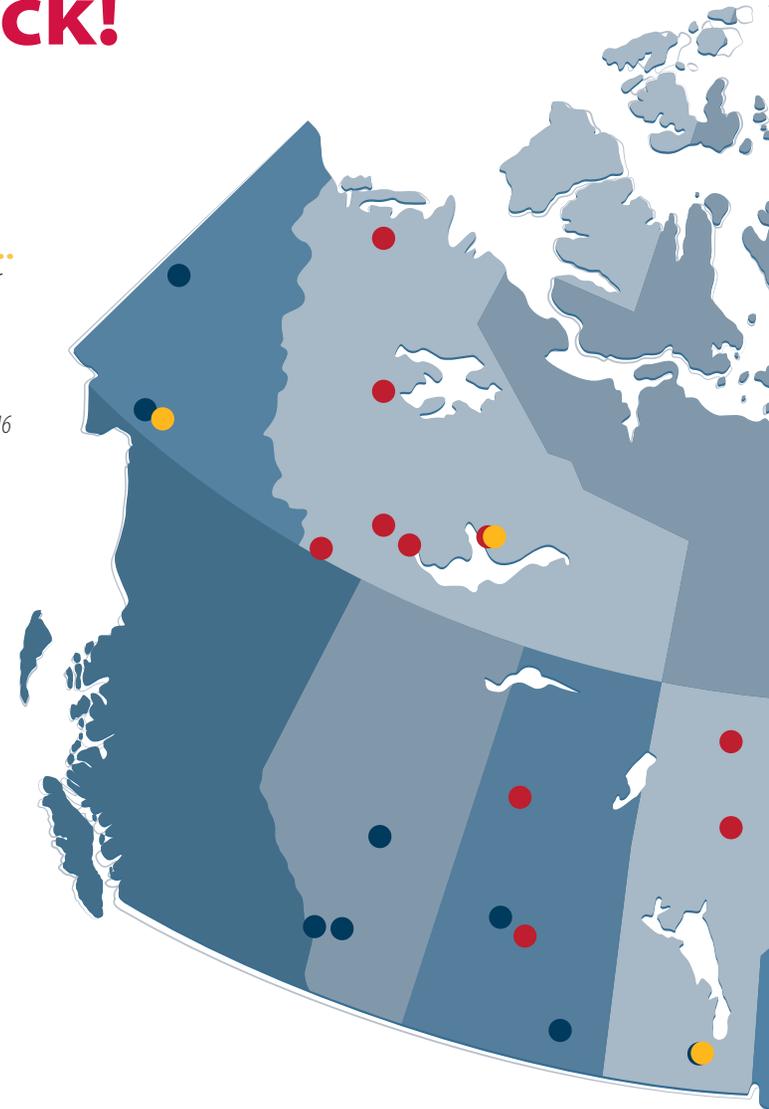
The mining industry accounts for more than half of Canadian rail freight revenue. In 2015, shipments of coal, iron ore and other minerals and metals represented 51.4% of total Canadian rail freight revenue. In terms of volume, the mining industry accounted for 32% of total tonnage moved in 2015, which is the largest single volume share of all industries that ship by rail. – *Mining.ca*

Shining Bright

Canada is the world's fifth largest producer of diamonds by volume (10%) and the third largest by value (14%). – *thestar.com, oma.on.ca*

Reclamation

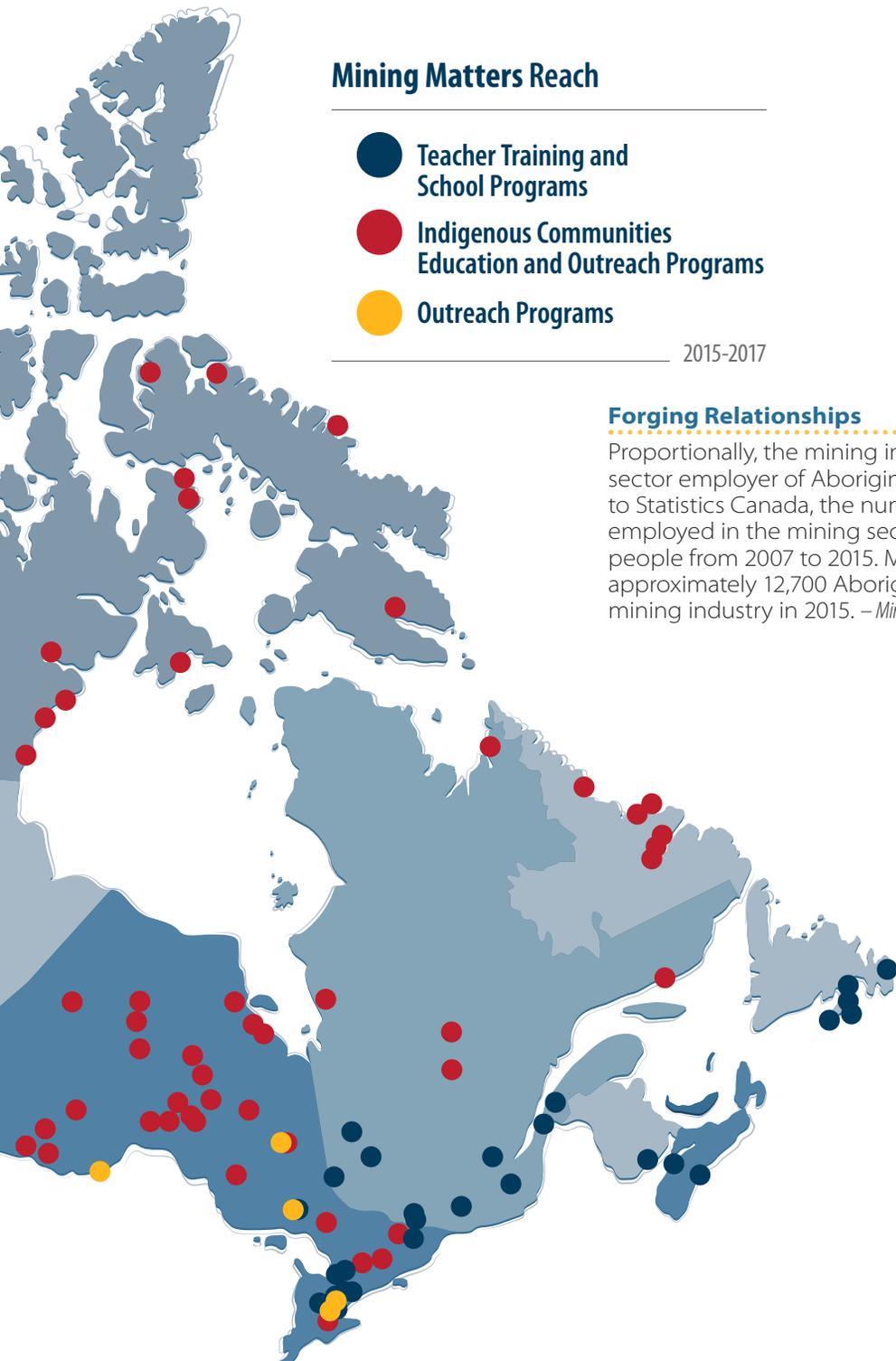
Canadian mining companies recognize the mining life cycle and plan for closure and reclamation before entering production. Including commitment to work with communities to mitigate the socio-economic impacts of mine closure. – *mining.ca/towards-sustainable-mining/protocols-frameworks/mine-closure-framework*



Mining Matters Reach

- Teacher Training and School Programs
- Indigenous Communities Education and Outreach Programs
- Outreach Programs

2015-2017



Forging Relationships

Proportionally, the mining industry is the largest private sector employer of Aboriginal Canadians. According to Statistics Canada, the number of Aboriginal people employed in the mining sector increased by 12% to 10,300 people from 2007 to 2015. MiHR research indicates that approximately 12,700 Aboriginal people were working in the mining industry in 2015. – *Mining Association of Canada, Facts & Figures 2016*

In the Market

Toronto is the global hub for mining finance. The Toronto Stock Exchange (TSX) and TSX Venture Exchange (TSX-V) were home to 57% of the world's publicly-listed mining companies in 2013 and accounted for 62% of the global mining equity raised in 2014. – *Mining Association of Canada (2016)*

Talking Wages

The average annual pay for a mining worker in 2015 exceeded \$115,000, which surpassed the average annual earnings of workers in the forestry, manufacturing, finance and construction sectors. – *Mining Association of Canada (2016)*

Mineral Exploration

Canadian-headquartered companies account for the largest portion of global nonferrous mineral exploration budgets. Canada is also the world's top destination for planned nonferrous mineral exploration spending. Vancouver is home to the world's largest cluster of exploration companies. – nrcan.gc.ca/mining-materials/exploration/8290

An Economic Engine

Mining contributed \$56 billion to Canada's Gross Domestic Product (GDP) in 2015. The industry accounted for 19% of the value of Canadian goods exports in 2015. Canada's value of mineral production was \$42.8 billion in 2015. – mining.ca/resources/mining-facts

Going Green

The Canadian mining industry is improving energy efficiency and reducing greenhouse gas emissions to limit environmental impacts and help reduce mine-site operational costs.

– mining.ca/towards-sustainable-mining/protocols-frameworks/energy-and-ghg-emissions-management

Thanks to our Contributors!

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Contributions were received July 1, 2016 - June 30, 2017 and include donations received during the 2017 Canadian Mining Hall of Fame Dinner and Induction Ceremony. Every effort has been made to ensure the accuracy of this list. If an error or omission has been made, please accept our sincere apologies and contact us to correct.

Registration Number: 88775 6435 RR0001

Deeper and Deeper Online Tutorials

Mining Matters worked with Penda Productions to create a series of online teacher training tutorials. Videos were created, in English and French to demonstrate activities from **Mining Matters** Junior Resource, *Deeper and Deeper*:

- *The Scientific Testing of Minerals*
- *Operating a Surface Mine*
- *Making Sense of Igneous, Sedimentary and Metamorphic Rocks*
- *Understanding Erosion*
- *The Three Rock Groups*

The tutorials provide training for teachers whose remote locations prevent them from participating in an “in-person” workshop, for teachers who have already participated in a training session and would like to refresh their knowledge and for those teachers who have discovered a *Deeper and Deeper* Resource in their school and require training to deliver the materials. The videos will be available on **Mining Matters** website early in the 2017-2018 academic year.



STEM (Science, Technology, Engineering and Mathematics) Programming for Youth

During two weeks this summer, **Mining Matters** delivered programming to over 1,000 children and youth attending STEM Camps in southern Ontario. Our workshop focused on wind turbines and the importance of renewable energy; making the connection between mined resources and the manufacturing of wind turbines. It featured activities that tested physical properties to distinguish between metallic and non-metallic minerals. Participants competed in an engineering design challenge to build a wind turbine which could produce the most energy. As part of the challenge, the participants had to consider how different choices made during the construction process would affect the efficiency of the wind turbine, including number of blades and motor position.



Rocks + Kids = Opportunities

Mining Matters launched a new program for students in underserved schools in the Greater Toronto Area at no cost to the school. The program called *Rocks + Kids = Opportunities* uses hands-on activities to stimulate interest in Earth science and the role rocks, minerals, metals and mining play in everyday life. Students work collaboratively to identify properties of Earth materials and understand where and how these resources form.

Teachers are provided with a list of activities and asked to select three to be delivered by a **Mining Matters** educator. Activities are chosen to best fit the needs and interest of the class and to connect with the science curriculum.

Since January 2017 **Mining Matters** has delivered *Rocks + Kids = Opportunities* at 12 schools reaching over 650 students! The pilot program was a huge success this year and we are pleased that the program is now included in our core programming. Many thanks to the Canadian Geological Foundation for providing start-up funding for the program.



Looking Ahead

Geoscience Aware Challenge

Mining Matters, the Government of Manitoba, Girl Guides of Canada and the Canadian Geoscience Education Network are collaborating to develop a “Geoscience Aware Challenge” for the Girl Guides of Canada, Manitoba Chapter. The Challenge explores Geoscience Literacy Principles, adapted from the celebrated “The Earth Science Literacy Initiative” through a series of more than 30 hands-on learning activities.

Guides, ranging from Sparks through to Rangers, will earn their Challenge badge by completing a requisite number of activities associated with each of the Geoscience Literacy Principles that include:

- The Earth as an ancient planet
- The Earth has a fascinating geological history
- The Earth is a diverse system of rock, water, air and life
- The Earth’s people and mining are interconnected
- The Earth’s mineral resources require our care
- The Earth has way more to explore

More information about Geoscience Aware Challenge will be available late 2017.

Mining and Music

We are expanding our *Mining Makes it Happen* Poster Series with a poster about mining and music that will join *Medicine from the Ground Up*, *Cutting Edge*, *From Northern Lights to Urban Trails* and *Power to the People* posters.

Harnessing mineral resources and creating music both go as far back as prehistoric peoples; and advancements in mining and technology have created booms in development of instruments, performances and audio engineering. The alloys of copper and zinc revolutionized a class of brass instruments due to their malleability, workability and resistance to corrosion. Additional metals are factored into brass depending on the need for sound quality or bacterial suppression. Metal strings are constructed out of bronze, phosphor bronze, chrome and nickel plated or pure nickel depending on the desired sound. Alnico (an acronym referring to a family of iron alloys which in addition to iron are composed primarily of aluminum (Al), nickel (Ni) and cobalt (Co)), or ferrite permanent magnets are needed for pick-ups on electric guitars and conductive materials transformed the music scene with amplifiers, synthesizers and recorders.

Our new poster will educate music lovers and the public alike about how minerals make music happen!



Ag
Silver



Zn
Zinc

Cu
Copper



Ni
Nickel

Water • Hazards • Energy • Resources • Environment



362
entries 736
students

Reaches New Heights

The national contest, endorsed by the Canadian Earth Sciences Community, challenges students between the ages of 9 and 14 to demonstrate their knowledge of Earth's non-renewable resources in a creative fashion, whether it be through literature, media or graphic design, while competing for \$10,000 in cash prizes. Students are motivated to explore the fields in which geoscientists work: **Water, Hazards, Energy, Resources and the Environment** and answer the questions, "What on Earth is in your stuff?" and "WHERE on Earth does it come from?" From the use of zinc in batteries and petroleum in building blocks, to nickel in figure skates and gold in computers, the WHERE Challenge encourages students to explore the importance of non-renewable resources by relating them to objects used in their everyday lives.

A record-breaking 736 students from across Canada entered the WHERE Challenge, submitting 362 entries!

The increased level of participation attests to the contest's ability to motivate individual students, teams and entire classes to get creative, and while doing so, develop core competencies such as collaboration, digital literacy, critical thinking, problem-solving and effective communication.

This year, the WHERE Challenge celebrates a decade of building awareness of the importance of non-renewable resources.

The contest launched September 18, 2017 in conjunction with National Science Literacy Week. **Mining Matters** presented student workshops to promote the WHERE Challenge in Regina, Winnipeg and Halifax. Entries can be submitted online at earthsciencescanada.com/where/ where you can view past winning entries. Both English and French submissions are encouraged. Contest closes March 8, 2018.

Mining Matters thanks the many judges across Canada for their participation and generous support.

Mining Matters welcomes Canada's largest diversified mining company, Teck Resources Limited, who recently signed a three-year sponsorship of the WHERE Challenge.



Your support can make a difference!

- Visit MiningMatters.ca to register as a WHERE Challenge judge.
- Share information about the contest with colleagues, family, friends and your social media network.
- Help a local educator or youth leader with the WHERE Challenge in their classroom or club.

Juges francophones: nous faisons appel à votre sens de l'engagement!

Ce concours pancanadien bilingue continu d'être un succès grâce au soutien de l'industrie; c'est pourquoi le Défi de la Terre demande aux membres du secteur minier de se mobiliser et joindre le jury **francophone**. De plus en plus de projets sont soumis en Français et nous devons répondre à cette demande! Pour vous inscrire, visitez le MiningMatters.ca ou communiquez avec **Une mine de renseignements** au (416) 863-6463 poste 332.

Mining Matters Digs into Canadian Earth Science Museums

Mining Matters collaborated with various museums across the nation to bring Earth science education to a wider audience. Here are some highlights:

Fundy Geological Museum

Mining Matters participated in the 52nd annual Nova Scotia Gem and Mineral Show in partnership with the Fundy Geological Museum in Parrsboro, Nova Scotia. The event attracted thousands of rock hounds from the Maritimes and beyond to this small town known for its rich geological history. **Mining Matters** facilitated hands-on activities for visitors of all ages to promote awareness of Canada's geology and the importance of rocks, minerals, metals and mining.

Redpath Museum

Mining Matters team joined efforts with geoscientists at the Redpath Museum in Montréal, Québec for a full-day of professional development. Teachers received in-service training on **Mining Matters** classroom resources, participated in a field trip to learn about Montréal's building stone and explored the geological features of Mont-Royal.

Canada Science and Technology Museum

The Canada Science and Technology Museum, in Ottawa, Ontario opened its doors to a new exhibit called "Earth to Us", exploring non-renewable resources and their impact and uses in technology and green energy. **Mining Matters** supported the visitors' experience with hands-on activities, including a product matching activity, reclamation matching game and much more.

Royal Ontario Museum

The Royal Ontario Museum (ROM), in Toronto, Ontario has provided professional development in Earth science to our growing team and resources in support of our education and outreach efforts. *ROMining* is the ROM's interactive game, where players take on different roles and respond to situations to maintain a balance between productivity and responsibility—the factors that determine whether or not a mine is successful in today's world. This year **Mining Matters** will introduce *ROMining* during select programs for youth in remote communities.



Mineral Resources and Mining Education Tours

Mining Matters is pleased to continue our partnership with the Ontario Mining Association and the Canadian Ecology Centre. **Mining Matters** participated in the planning, promotion and delivery of Mineral Resources and Mining Education Tours, an innovative and fully-sponsored professional development program for educators. Formerly referred to as the "Teacher Mining Tours," Mineral Resources and Mining Education Tours have been offered, in partnership with the Canadian Ecology Centre, since 2010. This year, the tours were structured into a series of three programs, each with a unique focus:

- The Mineral Resources and Mining Foundations' Tour provided an understanding of Earth science and mineral resources, teaching in the field and the mine service and supply sector in North Bay. Educators and members of Indigenous communities participated in the tour.
- The Mine Life Cycle Tour showcased the exploration, operation and reclamation phases of the mining cycle, with a focus on the Sudbury mining camp.
- The Life in a Mining Camp Tour focused on the Thunder Bay region and included a tour and stay at North American Palladium's Lac Des Iles Mine, visits to interesting geological sites and tours of the Amethyst Mine Panorama and ALS Laboratory. The program opened with a presentation about the current state of exploration and mining in the region by John Mason, of the Thunder Bay Community Economic Development Commission (CEDC), setting the context for the Tour.

Thank you to the Ontario Mining Association for providing three-year funding for the mining education tours.

MiningMatters.ca/fr



Increasing Francophone Resources

Mining Matters has responded to increased requests from students, teachers and partners in Francophone communities for additional Mining Matters materials in French.

This year Mining Matters participated in Francophone public outreach events in Montréal, Québec City and Sudbury and worked with over 350 teachers during French teacher workshops, presentations and conferences in Manitoba, Ontario and Québec.

More than 700 French language students participated in our student workshops, WHERE Challenge and Field Trip Subsidy Program. From generating French translations of activity books and newsletters to adding a "français" button on our website, Mining Matters is making sure that minerals education can be taught in both official languages.

We are excited about our new bilingual website, which went live in June. Check it out at MiningMatters.ca/fr.

Our bilingual website and additional resources translated into French were made possible with funding support from the Department of Canadian Heritage and the Institut national des mines Québec.

Julie Lépine, Mining Matters Bilingual Programs, Coordinator speaks about the website, "Being able to refer educators to our new French website is a huge benefit for teacher support. Francophone and French Immersion audiences will have access to the same information and content as our Anglophone audiences, which will be greatly appreciated by educators and students alike. Bilingualism is essential for a national organization."





Invest in Mineral Resources Education

Mining Matters is grateful for the contributions of many loyal supporters that have made our goals a reality.

Your donation does make a difference! It provides the foundation for our important work and is critical to our ongoing vision of bringing Earth science to life.

As a charitable organization, **Mining Matters** program development and delivery are made possible only through the financial sponsorship, donations and in-kind contributions from the mineral and aggregate industries, individuals, foundations, corporations and government.

We are asking for your support, so that we may continue to provide current information about the importance of rocks, minerals, metals and mining in everyday life and the diverse career opportunities available in the minerals industry to students, educators and the public.

An official charitable receipt will be issued for contributions \$25 and greater. For more information or to donate, please contact frasergrand@miningmatters.ca or call 416-863-6463 ext. 334.

Donating Shares

Donating shares to **Mining Matters** may be of interest due to the considerable tax benefits that can be realized. The elimination of capital gains on stocks, bonds and mutual funds means that a contribution results in a tax receipt equal to the fair market value of your gift. Rather than being subject to tax on 50% of the gains for shares sold during your lifetime, accrued capital gains on donated shares are exempt from taxes. In effect, the tax benefit arising from your gift is superior to making cash donations.

The donation of flow-through shares can produce even greater benefit, as a deduction is offered at the time of purchase and a tax credit is generated when the shares are gifted. However, rules apply to the amount of the exemption for capital gains.

Donating Cash

Cash donations to **Mining Matters** are always welcome and are eligible for the Donation Tax Credit (CDTC). In addition, for individuals who have not donated previously to charities, there is the First-Time Donor's Super Credit (FDSC). This applies to cash donations and not contributing shares. The FDSC supplements the CDTC with an additional 25% tax credit for a first-time donor on up to \$1,000 of cash donations. Accordingly, a first-time donor is entitled to a 40% federal credit for donations of \$200 or less and a 54% federal credit for the portion of donations over \$200 but not exceeding \$1,000. There are also provincial tax credits, which vary across provinces. Individuals will be considered a "first-time" donor if neither the taxpayer nor their spouse or common law partner has claimed the Charitable Donation Tax Credit in any of the five preceding tax years. For example, if the FDSC is claimed in 2017 then the individual cannot have claimed a charitable donation tax credit in any of 2012 to 2016.

To learn more, contact Edward Thompson at 416-366-6083 or egt@interlog.com, or Durham Sims, **Mining Matters** Investment Advisor at RBC Dominion Securities at 416-842-3086, 800-561-4468 or durham.sims@rbc.com. Both Mr. Thompson and Mr. Sims serve in a volunteer capacity with **Mining Matters**.

Special Events

Each year mining industry professionals come together to make and renew acquaintances, network and have fun at **Mining Matters** three fundraising events. Why not get involved in 2018?

To mark the start of the PDAC Convention, step on the ice at the **Mining Matters Hockey Tournament**, March 3, 2018 for a full-day of competitive hockey. If hockey is not your sport; then tee off or cycle June 14, 2018 at the **Mining Matters Diamond in the Rough Golf Classic** and the **Rock Cycle Ride for Minerals Education**. While each event requires different skills and abilities, all provide an opportunity for participants to support a great cause, while enjoying a day with friends and associates in the mining industry.

Save the dates and plan to be part of the fun!

Mining Matters Hockey Tournament:
March 3, 2018

Diamond in the Rough Golf Tournament:
June 14, 2018

Rock Cycle Ride for Minerals Education:
June 14, 2018



Diamond in the Rough Golf Classic

The 11th annual **Mining Matters Diamond in the Rough Golf Classic** took place June 15 at Cedar Brae Golf Club. Despite cooler temperatures that day, the golfers were full of energy and eagerly participated in each of the on-course activities, including a chance to win a trip to Hawaii. Each year, **Mining Matters** hosts the tournament to raise funds for educational programs about Earth science and the minerals industry across Canada.

Mining Matters would like to thank our Diamond Sponsor IBK Capital Corp. for their continued support, as well as all the other sponsors for making this another successful event. Tee off with us next year on June 14, 2018.



Rock Cycle

Sixteen cyclists braved the demands of a biking trail set in Toronto's east end at the 6th annual *Rock Cycle Ride for Minerals Education*. The *Rock Cycle* takes place each year in conjunction with the **Mining Matters Golf Tournament**. Cyclists can choose from either a 40 or 80-kilometre, which will take them on a scenic ride through the beautiful Rouge Valley and allow them to enjoy a meal at the half-way stop in Uxbridge.

Mining Matters would like to thank our Presenting Sponsor Roscoe Postle Associates Inc., sponsors and all the cyclists who participated.

Mining Matters Scores at Annual Hockey Tournament

The 10th Annual **Mining Matters Hockey Tournament** took place March 4, 2017 at Scotiabank Pond, Downsview Park in Toronto. Twelve teams faced off for the trophy while raising funds for educational programs about Earth science and the mining industry. Congratulations to our 2017 champions, Kirkland Lake Gold. This year's event raised over \$15,000 for **Mining Matters** education initiatives.

Mining Matters thanks the teams and sponsors along with our tournament founder Caracle Creek for making the day a great success.

Registration for the 2018 Hockey Tournament is now open. Puck drops on Saturday, March 3, 2018.



KPMG Soccer Tournament Brings Home Thousands for Mining Matters

More than 100 mining industry professionals came out to the 9th annual KPMG Mining Soccer Tournament. Kinross Gold took home the cup for the sixth time. Since 2009, this event has helped support **Mining Matters** and other charitable organizations. This year, the tournament raised \$6,000 for **Mining Matters** Earth science programs.

Mining Matters is grateful to all who participated and would like give a special thanks to Lee Hodgkinson, Partner and National Industry Leader, Mining and KPMG for their continued support and commitment to creating positive change within the mining industry and the community at large.



For more information about our events, please contact Sarah Hahn at tournaments@miningmatters.ca or 416-863-6463 Ext.321

Women Who Rock Auction for Action

In January 2017, **Mining Matters** Executive Director Laura Clinton spoke to a packed audience of excited bidders at the third annual Women Who Rock Auction for Action held in Toronto and attended by 150 women eager to enhance and advance their careers in the mining and mineral exploration industry.

Women Who Rock is an organization with a mission to empower women and improve gender diversity in the mining industry. Their unique annual Auction for Action connects aspiring young women with some of the most celebrated leaders in the mining industry, developing mentoring relationships to inspire the next generation of mining professionals.

Proceeds of \$2,500 from the event were donated to **Mining Matters** in support of our mineral resources education and outreach programs. We wish to thank Women Who Rock and all those involved for their contribution.



Picture This!

Mining Matters puts you in the picture! We now have a photo booth available at public outreach events that allows participants to see themselves visiting or even working at a mine site. A person's picture is taken in front of a green screen and they choose a mining location background: underground at a mine, in front of a massive haul truck or near an open pit operation. Kids love it, adults love it! Check it out when you have the chance!



“Skookum” Couple Race to Support Mining Matters

Mining Matters declares that Glenn Nolan and Maureen Hatherley are “skookum” people! “Skookum” means strong, impressive, excellent, good, powerful—these words describe this couple as they embarked on a unique adventure to celebrating 2017—a banner year in Canadian, Yukon and mining history.

Glenn and Maureen tackled The Yukon River Quest, a marathon canoe and kayak race that challenged paddlers from around the world to test their endurance, racing 715 kilometres, into the midnight sun, from Whitehorse to Dawson City. Passionate about minerals education, they asked members of the minerals industry to support Earth science programs for Canadian students, teachers and the public by donating to **Mining Matters**. They completed the race in nearly 70 hours finishing 65th in a field of 88 teams.

The couple's participation in the annual race celebrated Canada's 150th anniversary of Confederation, as well as 120 years since Dawson City sprang from the Yukon and Klondike River mud flats with the start of the Klondike Gold Rush.

As the first Indigenous PDAC President and a former Chief of the Missanabie Cree First Nation, Glenn celebrates the memory of “Skookum” Jim Mason, the Indigenous prospector who, with his partners, first discovered gold in the Yukon in 1896. Skookum Jim used his gold rush fortune to help family and to this day his legacy works to improve health and education for Yukon's Indigenous people.

Glenn follows his lead saying, “We couldn't think of a better way to celebrate the 150th anniversary of the Nation than to bring together those things we love—canoeing; a physically challenging event, honouring the significant role Indigenous people play in mining in Canada and promoting education about the importance of mining. Raising funds to support **Mining Matters** is a small way Maureen and I can give back to an industry that has done so much for so many.”

We congratulate Glenn and Maureen on their incredible accomplishment!

Who We Are

Mining Matters is a charitable organization dedicated to bringing knowledge and awareness about Canada's geology and mineral resources to students, educators and the public. The organization provides current information about rocks, minerals, metals, mining and the diverse career opportunities available in the minerals industry. **Mining Matters** offers exceptional educational resources that meet provincial curriculum expectations, created by educators and Earth science experts.

Mining Matters has reached an estimated 650,000 teachers, students and members of the public since inception in 1994.

Our three core educational programs are:

Teacher Training and School Programs

Bringing Earth science to life for students and teachers in classrooms across Canada

Indigenous Communities Education and Outreach Programs

Opening a world of opportunities to youth in Indigenous communities

Outreach Programs

Developing an awareness of the mining industry and sparking interest in Earth science learning in people of all ages



Mining Matters is a charitable organization governed by a volunteer Board of Directors.

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Welcome Don!



We are pleased to welcome Don Bubar to our Board of Directors. Don Bubar is a geoscientist with 40 years of experience in mineral exploration and development in Canada. Mr. Bubar is a graduate of McGill University (B.Sc.1977) and Queen's University (M.Sc.1981). From 1984 to 1994, he worked for Aur Resources Inc. as Exploration Manager and later VP, Exploration where he led the exploration team

that discovered the Louvicourt Copper-Zinc deposit in Val d'Or, Québec in 1989.

Since 1995, Mr. Bubar has been President and CEO of Avalon Advanced Materials Inc., a mineral development company with a primary focus on niche market metals and minerals critical for new technology, including lithium, tin, indium and the rare earths. Mr. Bubar served as a Director of the PDAC for nine years and Chair of its Aboriginal Affairs Committee from its creation in 2004 until retiring from the PDAC Board in 2013.

As a philanthropist, Mr. Bubar has been a strong supporter of natural science education in Canada. He has endowed three scholarships at two Canadian universities and supported geoscience education initiatives at two other institutions. He serves on the Advisory Board to the Faculty of Science of McGill University and joined the Board of Directors of **Mining Matters** in December, 2016.

Mr. Bubar commented, "I was delighted to be invited to join the **Mining Matters** Board and support its goals for advancing geoscience education in the Canadian school system and increasing awareness about the relevance of minerals and metals to modern society. As a passionate advocate for increased participation by First Nations in the mineral industry, I especially see **Mining Matters** Indigenous youth camps as a key initiative for raising awareness about the many career opportunities the mining industry offers to northern communities."