

In Time of Need

By Wayne Hall

At 3:00AM on December 5, 2014, Red Dog Response Chief, Bob Chandler received a call from the Northwest Arctic Borough (NWAB) informing him of a fire at the Kivalina general store, the community's only source of (retail) food and goods. The Red Dog Fire Department (RDFD) responded with a team of fire fighters who traveled from the mine site 52 miles in a truck and 17 miles on snowmobiles to Kivalina to assist in the fire response.

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Firefighters (L to R): Otto Kraus, Darren Jones, Cody Quinn, Josh Luther

Message from the General Manager

By Henri Letient



2014 was a spectacular year at Red Dog. There is much to be proud of and to recognize! We improved our safety performance, reaching 1 million hours worked without a lost time incident.

We broke several production records. The mine achieved yearly record production for tonnes milled (4,299,495 tonnes); zinc metal produced (596,032 tonnes) and total metal produced (718,551 tonnes).

The port had a good shipping season and all concentrate was shipped to market. 24 ships were loaded, which was one more

than planned. Although production and distribution costs were higher than plan, due to the increased production, they were controlled well, resulting in better net earnings.

2014 was also a good year for the overall water management goals. 1.4 billion gallons of treated water was discharged in compliance with discharge permits. The pond level was reduced by 3.4 feet from its peak level.

In 2015, we will further enhance our safety performance. There will be a renewed focus on high severity incidents (disabling injuries and loss time incidents) and the high potential risk control program. The 2015 Red Dog production plan will be very similar to 2014. The mine will mill approximately 4 million tonnes, taking advantage of the soft ore and is projected to

produce approximately 1 million tonnes of zinc concentrate and approximately 182,000 tonnes of lead. We will continue to focus on water management, with significant projects such as the lime plant construction and tailings projects, and will evaluate future resource development potential, especially Anarraaq.

We have put a lot of effort in the past two years to improve our performance and ensure we create a safe working environment. Each one of you was called upon to do your part and the results clearly demonstrate that you answered the call. Thank you! Let's keep that momentum going and have a great year with every one going home safe and healthy every day!

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The RDFD arrived to find the store completely burned to the ground with some hot spots still burning. They exposed and suppressed hot spots and relieved the Kivalina local fire response team that sorely needed a rest. Thankfully, the Kivalina team was able to prevent the fire from spreading to the teachers housing nearby.

Within hours after the fire, donations were on the way. Urgent needs were supplies for young children. The NWAB and the nearby community of Noatak responded to meet these needs. Food and other items arrived from other communities and organizations including, Red Dog, NANA, Point Hope and Maniilaq; a true outpouring of effort to help those in need. Temporary dispensing methods were arranged for damaged fuel equipment. The school housed donated materials, and provided meals for the community.

Within days, a temporary store was set up in the store's warehouse. An electrician from Red Dog assessed the facility and suggested recommendations to improve the safety of



the electrical system, which store management took to heart and followed up on.

As Red Dog employees, we should all be proud of helping our community in their time of need:

- Pre-paid for 20,000 lbs. of air freight to be moved via Kotzebue, to Kivalina for sole use by the Kivalina Tribal Council General Store
- Chartered aircraft to fly 1,000 lbs. of sheefish for the community, donated by John Baker
- Firefighter support, materials, and equipment including the refurbishing and recharging of over 20 fire extinguishers
- Donations of staple food items such as flour and sugar

- Other requested items including toiletries, gasoline, spark plugs, oil, and a small generator.

- Electrical system assessment including detailed work plans and associated materials list needed to bring temporary facility up to safety standards

- Teck Resources Limited - \$10,000 cash contribution to the Tribal Council for the temporary store needs

Though there is still work to do, I have been very impressed by how all the regional organizations, communities, and many individuals came together to help out the community. It is something to be proud of.

Congratulations! Electrical & Instrumentation Team!



Electrical & Instrumentation team's focus, attention to detail and looking after each other results in 15 years Lost Time Incident Free (LTI)!

Back row, L to R: Bruce Allred, Mark Carr, Brandon McMillan, Casey Strzelewicz, Sigwien Riley, Scott Hathorn, Michael Curtis; Seated L to R: Greg Smith and Craig Taylor. Team members not shown: Dan Smith, Joe Cook, John Mills, Quinn Schaeffer, Thomas Bernhardt, Terry Aldridge, Shannon Decker, Travis Wilson, William Clark and Steve Stull.

Suvisi (Sü-vĩ-see) in the Iñupiaq language means:

“What are the many people doing?”

Happy to Join Red Dog

By Dudley Clarke

In January I joined Red Dog as the Superintendent of Human Resources (HR) with the challenging task of taking over from Robert Sheldon, who has such a wealth of knowledge of Red Dog, the people and the region.

My 15 years of Human Resources experience has been with natural resource companies, with the last 8 years as Superintendent, HR at Teck's Trail Operations in Southern British Columbia, Canada (a smelter and metals processing plant where approximately 30% of Red Dog concentrate is processed). Prior to joining Teck, I worked in forestry, covering a number of lumber and plywood mills in southern British Columbia.

My educational background is in both Human Resources and Physical Education, although I am probably the worst basketball or team sports player with a physical education degree you will ever meet. My interest has always been in outdoor education and activities.

I have a teenage son, Gavin and teenage daughter, Willow, who keep me busy most of the time on R&R with outdoor activities such as hiking, climbing, skiing and camping. I currently live in Rossland, a small ski town of 3500 people, just 10 minutes from the US border north of Spokane, Washington.

I'm happy to have joined Red Dog and appreciate how friendly and helpful everyone has been and I'm looking forward to experiencing as much as I can of Red Dog and the region, with the exception of getting weathered in on travel day.



Robert Sheldon Retires

By D'Anne Hamilton



If you work at the Red Dog Mine, most likely, Robert Sheldon knows your name; and probably your family members' names. And, which community you're from. And why you were in the principal's office when you were in the second grade. Even those few whose names he didn't know, knew his; because Robert cared.

Robert combined his experience as a pastor with knowledge of northwest Alaska and its people, and his caring nature, to make one unique Human Resources Superintendent for Teck Alaska, Inc. He was a master at resolving conflict and attracting and retaining people who might not have stayed at the Mine. Training and Development Superintendent Ted Zigarlick said, "Of all the people I've come across in my work history, I've never seen him have a bad day. At least he never showed it. He was absolutely contagious with his positive attitude and enthusiasm." During his 15 years at Red Dog, Robert worked, often behind the scenes, to increase shareholder hire ... one at a time ... and as a visible member of the Teck/NANA Employment and Training Committee, through multi-year strategies. What mattered most were the people.

Robert began his career at Red Dog as a Human Resources Assistant in 1999. From employee relations to hiring, Robert did it all. He rose up through the ranks to Superintendent in 2012, overseeing a team of nine staff members to provide staffing services required at the Mine. Robert also preached, sang and played the guitar every week in the Music Room/Chapel at Red Dog; ministering to the folks he worked with every day.

All the best in your retirement, Robert, from your Red Dog family!

Congratulations! Mill Operations Celebrated 1 year Loss Time Incident (LTI) Free!



Mark Smith, Rich Walleson, Ambera Morgan, Glen Davey, Johnny Pungalik, John Sommers, Issac Ballot, Joey Russell, Matt Rice, David Nolton, Gary Gregg, Clyde Baldwin, Jr., Lyla Ahwinona, Kevin Hartley, Wes Sommers, Billy Nelson, Mario Terrazas, Clement Richards, Jr., Aaron Towarak, Curtis Ehrsham, Jason Douglas, Bobby Snyder, Gabe Lie-Schaeffer, Kevin James, Chad Foster, Ned Arey, Matt Snyder.

Team members not pictured: Mark Whitehead, Andrew Sheldon, Don Sheldon, Jr., Chasity Gregg, Ted Davidovics, William Bieseemeier, Tony Cobb, Nathan Keene, Doug Brown, Peter Nelson, Richard Sanchez, Carl Hadley, Gerry Arvayo, Charlie Harvey, Jr., Dolly Gallohorn, Eric Harris, Wayne Waller, Ned Foxglove, Don Volkheimer, and David Lambert.

Cost Savings are Everywhere

By Laura Kraus



Don Sheldon, Jr., Flotation Mill Operator and Sandi Black, Metallurgical Engineer.

As a project metallurgist, my job is to study the milling process and find places that could be improved in order to increase grade, recovery, and as a result - profit. After some investigation, the metallurgical team identified zinc flotation column wash water (the process of cleaning zinc bubbles) as a potential for cost savings.

The wash pans on zinc columns 5, 6, and 8 were failing and needed replacement. We took this opportunity to replace the broken polyurethane panels and re-design a new wash water panel based on previous designs.

The metallurgical team and mechanical engineers came up with a design they thought would produce the highest possible zinc recovery. The design was made out of corrosion-resistant stainless steel instead of plastic in order to prevent warping, and the holes were enlarged and spaced out more. This new hole design would provide better zinc bubble cleaning— removing more silica and leaving more zinc particles behind, thus increasing zinc grade.

Three new wash water panels were installed during the Zero Tonnage Event last October. Preliminary testing has shown that the panels are washing the froth better than ever. The wash pans are no longer leaking huge amounts of water into the column concentrate, and zinc recovery has proven to be higher than alternative methods of froth washing.

We are looking forward to upgrading zinc columns 9-12 with wash water pans in the upcoming months. This project is a great example that cost savings can be found anywhere!

Energy Management

By Dan Smith

Energy Management at Red Dog Mine is all about saving fuel. As a property, we are constantly adding new processes which increase our powerhouse load, which in turn increases our fuel usage. The Reliability Department is always looking for ways to reduce fuel usage. We were fairly aggressive in 2014 in finding ways to do this.

We determined there was an abundant amount of heat available in the glycol waste heat system that was not being utilized. There were several areas around the mill that utilized electric power or diesel fuel to provide heat. By extending the glycol waste heat system to these areas, we were able to eliminate or reduce the need for electric

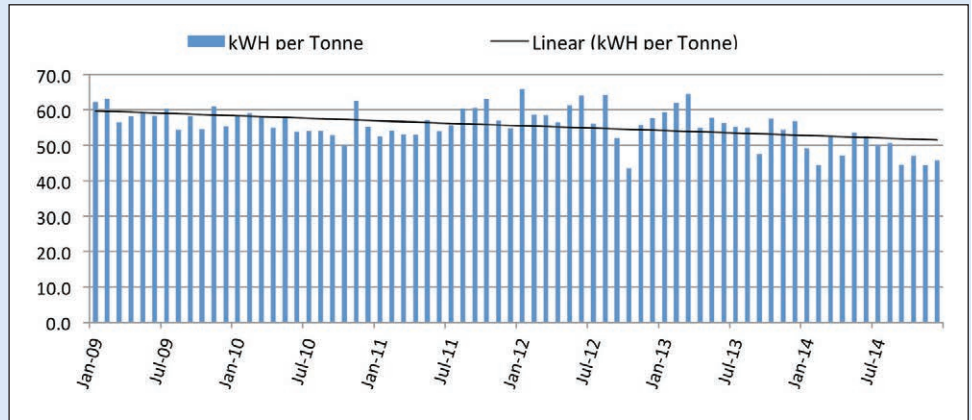
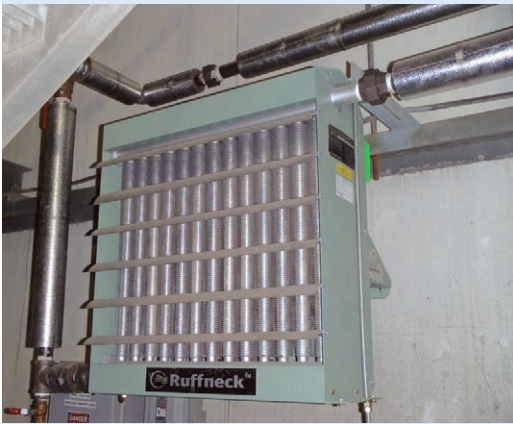
or diesel heat. These projects have provided an estimated annual savings of 128,000 gallons of diesel fuel.

One visible area of improvement which provides energy savings is lighting upgrades. By replacing inefficient fluorescent and HID lighting and installing LED lighting, we have improved the lighting in many areas and reduced energy usage to those areas by about one-third. The estimated annual fuel savings for the lighting projects completed in 2014 is 47,000 gallons.

Completing these projects by year end involved many people and departments working together including several contractors.

Many thanks to Brandon McMillan and the electrical crew for their support and thank you to our Red Dog people for your patience during this transition. These projects were managed by the Reliability Department including Dan Smith, John Stevenson, Randy Lewallen, Brendan Vermeulen, Scott Hawkins and Mill Maintenance General Foreman Mike Maner.

Please help conserve energy by turning off lighting when not in use and adjusting thermostats responsibly. Energy Conservation allows us to improve our processes while remaining within our current generation and fuel storage capacities.



Student Science Fair Fun



Wayne Hall, Manager, Public Relations supported Alaska Resource Education (ARE) as a volunteer judge at the Alaska Student Science Fair.

"Being a special judge for the Alaska Student Science Fair was a great opportunity to see some extremely thoughtful and impressive science projects. It was very rewarding for me to see excitement about science in the students and the contribution that ARE is making in educating and supporting our youth in Alaska's natural resources."

One Year at Red Dog

By Jasmine Oliver

I work for Teck at Trail Operations in British Columbia, Canada. However, as part of Teck's Engineer-In-Training program, I had the opportunity to spend one year working at Red Dog. When my supervisor in Trail first told me there was a spot for me at Red Dog, I wasn't sure what to think. I had so many questions: How would I manage being in such a remote location? What would camp life be like? Would there be any other women on site? Despite my hesitations I decided to go for it and looking back on my experience, I am so thankful that I did.

During my year at Red Dog, I worked in the Mill Technical group mainly on projects in the zinc flotation circuit. The entire Mill group, technical and operations were awesome and I learned so much. Other highlights from my year were: being part of a team that achieved 1 million hours worked LTI free, participating in a village trip to Kivalina and being on site for the 25th Year in Operation Anniversary celebration. I have a lot of great memories from my free time after work which include: Sandi Black's yoga classes, hiking up to Anxiety Ridge, the Red Dog Olympics and movie nights (particularly watching *Gone with the Wind*).



Under whale bone arches, Jasmine, 3rd from left with Red Dog team and Kivalina youth at annual village visit in March, 2014.

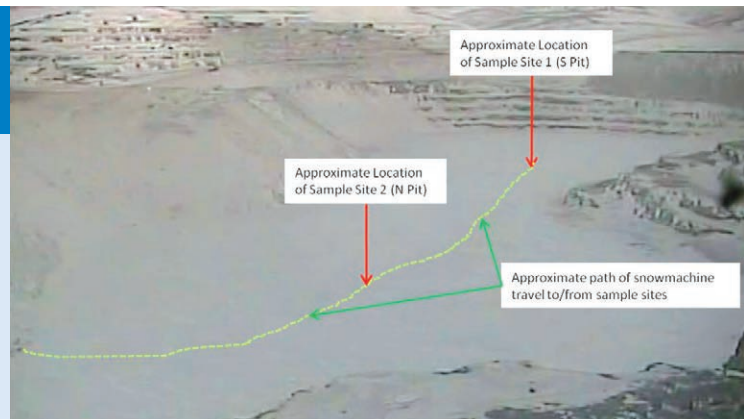
It wasn't long into my first hitch that I started to get the sense that Red Dog is a very special place. Now that my year is up, I am certain of it. The people and the culture are what make Red Dog so special and I am so grateful that I was able to be a part of it. If anyone from Red Dog ever has the chance to come down to Trail Operations, make sure to look me up!

Main Pit Lake Sampling

By Robert Napier

During the winter months, Environmental Technicians collect water samples from the Main Pit Lake (MPL). Usually only one of the two sites is sampled (see figure). Nevertheless, MPL sampling has its own unique safety concerns: ice thickness and quality; mining activities at or near the MPL; MPL basin stability, and; weather. The tentative sample date is coordinated with Health and Safety, and Mine Ops to ensure that Health & Safety Rescue personnel can be available and that mining activities are not occurring or planned that would prohibit the event. Ice thickness and quality is checked in the days immediately preceding each sample event when the Techs auger holes in the ice near the entry ramp. Mine Ops Department and the Geotechnical Engineer are consulted regarding mining activities (e.g., dumping) and/or any other potential stability issues within the MPL basin. Weather services are monitored to determine likely weather conditions that would allow for safe execution of the planned sampling event.

Prior to the date of sampling, all gear must be assembled including, at least: coolers, dozens of labeled sample containers, submersible pump/hose, submersible pump power source, Kemmerer sampler, portable (calibrated) handheld instrument, field sheets, sonar depth meter, sampling PPE, augers, heater, floorless tent, snowmachines, sleds, etc. In addition to continuous coordination with Health and Safety and Mine Ops up to and through the sample date, the event is preceded by a final safety meeting attended by the Techs, Enviro Technical Supervisor and Health & Safety Rescue personnel. In the



final safety meeting, any other potential concerns or questions are addressed, and a SETA card is completed.

Once the Techs are on the MPL ice, a submersible pump equipped with a 120' tether and power line and a Kemmerer sample device are used to collect water samples at certain depths to as deep as 250' below the water surface. Also during collection of samples, waters at various depths are analyzed for certain water quality parameters using a portable handheld instrument. Once collected, some samples may be analyzed onsite in the Assay Lab while others are sent to a contract laboratory for analyses of various metals and other constituents. The data and information resulting from these sampling efforts are necessary parts in the interpretation of the MPL water quality characteristics, and thus play a role in shaping the site-wide water management decisions that determine compliance with environmental permits and other requirements.

Keep The Zinc

By Lee Frasl



Even with 2014 being a record year for metal tonnes produced here at Red Dog we still lose over 100 tonnes of zinc metal per day to the tailings pond. Of this lost material, 75% of it is considered paramagnetic. Which means that if we were to apply a magnet to it, the fine paramagnetic material would agglomerate (come together). This increases the probability that it will collide with a bubble and be recovered.

Brigitte Lacouture, our Chief Metallurgist was contacted by Barry Lumsden, of Ausmetec. Ausmetec has the technology to specifically design magnets for this purpose. With Jasmine Oliver, Project Engineer (photo above) working with us on a temporary assignment from Trail, in charge, a test was set up to see if the technology will work here. Eric Bryant, Millwright, worked with Jasmine and the team from Australia and installed the set of magnets on our zinc retreat circuit in early November of 2014.

The magnets have been installed now for the preliminary 3 month test and we are seeing great results. We are testing them one more month to be sure. Jasmine has been instrumental in the success of this project and is missed since she returned to Trail. Thanks for all your hard work, Jasmine!

A Fresh Refresher

Nolan Schaeffer

Yes! I'm due for my MSHA (Mine Safety & Health Administration) refresher. NOT. Unless you despise your job, most don't look forward to a day in MSHA training. It's not that bad, but it could be better. A few tweaks can make the day "not so long".

MSHA training is required in the United States. It's one of many tools to ensure miners are not exposing themselves to risk. Surface mines require 24 hours training prior to working in the field and an eight-hour refresher annually. Minimum training requirements consist of subjects like, electrical hazards, first aid and health, escape and emergency evacuation plans and explosives, just to name a few.

While employed by NANA Lynden, I sat in one MSHA new miner and eight MSHA refreshers as another face in the crowd. In January, 2011, in a new role with Teck as a Safety & Training Officer, my first public speaking experience would also be my first as an MSHA facilitator. It was a new chapter in my Red Dog career; I was nervous, but had a great time. Fast forward three years and it had become work. Three hours standing up there felt more like six and if I felt that way, I imagine, so did my audience. The annual refresher PowerPoint had good content, but after five years was monotonous routine for all involved.

With the support of the Safety & Health department, I set out to achieve the objective of rebuilding the refresher course. I thought it would not be difficult, after all, per MSHA code; the subject material cannot be changed. After two years and hundreds of slides, I realized I was wrong, it was a big undertaking. After identifying what improvements could be made, next was getting help; each member in the department selected a piece to reconstruct. Our goal was to change presentation content, smooth transition of presenting facilitators and improve audience attentiveness and retention of the material.

I believe we've accomplished that, but strive to improve. We can better accomplish this with your feedback. All employees have the opportunity to participate in the revised presentation. Bring your "A" game! The new MSHA has a test you have to pass to receive your certificate. See you there!

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Beyond Ice Cream and Hamburgers

By D'Anne Hamilton



One of the first things Career Awareness students who come up to Red Dog notice is the free soft ice cream...and soda pop...and all the other treats we have to offer. Sure, those are good things when you're a freshman or sophomore in high school, but by the time they left the Mine, the six Ambler students who came up February 22nd for a three day event had some different priorities, especially when an unanticipated five days tacked on to their visit due to weather allowed for more exposure to all the mine has to offer.

Teck Alaska Incorporated partners with the Northwest Arctic Borough School District to bring primarily freshman and sophomore students to the Mine. Red Dog also offers Job Shadow experiences for High School Seniors.

Through a number of presentations, Clarence Griepentrog, Amanda Jones, Wilbur Melton, Marvin Sheldon and Carrie Williams heard a strong message about the need for engineers at the Mine and the importance of a strong math and science background. The students participated in hands-on activities to build teamwork capabilities and had tours of the work areas.

Marvin Sheldon is interested in a possible career as a heavy equipment operator. He was able to test his aptitude for the job through use of a simulator, where he drove a triple 7 and a loader. The visit to Red Dog apparently had its impact: "It's not if I come back up to Red Dog to work, it's when," said, Marvin.

Boating Fun at Red Dog

By Chad Novotny



Every summer Red Dog completes a survey of the water depths inside the tailings storage facility in order to determine how much water is stored. The results are compiled into a three dimensional map showing the peaks and valleys of the tailings surface beneath the water.

In summer, 2014, Red Dog purchased a remote-controlled boat (78" long, 34" wide, 21" deep including a 3" antennae) equipped with a Global Positioning System (GPS) and a depth monitor. The boat was operated using the remote control from inside a pickup truck. A radio wave connection was used to transmit data logged in the boat over to shore. The real time data transmission allowed the operator to follow the location of the boat on a laptop screen.

This new shore-based survey method replaces alternatives including using a string with an attached weight to lower down until the tailings surface is reached, or using a man-operated boat driven inside the facility to measure water depth using a depth monitor. Risk is reduced and safety is improved as operators are not required to go onto the water to complete the survey. Other advantages include improved flexibility as Red Dog can complete the survey throughout summer as well as the ability to measure the depths in other water bodies at Red Dog including the Main Pit Lake, Bon's Reservoir, and the Port ship loading facility.

It is always a great benefit when new technology that improves safety and flexibility at Red Dog also involves a bit of fun!

Quyaana

Thank you, to all who contributed to our newsletter.

To submit topic ideas or an article about your work, a coworker spotlight, a special project or life at Red Dog, contact verna.westlake@teck.com or communityrelationsRDOG@teck.com