

connect

Volume 19, 2017



MAKING THE WORLD A BETTER PLACE

Giving Back

Teck Employees Making an Impact

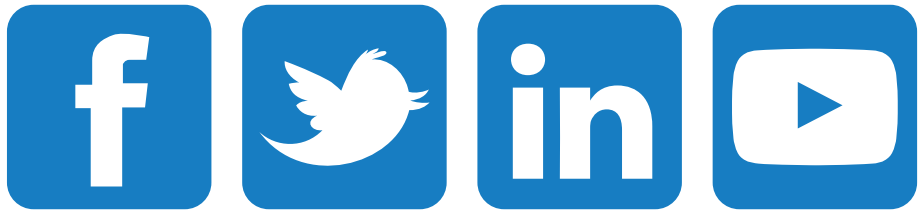
Everyday Essential Elements

Our Products,
Helping Improve Lives

A Supportive Workplace for Everyone

Transgender Employees
Share Their Stories

Teck



SEEN ON SOCIAL



Watch Fort Chipewyan Métis president Jumbo Fraser talk about his home and about working together to build a strong future.



Congratulations to Teck's Amparo Cornejo on being recognized by the @CanEmbChile for her work with Indigenous Peoples.




#TBT 1915 a dapper crew at our Teck-Hughes Mine in Ontario. #Canada150

We're sharing Teck's stories on social media. Visit us online to find these and more.

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 Teck Resources Limited



Craig Bishop from our Coal Mountain Operations discusses Teck's efforts to prevent serious injuries: "It's so important to speak up when it comes to safety. ... We're listening to those concerns and taking action on them with real, practical solutions."

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On the Cover

Sebastian Malagueño
Plant Manager
Quebrada Blanca Operations

Thank You

Many thanks to those who contributed to and participated in this issue of *Connect*:

Catherine Adair, Community Relations Leader, Trail Operations; Ken Andersen, Mine Technical Supervisor, Highland Valley Copper; Mohammad Babaei, Senior Technical Analyst, IS+T Operational Technology, Line Creek Operations; Marsha Bradcoe (retired), Haul Truck Driver, Fording River Operations; Barbara Brice, Senior Human Resources Generalist, Pend Oreille Mine; Pamela Chait, Manager, Corporate Affairs, Santiago office; Rebecca Edwards, Communications Coordinator, Sparwood office; Francisca Gregorio, Communications Specialist, Corporate Affairs, Santiago office; Gord Kavaloff, Senior Reliability Specialist, Trail Operations; Hadden Kelloway, Blaster, Elkview Operations; Brian Kennedy, Project Director, Project Development and Engineering, Vancouver office; Peter Martell, Superintendent, Environment and Community Affairs, Highland Valley Copper; Cole Massaro, Equipment Operator, Greenhills Operations; Anna Mihalj, Technician, Mining, Engineering, Greenhills Operations; Nic Milligan, Manager, Social Responsibility, Sparwood office; Rick Plovie, Support Equipment Planner, Highland Valley Copper; Marisol Reategui, Executive Assistant, Exploartion, Surco office; Mark Richards, Manager, Mining Technology, Applied Research and Technology; Jacqui Schneider, Senior Community Affairs Officer, Highland Valley Copper; Herman Urrejola, Manager, Social Responsibility, Santiago office; Fritz Westlake, Community Relations Coordinator, Public Relations, Red Dog Operations; Richard Weymark, Dam Construction Manager, Highland Valley Copper; Alexa Young, Manager, Federal Government Affairs, Vancouver office



Welcome

In today's world, it seems more important than ever that we come together to effect positive change—that we embrace cooperation over conflict and inclusion over exclusion.

At Teck, creating positive change is also reflected in our core values, notably Integrity and Respect: we are honest, ethical and fair in our words and our actions; and we value diversity and treat everyone with respect.

In this issue of *Connect*, we are highlighting the positive impact we—individually, collectively, and through the products we produce—are having on the world.

In “Giving Back: Teck Employees Making an Impact” you will read about the volunteer work employees and their families are doing locally and across the world, making a real difference in people's lives and helping build healthy, vibrant communities.

And when we talk about making the world a better place, people sometimes wonder what role a mining company can play towards building a better future.

Mining has been a driver of human progress since the dawn of civilization; we even describe periods of history and advancement based on what was being mined at the time: the Stone Age, the Bronze Age, the Iron Age.

And now people call this the Information Age, and mining has a huge role to play. The digital technology we take for granted—our smartphones, tablets, Wi-Fi—all rely on a backbone of metal: data servers with miles of copper for wiring and power transmission, lithium for portable batteries, gold for connectors, and you may not see it, but “the cloud” is really made of metal.

In “Everyday Essential Elements” you will find these and other examples of how the products we produce are fundamental to our modern, sustainable society and to solving some of the world's most critical challenges.

I recently had the opportunity to chair the Governor General's Canadian Leadership Conference—two of the 260 participants were Teck employees—and this is a key question that those young leaders were tasked with: how can we work together to tackle some

of the greatest challenges facing our society and build a better world. Their experiences are featured in “Leadership Lessons: Looking to Canada's Future”.

Part of building a better world is making sure our society and workplaces embrace diversity and inclusion. In “A Supportive Workplace for Everyone”, it is encouraging and inspiring to hear of two transgender employees in the Elk Valley who share their stories and how their respective workplaces helped provide an inclusive and supportive environment.

I would like to thank the employees featured in this issue, along with the many more doing work in their communities and beyond. I hope you continue sharing your stories, inspiring others to come together, and building a better future for all of us.

Don Lindsay
President and CEO

GIVING BACK

TECK EMPLOYEES MAKING AN IMPACT

Every day, Teck employees and their families are making positive impacts in their communities and beyond, volunteering their time and skills to a range of causes. This work is making a real difference in people's lives and is helping build healthy, vibrant communities.

Here, we're proud to share some of those stories, showing how together and individually, we truly can make the world a better place.



A Summer of Severe B.C. Wildfires

Employees, communities and Teck work together to assist those in need.

Wildfires have become expected during dry summers in British Columbia (B.C.), but when they come in hot and fast, it's difficult for any community to fully prepare or handle the repercussions.

Residents of Ashcroft experienced this first-hand in early July 2017, when a nearby fire quickly ignited and an evacuation alert just as swiftly had some fleeing their homes. Among those forced to flee were a number of Teck employees who work at Highland Valley Copper (HVC) Operations, located about 50 kilometres southwest of Kamloops.

On Alert: An HVC Employee Shares His Experience

While on shift on July 7, Mine Technical Supervisor Ken Andersen received a call from his wife, Tracy; she notified him that a fire had started near their home in Ashcroft.

"She called and told me I needed to come home right away because there was an evacuation alert for Ashcroft," Ken recalls. He jumped into his vehicle and made his way home.

"Heading into Ashcroft, it was quite amazing to see the amount of smoke," says Ken.

I used to be a firefighter in Cache Creek, but I've never dealt with something to this degree and nothing this close to family.

"The flames were phenomenal, but at the same time they were on the other side of the river, so I didn't worry too much."

The fire continued to grow, displacing residents of neighbouring Cache Creek next and also getting the attention of many other nearby smaller communities, where residents prepared and waited for the order to leave.

While Ken's home wasn't in imminent danger any longer, his son Jared's hobby farm on an acreage in 16 Mile was in the midst of weathering the firestorm. Ken joined his son, spending five days helping safeguard his property with the use of the community's cistern and heavy duty equipment regularly used for his son's landscaping business.

"We hooked up the trailer to my son's truck and then we put another portable tank on the back. We kept filling that up



Team Teck Community Giving

Employee donations to the Thompson-Nicola Region Wildfire Relief Effort were made through the Team Teck Community Giving program, an employee-led community investment program through which employee financial support for community organizations can be increased with an equivalent contribution from Teck.

For more information about the program or to request a donation match, visit the Team Teck Community Giving website at easymatch.com/teck



and kept spraying water on his house and on all of the trees and grass and everything surrounding it just to keep it damp. We did the same thing on other people's places as well."

During the day, the makeshift crew patrolled the community, feeding neighbours' livestock and pets, and ensuring flammables like debris and propane tanks were safely stored.

An eerie feeling started to settle in as the long days dragged by; the fire came close but only danced around Jared's property. The next day the winds changed and the fire subsequently changed course.

"I used to be a firefighter in Cache Creek, but I've never dealt with something to this degree and nothing this close to family," says Ken. "It was surreal."

Ken was exhausted and thankful his family is safe but feels for other families impacted by the fires.

"It's just one more thing that's telling me not to take anything for granted," adds Ken. "But I kind of live by that concept in general. Appreciate what you have in life, because who knows what could happen."

A Community Comes Together

When she volunteered with the Red Cross at the evacuation centre in Kamloops, HVC's Senior Community Affairs Officer, Jacqui Schneider, heard first-hand from locals who were displaced during the disaster.

Through her role at HVC, Jacqui is connected with a number of people in the community, so when a crisis like this hits, there's a strong connection to the response efforts.

"There's definitely that personal side, where we know the people in the community—it's not just our employees who we engage with," she adds. "We know and care about the other people in the community, too."

Teck Matches Employee Donations

To support employees, their families, and residents of the Thompson-Nicola Regional District, Teck matched donations made by employees for wildfire relief up to a total of \$25,000. Support for the Thompson-Nicola Region Wildfire Relief Effort was earmarked for the Ashcroft, Kamloops, Lytton and Merritt food banks; the Canadian Disaster Animal Response Team; the SPCA; the Red Cross and the United Way. Teck donated an additional \$50,000 to these groups.

HVC also donated \$1,300 in groceries to the local legion in support of a lunch to feed those working around the clock helping with relief efforts and \$2,500 to Tk'emlúps te Secwépemc to support the Williams Lake evacuees who were camping on the Powwow Grounds. ■

Above left: Fire burning down the east flank of Elephant Mountain in Ashcroft.

Above middle: The Boston Flats trailer park was almost completely destroyed in the blaze, with only three residences out of several dozen left standing.

Above right: A sign outside the Cache Creek fire hall welcomes evacuated residents back home.

Photo credits: Barbara Roden/Ashcroft-Cache Creek Journal.



Building a **Stronger Future**, One Rock at a Time

Travelling to India to help a small community build a dam isn't exactly a vacation, but it's how one Applied Research and Technology (ART) employee chose to spend his holiday.

In March 2017, Mark Richards, Manager, Mining Technology, and his wife, Jacqui, were among a group of a dozen or so individuals who left the comforts of home bound for a labour-intensive two-week excursion abroad.

The group was brought together by Developing World Connections, an organization that matches volunteers with partners in developing countries to work together on projects that create long-lasting impact. In this case, volunteers also backed the project by acting as donors with a \$500 investment towards the enterprise; the remaining costs are paid by the residents of the benefiting community.

“There were a lot of hugs and you could tell our efforts were appreciated. You really felt you were making a difference.”

For this particular trip, the Kamloops, B.C. office of Developing World Connections worked with a non-profit in India to set the group up in a village near Bhinder, a community close to Udaipur, known as the Venice of India. Together, Mark and the rest of the team were to work with tribal subsistence farmers and their families on a project to construct a small dam, or weir, designed to harvest water as a means of doubling or tripling crop production.

Above: Mark and his fellow Canadian volunteers from Developing World Connections.

Opposite: Volunteers and locals work side-by-side, hauling rocks and other supplies to build the dam.



The introduction of dams in the area has proven to help grow produce not only to feed the village people but also to increase the harvest enough for cash crops.

“The idea is to build weirs to hold back enough water during the monsoon season so that the water percolates down into the water table and helps to recharge it,” explains Mark. “This will provide enough extra water to irrigate 10 hectares.”

On day one, the team turned up at the construction site to see an excavated trench and pile of nearby blasted rock. The crew quickly settled into their workstations, with the majority of the labour revolving around moving rocks towards skilled masons. Other workstations included mixing and carrying mortar using metal bowls balanced on their heads, breaking rock and carrying it to the dam, and laying the rock and

mortar to build the dam. The team used a makeshift ladder carried flat like a stretcher to haul boulders.

He says that the country continually surprised him with the contrasts between modernity and traditional practices, and though he loved his time there, Mark felt ready to return home at the end.

“Working with the people was really fun, even though we had no shared language; there was an emotional farewell at the closing-day ceremony for locals and the team members alike,” he shares. “There were a lot of hugs and you could tell our efforts were appreciated. You really felt you were making a difference.” ■



Mark, who says he intends to go on a similar trip in the future, is just one of Teck’s employees who give back with purpose.

Do you have a story of an employee who’s making a difference in the community or around the globe? Share your story idea with us by e-mailing connect@teck.com



Hoop Dreams Come True at Red Dog

Coming from a small rural village in Alaska, travelling to a big city out of state is something residents living near Red Dog Operations don't necessarily get the chance to experience; however, each year for selected high school students in the region, that opportunity comes knocking at their door.

In part due to the long, dark winters in Alaska, basketball is hugely popular among local young people. So in 2011, Teck helped develop an initiative that rewards students for outstanding performance in school and service in their communities with a once-in-a-lifetime trip to see National Basketball Association (NBA) games in major cities across the U.S.

The Red Dog National Basketball Association Program trips generally include between nine and 12 students, and to date have taken students to a variety of locations, including Florida, Texas and most recently New York City, where they watched the New York Knicks play the Detroit Pistons.

In addition to the game, students take part in professional development and cultural activities, guest speaker lectures, visits to college and university campuses and, in some cases, a basketball skills camp.

One of the founders in establishing the program, Fritz Westlake, Community Relations Coordinator at Red Dog, says a lot of the youth have never travelled outside their region or been on a large aircraft before. The result of this new experience is often culture shock, but participants always adapt quickly, and for many it ends up being a highlight of their high school years.

"Everyone always has an amazing time on these truly unforgettable trips," says Fritz. "It is really cool to watch the kids grow and become inspired to reach their dreams as a result of this special experience made possible by Teck." ■



Quilting for a Cause

A Rossland resident gifts artwork to benefit the Teck Acute Care Centre.

Giving back was easy for Karen Thatcher as a paramedic, but that was more than two decades ago. After a head-on collision left her with a serious head injury, the Rossland resident needed to find a new purpose.

She found quilting not only helped her heal, it also had the potential to inspire others to do the same. Her husband, Tim Thatcher, a fire captain with more than 40 years at Trail Operations, has helped her stay focused along the way.

“As part of my rehab I had to set goals and follow through, and I still do. It helps me continue to feel successful,” Karen explains.

Quilting has helped her regain hand-eye coordination, balance and focus, and today, Karen is an award-winning quilter who donates her pieces to various organizations, most recently gifting her large silk ‘B.C. Fishing’ creation to the new Teck Acute Care Centre, which will open at BC Children’s Hospital this October.

Karen’s quilt will be displayed on the third floor, home to procedure suites and the renal dialysis unit, as a part of the Children’s Healing Experience Project, which aims to make the new eight-storey centre a calming space for families and children undergoing treatment. ■

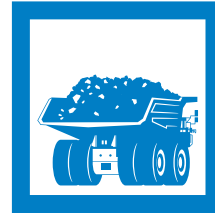
Circle of Giving

In addition to her donation to the Teck Acute Care Centre, Karen has a long tradition of supporting BC Children’s Hospital through her quilting, previously also gifting a child-friendly quilt series, featuring a super hero theme.

Now, Karen has set her sights on supporting Mining for Miracles, the B.C. mining industry’s charity of choice in support of BC Children’s Hospital, by donating a quilt to the 2018 Mining for Miracles Silent Auction.

To create her quilts, Karen often relies on donations of silk ties, recycling the material. If you have a new or used silk tie you would like to donate for her next project, please send it to the attention of Catherine Adair, Community Relations Leader at Trail Operations or Shane Dekker, Executive Assistant, Corporate Affairs, Vancouver office.

EVERYDAY ESSENTIAL ELEMENTS



The materials we produce are fundamental to our modern, sustainable societies and help improve the quality of life for people around the world.

From keeping us connected and protected to getting us where we need to go, each day we rely on our products in more ways than you might imagine...

...to combat climate change

Solar Panels

Use of solar power continues to grow and is projected to nearly double in the next four years. Each solar panel requires 19 different mineral products and metals, including copper, indium, silver, steel and zinc.



...to build clean energy technologies

Electric Cars

The next generation of electric cars—including Teslas—requires four times as much copper as the muscle cars of the past. A single car can require nearly six kilometres of copper wiring, and demand for electric cars is set to rise ninefold by 2027. As for the newest Tesla Model 3, the body components are made mostly of steel, replacing the aluminum used in previous models.



...to create safe infrastructure
Buildings

Natural disasters, such as earthquakes, pose a danger to buildings and their occupants. Zinc-coated steel allows design flexibility, strength and durability. Today, controlled rocking systems with reinforced steel frames are being used to provide elasticity and allow buildings to move with shaking during an earthquake. Replaceable steel fuses are also used to absorb seismic energy as the building rocks.

...to stay connected
The Cloud

Our photos, music, e-mails and tweets aren't just in the air, they are firmly grounded in the products of the earth. We can't see it, but "the cloud"—one form of Internet-based resource and data-sharing systems—is really made of metal, running on data servers that need miles of copper for wiring and power transmissions.



...to keep products moving
Railways

Rail, which requires steelmaking coal, is the most environmentally responsible way to transport products—up to four times more efficient than trucks. A single train replaces up to 250 trucks, saving 35,000 litres of fuel and 100 tonnes of greenhouse gas emissions.



...to protect us and address global health challenges

Copper + Health

In health-care facilities, harmful bacteria and viruses exist on commonly touched surfaces such as door handles, push buttons and equipment, putting patients, health-care workers and visitors at risk. Every year, more than 200,000 patients contract an infection while receiving care, costing the Canadian health-care system more than \$1 billion annually.

Copper, with its unique antimicrobial properties, can kill 99.9% of surface bacteria when used on high-touch surfaces.

As a major copper producer, Teck is partnering with health-care providers, exploring opportunities to use copper in hospitals and clinics to help fight against the spread of health care-acquired infections and save lives.

In 2013, Teck contributed \$2.5 million towards Vancouver General Hospital's (VGH) Intensive Care Unit redevelopment. As part of this project, VGH will be the first health-care facility in Canada to outfit horizontal surfaces—nursing station desks and counters inside patients' room—with a copper oxide-infused surface material to reduce bacteria.

Zinc & Health

Each day, diarrhea related to zinc deficiency kills more than 1,400 children under the age of five—mainly in developing countries in Asia and Africa.

Therapeutic zinc is a simple and inexpensive treatment to help save lives. Combined with oral rehydration salts, zinc can reduce the duration and severity of diarrheal episodes and may also prevent future episodes for up to three months.

Teck is a founding member of the Zinc Alliance for Child Health (ZACH), a public-private-civil society alliance created to develop and sustain zinc treatment programs that helps save children's lives. Through partnerships under ZACH, Teck has helped to improve the use of and access to therapeutic zinc and oral rehydration salts for diarrhea treatment in Burkina Faso, Ethiopia, India, Kenya and Senegal.

To date, children in these countries have received more than 44 million life-saving treatments of zinc and oral rehydration salts as a result of ZACH, and more than 60,000 community health workers have been trained to strengthen health-care systems.

For more on Teck's global citizenship activities and initiatives, including our work helping achieve progress on the United Nations Sustainable Development Goals (SDGs), visit www.teck.com/responsibility ■



Visit teck.com/connect for a video describing Teck's partnership with UNICEF in India, featuring President and CEO Don Lindsay.





This WE Day, you can help save a child's life

Zinc deficiency affects 1.2 billion people worldwide and contributes to the death of hundreds of thousands of children every year. One AA battery contains the same amount of zinc that can save the lives of six children.

How can you help?



Recycle

Recycle your used batteries at any of Call2Recycle's 6,000 collection depots across Canada. Find a depot near you at www.call2recycle.ca



Report

Report your name, collection depot and the number of batteries recycled at www.zincsavestives.com



Spread the Word

Spread the word on social media using the hashtag [#zincsavestives](https://twitter.com/zincsavestives)

The Zinc Saves Lives Battery Recycling Campaign has recycled more than 1.6 million batteries, but we can still do more.

For every battery recycled, Teck will donate the value of zinc it contains to WE in support of zinc and health programs in WE Villages in Kenya.

Learn more: www.zincsavestives.com

* up to a prescribed cap

PEOPLE & PLACES



Fritz Westlake

**Community Relations Coordinator,
Public Relations**

Red Dog Operations

**When did you start at the company,
and at which site/office?**

I joined Teck in 2001 as a summer student. I worked in various departments and roles before I began doing Community Relations in 2010.

**Could you provide a brief description
of what you do in your role?**

I act as the liaison between Teck and the communities, primarily with the 11 Iñupiat villages near Red Dog. I am from Kiana, one of those communities. I bring their thoughts, ideas and concerns to the mine while sharing news and information from the mine with them.

**What is your favourite part about
your job?**

I really enjoy working with the Red Dog Subsistence Committee, an advisory committee that helps to protect the subsistence lifestyle of the Iñupiat in the area, highlights needs around traditional land use, and discusses feedback on projects, access, concerns and safety related to mining activities.

**What is your most memorable
moment working at Teck to date?**

I am very proud to have helped develop the Red Dog National Basketball Association (NBA) Program. This year, we took the students to New York City—it was an unforgettable trip.

**What is your favourite activity
outside of work?**

Basketball! I'm a fan, former player and coach. In my region we get six months of darkness and freezing temperatures. So it's perfect for the area because it can be played indoors.



Herman Urrejola

**Manager, Social Responsibility
Santiago office**

**When did you start at the company,
and at which site/office?**

I started in September 2012 at the Relincho Project in Northern Chile.

**Could you provide a brief description
of what you do in your role?**

I am in charge of the communities team at Quebrada Blanca (QB) Operations and am a strategic collaborator at Carmen de Andacollo (CDA) Operations. I manage the relationships and negotiations with the surrounding communities and work to implement community development through direct and inclusive relationship-building programs.

**What is your favourite part about
your job?**

I most enjoy my role when I am able to see the change in the quality of life of our communities and the results generated by social investment.

**What is your most memorable
moment working at Teck to date?**

The environmental approval of QB; it was an example of successful team-work, which lasted more than a year and presented many challenges. It's more than a moment, but what was memorable was the satisfaction of reaching an agreement with one of the communities, laying the foundation for long-term agreements.

**What is your favourite activity
outside of work?**

I am a gamer—I love video games! I play mostly online video games, because I enjoy playing with people from other countries and cultures who share my hobby. *Elder Scrolls* is my favourite. I also build my own computers.



Crowsnest Pass, Alberta

Cole Massaro

Equipment Operator

Greenhills Operations

What is your community's point of pride?

The region was built on the mining industry, as well as rum-running in the Prohibition days.

When visiting, what's a 'must-see'?

The site of the Frank Slide—it was one of the largest landslides in Canadian history.

What is the area's best-kept secret?

It is a bit of a tie between the gargantuan ice cave located near Crowsnest Lake and the Lost Lemon Gold mine, which people are still searching for to this day.

What's a typical weekend like there?

Usually they are family-oriented, with the community offering a wide range of options. Located just blocks away from Main Street are the ski hill and the golf course. There is also an outdoor pool, lakes to fish and trails for ATVs, dirt bikes, hiking, snowmobiling and cross-country skiing.

What's your favourite restaurant in the community?

Chris' Restaurant, located downtown Coleman. It's a small diner that has good homemade food.

Is there anything else you'd like other Teck employees to know about the area?

Though I've lived here only a couple of years, I have learned something new every day. The amount of history and interesting facts around the Pass is astounding.



Lima, Peru

Marisol Reategui

Executive Assistant, Exploration

Surco office

What is the area's point of pride?

Lima is on the Pacific coast near the ocean, with wonderful beaches, incredible museums and a downtown district with centuries-old architecture.

Is there anything the area is famous for?

Surco is the first ecological tourist district, known for its natural beauty. It's also known for the old cercado de Surco pueblo and its festivals, especially the Festival of Pisco Sour (a Peruvian cocktail), celebrated annually the first Saturday of February.

What is the area's best-kept secret?

The BiciSurco (bike sharing) program was recently introduced and since then, a lot of new bicycle paths have been developed in the area, which has increased bicycle use as a fast, healthy and sustainable means of transportation.

What is your favourite restaurant in the community?

The seafood restaurant La Rosa Nautica not only has delicious food and an extensive menu, but it has an amazing location at the pier on the shores of the Miraflores Sea. The view at night is magical.

What is a typical weekend like there?

On weekends we go out to lunch with family or to a friend's house for a barbecue. In summer, we go to the beach, and in winter, we go to the countryside in search of sun. Others go out to the malls or out to eat at restaurants—always as a family!

A PICTURE IS WORTH 1,000 WORDS

1. Two Trail Operations employees, Ashley Jarrett, Hiab Truck Driver, and Andrea Lamont, Custom Sampler Instructor, led employees in raising more than 280 pounds of donations for regional food banks. The fundraiser was organized in support of the #Chrissyentme campaign, honouring Castlegar's Christine 'Chrissy' Archibald. Chrissy was one of eight victims of the London Bridge terrorist attack in June 2017, and her family requested that people honour her memory by making their communities a better place.



2. Teck, represented by Alana Duffy, Manager, Internal Communications, Canada Games Council and the 2017 Canada Games Host Society joined Canadian sports icons to unveil the medals and celebrate the incredible athletes who would go on to compete in the events in Winnipeg in August 2017. Teck supplied more than 1,700 medals for the Games, which were designed by artist Kenneth Lavalee in collaboration with Indigenous elders.



3. Quebrada Blanca Operations held its 2016 Academic Excellence Awards ceremony for children of employees. Fifty-nine students were recognized for their academic accomplishments, also receiving an incentive for their higher education.



4. Caught on camera: two bears photographed by the wildlife cameras at Cardinal River Operations in the foothills of Alberta. Thanks in part to Teck's work supporting protection of the grizzly bear population in the region, the number of bears has more than doubled over the last decade.



5. Drones are used at Teck operations for a number of functions, including helping monitor blasting gas clearance, conducting post-blast evaluations, photogrammetric surveying for volumes and design, and geotechnical analysis. Pictured here: Greenhills Operations.

6. The final touches are being put on the Teck Acute Care Centre at BC Children's Hospital which will soon open its doors, ushering in a new era of care for B.C.'s kids. Watch for more on the opening of the facilities in an upcoming issue of *Connect*.

7. Preschool children in the Casuto sector of Andacollo enjoy interactive entertainment with the Jardín Chispitas de Amor de Casuto (Casuto Garden Sparks of Love), supported by Carmen de Andacollo Operations. The program promotes awareness about sustainability at the preschool level through fun activities, with the goal of helping young people become influencers in their families and communities.

8. Team members from local company Disal stand near compact bales of recyclables ready for transport in Andacollo. In partnership with CDA, the company provides a wide range of support for responsible waste management, including maintaining the potable water plant, operating the sweeper truck and helping manage the waste yard.

9. A baby lamb and mother near Elkview Operations, where sheep are thriving in part due to Teck's efforts to help sustainably rebuild weaker populations.

10. Erin Buck, Metallurgist, and Donn Buck, Diesel Mechanic, both employees at Pend Oreille Mine, participate in the 3rd Annual 5K Colour Walk, along with daughter Ruby and dog Shadowfax. This year's event saw 120 walkers of all ages raise more than 200 pounds of food for the local food bank, as well as cash donations for the Selkirk youth baseball and softball leagues. Inspired by the ancient Hindu festival of Holi, Colour Walk participants are showered with coloured powders along the walk route.







Somos Teck: Inspiring Innovation and Change

Continuous improvement, communication and collaboration are just some of the themes represented in the second phase of Somos Teck, a campaign in Chile aimed at inspiring transformational change.

In Chile, where Teck is advancing significant expansion projects, including Quebrada Blanca Phase 2 and NuevaUnión, Somos Teck is about looking beyond the short term, and improving long-term planning, leadership and day-to-day operational behaviour.

Launched in 2016, the first phase of the campaign used imagery and quotes from iconic leaders such as Albert Einstein, Ernest Shackleton and Marie Curie, to offer inspiration and help promote an attitude of innovation and change.

The second phase, launched in August of this year, profiles employees sharing success stories relating to leadership, overcoming difficulties, teamwork and creating value for the company.

Since its launch, Somos Teck has generated a number of changes, such as the development of Carmen de Andacollo's Five-Year Plan by a larger team with representation from a wider variety of functions, who offered valuable new perspectives and approaches. Meanwhile at Quebrada Blanca Operations, teams have worked together closely to mitigate impacts related to declining copper prices and production challenges, which ultimately led to reduced costs and improved production in the face of these challenges.

"These are great examples of the Somos Teck message resonating with our employees," says Chris Dechert, Vice President, Copper Operations, Chile. "If we work together, we can overcome obstacles, prepare ourselves for challenges ahead, and build a strong future for Teck Chile." ■

Left: "Our best bet is continuous improvement," Sebastian Malagueño, Plant Manager, Quebrada Blanca Operations.

Middle: "Good communication is an example to follow," Beatriz Gutierrez, Accounting Analyst, Santiago office.

Right: "Everything works well when there is collaboration," Hector Berrios, Senior Geologist, Carmen de Andacollo Operations.



Two transgender employees from the Elk Valley share their stories.

Every employee has the right to a respectful workplace, one where everyone is treated fairly, with dignity and respect, difference is acknowledged and valued, communication is open and civil, and there is a culture of empowerment and cooperation.

Teck is committed to providing a supportive, safe, inclusive environment for all employees, regardless of race, gender, sexual orientation or gender identity, and we are honoured that two Teck employees, one current and one recently retired, have chosen to share their experiences of coming out as transgender with their colleagues.



Hadden's Story

"Every day when I wake up and know I have to go to the mine, I feel safe. Our vision is Everyone Going Home Safe and Healthy Every Day—and it's true. Safety doesn't just mean keeping you from accidents, it's mental health and personal safety, too. I am now able to live comfortably in my life and just be me, and that makes me healthy."

These powerful words are from Hadden Kelloway, who says he has had nothing but support and acceptance from his co-workers at Elkview Operations since undergoing hormone treatment to become a man in 2015. Hadden believes strong leadership, particularly from Elkview's Human Resources Superintendent, Amy Mac Con, helped the whole mine community accept his transition without question.

Transgender people have gender dysphoria, meaning their internal sense of being a man or a woman (known as gender identity) is not the same as the sex they were assigned at birth. It is estimated that one in 200 people is transgender.

According to a 2011 survey of more than 6,000 transgender people by the National Gay and Lesbian Task Force and the National Center for Transgender Equality, 90% of transgender people report experiencing harassment, mistreatment or discrimination at work. The transgender community also experiences unemployment at twice

the rate of the general population, and transgender people are four times more likely to live in extreme poverty. Forty-one percent of those surveyed reported attempting suicide, compared to 1.6% of the general population.

Hadden says he never worried about becoming part of these stark statistics, thanks to the support he has received from his co-workers.

"Most transgender people wake up every morning not knowing what's going to happen to them that day—if they will get beaten up or cast out for being who they are. I don't have to think about that. At Elkview, they made me feel that I'm no different than the next person."

Hadden has worked at Elkview and lived in Sparwood for 23 years, first as a loss prevention officer, then becoming a haul truck driver and finally joining the blasting crew as a blaster 16 years ago. Throughout this time, he used the name and sex he was assigned at birth—Heather, a female—and did not tell anyone that internally he identified as a man.

After experiencing periods of severe depression, Hadden confronted his true identity and used Teck's Employee and Family Assistance Program to access counselling for the first time. In October 2014, he approached Amy to tell her he planned to leave Elkview and go to a city where he could be anonymous while he transitioned.

"She didn't hesitate—she just said, 'You can stay here, we'll look after you. Whatever you decide, we're here for you.'"

"Over Christmas I discussed it with my family, and they felt the best thing and safest place for me was here. Teck and Sparwood had accepted me when I was living as a lesbian woman, so if they were willing to step up now, I should take the opportunity."

In January 2015, Hadden met with Amy again, this time to tell her he was staying and that he had already started hormone treatment.

"The first thing she said was 'What can we do?', and it was like the weight of the world lifted off my shoulders. It was the most heartwarming thing I had heard in a lot of years. It made me think I was going to be alright. I tell Amy that she is part of the team that helped save my life. The compassion, understanding and help she gave me went over and above what her job requires."

As Hadden had already started the weekly hormone injections that he will administer for the rest of his life, the first step was to create a separate change room for him. With full support of General Manager Don Sander, Amy presented Hadden with a number of potential locations and then discreetly asked the maintenance department to construct it as soon as possible, consulting Hadden at every stage.

The new unmarked change room has two showers and four lockers in it, in recognition that, statistically, Hadden is unlikely to be the last transgender employee at Elkview.

“It was amazing when I walked by every day past the maintenance guys and carpenters working in there,” says Hadden. “They didn’t know who it was for, but I knew they were doing it for me. I was on cloud nine, I felt I was the luckiest person in the world.”

In February 2015, Hadden moved his belongings from the female dry to his new change room during a weekend shift, when there were few people around. The next day, Amy sat down with the supervisors and management team to inform them about Hadden’s transition while Hadden talked to his direct managers and his co-workers on the blasting crew.

“They were fully supportive,” he says. “I apologized to them because I felt every day I had been pretending I was something I wasn’t. I wanted them to understand this wasn’t a choice. I reached a stage in my life where I couldn’t carry on if I couldn’t live as me. I asked them for their support and that, if they heard anybody talking about it, to please take some time to educate them as I’m doing now.”

From that day, Hadden has rarely heard his former name used at work; one co-worker even wrote ‘Hadden’ on a piece of paper and taped it to the brim of his hard hat as a reminder when calling out names over the radio.

If anyone does slip up and call him by a female name or pronoun, Hadden just asks that they say ‘I’m sorry about that’ and correct themselves.

“I will correct them, but I don’t get upset with people. I know that I’m asking them to accept me and so I also have to help them adjust. I tell people to ask me anything—and they do. I believe it’s my responsibility to help educate people, so I just try to explain it the best way I can. They ask about my injections, what the treatment does to your body, what I felt like all those years.

“I don’t want anyone to feel like I used to. If there is anybody else in the company that needs to talk to someone, I’m here. Don’t ever feel that you don’t have anybody to go to. When I was in my darkest time, feeling I didn’t have anywhere to be myself, I never thought I was going to get this level of acceptance. I feel protected there and that’s huge in my world. Teck didn’t just say it was okay, they proved it was okay.”



Marsha’s Story

Marsha Bradcoe spent much of her life walled off from her authentic self, always feeling her real identity was just below the surface. Today, she’s able to reflect on her journey and freedom she’s found when “your true gender finds a way through”.

Growing up one of four children to a single mother, Marsha (born Marshall) grew up in a small tough area of Calgary in Alberta. At an early age, she says she was encouraged by well-meaning brothers to adopt a learn-to-defend-yourself persona, which led her to push any awareness of her female gender into the corner of her subconscious.

Over the years, Marsha defined herself by befriending outsiders and underdogs

in school and life because, she says, “I knew I was one myself but couldn’t figure out how to express it.” When it came time to enter the workforce, she chose a career in mining, beginning as a haul truck driver at Fording River Operations (FRO) in 1979. Looking back, she feels the decision may have been a reflection of her state of denial, noting she’s learned that many transgender women, before they transition, tend to seek jobs in traditionally male-oriented industries such as the military, heavy labour or mining.

Then one evening around the age of 45, she says “the floodgates just opened up” while watching the Canadian film *The Journey of Natty Gann*. Near the end, when one of the male characters reveals himself to be female, Marsha says she realized she couldn’t deny the

truth of who she was any longer, and in that instant decided she would have to make a change.

The years that followed, as she began to process that realization, were challenging, but after a 10-year stretch of depression and eventually finding refuge with Vancouver Coastal Health's transgender program, Marsha was able to set things in motion, both in her personal and work life, to begin her transition.

Guided by a therapist and support team, she reached out to staff at FRO and leadership at the United Steel Workers Local 7884 to build a process that would ensure they created a safe environment for her to reintroduce herself in the workplace and to announce her transition plans.

"It is important not to be at your own coming out," notes Marsha. "I felt it was important that my co-workers and supervisors who I had worked alongside for years, had the opportunity to absorb the information and react without being challenged by my presence."

In preparation, Marsha made information packages for Teck's Human Resources personnel and for the union executive, explaining to both parties how she envisioned it going well for everyone, as well as filming a video message from her that would be shown to the crews. Finally, with the support of the company and the union, educator Christopher Moore was arranged to speak to the crews on transgender issues to help them better understand the context for Marsha's transition.

While she wasn't there at the time, having taken a week off to allow some distance from the process, Marsha says she was surprised by what happened next.

"In order for everyone to participate, they shut down the mine—for nearly two hours—which is pretty unheard of. Christopher said it was the largest audience he had ever spoken to, and that there must have been 400 people."

Teck management read a letter of support for Marsha, as did the president of the union, and the crews watched Marsha's video. While Marsha says she was nervous after returning from her holiday, many co-workers came up to shake her hand in support.

It's a bit of a golden age for the transgender community right now, and I'm happy to be part of it.

"Some of these are tough men, but they know me. I have worked alongside them over the years, have been part of their team. Many commended me for my courage."

Marsha says she cannot say enough about the support she has received from Human Resources at FRO, then and now. She says the people she worked with in HR are in her corner and she now counts them among her friends.

"You don't have to wave the Treatment of Employees policy in their faces. They firmly believe in it and they enforce it," she says. "I didn't expect everyone to like or be comfortable with this, but I expected fair treatment in the workplace and got it."

After 38 years of service, Marsha retired on March 28, 2017, just past the one-year anniversary of her gender reassignment surgery. She says she is pleased at how things have gone and now helps and counsels others going through similar processes.

And while she says she feels accepted in Elkford, Marsha says she plans to move to Kelowna, which has a larger transgender community.

"It's a bit of a golden age for the transgender community right now," she says. "And I'm happy to be part of it." ■

Teck's Employee and Family Assistance Programs provides resources and support for employees. For free and confidential help or for more information, please contact your site's Employee and Family Assistance Program provider or your local HR representative.

Leadership Lessons: Looking to Canada's Future

In June, Teck employees Alexa Young, Manager, Federal Government Affairs, Vancouver office, and Richard Weymark, Dam Construction Manager, Highland Valley Copper Operations, attended the 2017 Governor General's Canadian Leadership Conference (GGCLC)—a unique two-week experience aimed at broadening emerging leaders' perspectives on work, leadership, their communities and their country.

The mission of the conference is to improve decision-making among future leaders and strengthen relationships and understanding between different sectors. This year's conference theme, Leadership and the Canada We Will Build, also recognized Canada's celebration of its 150th anniversary of Confederation while looking ahead at opportunities to shape Canada's future.

Don Lindsay, President and CEO, served as the conference chair, and congratulated the 260 participants on the honour of being selected to attend the 2017 conference, joining just over 2,000 Canadians who have participated since 1983.

"Over the next two weeks, I encourage you to use Canada as a classroom as you look towards how you will help build Canada over the course of your leadership years," noted Don in his conference opening remarks.

The conference started with a three-day opening session where participants heard from prominent national and international leaders, setting the stage for the immersive nine-day Study Group experience.

Participants were then divided into Study Groups, each travelling to different regions of Canada, where



over nine days, they examined complex socio-economic issues by visiting and meeting with local companies, community organizations, government and other regional leaders. At the end of each day, groups reconvened and rigorously examined their views and perspectives relating to the topic they were examining.

After the nine-day Study Group experiences, participants reconvened in Ottawa-Gatineau, where they presented their perceptions and insights to the Governor General of Canada, David Johnston.

Alexa and Richard recently shared with *Connect* some of their experiences at the 2017 GGCLC.

Above: 2017 conference participants at Rideau Hall in Ottawa.



Alexa Young, Manager, Federal Government Affairs

On my Study Group topic...

Our team set out to Nunavut to answer the question: how can we work together to build a better Canada for everyone?

Across Nunavut, we learned about the strength of Inuit culture—the Inuit Peoples' connection to the land, air, water and animals, the importance of traditional knowledge and oral history, efforts to preserve the Inuktitut language, and a vibrant and growing arts scene. We also learned about the resilience of Inuit culture in spite of the impacts of historical wrongs the Inuit have endured, including the effects of the residential school system, the last of which only closed in 1996 in the territory.

From housing to schools to medical and mental health facilities, the need for greater access to social infrastructure was a theme that came up throughout our journey. We heard a lot about digital and economic infrastructure, too—the view that better accessibility to Internet, roads, airports and resource development projects is needed to connect Nunavut to an increasingly interconnected and integrated economy and world.



We listened to stories of the tension that exists between the desire to preserve a traditional way of life and the desire to partake in the economic opportunities and jobs these types of projects represent. We heard from those who believed a balance could be achieved—that the economy, the environment and cultural identity could go hand in hand, but that choice in how that balance manifests lies with the Nunavummiut.

Ultimately we learned that we must look at all these factors through the lens of Reconciliation and how we can support Canada's Indigenous Peoples. Our team developed a documentary film to capture our experience. We look forward to sharing it broadly in the coming months.

On the importance of listening...

My most meaningful moments were those spent listening to the people of Nunavut—including learning about the experiences of the Inuit Peoples and growing my appreciation that understanding and recognizing Indigenous history and culture is essential to the advancement of Reconciliation and for all Canadians to truly become connected.

On the power of different perspectives...

Similarly powerful was our nightly group discussion, debate, compromise and consensus seeking on what we had learned that day and how we would ultimately present those findings to the Governor General at the conference's conclusion. These moments, which lasted well into the night at the end of very long days, taught us a lot about how we show up as leaders in times of disagreement, and that while we may have different perspectives, there is much more that binds us.

My moments of reflection...

Finally, some of my most memorable moments were the quieter times, usually during our 'midnight sun' walks made possible by the 24-hour-a-day sunlight that occur through the summer months. These walks provided the occasion for self-reflection—about what the experience meant to me personally and what I would do to pay it forward.



Richard Weymark, Dam Construction Manager, Highland Valley Copper Operations

On my Study Group topic...

The Study Group I participated in travelled to Nova Scotia to meet with leaders from various sectors to gain an understanding of the key issues affecting the province and how they are working to solve them.

One of the most memorable and impactful experiences for me was visiting many of the not-for-profit organizations around Halifax. I was really struck by the great work being done, in some cases by people who didn't have much more than those they were helping. The generosity, passion and sense of community displayed by these leaders was very inspiring.

On the importance of diversity...

I have always known that diversity and inclusion are important; however, this conference allowed me to experience first-hand the benefits of being part of a truly diverse team. Our Study Group included leaders from all across Canada, representing many different sectors.



The process of coming to consensus and developing recommendations at the end of our tour was not easy. However, the end result was a much deeper, more balanced set of recommendations than any of us could have developed on our own.

I was very fortunate to share this experience with my team and make friends, which included both Indigenous and union leaders. Over the course of many conversations, I was able to gain a much deeper understanding of Canada's history and the issues affecting Indigenous communities across Canada. I also appreciated the opportunity to discuss and ask questions about organized labour.

On broadening perspectives...

I know the exposure and perspective, I have gained will improve my leadership and decision-making in my current and future roles with Teck.

This was an excellent opportunity to not only broaden my perspective, but also help broaden the perspectives of other leaders, who may not have previously had exposure to the mining industry.

A word of thanks...

The conference impacted many people deeply, including me and this would not have been possible without the support of Teck as a conference sponsor and Don Lindsay serving as conference chair. The GGCLC was such an amazing experience, and I am so thankful that Teck provided me with the opportunity to attend. ■

Opposite: Alexa Young on her study tour in Nunavut, meeting local children.

Above: Richard Weymark and his study tour group in Nova Scotia, visiting a naval base.

Mine Rescue Roundup

Teck teams and individuals shine at provincial competitions.

Teck's mine rescue teams demonstrated true skill, dedication and excellence in achieving top rankings at mine rescue competitions in Alberta and British Columbia (B.C.) in June.

Mine rescue competitions are important events that provide an opportunity to test emergency response and rescue skills, and share best practices. Members of these teams are to be

commended for their hard work, safety leadership and commitment to helping ensure everyone is going home safe and healthy every day.

Congratulations to all the participants who recently took part in competitions, and thank you for exemplifying our company's most important core value. ■



Teck Winners at Provincial Mine Rescue Competitions

Alberta

- Cardinal River Operations won First Overall Aggregate.*

British Columbia

- Greenhills won Best Overall Surface Mine Rescue, Best Team Rope Task category and the Highest Non-Aggregate Points Trophy.*
- Elkview placed second in the Overall Surface Mine Rescue.*
- Highland Valley Copper won the Best Practical Bench Skills, Best Fire and Best Written categories.
- Coal Mountain won the Best Three-Person First Aid category. Coach Josh Gallinger was awarded the Kathie Lofstrom Memorial Trophy for Best Three-Person Coach.
- Sullivan Mine won the Best Practical Bench Skills, Best Performance in Underground Smoke, and Best Obstacle & Recovery categories. Team member Dave Heathfield was awarded the Bench Technician Individual Trophy.
- Greenhills and Fording River Mine Rescue Teams were also recognized with the Chief Inspectors' Award for their life-saving actions in the line of duty.

*Having won first and second places in their respective provincial competitions, Cardinal River, Greenhills and Elkview earned spots to compete at the National Western Region Mine Rescue Competitions in Fernie, B.C. in September.



This Just In: Congratulations to our mine rescue teams from Greenhills, Elkview and Cardinal River who achieved top rankings at the 2017 National Western Regional Mine Rescue Competition in Fernie, B.C. in early September.

For photos and full results, check back in the next issue of *Connect*, Volume 20.



Opposite above: Coal Mountain Operations First Aid Team.

Opposite middle: Cardinal River Operations Mine Rescue Team.

Opposite bottom: Sullivan Mine Mine Rescue Team.

Above: Elkview Operations Mine Rescue Team.

Middle: Greenhills Operations Mine Rescue Team.

Bottom: Highland Valley Copper Mine Rescue Team



Checking In: Learn to Fish

For the seventh consecutive year, Highland Valley Copper (HVC) partnered with the Freshwater Fisheries Society of BC to host their Learn to Fish Program for employees' children and grandchildren.

The educational initiative, which this year was held in partnership with the District of Logan Lake, aims to introduce youth to recreational fishing through a half-day course.

Children learned about fish identification and biology, habitat and conservation, knot tying, proper fish-handling techniques, casting, retrieving, and the basics of how, when and where to catch fish in fresh water.

In addition to hosting the program for employees, in recent years HVC has extended the opportunity to participate to local community youth, as well as supporting more than 100 Learn to Fish programs throughout B.C.'s Interior, offered through provincial parks, regional school districts, and the Girl Guides and Scouts of Canada. ■

Above: Facilitators of the 2017 HVC Learn to Fish Program.

Opposite above, below right: Children and grandchildren of HVC employees get a hands-on experience learning to fish.

Opposite: Two groups took part in half-day sessions, followed by a recognition lunch.





To watch a video on Learn to Fish, visit teck.com/connect



Helping Rebuild the Local Economy in Andacollo

Relief efforts from Teck support neighbouring communities following natural disasters.



Coquimbo, a mountainous region north of Santiago, Chile, is a popular travel destination with its white-sand beaches and warm climate. With a growing tourism economy, traditional craft fairs in the city of Coquimbo have become a popular outlet for local entrepreneurs to sell goods and expand their businesses.

But in September 2015, a magnitude 8.4 earthquake and subsequent tsunami severely damaged the north-central region of Chile, in particular the coastal areas around Coquimbo. Along with the devastating damage to the community, the local market was destroyed, leaving people without a place to sell their goods and support themselves or their families.

As part of our commitment to helping build healthy, vibrant communities in the areas where we operate, Carmen de Andacollo (CDA) Operations, located near Coquimbo, stepped in to help after the earthquake. To assist entrepreneurs in recovering their source of employment, Teck donated US\$500,000 towards a reconstruction

campaign organized by the foundation Desafío Levantemos Chile. The funds went towards reconstructing the market infrastructure, which directly benefited 84 people and their families.

The reconstruction project also involved both governmental and social organizations. Public roads were rebuilt, street lights re-erected, gutter systems installed and other facilities reconstructed. Training programs in business management were offered for the community, with the goal of aiding entrepreneurs in rebuilding their businesses and strengthening the local economy.

In 2017, these local entrepreneurs are now back in Coquimbo with a renewed market for their businesses.

“As members of the community, we wanted to help those affected by this disaster,” said Manuel Novoa, General Manager, CDA. “We hope that our support will allow people in the Coquimbo Region to regain employment and revive this prosperous tourist site.” ■

This story was first published in Teck’s *2016 Economic Contributions Report*, a new report that provides detailed information about the economic benefits generated by our activities, including payments to suppliers, employee wages and benefits, and payments to governments.

The report is based on our belief that financial transparency can help stakeholders understand the economic benefits generated by our activities and how those benefits are distributed for local, regional and national economic and social development.

Visit teck.com/connect for a video with more highlights from the report.



Above: A local market in Coquimbo after the reconstruction project.

Teck Takes on Tech

Technology has the potential to transform many aspects of our business. Here, *Connect* looks at two examples of how Teck teams and employees are applying it towards more efficient processes, improving best practices and our bottom line.

Monitoring with Mtell

Artificial Intelligence (AI) is making waves in the technology industry, with AI being used to power voice-activated assistants, develop some of the first examples of self-driving cars, and offer professional advice to lawyers and doctors. The first wave of AI is now rolling into mining, and Trail Operations is looking to capitalize on its ability to predict the future.

The Idea

Trail's reliability team uses tracking technology to detect potential failures in equipment in order to stay on top of preventative maintenance. When a failure does occur, it's the team's job to find the cause and implement solutions to prevent it from happening again.

They recognized there was an opportunity to improve preventative maintenance by using information from Trail's historian, a system that monitors process signals. So in 2011, they began using a software—that utilized AI—with the goal of better monitoring and predicting equipment performance.

How It Works

Enter Mtell, the software utilized at Trail that uses 'machine learning', a form of AI, to track and predict equipment failure, and what the process variable signature is leading into a failure. Using AI, Mtell takes a snapshot of process signal data to learn what's normal. The software then stores the information, providing insight into what might lead to a future failure, and triggers a warning when similar scenarios arise,



when compared against real time data. Mtell also now has the ability to read process signals and calculate how much runtime a piece of equipment has left, and even automatically file a work order.

Benefitting the Bottom Line

Financially, the system has benefited Trail Operations in a cost avoidance of approximately \$2.1 million in 2016 and \$1.3 million this year to date. Using Mtell is even more beneficial in terms of improving safety and environmental performance, as potential risks are noticed well before they become dangerous.



Above: Equipment at Trail Operations that has Mtell applied to it.



Digging into Data

Big data has the power to transform mining—when properly compiled, analyzed and evaluated, the information collected can lead to competitive advantages and better operational decisions.

With this in mind, Mohammad Babaei, Senior Technical Analyst, IS+T Operational Technology, was inspired to find a way to take data related to ‘digability’—the level of resistance in rock material when digging—and use it to improve our mining process.

The Idea

Digability is fundamentally connected to blasting and drilling, functions of the open pit mining process used to fracture rock and access mineral deposits. The quality of blasting and drilling is important—when the result is rock material with poor digability that’s difficult to dig, it means higher power consumption, more wear and tear on loading machines, and lower loading and hauling efficiency.

So, Mohammed set his focus on how to collect and use digability data to help design blasts that maximize shovel productivity.

As a result, Elkview has improved shovel productivity, reduced the amount of explosives used by 4 million kilograms, and saved over \$1 million per year.

How It Works

While working at Elkview Operations as part of his PhD program in mining engineering, Mohammed developed a way to gather real-time data on various factors that contribute to digability through sensors attached to mining equipment. The data then goes through a program for analysis, which provides real time feedback on the digability of the material. This in turn informs blasting and drilling techniques to optimize digability and ultimately increase the efficiency of our operations.

Benefitting the Bottom Line

As a result, Elkview has improved shovel productivity, reduced the amount of explosives used by 4 million kilograms, and saved over \$1 million per year. The technology is now being expanded to Line Creek and Greenhills operations. ■



Visit teck.com/connect to watch a video documenting the process of moving and rebuilding a crusher.



How'd They Do That?

The location of the crushers at Highland Valley Copper is important—they must be close enough to the copper ore haul to be effective, but not so close that the massive units require frequent moves during pit expansions.

When the crushers do occasionally require relocation, it's an incredible undertaking. The portable units can be disassembled into large pieces: the rock dump hopper and feed conveyor—each weighing around 1.5 million pounds and measuring approximately five building stories tall—and the crusher system and main frame building. From there, a number of powerful lifting devices are used to move the pieces, including a mobile hydraulic crane, and a Self-Propelled Modular Transport Unit, a diesel-powered hydraulically driven multi-wheeled machine used to carry heavy loads over steep terrain. In addition to the move itself, there

Teamwork, especially on a project of this size, can't be emphasized enough.

is a huge amount of wiring, piping and support structures within the equipment to be disassembled and rebuilt correctly.

Most importantly, to carry out the task safely and on time, the project requires a great deal of planning and a committed project team, as was the case with this move a number of years ago that was captured on film.

"Teamwork, especially on a project of this size, can't be emphasized enough," says Rick Plovie, Support Equipment Planner, Highland Valley Copper. "The safe and enthusiastic approach that every member of the team brought with them every day to work was inspiring." ■

Understanding Our Contributions

The FAQs around community investment at Teck.

Teck targets strategic community investments in sustainable community development projects and initiatives with both local and global relevance.

Just how do we do that? Answers to a few of the frequently asked questions around the community investment process can be found below and in the infographic on the next page.

Where does Teck's community investment program contribute?

We contribute to organizations, institutions and initiatives that strengthen communities in the regions where we operate, as well as national and global initiatives. We focus our contributions in four categories: health, education, environment, and community.

What guides Teck's community investment program?

Our community investment program is guided by the best practices from the International Finance Corporation, London Benchmarking Group and Imagine Canada.

How are Teck's community investments provided?

Our community investments are provided as funding, in-kind contributions and employee time.

Who is eligible?

Organizations or groups that are registered charities or those that serve a charitable purpose are eligible for community investments from Teck.

How can organizations apply for Teck's community investments?

All applications must be received through our online application system available at www.teck.com. Applications are accepted throughout the year.

How does Teck make funding decisions?

We conduct an internal review of all requests to assess the alignment of the project with Teck's business and community priorities. Decisions are made based on the results of the analysis, local needs and available budget. ■

In 2016, Teck invested \$11.8 million in community investments.

Our aim is to donate 1% of annual pre-tax earnings to community investments on a five-year rolling-average basis.

For more information on community investment at Teck, visit teck.com/responsibility



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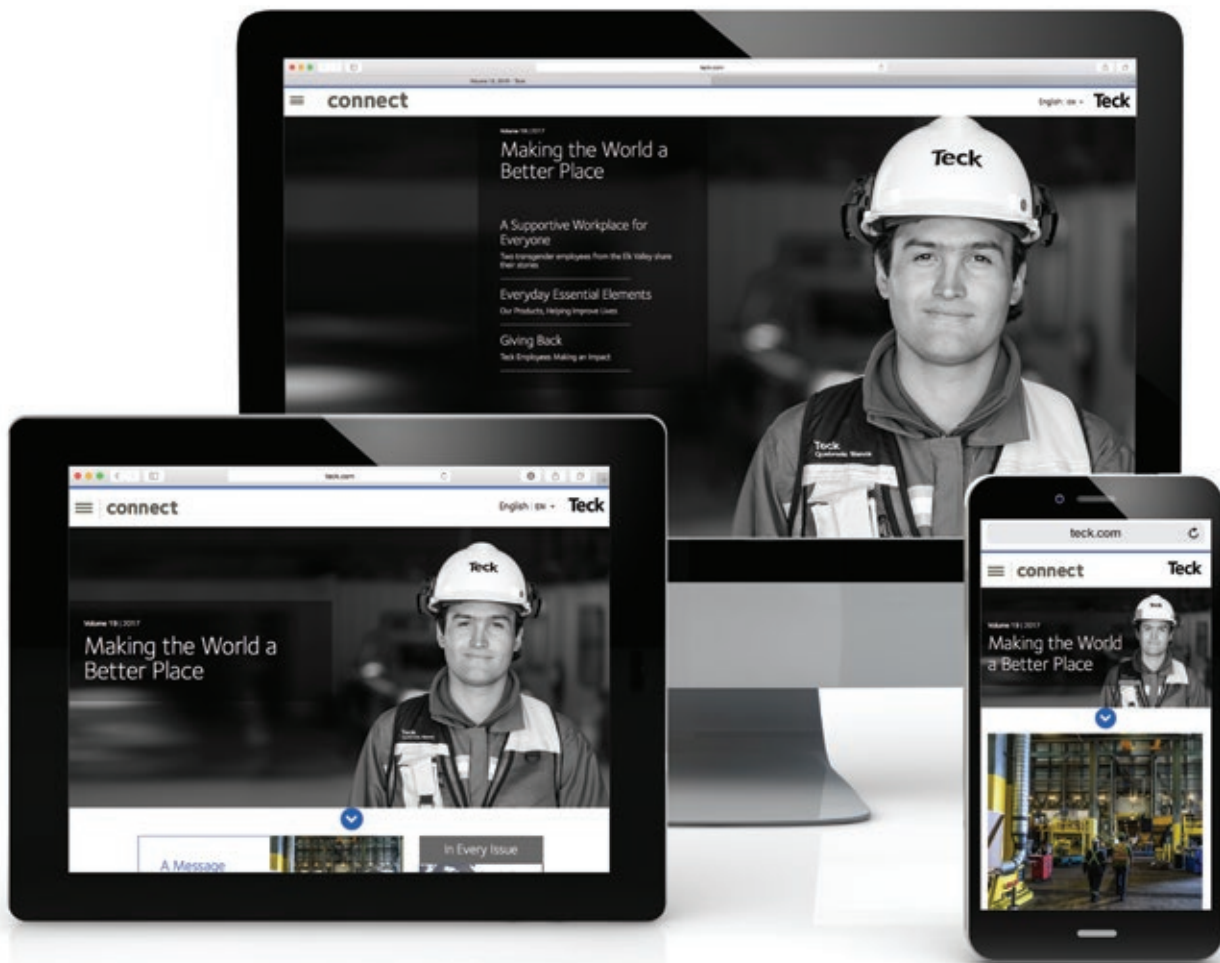
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