



Sink Line

AN UPDATE FROM OMR ON YOUR MINE RESCUE PROGRAM

ISSUE #39 SUMMER 2019

Salt miners strike gold

Ojibway claims first title ever; Vale's Doiron earns top tech

The 2019 Ontario Mine Rescue Provincial Competition at Newmont Goldcorp's Red Lake Gold Mines in Red Lake was golden for the salt miners from K+S Windsor Salt, Ojibway Mine.

The Windsor Salt mine rescue team earned their first-ever provincial championship, at the competition which also marked the 70th year of provincial competitions, and the 90th anniversary of Ontario Mine Rescue.

Ojibway Mine first competed in a provincial competition in 1980, and qualified for and competed in 16 previous competitions before claiming the gold hard hats this June.

The Windsor Salt mine rescue team was comprised of: Captain Adam Schraeder, #2 Al Gernon, #3 Dillon Perry, #4 Joe Schraeder, Vice-captain Phillip Schraeder, #6 Ethan Kirby, #7 Mike Yott, Briefing Officer Matt Stefanic, team co-ordinator Jeremy Bondy and team manager Giovanni Grande.

The team also earned the John Guthrie (Special Equipment) Award.

Vale Canada technician Jean-Yves Doiron, who finished second last year, returned to win the Technician Award in his second provincial competition.

Norm Gannon Jr., Kirkland Lake Gold, Macassa Mine, and Steeve Pinel, Alamos Gold, Island Gold, finished second and third, respectively, in the technician event.



TOP TEAM - K+S Windsor Salt, Ojibway Mine, from left, Vice-captain Phillip Schraeder, #4 Joe Schraeder, Captain Adam Schraeder, #2 Al Gernon, #3 Dillon Perry, Briefing Officer Matt Stefanic, #6 Ethan Kirby,



TOP TECHNICIAN - Vale Canada's Jean-Yves Doiron gets upclose to a BG4 requiring servicing during the Ontario Mine Rescue Provincial Competition.

See 'CALL FOR HELP' Page 4

2019 Ontario Mine Rescue Competition Winners

Overall Winners

- 1st - K+S Windsor Salt, Ojibway Mine
- 2nd - Newmont Canada, Porcupine Gold Mines

Technician Award

- 1st - Jean-Yves Doiron, Vale Canada
- 2nd - Norm Gannon Jr., Kirkland Lake Gold, Macassa Mine
- 3rd - Steeve Pinel, Alamos Gold, Island Gold Mine

Firefighting Award

Newmont Canada, Porcupine Gold Mines

First Aid Award

Glencore, Sudbury INO

John Guthrie (Special Equipment) Award

K+S Windsor Salt, Ojibway Mine

Theory Award

Newmont Canada, Musselwhite Mine

2019 AWARDS



First Overall

K+S Windsor Salt, Ojibway Mine



Second Overall

Newmont Goldcorp, PGM



John Guthrie (Special Equipment) Award

K+S Windsor Salt, Ojibway Mine



Firefighting Award

Newmont Goldcorp, PGM



First Aid Award

Glencore, Sudbury INO



Theory Award

Newmont Goldcorp, Musselwhite Mine



Technician Award

3rd – Steve Pinel
Alamos Gold,
Island Gold Mine

1st – Jean-Yves Doiron
Vale Canada

2nd – Norm Gannon Jr.
Kirkland Lake Gold
Macassa Mine



Gallery



Vale Canada



Newmont Goldcorp, Porcupine Gold Mines



Newmont Goldcorp, Musselwhite Mine



North American Palladium, Lac des Iles Mine



K+S Windsor Salt, Ojibway Mine



Glencore, Sudbury Integrated Nickel Operations



Kirkland Lake Gold, Macassa Mine



Barrick Gold, Hemlo Operations, Williams Mine

For more competition photos:

2019 Provincial Competition Slideshow: <https://bit.ly/2FLwqu3>

2019 Provincial Competition Albums: <https://bit.ly/2RhMV5k>

Or visit our Competition page, on our website for the above links and more:

www.workplacesafetynorth.ca/minerescue

Note: photos can be downloaded only for personal, non-commercial use from our albums.

Call for help opens scenario

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Newmont Goldcorp, Porcupine Gold Mines was overall runnerup, as well as earned the Firefighting Award.

Newmont Canada, Musselwhite Mine achieved the highest scores on the MCQs, winning the Theory Award, while Glencore, Sudbury Integrated Nickel Operations won the First Aid Award.

The competition scenario had volunteers called out when security received a single call from a gas checker reporting that he was trapped in the 27 Level shop. Other gas checking crews could not be contacted.

Teams headed down the cage to the level and along a decline ramp toward the shop, but before arriving they discovered a vehicle had crashed into a 250-gallon fuel cube, and cut a 600V power cable running along the fuel bay wall.

The cube had leaked about 200 gallons of fuel, and the power cable was arcing. Teams had to de-energize the cable, lock out the power, and were expected to cover the fuel leak with a layer of AFF foam from a PRO/pak.

When the teams discovered the driver of the vehicle absent vital signs and with third degree burns to 100 per cent of her body, they heard shouts for help from behind the nearby closed shop doors.

Once inside, they found the trapped worker pinned under a large fan that was being unloaded from a vehicle. Using the shop hoist or lifting bags, the teams extricated the



ONE MORE TASK - The K+S Windsor Salt Ojibway Mine team extinguishes a vehicle fire and completes the final task of the 2019 Ontario Mine Rescue Provincial Competition.

casualty, and treated him for a gross femoral bleed and a crushed pelvis.

Teams returned to surface to hand the casualty over to emergency medical services and get out of oxygen. But before calling it a competition, teams were called to extinguish a truck fire near one of the mine's headframes.

Competing mine rescue teams represented: Barrick Gold, Hemlo Operations Williams, Mine – Algoma District; Kirkland Lake Gold, Macassa Mine – Kirkland Lake District; Glencore, Sudbury Integrated Nickel Operations – Onaping District; K+S Windsor Salt, Ojibway Mine – Southern District;

Newmont Canada, Musselwhite Mine – Red Lake District; Vale Canada – Sudbury District; North American Palladium, Lac des Isle Mine – Thunder Bay District; Newmont Canada, Porcupine Gold Mines – Timmins District.

This year's competition was hosted by Newmont Goldcorp's Red Lake Gold Mines. The event was sponsored by Draeger Safety, Newmont Goldcorp, North American Palladium, Northern Medical Supply, Technica Mining, Dyno Nobel, Fountain Tire, Lafarge Canada, G+ Plastics, Levitt Safety, Metso, TNT Work and Rescue, Miller Technology, SPI Health and Safety, Komatsu, BGC Engineering, and Tahoe Canada.

Volunteers advised to 'get fitter'

Sandra Dorman wants Ontario Mine Rescue volunteers to become fitter.

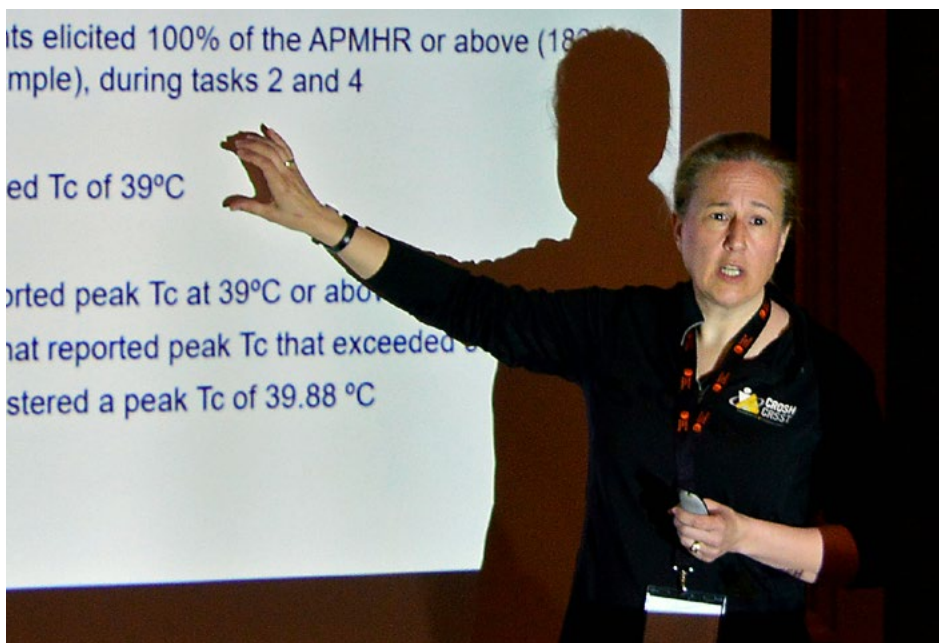
The researcher recommended Ontario establish "a fitness standard that's exactly in line with some of the fitness standards some of the other countries are using." Germany, Poland, and South Africa are among the countries with mine rescue fitness standards.

"We need to develop a fitness program that all mine rescue personnel are involved in," said Dorman, director of the Centre for Research in Occupational Safety and Health (CROSH) at Laurentian University. "That fitness program needs to be mandatory. It also needs to be monitored."

Dorman summarized the findings and recommendations of research by CROSH into the physical effects of mine rescue activities on responders at the 2016 International Mines Rescue Competition (IMRC) in Sudbury. The research was published in March by the Journal of Occupational and Environmental Medicine.

A mandatory fitness program, Dorman said, is "in agreement" with the 2015 Mining Health, Safety and Prevention Review that "a fitness standard needs to be implemented."

"Each worker should have individualized fitness goals identified and provided to them so that they are tailoring the fitness program," she said.



'HIGH RISK' - "The results clearly demonstrate mine rescue is highly demanding with a high risk of a heat stress or a cardiovascular event," said researcher Sandra Dorman.

"Those goals need to include an aerobics fitness component, and a per cent body fat component, a core body strength and grip strength." The program should also include regular medical and fitness evaluations.

"We need to do periodic followup to make sure that their goals are being achieved and or maintained, and to me the key goal of this is to

prevent heart attack and also to prevent heat stroke," Dorman said.

The CROSH research at the IMRC involved volunteers wearing a monitoring device and ingesting a thermometric pill to provide real time vital signs, including heart and respiration rates, and core body temperature.

See 'AT RISK' Page 5

FITNESS IN MINE RESCUE



WHAT ARE THE PHYSICAL DEMANDS OF MINE RESCUE?

76 mine rescuers wore personal monitors during the Mine Rescue Event at the 2016 International Mine Rescue Competition. The simulated emergency included fighting fire and rescuing miners in an underground mine.

PHYSICAL MEASURES:

- Heart Rate
- Breathing Rate
- Energy Expenditure
- Oxygen Consumption
- Skin Temperature
- Core Temperature



This landmark study is the first to collect physiological data in an accurate mine rescue simulation and will help inform international mine rescue fitness standards.

Mine rescue work is extremely demanding; workers need to commit to a regular fitness program to protect themselves from injury, including heat strain.

To prevent heat-related injuries, workers should wear personal monitors during all mine rescue emergencies.



Although captains had lower relative core temperature and physical strain compared to other team positions, as decision-makers, they should commit to the same fitness program as the entire team.

All mine rescuers should be examined and treated for signs of heat stress after every emergency event.

Konrad, J., Gagnon, D. D., Serresse, O., Oddson, B., Leduc, C., Dorman, S. (2018). Effect of a simulated mine rescue on physiological variables and heat strain of mine rescue.



At risk of heat, fatigue related illness

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The results were worrisome, clearly demonstrating that “mine rescue work is highly demanding with high risk of a heat stress or a cardiovascular event,” Dorman said.

Of the 76 participants involved in the study, 37 reached or exceeded their maximum heart rate, and 17 had core body temperatures that exceeded 39 degrees Celsius, falling just short of the 40-degree criteria used to define heat

stroke. Heat exhaustion, including confusion and loss of consciousness, can occur at 38 degrees.

“The current methodology of trying to assess whether someone is having a heat stress event,” Dorman said, “counting on them to be honest and upfront about that in an extremely stressful situation is not sufficient.

“And if the captain has to make that decision and their core temperature is getting up, they

may not be making the best decision.”

The study also recommended mine rescue responders have body-worn monitors capable of relaying physiological measures in real-time to the briefing officer, and that responders be screened and treated for heat stress after training exercises and emergencies.

The research is available for download at: bit.ly/2KUrHeo.

WSN mining conference spotlighted mine rescue

Workplace Safety North celebrated the 90th anniversary of Ontario Mine Rescue, by making emergency response the theme of its annual Mining Health and Safety Conference.

Presentations are posted for review and download at <https://bit.ly/2IPWkoJ>.

Among the presentations:

Why we train: Overcoming challenges faced at the 18-hour Vale South Mine fire call-out – Glen Duffy, Vale, Sudbury Operations

Starting an underground mine rescue program at a remote site: Vale Voisey Bay's new underground mine – Sid Pain, Vale Voisey Bay Mine

Red Lake Gold Mines: Expansive mine rescue challenges and 2018 lithium ion battery fire – Loye Halteman & William McCleary, Newmont Goldcorp Red Lake Gold Mines

Challenges of mine rescue in expanding mine operations – Kent Armstrong, Dräger

Underground mine emergency response training – Josh Caldwell, West Virginia University

Beyond the response phase! Building emergency management programs in the mining sector – Paula Gibson, Glencore

Mine emergency risk, readiness, and training – Dr. Jeffery Kravitz, JHK & Associates Consulting

Laurentian University Mine Rescue as a tool for new and young workers – Brenna Greenwood and Justin So, Laurentian University

Mine Rescue – luxury or necessity? – Alex Gryska, International Mines Rescue Body

Physiological responses of mine rescue workers – Sandra Dorman, Centre for Research in Occupational Safety and Health (CROSH)

Progressive mine rescue response in South Africa – Mannas Fourie, CEO Mines Rescue Services South Africa

Ontario Mine Rescue celebrates 90-year anniversary – Ted Hanley, Ontario Mine Rescue

Overcoming the odds – Diamonds in the Rough, first all-women Canadian mine rescue team



IRON MAN WINS AGAIN – Dave Hay, recognized at the Ontario Mine Rescue Provincial Competition for his 25 consecutive years of district and provincial mine rescue competitions, may (or may not) have ended his mine rescue competition career with another victory. The Newmont Goldcorp Red Lake Gold Mines volunteer topped a field of eight veteran mine rescuers in a competition to field test a BG174, Ontario Mine Rescue's primary breathing apparatus when they were trained. Hay, who first competed in a provincial in 1994 and has qualified for the provincial 15 times, has competed as a team member, vice-captain, captain, briefing officer and technician.



HALFWAY THERE – Thanks to Brad Bastien of Glencore, for identifying part of Stanleigh Mine's 1993 mine rescue team representing Elliot Lake/Algoma District in the provincial competition. Back from left: Ron Kellner, remainder unidentified; front left: Jack Charbonneau, Paul Keller, and Jim McClintock. If you can identify the remaining members of the team, please email kensitter@workplacesafetynorth.ca.



SAY, ISN'T THAT - Thanks to Jason Tooke, James Martin and Steven MacQuarrie, all with Windsor Salt, and Brad Bastien of Glencore, for collaborating to identify Canadian Salt Co.'s Ojibway mine rescue team at the 1998 Provincial Mine Rescue Competition in Timmins. Back from left: Dan Beaudoin, Bruno Franciskovic, Manny Doforno, and Tony Sauro; front left: Mike Breault, Carl Baillargeon, and James McClintock.



WHO IS THAT? - We know who they are, the American Barrick - Holt McDermott mine rescue team at the 1994 provincial competition in Kirkland Lake, but we don't know who is who. If you can identify members of the team, please email kensitter@workplacesafetynorth.ca.



ABOUT THE ONTARIO MINE RESCUE NEWSLETTER

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