



Newfoundland  
and Labrador  
Operations  
Update  
2019 – 2020

# Mission, Vision, Values

## Mission

To transform natural resources into prosperity and sustainable development.

## Vision

To be the number one global natural resources company in creating long-term value, through excellence and passion for people and the planet.

## Values

- Life matters most
- Value our people
- Prize our planet
- Do what is right
- Improve together
- Make it happen

## On the cover:

Voisey's Bay Mine Expansion Project



Labrador Operations

Voisey's Bay Mine Expansion Project

Long Harbour Operations

## An important note about the photography

Most of the photographs used in this report were taken prior to the coronavirus pandemic. Vale is taking all precautionary measures, putting safety first. For more information on Vale's response to COVID-19, please visit [www.vale.com](http://www.vale.com).

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# A message from Dino Otranto

A year ago, in this Community Report, I spoke of managing risks in our Base Metals business. At that time, I made a pledge to work tirelessly to understand them, and to put key controls in place to mitigate risks.

As part of this commitment, we have undertaken a new safety project called the Hazard Identification and Risk Assessment (HIRA), which delivers a detailed assessment of what needs to be improved within our operations and defines the critical controls. While COVID-19 has caused delays in completing HIRA across all sites, we are back on track and will have the balance completed by the end of Q3 of 2021.

In addition to tackling existing risks in our operation, our commitment to health and safety has carried us through the throes of a pandemic as we continued to operate as an essential service across the North Atlantic.

I am proud that Vale's response to COVID-19 was immediate, aggressive and laser-focused on the safety of our employees and local communities. Onsite, we implemented strict safety protocols aligned with public health guidelines. In addition, our employees developed innovative solutions, such as foot pedals to open doors hands-free and personnel separators in cages to ensure we could continue to safely transport groups underground.

The pandemic also presented opportunities to give back to our communities. At our North Atlantic operations, we donated a total of 400,000 N95 masks and \$135,000 to food banks and hospitals and other service providers in April 2020. Globally, Vale launched the US\$1 million COVID-19 Challenge to propel innovative solutions into the

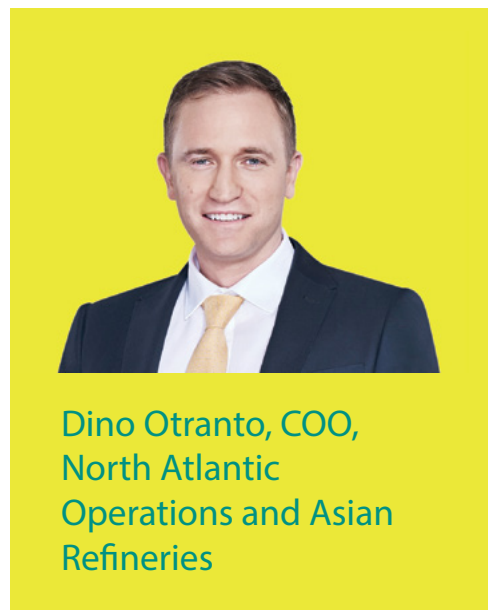
worldwide marketplace. Thousands of entries later, 11 were selected, including two from Northern Ontario.

With respect to delivering safe production, I saw the hard work that our surface plant employees were doing, and thanks to them, we met our finished nickel target. Despite mine production being lower than planned due to the impacts of COVID-19, we are focused on driving key improvements in this area as we continue to invest in digital transformation and other innovative ideas to enhance our efficiency.

Rounding out this year's efforts is a reinvigorated commitment to make Vale a diverse and inclusive organization. I am a strong believer in the value that can be achieved by promoting diversity of thought and experience throughout our operations and ensuring it better reflects the diverse communities that we live and work in. While there is more work to do in this area, we are making good progress in driving change.

Despite the challenges presented by the COVID-19 pandemic, I am proud of all that we've accomplished over the past year as we continuously improve to become a more sustainable company. We are all in this together, and together, we will architect new and better solutions for our future.

**Dino Otranto**  
COO, North Atlantic Operations and Asian Refineries

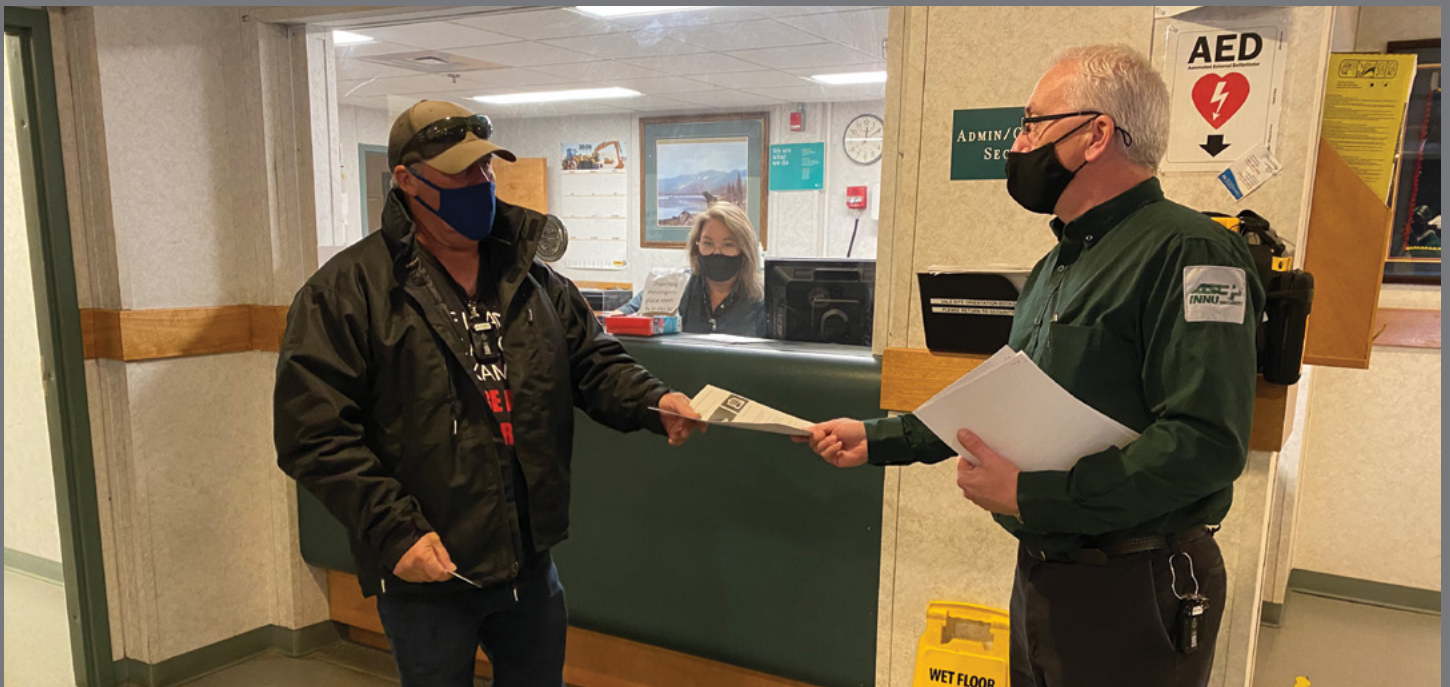
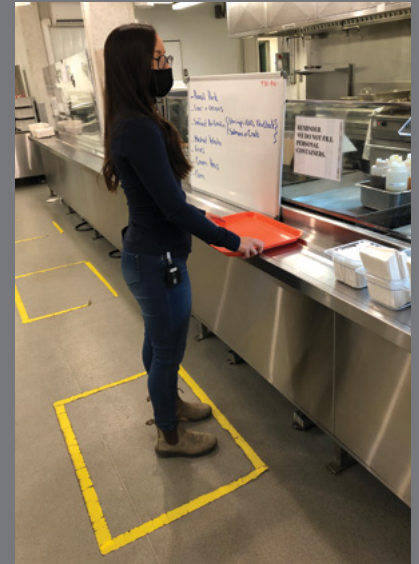


Dino Otranto, COO,  
North Atlantic  
Operations and Asian  
Refineries

# True North strong and COVID-free

On March 16, 2020 Vale's response to the global pandemic was immediate. Three very different locations in Newfoundland and Labrador required three different solutions: Employees at our St. John's office, where physical distancing couldn't be maintained, began working from home while our Long Harbour Processing Plant remained open with enhanced COVID-19 safety protocols firmly in place. But at our remote mine site in Voisey's Bay, after consultation with Aboriginal partners, the decision was made to go into care and maintenance to protect both employees and residents in the surrounding communities. At the time of writing, all support functions across the business, including all non-production essential employees, continue to work from home.

A Contact Tracing Badge is affixed to Safety advisor Caitlyn Lyall's beltloop as she follows physical distancing protocols, awaiting her meal in the cafeteria at Voisey's Bay.



After picking up his Contact Tracing Badge at the desk, this employee receives instructions from the security guard on how to wear and protect the badge. The employee has the badge around his neck, while the security guard wears one on his belt. Read more about our Contact Tracing Badges on page 5.

## Life matters most

Residents of the Nunatsiavut and Innu communities near Voisey's Bay are at greater risk due to limited access to healthcare and close familial living quarters. By stopping production and limiting onsite personnel for four months, we were successful in keeping everyone safe. Another success: open and transparent communication with employees, union, government and health officials, and Aboriginal partners — every step of the way. In July, operations resumed in part, and by August, we were at full capacity.

Now, at all sites, we are pre-screening employees reporting to work, mandating masks, following physical distancing rules with clearly marked areas, and we have ramped up cleaning and disinfecting. We are also using Contact Tracing Badges, pictured on the opposite page. At our St. John's office, a return-to-office initiative is currently being developed.



## Donations of food, funds and fun

Locally, Vale donated to community frontline healthcare workers and food banks while fresh fruit and vegetables, previously slated for Voisey's Bay before our company put it into care and maintenance, was donated to the Nunatsiavut and Innu communities. The Nunatsiavut communities were also provided with games and puzzles for

every household, as a positive distraction for mental health and wellbeing during what was a difficult and stressful time. Other donations included \$10,000 to the Canadian Cancer Society's COVID-19 Emergency Fund, \$20,000 to Canadian Red Cross and the Canadian Mental Health Association, and N95 and surgical masks were provided to Eastern Health.



## Facing the challenge

Dale Loder, a Senior Chemist at our Long Harbour Processing Plant, received approval to use Vale's 3D printer to make faceshields and ear protectors for healthcare and essential workers in the community. We are proud of Dale for exemplifying our company value: **Make it Happen.**

## Putting our best foot forward

With ingenuity, collaboration and maintenance know-how, some of our employees at Long Harbour worked together to fabricate foot pedals for safely opening doors in high-traffic areas such as washrooms and lunchrooms.



# We make it happen

From Snowmageddon to COVID-19, our employees met each challenge head on, living up to our company value, **Make it Happen**. And, despite the setbacks, we have managed to make good progress with our projects and operations in Long Harbour and Voisey's Bay.

## Long Harbour Riding out the storm

There's no doubt about it: the tenacity and resiliency of Newfoundlanders and Labradorians met the first big test of 2020 when ferocious snowstorms brought the Eastern region of the province to a halt. Dubbed "Snowmageddon," it tested everyone's patience to the limit. But our Long Harbour Processing Plant was ready thanks to the formation of a Crisis Management Team that had proactively created a contingency emergency plan, ensuring our employees were safe and our assets were secure. Managers and employees slept at the Plant for five days during the state of emergency to preserve the Plant while operating with minimum employee numbers. Meanwhile, the company kept everyone safe, comfortable and fed, and provided snow-clearing support to the families of employees who had remained onsite.



Resilient employees kept on working through "snowmageddon."



## Keep calm and carry on

Residents on the Avalon Peninsula and Vale alike only had a couple of months to recuperate when the global pandemic hit in March. While quickly initiating physical distancing procedures, our Plant continued nickel, copper and cobalt production with a fully employed workforce that, despite the obvious challenges, exceeded the target production goals for May, June and July 2020.

## The ABCs of ISO

The product handling area at Long Harbour achieved ISO certification, which means our nickel can now be sold on the LME (London Metals Exchange). In addition, the lab at Long Harbour is continuing its quest for ISO 17025 certification, an accreditation for testing and calibrating that is currently in development with a target to achieve certification by the end of the second quarter in 2021.

## Community Calls

Our Community Liaison Committee continues to ensure open and transparent communications between Vale and surrounding towns, neighbours as well as government regulatory bodies. Talks cover a broad range of topics from local employment benefits to health and safety on our work site to environmental issues, production performance to community support that is provided by Vale.



Team terrific! This is our Long Harbour Processing Plant (LHPP) ISO certification team.

## Voisey's Bay

### Working on It

At the beginning of 2020, our operation in Labrador was in full production, and our Voisey's Bay Mine Expansion project (VBME) was in full swing. In March, COVID-19 hit, and a decision was made to enter into care and maintenance for four months to safeguard our employees and the surrounding communities, which are remote and without readily available healthcare. A staged execution plan began in July, and by August, the project team resumed the critical path to project completion, and the Mine and Concentrator site returned to full production. The future of Voisey's Bay is in underground mining, and we are on track to reach first production in the first half of 2021.

### On top and down below

This past year we have focused on the surface site that will house the base plant and powerhouse for underground. The powerhouse building has been erected and cladded and the fresh air fans have arrived onsite for the underground mines. By August 2020, 8,000 metres had been completed in our Eastern Deeps and Reid Brook mines combined.



### Everyone gets a badge

In Voisey's Bay we rolled out Contact Tracing Badges on our site to help identify when individuals have been in close proximity to someone who has been diagnosed with COVID-19. Data collected by the credit card-sized badges, which can be placed in pockets or clipped to clothing, will help to increase the accuracy and speed in which contact tracing can be completed by local public health authorities, and assist with containing the spread of the virus.



Head of Labrador Operations Gary Annett wears his contact tracing badge at Voisey's Bay. These badges are also being used at Long Harbour.

## Floatel at Voisey's Bay

In 2019, while an extension to the accommodations complex on site was being completed, Vale worked proactively to find a solution to house the added workforce for the summer and into late fall. After consultation with our Aboriginal stakeholders, the idea of a floating hotel (aka floatel) was hatched using the 'MV Bluefort', a refurbished car ferry. Before, during and after the 'MV Bluefort's' departure, several environmental monitoring initiatives were put in place to assess conditions, and guidelines and controls were followed such as wildlife surveys, water quality assessments and daily checks for water contaminants. The 'MV Bluefort', which was moored in Edwards Cove, was a successful temporary solution.



The 'MV Bluefort', a refurbished car ferry that's being used as a floating hotel, or floatel, at Voisey's Bay. Photo: Bridgemans Services Group

# Safety does it

Health and Safety is more than just a slogan at our mining and processing sites in Voisey's Bay and Long Harbour. Through continuous improvement and new technologies, we are honouring our core company value, **Life Matters Most**.

## Voisey's Bay

### Dashboard safety

This year at Voisey's Bay we developed Major Hazard audit forms for critical high-risk mining tasks. The audit forms help us better track the operations' major hazards, and offer valuable learnings about non-conformities. Audit forms are delivered electronically via dashboards to supervisors who debrief employees and encourage conversations about the audits at daily kickoff meetings.

### Bowties are on trend

To identify top risks during our transition to underground, our Operations and Health and Safety areas are utilizing BowTieXP software to assess risk.

Called "BowTies" because of their shape, this software illustrates both the proactive and reactive sides of risk management in one understandable image. The BowTie initiative began in February with a major focus on safety in small spaces, and overall, is being used for continual testing of our safety measures.

### Say what?

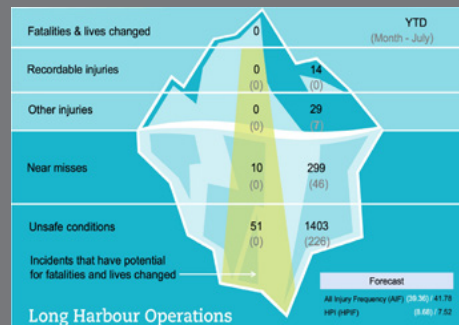
We are working to decrease the decibel rating in our Concentrator by redesigning and redirecting noise from the Larox® mufflers to a room where no one needs to physically work.



## Long Harbour

### Tip of the iceberg

In Long Harbour, initiatives are underway with a focus on hand and eye injuries. A new visual incident "iceberg" highlights higher risks to employees and audits are done daily to reinforce prevention, manage risks and mitigate injuries.



This "iceberg" graphic shows how health and safety audits that helping to mitigate and reduce workplace harm to employees.

### Dust it off

We're also hard at work reducing the exposure for our employees to nickel concentrate dust. In addition to wearing respirators, we're installing profile gates and a longer scraper on conveyor belts, as well as installing a dust capture system grating on the third storey of our Processing Plant. Two Operations teams are currently collaborating on how to reduce the amount of dust in the air.

6

years.

6,438,725

combined hours.

0

Lost-Time-Injuries (LTIs).

## One for the records... again!

Voisey's Bay was awarded the national John T. Ryan Trophy in the Select Mines category for an outstanding safety record during 2019 by the Canadian Institute of Mining, Metallurgy and Petroleum (CIM). This is our sixth consecutive year winning the prestigious national award, and in doing so, we have set a record in that division.





# We prize our planet



Vale outlined its New Pact with Society with a set of targets that will see our company become a leader in sustainability. Our targets include, but are not limited to, reducing water consumption and greenhouse gas emissions, and becoming carbon neutral by 2050. Here's how we're reaching our targets in our operations in Long Harbour and Voisey's Bay:

## Long Harbour — a study in environmental stewardship

Two studies were completed that show our continued support for environmental stewardship: The first was a plume study, which tracked effluent using an environmentally friendly additive. The additive showed effluent travelling through the outfall pipe and into a diffuser where it dissipated, as it should, and then it quickly dispersed to natural sea water compositions.

The other study looked at the health of the fish population. Consultants used local fishers to catch fish around the diffuser and background areas. They reported that fish were easier to catch close to the diffuser, suggesting that the water quality near the diffuser is as good as the background locations.

## Rocking the lobsters

We are pleased to report that the Department of Fisheries and Oceans approved our like-for-like lobster reef at Long Harbour, which is part of a 10-year-long marine habitat program as there was increased abundance of finfish, habitat usage and the habitat is functioning as intended.



## Voisey's Bay — shining a light on the environment

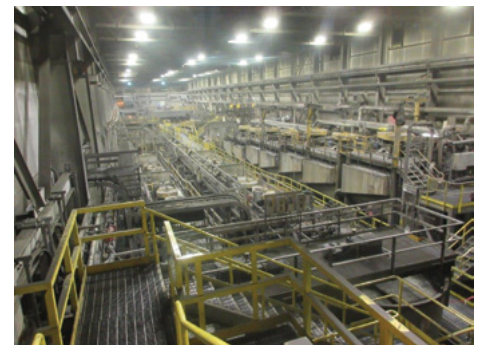
Our remote location means that we take our responsibilities to clean earth, air and water seriously. Here's what we're doing to meet those commitments:

### Sprouting success

One of our strategic goals was to revegetate/rehabilitate nine hectares of previously impacted areas with strategic placement of topsoil and introduction of native species identified in our environmental assessment. Rehabilitation projects such as these ensure that areas are restored to pre-construction conditions.

### Waste-not water

The site also has a target to reduce water consumption by 10% over the next 10 years. To help us achieve this target we have installed water flow valves that measure usage. Also, studies are underway to determine how much reclaimed water can be blended while still being able to maintain current production levels. Results to date are promising.



### Let there be LEDs

Saving energy means reducing the amount of fuel needed to power our generators, thus reducing our carbon footprint. To that end, we have been replacing conventional halogen lights with LED bulbs throughout the mine site. LEDs use 25% to 80% less energy and last 25 times longer.

# Caring for our community

Vale's allegiance to the communities where we operate, and where our employees live, runs deep. Mental and physical health and wellness, and education topped the list of priorities.

## Minding mental health and wellbeing

We put our money where our feet are to assist the Canadian Mental Health Association — NL Branch as well as the Mood Disorders Society of Canada's Defeat Depression Walk, where funds raised at the walk went to The Pottle Centre, a community-based drop-in centre for clients of mental health services. Vale also supported programs at Stella's Circle — an organization that provides programs for adults experiencing barriers from poverty, homelessness, health issues or joblessness.

## Doing good for good causes

With the heart of our operations in Voisey's Bay, Labrador, we are very aware of costs associated with travel to the island portion of the province. Through support of Air Daffodil, a service that provides free flights to cancer patients from Labrador to St. John's, we hope to alleviate a small amount of stress cancer patients and their loved ones face as they seek treatment outside of Labrador.

This past year we also supported other healthcare organizations such as: Heart and Stroke Foundation, Janeway Children's Hospital, Trinity Conception Placentia Health Care Foundation, and the Diabetes Association of Newfoundland and Labrador.



## Come on In

Last year, we held our first Open House at our Long Harbour Operations where we welcomed community members to tour our site. Guests visited information booths, chatted with Vale employees and our leadership team to learn more about Vale's operations here at home, in Canada and across the globe.

Pictured below: Ticket purchases by Vale employees and a matching donation from Vale saw a total of \$23,192 donated to the Canadian Diabetes Association. Glen House and Guy Poole are pictured with cheque.



Vale manager Michael Garreffa and his children hold a donation cheque for Janeway Children's Hospital Foundation, as part of the foundation's annual telethon. Janeway is a registered Canadian charitable organization.

# Aboriginal partners

With the Voisey's Bay Mine Expansion project underway and as we begin to transition to underground mining, Innu and Inuit employment numbers remain high, though we always look for ways to improve.

In partnership with the Nunatsiavut Government and Innu Nation Vale is recruiting, retaining and increasing our Aboriginal employment numbers. Our Aboriginal employment coordinators and our Human Resources department help to identify training and employment applications and flag potential barriers for Aboriginal employees and improve our retention rate.

## Hiring and training blitz

Vale, in partnership with Labrador Aboriginal Training Partnership (LATP), continues to source, train and hire individuals from communities near Voisey's Bay. After qualifying interested candidates, they attend a four-week training program in Sudbury, Ontario. In 2019, we sourced, trained and hired 21 Underground (UG) Miner Beginners and eight UG Apprentices. We had a 90% success rate with 34 Aboriginal participants of which 95% were living in Innu and Nunatsiavut communities in Labrador. We will continue to work with LATP on screening and selecting potential candidates this year with a goal of hiring 36 UG Miner Beginners.



Vale employees and Aboriginal government representatives travelled to several communities to discuss employment and training opportunities.

Our Job Readiness Training Program hiring strategy for the Mine, Mill, Maintenance and Power House departments are building up the Aboriginal workforce to sustain future operations in Voisey's Bay.



## Toy drive overdrive

Vale employees in North Camp, South Camp and Goose Bay Building 311 channeled their inner Santa with a toy drive, doubling the amount raised last year. Since they did so well, they were able to delight the children in Makkovik and Postville with some extra gifts at Christmas.

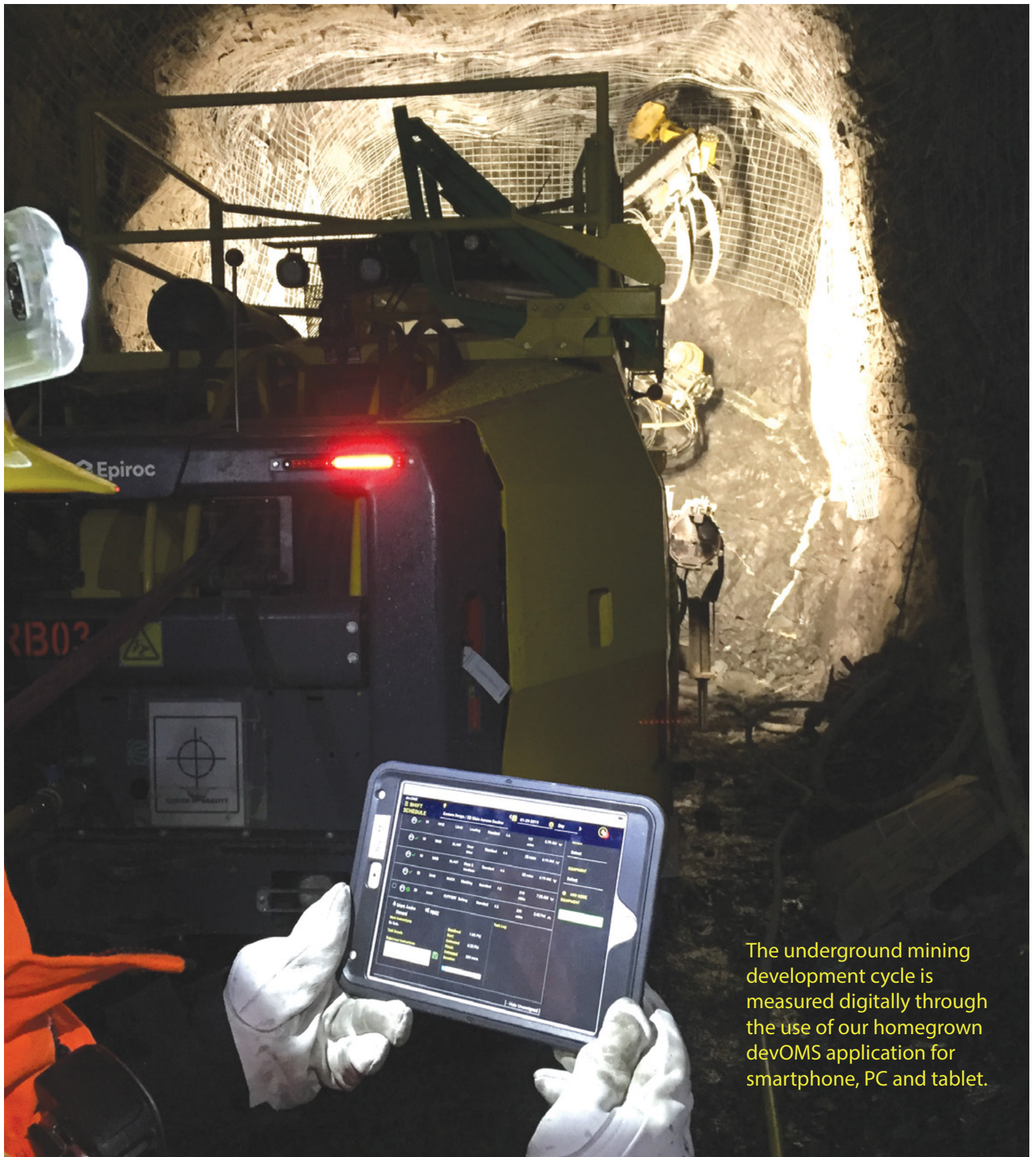


## Honouring Elders

For several Christmases, Vale has provided small tokens of our deep appreciation to the Elders in close-proximity communities. In December 2019, we were able to expand our gesture by flying 450 Purity gift boxes by Twin Otter to a total of seven communities — five Nunatsiavut (Nain, Hopedale, Postville, Makkovik and Rigolet) and the two Innu (Natuashish and Sheshatshiu).



Aboriginal Affairs superintendent Matthew Pike shows Vale's token of appreciation to the Elders of Aboriginal communities.



The underground mining development cycle is measured digitally through the use of our homegrown devOMS application for smartphone, PC and tablet.

If you have any comments or suggestions regarding any information in this report, please call 1-800-698-6540 in Labrador or 709-752-1967 in Long Harbour or email [VNL.Info@vale.com](mailto:VNL.Info@vale.com).