Embracing Our Purpose and Values

How putting people first helps us succeed

Peter Xavier, Vice President
Glencore Sudbury Integrated Nickel Operations

As we look back at what has been a most difficult year living and working through the worst pandemic in our lifetimes, we also look ahead with hope that the worst is behind us. More importantly, we should feel immense pride over how we have continued to succeed by not losing sight of our shared values. I thank all employees and their families for having adapted so well to our new reality.

Those values — safety, integrity, responsibility, openness, simplicity and entrepreneurialism — define who we are, both as a company and as individuals. And they support our Purpose to deliver the commodities necessary to advance everyday life.

At the heart of everything we do is Safety. It has never been more of a focus than this past year as we adapted to the reality of working under the threat of COVID-19. In addition to ongoing safety measures that keep our mining operations among the safest in the world, our COVID response is part of a Canada-wide Glencore effort that includes a new Infectious Disease Task Force and initiatives designed to keep our workplace COVID-free. Expect these new safety protocols to continue for as long as the threat of outbreaks exist at all worksites.

While safety tools and training continue to be important, future significant improvements in safety will be the result of implementation of new technology such as battery electric and autonomous equipment used to reduce emissions and remove workers from hazards.

Speaking of innovation, the promise of a strong future for Sudbury INO continues to be based on exploration and mining at depths that not long ago were thought to be impossible. Progress on our Onaping Depth project continues unabated where we face new challenges that require innovative solutions and the application of advanced technology. By the time Onaping Depth achieves full production in 2025, it will feature more advanced automation, real-time surface-to-underground control and communication, and a zero emission, electric battery-powered fleet of vehicles.

Other major projects that continued this past year include our feasibility work on a partnership with Vale to extend Nickel Rim South Mine life, and advanced exploration including Norman West (Capreol) and Moose Lake (Onaping).
I am pleased to note that the excellent working relationship with our employees and unions has resulted in two new collective agreements in early 2021. The economic benefit to the community from our operations, permanent employees, contractors, and indirect jobs, is substantial. Along with it, our efforts to improve the health of our employees, their families and the communities in which we operate has continued to be our priority. New ways to demonstrate our support include a $500,000 donation towards a second MRI unit at Health Sciences North and a $170,000 contribution from the Glencore Community Fund to support COVID relief. Other perennial donations of financial and employee volunteer support include United Way, Sudbury Food Bank, and education and training programs to name a few. As well, we continue to actively pursue opportunities to strengthen our valued relationships with local Indigenous partners.

I invite you to review this Report to the Community for more details of our activities in support of our communities as well as our industry-leading efforts to build Glencore Sudbury INO into a safer, more productive mining company, one that responsibly delivers those materials so vital for everyday life.

Sudbury Impact In 2020

JOBS
1,250 Permanent employees
1,200 contractors mainly working on Major Capital Projects

CAPITAL INVESTMENT*
$306 M
On sustaining and expansionary investment

INDIRECT JOBS
8,000

TOTAL WAGES & OPERATION SPEND*
$570 M

*In Canadian dollars

Managing Continuous Improvement

Did you know that all Sudbury INO sites have been ISO 14001 certified, and they were recently combined into one, integrated ISO 14001 system?

So what is ISO 14001?
ISO 14001 is the international standard for environmental management systems. It maps out a framework that a company or organization follows to achieve an effective environmental management system, which in turn, drives continuous performance improvements.

To maintain this high level of excellence, an independent third party audits Sudbury INO each year to ensure our Operations not only remain compliant, but continually improve, adding value to the organization.

Raising the bar.
Sudbury INO’s Environmental Management System lays out a clear set of criteria for:

- Managing significant environmental aspects, with clear environmental objectives, targets and plans
- Training employees and contractors to build awareness of the environmental management system, ensuring that everyone understands their responsibility
- Reviewing the system annually to ensure its effectiveness

What does success look like?

- Demonstrated commitment to the environment and the mitigation hierarchy, with defined responsibilities and accountability for employees
- Monitoring and reporting on environmental performances
- Achievement of environmental objectives
- No significant environmental incidents occurring at all sites

Two members of the Mobile Maintenance Crew at Nickel Rim South Mine working at the 1,480 m underground workshop.

Shane Southwind, our Underground Miner at Fraser mine, and also a proud member of Sagamok Anishnawbek First Nation.

Michelle Lemire, Strathcona Mill Technician III, conducting water sampling within our Strathcona Wastewater Treatment System at Chaping.

Adam May, Smelter Occupational Hygiene Technician, changing the particulate filter at the Air Monitoring Station in the town of Falconbridge.
Craig Mine - Onaping Depth Project

Realizing the future of Sudbury INO by reimagining the future of mining

More than a quarter century ago, when Glencore first identified significant deposits of nickel and copper ore 1.5 kilometres below the bottom of its Craig Mine shaft, the idea of mining at such depths seemed impossible. From both an economic and technical perspective, there were simply too many barriers to overcome. Fast forward to 2018, and Onaping Depth, expected to reach nearly three kilometres beneath the surface, was given the green light for construction to begin.

So what changed? In a word, technology. To begin with, there have been advancements in battery technology due to an ever-increasing demand for battery powered vehicles, including those in the mining industry. Once an entire fleet of underground mining vehicles and equipment running on battery-powered electricity with zero emissions became a possibility, solutions to all other barriers seemed manageable. For example, a reduction in emissions results in a reduction in the need for ventilation, which in turn reduces the mine’s overall power needs. Sudbury INO continues to work with major Original Equipment Manufacturers (OEMs) to develop a battery technology that will be practical, powerful and cost-effective.

Glencore Sudbury INO’s creative and engineering expertise then turned its attention to applying existing computerized mining technology to move towards a more autonomous operation with real-time monitoring and control from a remote location, either underground or on surface. This would not only maximize productivity but improve mine health and safety by removing workers from hazardous work sites. Supporting infrastructure will include a mine-wide underground-to-surface wifi network—Onaping Depth’s ‘digital backbone.’
Work to date includes completion or near completion of the shaft down to the -1,760 m level. Both Production and Service permanent winze hoists are operational in a ‘sinking’ configuration and construction of the customized underground headframe, ore bin and apron feeder are also now complete. All project development with the exception of that which will occur “off shaft” has been completed, including a one-kilometre section connecting Craig shaft to the internal winze. In this throughway, all rail and services are now installed and under commissioning, beyond which the project will commence the movement of personnel, materials and ore/waste via locomotive on this level. Construction is underway on the infrastructure including the cooling plant on the 1,915 m level. Power upgrades at Hillcrest are also substantially complete and the project is currently preparing to transition to 25kV power designed to overcome power loses as we travel to greater depths underground. The team is well underway with initial procurement activities to secure the Battery Electric Vehicle fleet required for underground development in the coming years. The current timeline has first ore up from Onaping Depth in 2024 and the mine completed by 2025.

Once complete, Onaping Depth mine will become a primary source of nickel ore for Glencore Sudbury mill and smelter operations for years to come. It will serve as the newest template for deep mines of the future as they become more common in hard rock conditions. Its innovative advancements in design and application of new technologies will show the way to build and operate deep mines while maximizing productivity, reducing the environmental impact on the community and ensuring the health and safety of employees.

Glencore Sudbury INO’s primary commitment to health and safety extends far beyond the workplace, into employees’ home lives and the community at large. This was especially true during the past year as the Northeast was not spared the effects of the global COVID-19 crisis. Glencore’s response to the pandemic has been to act according to the specific needs of its partner communities, all supported by a global commitment of a US$25 million Community Support Fund. Through Sudbury INO’s Infectious Disease Task Force, which monitors the COVID-19 situation with daily, weekly and monthly reports, the fund is supporting efforts to combat COVID-19 through contributions to long-term care facilities, daycare for frontline workers and initiatives to support the homeless, to name a few.

Another COVID-related addition to health and safety promotion was Glencore’s KNOW campaign, an internal program initiated last year. It promoted the importance of following COVID-19 safety guidelines such as mask wearing, social distancing, staying within your bubble, etc.

As our safety program continues to mature, a long-term strategy is emerging in the area of advancements through technology. For example, autonomous mining operations at Onaping Depth will effectively remove workers from hazards at the mine face. Innovative thinking is also being applied to the reduction of emissions at Onaping Depth, as well as throughout Sudbury INO operations and the community at large. There have also been significant safety improvements at the smelter. The Process Gas Project has been completed with zero loss time injuries, and the Particulate Emissions Project has reduced particulate emissions and improved the smelter’s economic viability. In all, Sudbury INO has made tremendous improvements to the reduction of emissions at Onaping Depth, as well as throughout Sudbury INO operations and the community at large. There have also been significant safety improvements at the smelter. The Process Gas Project has been completed with zero loss time injuries, and the Particulate Emissions Project has reduced particulate emissions and improved the smelter’s economic viability. In all, Sudbury INO has made tremendous improvements in reducing emissions while increasing productivity.

In 2020, Sudbury INO celebrated the 10th anniversary of its Healthy Living Challenge with health partner Med-I-Well by launching a Healthy Weight Challenge that engaged more than 400 employees at the start of the year. Over a six month span, participants worked with coaches to improve their lifestyle and body composition through education and encouragement. The program adapted to an on-line format due to the COVID-19 outbreak but still managed a successful outcome and had a positive impact on the health and well-being of employees.

Other preventative measures adopted by Sudbury INO have included:
- Information posters, website and intranet pages
- Letter to the community
- Active screening
- Barriers installed in work vehicles and refuge stations
- Strict physical distancing in all areas
- Offering remote work arrangements where possible

Our commitment to the community was demonstrated by Sudbury INO’s success in maintaining continual operations throughout the pandemic. The mining sector was designated early in the pandemic as an essential business in the Province of Ontario. The province allowed us to operate but the ability to continue business and maintain employment for our workforce was largely the result of our employees’ compliance to the COVID-19 controls we implemented and compliance to the advice of our public health officials.

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Glencore Sudbury INO has always based its role as a corporate citizen on the belief that when the community succeeds, so does the company. In the past decade, the company has made local contributions totalling $18 million. This support has never been more evident than during the past year as Glencore’s continued growth and optimism for its own future is reflected in several positive partnerships and noteworthy contributions.

The largest single donation was $500,000 towards a second MRI for Health Sciences North and the Northern Cancer Centre. This critical tool in cancer treatment will speed up response times thereby improving patient outcomes in northeastern Ontario. Glencore Sudbury INO continued its support of United Way’s ‘Local love in a global crisis’ campaign with an additional $40,000 on top of the basic needs of those impacted by COVID-19. Contributions went to where the need was most urgent including Indigenous communities, long-term care facilities, Maison McCulloch Hospice, and the YMCA, which provides daycare for front line healthcare workers and facilities for the homeless.

Speaking of COVID, as part of Glencore’s Community Support Fund to assist local responses to the pandemic, $170,000 has been earmarked for Sudbury area needs. Contributions went to where Glencore Sudbury INO is pleased that we have been able to continue our strong partnership with NORCAT. Known formerly as the Northern Centre for Advanced Technology, NORCAT was founded in 1995 by a team of business and academic visionaries who recognized the need for an organization to promote, educate, and support local entrepreneurs, tech innovators, and skilled labour workers to enable long-term and sustainable economic and social prosperity for Northern Ontario.

In 2019, NORCAT, in partnership with all levels of government, Glencore, and other industry partners, embarked on an ambitious project to construct new surface operations at the Underground Centre located within Sudbury INO’s properties in Onaping, Ontario. NORCAT’s new state-of-the-art facility was designed to support their aspirational goal to be a global leader in skilled labour training and development, and their goal to serve as the global one-stop shop for all that is the future of mining technology and innovation. In spite of some unexpected pandemic-related challenges, their new facility is complete and we are more excited than ever about the role NORCAT will continue to play to anchor one of the most vibrant mining communities, long-term care facilities, Maison McCulloch Hospice, and the YMCA, which provides daycare for front line healthcare workers and facilities for the homeless.

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Above: Through Glencore’s COVID-19 community fund program, Sudbury INO funded the 43 custom built garden boxes at Wahnapitae First Nation (WFN) as part of their Gardening Project 2020 for community residents. The garden boxes, made by a WFN community resident, were given to 43 members of the community, and filled with top soil. The community members also received a variety of vegetable plants. This project was part of a self-sustaining community program that WFN established due to the pandemic.

Northeast Cancer Centre | Centre de cancérologie du Nord-Est

Glencore Sudbury INO was proud to announce a $500,000 donation supporting the Unlock the Potential MRI Campaign from Northern Cancer Foundation and Health Sciences North. As a long-time partner of Health Science North and the Northern Cancer Foundation, Glencore looks forward to the much-needed (WFN) as part of their Gardening Project 2020 for community residents. The garden boxes, made by a WFN community resident, were given to 43 members of the community, and filled with top soil. The community members also received a variety of vegetable plants. This project was part of a self-sustaining community program that WFN established due to the pandemic.

“our optimism is rooted in recognizing and valuing the relationships that NORCAT has worked to nurture and embrace since our inception,” says Don Duval, CEO of NORCAT. “The on-going supports Glencore is providing, including helping us in the construction of our new facility at the Underground Centre, having a representative serve as the Chair of our Board, and providing feedback and guidance to improve our training programs, are even more appreciated given the challenging times we have collectively been managing through.” It is relationships and partnerships like the one we have with NORCAT that truly give us optimism to proudly celebrate that our community and our industry are well positioned to thrive in the future.
Indigenous Partnerships
Caring for each other and the world around us

Sudbury INO’s active partnerships with local Indigenous communities continued this past year and were highlighted by activities related to reducing the impact of COVID-19. Sudbury INO donated funds to Atikameksheng Anishnawbek, Wahnapitae First Nation and Sagamok Anishnawbek First Nation for health supplies and other initiatives. These included the “Mijiim” (food) Support Program, setting up an isolation centre for community members who may become sick and want to isolate themselves from their families, and the building of garden boxes for community residents to grow their own produce, herbs, and medical plants, while enjoying the outdoors and promoting mental health and well being. In addition to these three local communities, Sudbury INO also has a Memorandum of Understanding with the Métis Nation of Ontario. Sudbury INO’s partnerships with the leadership in these Indigenous Communities enable us to share information, support community projects and infrastructure, and work together on environmental monitoring and rehabilitation.

One example of how an indigenous partnership can protect our environment is the Smelter Turtle Survey undertaken in May and June of 2020 by Sudbury INO, Tulloch Environmental Consultants and Wahnapitae First Nation. Five pond turtle surveys were conducted on Sudbury INO Smelter property in order to determine if turtles and their nesting grounds were present and if so, recommend best management practices to protect and improve this biosphere.

The survey confirmed the presence of two species of turtles at the smelter site including the snapping turtle. Snapping turtle overwintering sites are considered a Significant Wildlife Habitat due to their at risk status. As a result of the survey, “turtle crossing” signage will be placed where appropriate. Smelter employees will be provided information on the turtles and encouraged to report any turtle sightings. Barricades will also be erected around sensitive turtle nesting sites.

Speaking of turtles...

Should one of those Sudbury INO Smelter snapping turtles ever find itself feeling under the weather, it just might end up going home with a Chemist in the Analytical Chemistry group at the Smelter. By day, Gloria Morissette is a Glencore chemist but at home she’s an authorized wildlife custodian at the Turtle Pond Wildlife Centre, serving all of northern Ontario. Gloria began the wildlife rescue centre on her family’s Val Caron property in 2017.

Turtle Pond Wildlife Centre focuses on the rescue and rehabilitation of turtles as well as bats. It will also treat other injured wildlife species, most notably birds, on a case-by-case basis. Gloria combines her natural scientific abilities with a deep love for wildlife in this passion project turned non-profit business. Glencore Sudbury INO congratulates Gloria for her work and for being an inspiration to us all. Learn more about the Turtle Pond Wildlife Centre by visiting its website: https://www.turtlepondwc.com.

Gloria Morissette, Sudbury INO Chemist III, at her Turtle Pond Wildlife location.
Industrial Residue Research - A field study of wood ash and sludge for mine site soil rehabilitation and biodiversity in the Sudbury basin

Glencore Sudbury INO is proud to support a study into the viability of using a wood-ash treatment for the purpose of soil remediation on acidified soils resulting from mining and smelting operations. It follows a pilot project done between the Natural Sciences and Engineering Research Council of Canada, Atlantic Power Corporation and Collège Boréal. In a controlled greenhouse setting, wood-ash was found to have statistically significant and positive effects on soil nutrients and tree seedling growth. The wood-ash has a low nitrogen content. Therefore, the purpose of the field trial will be to determine the most effective source (such as pulp sludge) and concentration of nitrogen to be combined with wood-ash to maximize soil fertility and plant growth to achieve biodiversity.

Laurentian University’s Vale Living With Lakes Centre has joined the partnership to research carbon sequestration on the Sudbury landscape. They are working with Collège Boréal to refine the treatment protocols and study the feasibility of using the ash in combination with other materials to find the ideal soil remediation mix for use in the Sudbury area.

We look forward to learning whether the research can be applied to improving soil conditions and contribute to increased biodiversity on the Smelter site.

The results will be used to shape the planning and implementation of long-term rehabilitation activities. Our goal is to restore the natural environment to its pre-mining/smelting state or a similar appropriate end land use. It provides a new opportunity to reduce soil acidity and improve soil nutrients while strengthening partnerships and community relationships. Furthermore, it provides a solution to re-purpose wood-ash and significantly reduce the amount of waste being placed in landfill.

Kudos

Samantha McGarry, Site Rehabilitation Lead at Glencore Sudbury INO, has been named the recipient of the Dr. Jack Winch Early Career National Award for her years of dedication and accomplishments in the field of land reclamation research and practice. Sam began work on Glencore brownfields in support of her thesis. Her unwavering work ethic, technical abilities and constant positivity drove her to achieve success after success, including having her thesis strategies and conclusions adopted by Glencore. Not surprisingly, Sam was also hired by Glencore! As Site Rehabilitation Lead, she continues to manage tailings reclamation research and is responsible for the development and implementation of closure plans for Sudbury INO and Timmins sites. Sam is also Glencore’s representative on Greater Sudbury’s VETAC (Vegetation Enhancement Technical Advisory Committee), which is responsible for Sudbury’s re-greening program. We are proud to recognize Sam McGarry as an exceptional example of leadership in mining reclamation.

Top of the rock

Excellence in rock mechanics at Glencore Sudbury INO was celebrated recently as Brad Simser, the company’s Principal Ground Control Engineer, was awarded the Canadian Institute of Mining, Metallurgy and Petroleum’s Rock Mechanics Award in the fall of 2020.

The award is presented to CIM members who have made significant and lasting contributions to the advancement of rock mechanics in the Canadian mining industry. Recipients are chosen by the CIM’s Society of Rock Engineering.

Brad’s career in rock engineering began more than 30 years ago with Anglo American in South Africa. Since then, he has worked as a ground control engineer with several operations. In his current position, Brad manages the ground control programs for the Fraser Mine Complex and Nickel Rim South Mine, and is the lead for mine development projects at Craig Mine - Onaping Depth and Nickel Rim South Extension.

An exceptional engineer who has authored numerous papers on the practical application of rock mechanics in operating mines, Brad’s industry-leading expertise and experience have helped countless underground workers come home safely after each shift. With Brad’s guidance, Glencore Sudbury INO will continue to advance the field of rock mechanics and the role it plays in building and operating safe mines.

CIM is the leading, not-for-profit technical society of professionals in Canadian minerals, materials and energy industries.
Exploration
Where it all begins

Who would have thought that more than 140 years after the first discovery of nickel ore at the famed Sudbury basin, Glencore Sudbury INO would continue to explore and identify significant new deposits in the area? In fact, the company’s exploration activity has been ongoing since its Sudbury operation began, resulting in the discovery of several significant ore deposits. Many of those finds have become operating mines that have contributed not only to the company’s longevity, but to the prosperity of the community at large.

The Sudbury Basin is a 1.8 billion year old natural wonder, a massive crater caused by a meteorite impact during the Paleoproterozoic era. The resulting geological formation, the rim of the basin, is where the different mineralization deposits, including nickel, copper and precious metals, are found. And it is where the exploration activity of the past century has been focused.

Today, Sudbury INO’s search for the next big discovery continues, but at depths that up until recently were thought to be out of reach. Over the last ten years, a number of discoveries including Onaping Depth, Nickel Rim Depth, Norman West and Moose Lake in Levack Township, have uncovered significant deposits, some as deep as 2.5 kilometres beneath the surface. The process of following the geological clues and trends in the rock requires specialized disciplines that include field mapping and analysis, remote sensing and geophysics, geochemistry, computer modelling, targeted core drilling and others.

Exploration work at ever-increasing depths does not happen without an element of risk and Sudbury INO ensures that the health and safety of its exploration team, including contract workers from the supply and services industry, is a top priority. Quality-driven procedures have resulted in a zero LTI (Loss Time Injury) record since 2008. These procedures include targeting high-risk situations in collaboration with workers, safety training, ongoing procedural improvements, and interactive on-site safety pauses.

Gregg Snyder, Manager of Geology and Exploration, Sudbury INO, says exploration activity will continue at several locations along the Basin through 2021 and beyond. While successful exploration and development are important for the future of the company, Snyder says there is a significant ripple effect. “For the community and for society, successful exploration and development creates well paying jobs and new infrastructure such as roads and electric power supply. These in turn are catalysts for broader economic development and increased government revenues, which are then invested in priorities that include education, healthcare and social programs that support those in need.”

When it comes to Exploration at Glencore Sudbury INO, it is one division that truly embodies the company’s core purpose of responsibly sourcing the commodities needed to advance everyday life.
About Glencore’s Sudbury Integrated Nickel Operations (Sudbury INO)

Sudbury, Ontario, Canada is one of the most geologically rich areas of the world. This northern city in the Canadian Shield boasts a 60-kilometre-long formation called the Sudbury basin, which is brimming with nickel, copper, cobalt, gold, silver, platinum and palladium deposits. It’s also been home to Sudbury Integrated Nickel Operations since 1928.

Our Sudbury operations include exploration, underground mines, a mill and a smelter, all located in this basin. We currently employ more than 1,250 permanent employees.

Our Report to the Community contains information from around our operations in Sudbury. If you have a suggestion for topics you’d like to read about in the next edition or a comment on this issue, email us at sudburycommunity@glencore.ca or contact Iyo Grenon at 705 693 2761, ext. 3120.

Front cover painting of Glencore’s Craig Mine - Onaping Depth and back cover painting of Norman West, were painted by Hans Matthews, a local Aboriginal Anishinabek Nation artist and geologist from the Wahnapitae First Nation, Ontario, Canada. Hans is the recipient of the 2020 PDAC Skookum Jim Award.