



Why is this high school student searching Inco's web site with one of the Ontario Division's computer experts? Find out by reading the article inside on page 11.

INCO Triangle

Printed on Recycled Paper

March 1997

Ontario Division

Vol. 56, No.3

Carbide lime saves cash

Inco people are using a southern Ontario company's waste to improve Sudbury's natural environment. That may sound too good to be true.

But it gets better than that. The waste product, carbide lime, is saving the Division up to \$300,000 a year and is coming in at no cost except for that of bringing it in from the supplier in Paris, Ont.

And a large chunk of that transportation cost is being paid for by the supplier, who is happy to unload the product.

Carbide lime is a byproduct of acetylene production, used as a fuel in welding.

"The supplier would have to pay to dispose of this lime in landfill sites," said Morris

Wong, process engineer at Copper Cliff Mill.

But as it turns out the lime is precisely what Inco needs to treat metal-rich and acidic water runoff from the Copper Cliff Tailings Area, which contains waste rock from regional mines.

"The carbide lime offers us a way of supplementing our production of slaked lime (normally used to treat tailings runoff) at a much lower cost. It's as effective as slaked lime at lowering acidity - that's what the tests have shown," Morris said.

So a team of employees from Inco's Ontario Division has arranged to take the carbide lime off the supplier's hands and apply it to the runoff.

continued on page 2

Levack/McCreedy tops in mine safety

Experience counts in safety. Just ask the 180 employees of Levack/McCreedy West Mine.

They are the 1996 winners of the Ontario Division's annual All Mines Safety Award.

"There's a lot of experience here. If you have any problems you can always talk to somebody because you know the guy next to you has quite a lot of experience that you can learn from," said Gary Scott, a trackless development miner with 27 years at Inco. "You can't take safety for granted."

Levack/McCreedy West Mine earned the 1996 All Mines Safety Award for several key aspects of its safety performance in the Division:

- Lowest medical aid rate of 8.0 per 100 employees - down from 10.9 in 1995.
- Lowest modified work rate, as a result of injuries, of 2.6 - down from 5.1 in 1995.
- Lowest disabling injury frequency rate of 3.6 - down from 7.6 in 1995.
- Second-lowest lost-time accident (LTA) rate of 0.7, as

a result of one incident last year. That's down from 2.5 in 1995.

Only Coleman Mine had a better LTA rate in 1996 with no incidents, but Levack/McCreedy West had the best overall safety record when all categories were taken into account.

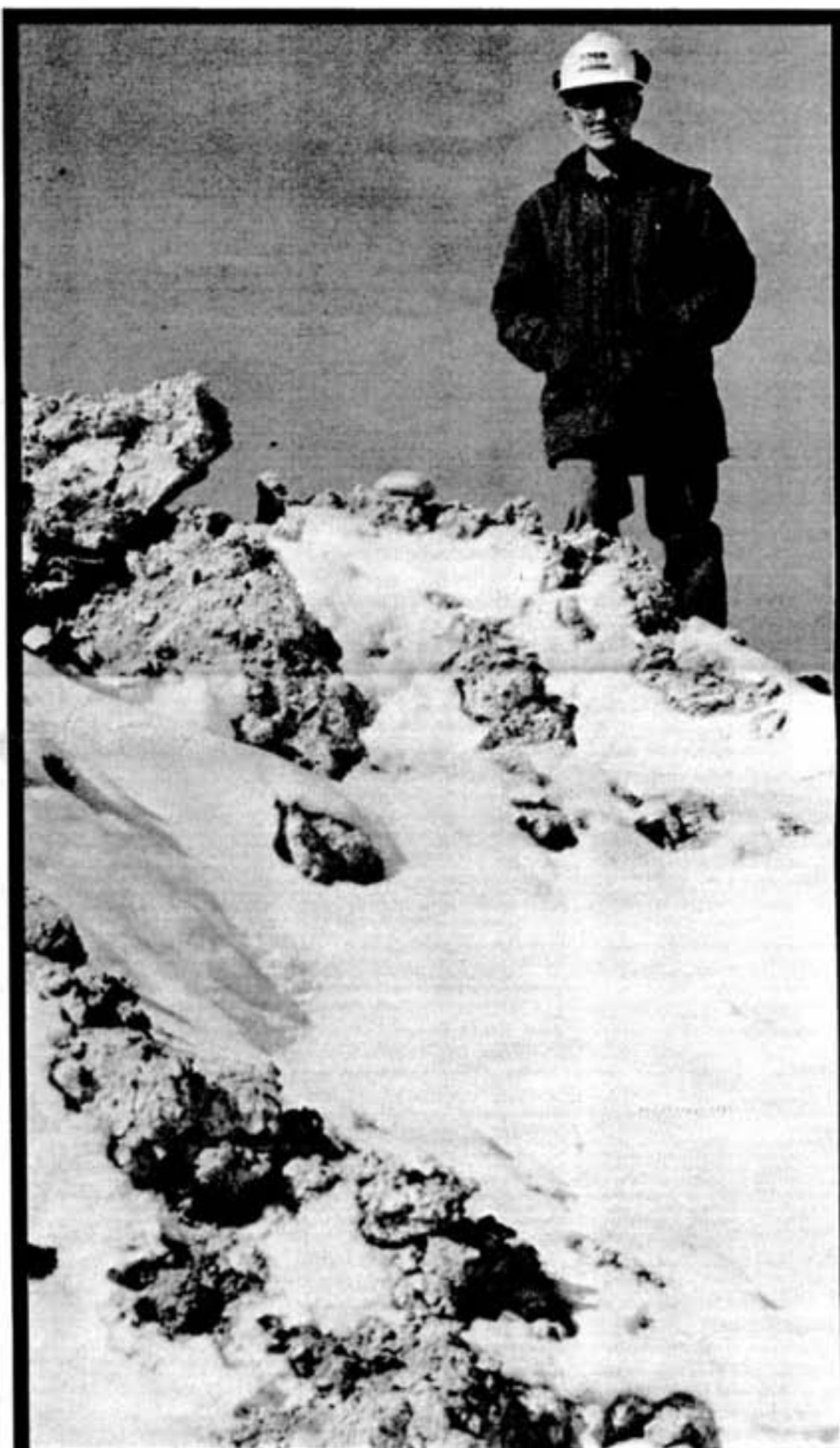
Vice-president of Mining John Kelly said Levack/McCreedy West crews have shown they've learned the Division's seven safety principles and adapted them to their workplace.

"It demonstrates a commitment to safety by showing that, regardless of age or service, people working together can produce top quality results and reduce accidents. On behalf of the Division we offer our congratulations."

Division Safety superintendent Ron Rafuse said pride in the workplace, team goals, good communication and caring for each other all contribute to an exemplary safety record.

"The bottom line is that

continued on page 10



Copper Cliff Mill process engineer Morris Wong stares down from his perch atop a mountain of 'savings' in the Copper Cliff Tailings Area. The mill's department has 50,000 tons of carbide lime stored around the banks of the P-Q Trench waiting to treat the spring runoff. The carbide lime, acquired at virtually no cost to the Division, saved \$170,000 by reducing the amount of slaked lime consumed at the Waste Water Treatment Plant last year and promises savings of \$330,000 when the runoff and subsequent lime addition program begins this spring. Slaked lime, traditionally used to treat runoff, is produced in the Division at a far greater cost.

New lime product could save \$330,000



Morris Wong, process engineer at Copper Cliff Mill, stands high atop the 50,000 tons of carbide lime piled near the banks of the P-Q Trench in the tailings area. "The supplier would have to pay to dispose of this lime in landfill sites," he says.

continued from page 1

The lime added to Inco's P-Q Trench, flowing from the tailings area, helps clean the water before it is discharged outside Inco property into public water courses.

Water from the tailings area flows from P-Q Trench into Finland Creek, then Copper Cliff Creek and ultimately into Kelly Lake.

Morris said the carbide lime is a double-positive for Inco — it's good for the environment and it's cheap.



Morris Wong

"They aren't charging us for the carbide lime. The bulk of the cost is in transportation and they are subsidizing that cost."

The idea of using carbide lime came from a cross-functional team of Inco employees: Joe Dippong, formerly of Mills and now with Quality; Tom McDonald of Mills; Dave Cleminson of Transportation; Andy Kerr of Process Technology; Terry Sullivan and Alex Miglioranza, both of Traffic; Paul Groves of Purchasing; Paul Legault and Jody Spicer-Rodrigue, both of Plant Protection; and Morris.

Following extensive laboratory and field testing in early 1996, the Mills department acquired 50,000 tons of carbide lime, currently stored around the banks of the P-Q Trench in the tailings area.

"There's enough of that lime here to last us a few years," said tailings system

operator Marcel Leclair.

Bull-gang employees like Marcel will soon start using a front-end loader, supplied by Transportation, to add the carbide lime to the water runoff.

But there isn't any point in adding the lime yet, at least not until the spring thaw begins, Morris explained.

The savings for 1997 could be substantial being the first full year for using carbide lime, said Mills production facilitator Jim Truskoski.

Operating savings in terms of reduced slaked lime consumption alone at the Copper Cliff Waste Water Treatment Plant amounted to \$170,000 last year, said George Whitman, superintendent of Copper Cliff Mill, Tailings and Water Plants.

"We expect to save about \$330,000 this year, based on a more aggressive lime addition program. That's partly due to an expected increase in runoff this spring," said George. He added that the abundance of snow will help dilute the acidity of runoff from the tailings area.

There have also been savings in maintenance from decreased corrosion of downstream pumping and mechanical systems, which had been affected by acidity.

Other benefits of using carbide lime include reduced sludge production and handling at the Waste Water Treatment Plant, lower annual dredging costs of ponds and less pressure on slaked lime production at Copper Cliff Mill.

"All in all, this project shows how a little bit of teamwork, tons of recycled waste and a good operating strategy equal big savings for Inco," said Morris.



Tailings system operator Marcel Leclair checks out the P-Q Trench which carries runoff from Inco's waste rock tailings into the Kelly Lake watershed. Carbide lime, a waste product from a southern Ontario company, is being used to lower acidity in the runoff water.



A front-end loader supplied by Transportation will soon begin lowering the carbide lime piles and adding the product to the runoff water.

Productivity and costs top challenges

Canadian mine operators will have to remain smarter, more knowledgeable and swifter in exploiting new technologies if they're going to survive against low-cost, international competitors, says Inco Limited Chairman and Chief Executive Officer Mike Sopko.

Dr. Sopko told about 500 delegates to the 13th Mine Operators Conference in Sudbury recently that while the Canadian mining industry has bounced back in the 1990s, it still faces even stronger competition from countries with much lower labor costs and rich mineral deposits.

"The challenge for the next decade, as I see it, is to continue focusing on productivity gains, lowering costs and addressing the issues that will test our competitiveness," he said in the keynote speech opening the three-day conference. "You can't win by comparing yourself to where you were last year. You've got to remember that the other guy is learning, too, so you have to go faster than the leader just to catch up."

For the mining industry to stay competitive, it must successfully manage new mining technologies profitably with "a smaller, more skilled and more informed and knowledgeable workforce," he said.

Working hand in hand with government and with



Inco Chairman Mike Sopko took time to chat with Laurentian University engineering students Brent Zeltz and Derek Novotny following his keynote address. Dr. Sopko was the Honorary Chairman for the event.

other key partners is also the reality today in Canadian mining.

"Today, we must manage all of these concerns while keeping our eyes firmly fixed on the bottom line," he said, pointing out the mining industry is a \$23-billion industry in Canada and still an important force in the country's economy. "We survived the inefficiencies of the 1980s

by changing the way we mine and process our ores. By introducing new bulk mining techniques like vertical retreat, state-of-the-art equipment and new mineral processing and smelting technologies, we not only made our business safer and more productive, we significantly reduced our costs."

He told delegates, who came from as far away as Af-

rica to hear how Canadian miners are getting back to basics, that new mining technology can bring known but undeveloped deposits in Canada into production, lead to the discovery of more deposits and make marginal operations successful.

The discovery of the rich Voisey's Bay nickel deposit in Labrador - being developed by Inco subsidiary Voisey's Bay

Nickel Company - shatters the myth that Canada's big mineral deposits have already been discovered. As many as 1,900 known mineral deposits in Canada are not now being mined.

He urged the country's miners to take pride in their technological strengths.

"We are still regarded as the best miners in the world. Not only are we pioneering new mining equipment and technology but we are exporting these to the world," he said, adding that Sudbury itself is regarded as perhaps the world leader in mining automation.

How the Canadian public perceives the mining industry, despite all that it contributes to the economy, is a major issue since it's hard to convince Canadians in communities with no or little mining heritage that mining companies can operate safely and productively in harmony with the environment.

"To many Canadians, mining remains a dangerous, low-skilled occupation that does great and irreparable harm to the landscape," he said. "... it doesn't matter that our industry is among the safest, our employees among the most highly-skilled and best rewarded in the workplace."

The industry, he said, has to be "relentless" in its quest to improve its image with the public.

Victor Project proceeds ahead of schedule



Bill Dawson, project manager for the Victor Advanced Exploration Project, fields questions on the progress being made at the site from a conference delegate.

The Victor Advanced Exploration Project is ahead of schedule and under budget, said

Project Manager Bill Dawson to a captivated audience.

Bill's enthusiasm for the

project was obvious as he addressed the crowd that attended the final presentation of the conference.

The project - 20 kilometres northeast of the city and five kilometres north of the Sudbury Airport - is currently 1,200 feet ahead of forecast and if such progress continues the project could be completed up to one year ahead of schedule.

Underground diamond drilling is expected to commence at the end of the second quarter this year and be completed in the first half of 1998.

The results of the advanced exploration project will form the basis for a decision on whether to proceed with a full-scale mining operation.

"I'm really proud of Victor... in case you couldn't tell," Bill said with a chuckle, met with laughter from the conference delegates who witnessed his zeal firsthand.

Bill presented a brief video of the site, depicting its progress and focusing on its environmentally-friendly facets, which

include the recycling of all waste water and the reduction of explosive use.

Bill said the potential of the site was revealed in extensive diamond drilling from surface, first in the 1970s and 1980s and finally in the early 1990s. The exploration identified 6.6 million tons of massive sulphide nickel ore in the main zone located between 4,600 feet and 5,600 feet below surface, and 7.3 million tons of sulphide nickel ore enriched with copper located between 8,000 feet and 8,800 feet below surface in the deep footwall zone.

The shafting sinking on the advanced exploration project commenced in December of 1995 and one year later had progressed below the 4,000 foot level. At the time of the conference the shaft was sunk to the 4,800 level and will eventually be sunk to the 5,800 foot level.

Shaft advance has averaged about 105 feet per week.

13th Mine Operators' Conference

S U D B U R Y • 1 9 9 7

Industry experts exchange ideas



Mario Paventi, acting chief geologist at McCreedy West and Levack mines, said the mine operators' conference is a mirror of the mining industry, which in terms of research and development has become more pragmatic.

Practical presentations and even simulations on how to improve exploration, drilling, blasting and mucking focused mining industry delegates on the back-to-basics theme of the 13th Mine Operators' Conference.

"It's time to remember the basics. This conference is about making technology practical again and not just using technology for technology's sake," said organizing committee chairman Mike Sylvestre, manager of Inco's Mines Technical Services.

Indeed, the 500 delegates to the conference from around the world left the three-day knowledge-sharing event held in Sudbury last month with down-to-earth directions and tips from mining industry leaders.

"It's back to basics – but more intelligently. We blast more intelligently," said acting chief geologist of McCreedy West Mine Mario Paventi.

Mario was one industry expert presenting technical papers on practical solutions to the challenges of modern mining.

His findings focused on a comparison of rockmass damage when drifting by roadheader (machine excavation) or drill and blast techniques.

"We now have a numeric system to quantify inherent (geological) damage and man-made, mining-induced damage," he said.

Before the research done by Mario, Malcolm Scoble of McGill University and Yves Lizotte of ICI Explosives, there was no detailed system to state the degree of rock damage, both natural and man-made.

It's a useful system for a mining company to have be-

cause it helps estimate production costs.

"The more damage created, the bigger the cost to the company," explained Mario. "The more damage, the more clean-up and the more ore dilution, which adds to overall costs because you decrease the grade."

That sort of useful innovation is what the conference,

titled *Back To Basics – Practical Uses of Technology*, was all about.

And many Inco delegates agree that's where the industry is these days – improving mining techniques at the source.

"Drill, blast, muck – that's what we do," Mario added.

Doing it effectively while keeping costs down is everyone's concern.

"We're trying to optimize efficiency," said Andrew MacKenzie, mine planner at McCreedy East's No. 153 orebody.

Andrew and Tom Corkal, research engineer with the Mines Research department, demonstrated a three-dimensional computer simulation program of cut-and-fill mining.

The computer simulation displays the day-to-day operation of a mine, where labor and machines are situated, downtime and peak production periods.

"With our simulator you can see if there are too many or too few miners for the



Andrew MacKenzie



Tom Corkal

number of mine faces available," Andrew said.

He said other examples of questions the computer simulator can answer are:

- How many employees are needed to mine 400 tonnes a day?

- If we put another jumbo in the mine, how will it affect production?

"It'll help us keep our costs down by not making poor business decisions," he added.

Simple solutions to the challenge of cost control were also part of the conference's trade show.

Lowering the cost of ore pass plugs by using worn tires was the thrust of a product displayed by the Sudbury company Ground Control.

"These guys are using recycled tires as an ore pass plug. It's a good idea because it uses something we have anyway – old tires," said Ray Parker, a mine foreman at Creighton Mine.

Several technical papers showed the importance of industry partnerships in developing new technologies.

Coleman Mine driller Jack Simons and Mining

Technologies International account manager Bradley Stewart told delegates how remotely-controlled drills are part of the future of mining.

"We wanted an operator to be able to operate more than one drill," Stewart said.

The benefits of using more automated in-the-hole drills include increased production, lower costs, greater accuracy and greater operator safety through remote operation.

The auto drill paper presented at the conference was written by Stewart and Len Kitchener, an Inco senior equipment advisor.

Jack was on hand to describe how he uses the automated drill every day underground at Coleman Mine.

"It is possible for one driller to operate two machines at one time," Jack told delegates.

He added that automated drills, run remotely underground or from surface, also offer a very tangible bonus to drillers such as himself.

"A driller can increase his daily footage for higher income – that's something else I like about it."



Creighton Mine foreman Ray Parker, left, and general foreman Dan Lavigne check out one of the many exhibits at the conference trade show. The pair tested a model ore pass plug constructed of recycled tires.



Inco driller Jack Simons, left, and Mining Technologies International (MTI) account manager Bradley Stewart told delegates how the MTI automated in-the-hole drill works. The 'robo-drill' is one of many automated drills operating at Inco helping to keep production costs down. The paper was written by Stewart and Len Kitchener, senior equipment advisor. Jack described how he uses the automated drill every day underground at Coleman Mine.

Laser improves drilling accuracy

A discussion on in-the-hole drilling accuracy at Creighton Mine led to a brief laser show for conference delegates as presenters demonstrated the accuracy of the laser total drill alignment system.

Creighton Mine drills about 350,000 feet of 6-1/2 inch holes per year in their in-the-hole drilling program, 99 per cent of which is production drilling, said in-the-hole driller Allan Crowther. Until recently, the set-up involved a string

line, tape and protractor. In 1994, the procedure changed with the addition of the laser developed by Inco's Mines Research department. The results were staggering. "With the use of the laser, the total drill align-



Allan Crowther



Yvon Prevost

ment provided far more accurate and successful drilling," said Allan.

Prior to the laser system, the average deviation on drill holes was between eight and 10 per cent, he said. Using the laser, that

figure decreased to one per cent.

Production foreman Yvon Prevost outlined a recipe for accurate drilling with four main ingredients: proper tools to work with, proper equipment and maintenance, employee involvement and commitment from management.

The laser system has had a positive effect on employees, said Yvon. "As you can imagine, there is a certain degree of pride for a driller when they do a good job."

Shotcrete use extends mine life



Frank Palkovits, left, mine foreman at Froid Mine, chats about the advantages of using shotcrete with Robert Pronovost, a delegate at the mining conference. Frank presented a paper co-authored by Chris Langille, supervisor of rock mechanics and ground control, and rock mechanics specialist Denis O'Donnell.

Shotcrete is not a new concept. In fact, its use dates back to the turn of the century. Yet its potential for the mining industry is just beginning to take form.

Frank Palkovits, mine foreman at Froid Mine, delivered a paper co-authored by rock mechanics specialist Denis O'Donnell and rock mechanics and ground control supervisor Chris Langille on mining through semi-consolidated material using shotcrete as a primary support.

Following his speech, Frank explained that shotcrete was traditionally utilized in the civil engineering field and is now taking hold in the mining industry.

At Froid Mine, a method using reinforced shotcrete was developed to allow the extraction of the ore in existing excavations. Because of its success, the question arose whether the primary mesh reinforced shotcrete would also work in the old cave

areas in successfully mining through the semi-consolidated ore. Frank explained that in cave areas, it is sometimes necessary to access areas cut off by rock-filled stopes or deferred pull stopes.

"The successful development of this system has extended the mine life," said Frank, and allowed for safe extraction.

He explained that shotcrete is used for additional strength and enhances the current ground. In Froid Mine it is necessary to blast through unconsolidated ground, he explained, adding the mine relies on bolts and screens, with shotcrete. Holes are pre-drilled into the rock in an effort to support the ground ahead.

"The use of shotcrete has allowed access to areas that were previously inaccessible or uneconomical to mine at Froid," said Frank, noting that this has extended the life expectancy of the mine.

Wet shotcrete provides safe initial support



Allan Epps, general Foreman at Stobie Mine, discussed using shotcrete as an initial support system in a mine.

strength cement product applied at force with air.

For the past decade, Stobie Mine has worked in developing the use of shotcrete as a method of ground support.

"After having used shotcrete in bad ground conditions at Froid Mine, it was identified as an effective ground support tool and we felt it could also be used in good ground to eliminate bolts and screen in initial advance," said Allan.

The idea of steel fibre-reinforced wet shotcrete as initial support was a project initiated at Stobie Mine under the auspices of the Mines Research department. Stobie was the first mine to employ the technique at Inco.

Initial testing with wet mix shotcrete began in an active sub-level cave area on the 1870 level of the mine with monitoring provided by local ground support personnel, the Mines Research department and staff from the Geo-Mechanics Research Centre at Laurentian University.

During this initial test phase, several types of ground monitoring information gathering units were installed with cables connecting the monitors to nearby computers. The monitor and cable locations were identified with paint so production drilling could avoid damaging them.

As the project progressed, a nine-inch hole was drilled

from surface to 1800 level and a full-column six-inch pipe installed to safely and effectively transport the wet shotcrete underground.

Further testing using steel fibre-reinforced wet mix as an initial form of ground support was carried out on the 1930 level of the mine and later the 2000 and 2100 foot levels.

All shotcreted areas were monitored after each blast by supervision and Mines Research ground control per-

sonnel and all active areas remain under a rigid testing program.

"From an operator's perspective the tests have proven to be unmitigated successes," said Allan, noting that shotcrete as initial ground support is now viewed as the future of Stobie Mine.

"The benefits we've realized from this are a safer and faster method of initial support. It has also produced a better envelope for drilling

fan rings through and it leaves a better and cleaner brow, when blasted, for mucking from."

The full potential of shotcrete has yet to be realized. The challenges for the future are to extend boltless development into vertical retreat mining topsill advance, which is in the planning stages now, and to examine the support provided by the shotcrete with the intention of safely improving its use and cost-effectiveness.

Plotting conference strategy



There was a strong Inco flavor to the 13th Mine Operators' Conference before it even took place. Levack Complex manager Jon Gill chaired the event while Mines Technical Services manager Mike Sylvestre chaired the Organizing Committee. From left around the table are conference committee members Mike Sylvestre, Jim Laroche, Eric Nelson, Charlie Graham, Len Kitchener of Mines Research, Jon Gill, Randy Ouimet, Veikko Jarvi, Menno Friesen of Mines Technical Services and Rudy Kneer.

13th Mine Operators' Conference

S U D B U R Y • 1 9 9 7

Liner offers alternative support system



A new two-component plastic rock liner was the focus of discussion as an alternative underground support system during the mine operators' conference. Samantha Espley, research engineer in the Mines Research department, co-authored the paper. Ken Zeitz, Mines Research technical specialist, assisted in the research.

Samantha Espley admits a new spray-on rock lining material has met with a little skepticism.

"We've had a good response from people, but also a lot of skeptics. It's hard to believe that it actually works. Until you see it, it is hard to believe."

Samantha, research engineer in the Mines Research department, co-authored a paper entitled "Field and Laboratory Support Response of Mineguard Spray-on Polyurethane Liners" with Dr. J.R. Archibald and Peter Lausch of Queen's University.

Lausch presented the paper during the conference.

The two-component plastic liner, which sets in 10 to 30 seconds, is an alternative to shotcrete - concrete applied by air pressure. And according to Samantha, Mineguard is the right alternative.

In an interview following the formal presentation, Samantha touched on some of the benefits of using Mineguard as opposed to

shotcrete. The application of the plastic is not as time-consuming, which translates into a more cost-effective product, she said. She also noted that there is very little 'over-spray' with the product. Another advantage is the ability to see the formation of the rocks, including the location of cracks.

Testing on the product is complete and "everything is in place." The product is now available, she added.

During the presentation, Lausch said Mineguard can work in conjunction with shotcrete (or replace it) as well as bolt-and-screen support systems.

"This support technique has great potential to accelerate the drill, blast and muck cycle."

The project stemmed from the need to develop a support technique that would reduce application time, he said. The material developed was a two-component plastic that is flexible and sets quickly.

Computers provide high-tech training

A new computer-based training system has moved to the head of the class at Inco's Ontario Division.

Training project specialist Stan Paslerowski explained a recent initiative that replaces conventional training with computer-based, interactive multimedia training.

The program was designed to eliminate duplication and one-on-one training, said Stan.

"That (one-on-one training) means one instructor for one trainee, which is not very cost-effective."

The computer system is expected to work well with a new generation of computer-literate employees - a group Stan refers to as "the Nintendo generation."

The Ontario Division adopted computer-based training as part of its mission to implement an up-to-date training system, he said.

The implementation came in three phases. The first was

the task of reducing 1,900 training modules to 729. The modules were then converted from paper to electronic format.

The second phase involved actual testing of the system with trainees. The test results showed a 60 per cent reduction in classroom time and estimated savings of 2,750 hours or \$264,000.

Phase three of the project, which is going on now, is implementing computer-based training as a standard throughout the Division.

Delegates who attended the presentation were treated to an animated demonstration of the program by Bob Huzij, writer/instructor with maintenance training.

"Computers are powerful tools that can be used for training," said Stan. "Training costs are reduced and trainees can train at their own pace. You don't need a formal classroom setting and the delivery is consistent."



Bob Huzij, writer/instructor with Maintenance Training, peruses material at the trade show. Bob and Stan Paslerowski, training specialist with the Human Resource Development group, spoke about the learning potential of computer-based training.

BRIEFS

- TAKE STEPS TO PROTECT YOUR BACK -

Office work can be a pain in the back.

So don't forget to move around from that keyboard and/or desk.

It can help reduce back pain for the sedentary, those employees who have jobs that require them to sit much of the day.

"Sedentary workers often experience higher rates

of back disorders than do workers doing more manually intensive tasks," said Jonathan Tyson, an ergonomist with the Ontario Natural Resources Safety Association.

Sudbury chiropractor Dr. Robert Fera said sedentary workers often experience "a burning, aching pain between the shoulder blades, neck or

at the junction between the spine and pelvic bone (lower back) and headaches at the base of the skull as a result of stress on the neck and upper neck joints."

Back pain is common regardless of your job.

"Eighty per cent of all people will experience substantial back pain in their lifetime," he said.

But there are ways to reduce back pain.

"A change in the workstation can provide substantial relief," said Dr. Fera, who performs on-site evaluations of ergonomic factors in the workplace.

He said you can have a healthy spine by simply changing your lifestyle by doing these things:

- getting up from your chair at least once an hour;
- exercising regularly;
- maintaining proper posture;
- using a back rest and/or footrest;
- sitting properly, which requires arms to be parallel to the desk without shrugging or stooping.

Chutes key to Creighton ore movement



Inco field engineer and division supervisor George Darling, left, along with Creighton mine foreman Ralph Poxleitner and Carl Storey of Mining Technologies International delivered an address on the benefits of the Nordic chute system.

A new chute system has profoundly improved the movement of ore at Creighton Mine.

The benefits of the Nordic chute system were discussed with conference delegates by Creighton's Ralph Poxleitner and George Darling.

The chute system, designed in 1982 at the Kiruna Mine in Sweden, was built to ensure control of ore movement to truck and car haulage. The system was adapted at Inco in Sudbury which now operates with 16 chutes.

"What is unique about the chute system is that you have very good control of muck," said George, field engineer and division supervisor.

Since early mining, chutes have been used to control the passage of ore or rock to cars or trucks, George explained. "The many chutes devised have relied

on weights and friction to slow ore down."

The Nordic system works through the development of a "positive lip action" that makes use of air or hydraulic pressure, rather than gravity, to choke off a run of material. The impact, when material is lowered to a waiting mine car, is reduced to a minimum, along with spillage.

Ralph, a mine foreman, said the first Nordic chute at Creighton was built on the 6000 level in 1993 for the 1290 orebody.

"I have installed these chutes as a construction foreman and worked with them as a production foreman," he said. "Nowhere else have technological changes had such a profound impact on ore moving efficiency. These chutes are relatively inexpensive, simple and once the crews are familiar with them, safer and more productive."

Liner management improves efficiency



Coleman Mine maintenance foreman Robert Simard views a computer program installed at the mine to improve the management and maintenance of liner plates.

Implementing an effective liner plate management system at Coleman Mine has resulted in significant savings and other benefits, said maintenance foreman Robert Simard.

Liner plates are used in all areas of the muck circuit including loading pockets, skips, discharge and feeder stations, and crushers. Constructed of steel and steel composites, the plates protect the equipment they are lining by absorbing the wear and tear of the muck flow. As plates wear out, new ones are installed and the equipment beneath the plate remains unscathed.

The liner plate management system at Coleman was implemented following a survey of yard crew, mechanics, foremen and warehouse and purchas-

ing personnel to quantify the amount of time and energy spent on liners required for the mine. The survey revealed problems involving costs, excessive delivery time, quality and selection.

A team consisting of Coleman employees and representatives of Carriere Industrial Supply, a liner plate supplier, set out to solve these problems. A system was implemented that utilized a computer program called Steelwear to perform data collection, store a complete set of drawings, predict when liners needed replacing and allow the end user to track the cost (per ton of muck) of each liner.

Robert said the management system has resulted in manpower savings from education, simplification and pre-

dictive replacement of liners.

As data is collected, the mine will be able to establish how many tons of muck have passed over a specific liner in any piece of equipment. With this information, Robert noted, the Steelwear program can predict when a liner will reach 80 per cent of its life expectancy. "The Steelwear program allows us to monitor our liner performance. We are able to make decisions based on real data versus guesswork," he explained.

The program allowed the mine to minimize liner plate inventory, analyze pertinent wear data, predict liner replacements, track in-house inventory and test liners accurately.

"The program far exceeded initial expectations," said Robert.

Touring the trade show



Between presentations delegates were able to visit an extensive trade show featuring 65 exhibitors from the mining and mine supply industry.

Murray Mine demolition ends a



After months of decommissioning work, the blast that brought the Murray Mine headframe down was over in seconds, closing one of the most significant chapters in Sudbury's mining history.

One of the most significant chapters in Sudbury's mining history closed with a bang last month as the Murray Mine headframe toppled to the ground.

Constructed in 1941 as part of a major expansion and shaft sinking to bring the mine back into production after sitting idle for 15 years, the headframe itself typified the pioneering nature of the operation.

As a wartime steel conservation measure, the Murray Mine headframe was a majestic monolithic concrete construction – the first of its type at any Inco mine.

During its operation, Murray established many 'firsts', beginning in 1883 when it was the first nickel-copper deposit found in the Sudbury Basin. During construction of the Canadian Pacific railway through the Sudbury area, Thomas Flanagan, a blacksmith with the railway, spotted the copper-rich ore which would become the Murray orebody.

It was the first Sudbury mineral discovery and later the first mining lands purchase when Thomas and William Murray, Henry Abbott and James Loughrin purchased the deposit in 1884.

From 1890 to 1971, more than 35 million tons of ore were produced from the Murray Mine.

Frank Haner was an apprentice electrician at Murray Mine in 1966 and 1967. Today, he's an electrician at South Mine with 32 years service, but he looks back fondly on his days at Murray and recalls several other 'firsts' that garnered less attention.

"There were a lot of firsts, a lot of breakthroughs and a lot of history there," said Frank. "To my knowledge it was the first place a scooptram went underground and the first underground testing site for a raisebore. The Murray Mine open pit also started while I was there."

In Frank's day, Murray Mine operated to 4,000 feet.

"The first shaft went to 3,000 feet and a second 'snub' shaft went from 3,000 to 4,000," he explained.

"I had a good crew, a good foreman and I enjoyed my time at Murray but I was only there two years because the company liked its apprentices to rotate to several different areas for an overall view of the operations.

"In those days, there wasn't as much electricity underground as there is today. All you had were trolleys, slushers, charging stations for battery locos and the odd light. There were no scooptrams and the ventilation fans were on surface. The ventilation fans came underground at about the same time scooptrams did."

To illustrate his point, Frank explained how in his day the entire Murray Mine was serviced by one 2,200-volt electrical cable. A second cable went down when scooptrams and raisebores arrived on the scene.

By contrast, he said, South Mine operates with 13 underground cables generating more than 30 times the power. Two of the South Mine cables alone are 13,800 volts.

Still, when he wasn't working underground, Frank was responsible for tending to the electrical needs of the Murray Mine townsite outside the mine gate.

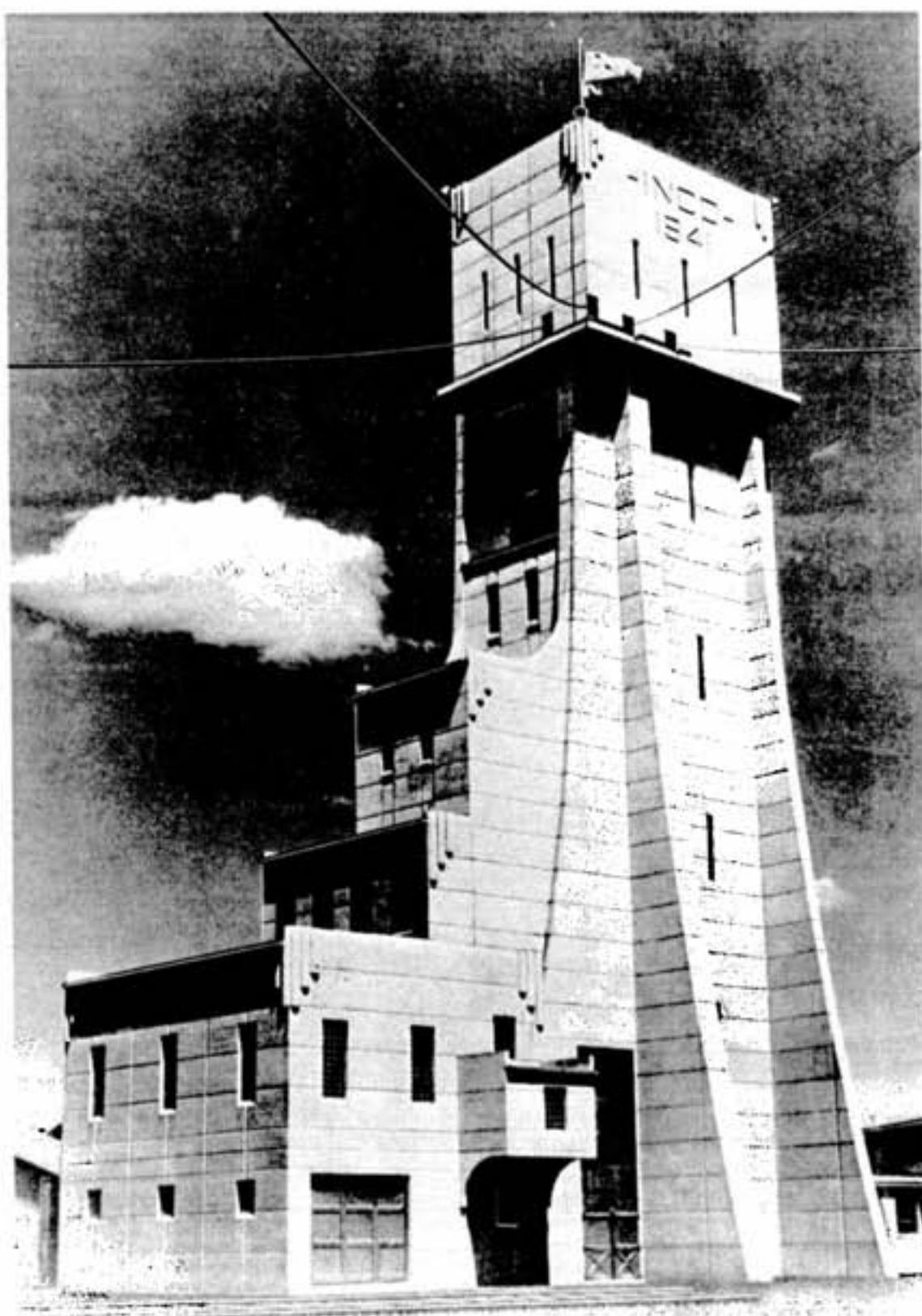
Reclamation coordinator Paul Yearwood remembers the townsite well. It was his first home after joining Inco in 1968.

"There was quite a little town there at the time," said Paul. "There were about 20 houses, a nice little park area and a bunkhouse – where I stayed – that housed about 40 or 50 guys. Places to live were hard to come by at that time so the company put us up there until we could find proper accommodations."

In his current job, Paul plays a role in the decommissioning and reclamation of abandoned Inco sites. He never actually worked at Murray, but the recent decommissioning of the site was not his first encounter with the mine.

"From 1975 to 1978, while Murray was still on standby, I was a ventilation supervisor at North Mine," he said. "Part of my job involved checking the condition of the emergency escapeways at Murray Mine. Although it hadn't operated since 1971, you could go into a lunchroom in those days and it looked as though it was just closed down for the weekend."

Time, however, did eventually take its toll on Murray Mine and the old, decaying buildings at the site posed a potential safety hazard to anyone trespassing on Inco property, said Paul, adding that in this time of cutting costs where-



This picture of the monolithic concrete headframe at Murray Mine appeared in the June 1944 Inco Triangle under the heading 'Proudly Flies the Victory Pennant'. The words beneath the picture read: 'Tugging at its mast atop the beautiful monolithic headframe at Murray Mine, a Victory Loan flag symbolizes the triumph of Inco employees over a high quota assignment in the Sixth Loan Campaign.'

ever possible it made financial sense to bring the buildings down.

Demolition began in early November last year.

The headframe, dry, office and engineering areas were all under one roof. There was also a rockhouse, a warehouse, a metal-frame Butler Building, a hoist room and

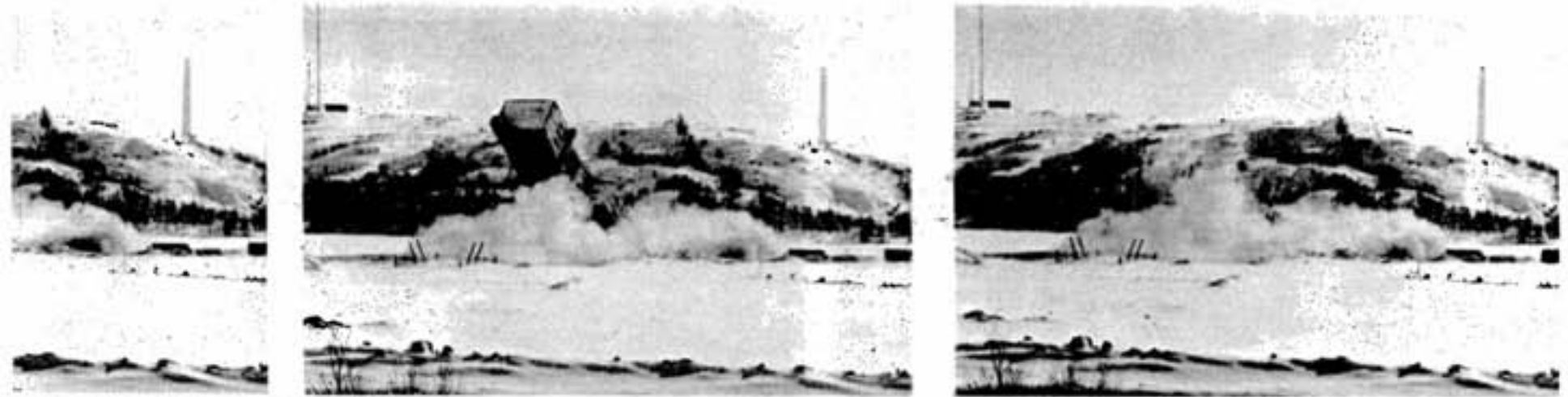
compressor room and a guardhouse, said Paul. The demolition also involved the removal of foundations from the old McKim shaft near Highway 144.

The thundering blast that toppled the headframe last month was the second-to-last step in closing the book on Murray Mine. Once the rub-

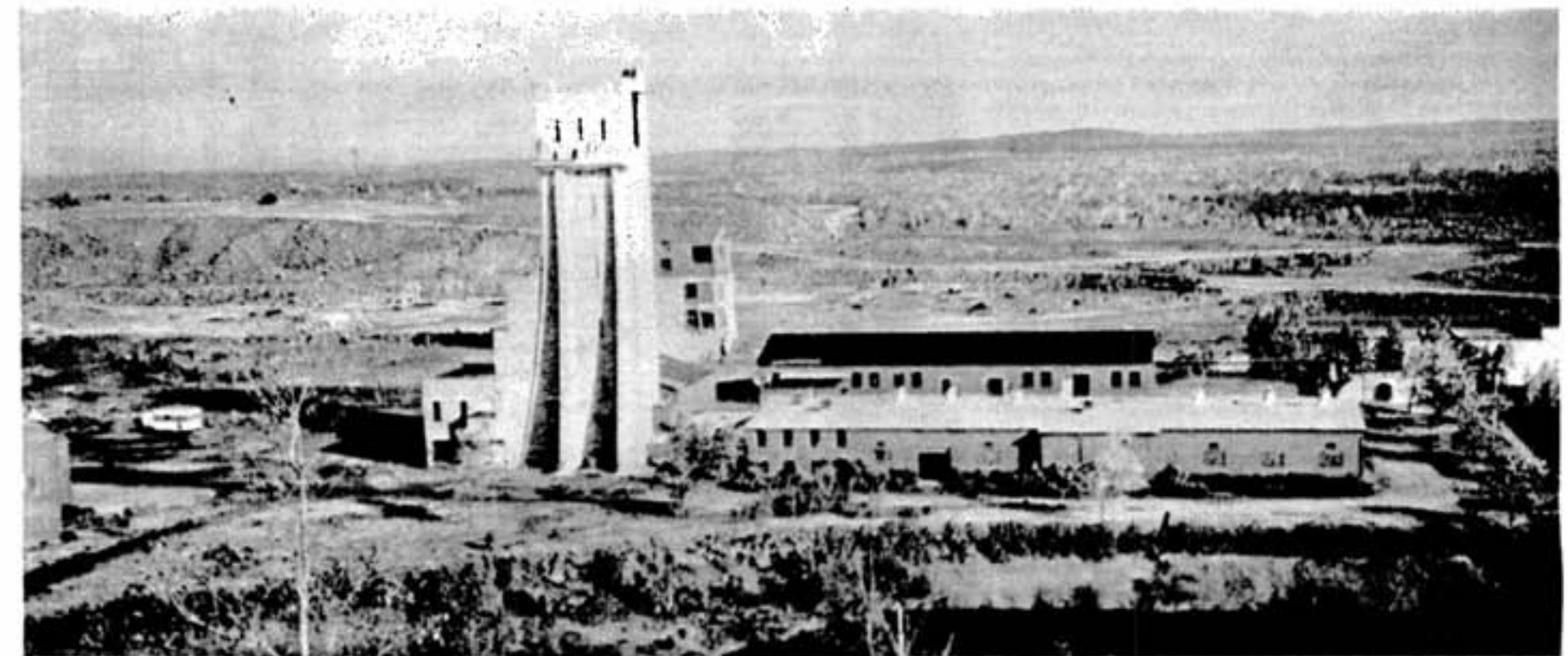
ble was removed and the area roughly graded the decommissioning was complete.

"The concrete headframe made the job more difficult and it was easier to simply topple it," said Paul. "In the next few years we will be able to move in, level the ground and begin planting grass."

era in Sudbury's mining history



t chapters in Sudbury's mining history.



This was Murray Mine as it appeared in October of 1996, one month prior to demolition work beginning on the headframe and surrounding buildings.



Mark Patrakka of Corona Inc. in Lively loads the explosives that would help topple the large concrete headframe.

- PROJECTS ON TAP FOR '97 -

PROGRESSIVE DECOMMISSIONING PROJECTS

- Removal of surface ore handling system at North Mine.
- Start removal of #3 shaft buildings at Creighton.
- Haul waste rock to main pit at Crean Hill.
- Demolition of sandplant at Frood Mine.
- Demolition of #1 Powerhouse cooling pond at Smelter.
- Removal of Orford Building 'run around' at Smelter.
- Asbestos removal at old Iron Ore Recovery Plant roaster building.
- Continue work at Electrometallurgical Refinery (ENR) at Port Colborne.

RECLAMATION PROJECTS

- Continue to cover upper portion of Smelter slag pile facing Highway 17.

INACTIVE MINE SITE RECLAMATION

- Begin phase two of Victoria Mine clean-up
- Continue to fill main pit at MacLennan Mine with waste rock from Victor.
- Clean up and clay cap O'Donnell Roast Yard.
- Reclaim Vermilion Mine site.
- Apply clay cover to Copper Cliff #2 Mine.
- Begin phase one of North Star Mine reclamation



Al Corby of Engineered Demolition performs a final check on the blasting wire connections to ensure everything is set for the blast.

Employees see safety as personal duty



The crews at Levack/McCreedy West Mine list experience, communication and pride among the reasons they captured the 1996 Ontario Division All Mines Safety Award. That's the McCree West crew on the left and the Levack crew on the right, each surrounding the prestigious All Mines Safety Trophy.

continued from page 1
Levack/McCreedy West went through the whole year with the best overall safety record. It's quite an accomplishment considering the extensive safety efforts at our mines," Ron said.

Indeed, safety statistician Harvey Wyers revealed that competition was tight for the 1996 award among the Division's 11 active underground mines, with Coleman placing second and Stobie a close third. Making safety a part of everyday life helped the Levack/McCreedy West employees capture the award.

"You watch out for other people in the area. You do your scaling before you start mucking," said scoop operator Dan O'Bumsawin, outlining a few of the daily safety routines he's learned after 22 years at Inco.

The motivation for working safely is common sense, say employees. But it's important that people remind themselves what working safely does for them.

"Safety comes with the job," said Brian Faragher, a trackless development miner with 23 years at Inco. "If you want to go home at night with no broken bones, or to see your family - you've got to be on the ball."

It's an observation Dan agrees with.

"I like to go home to my family every night," said Dan. "My wife and my family, we have a camp along the lake and we spend quite a bit of time there on weekends. If I get hurt I can't go fishing on the weekend with them or with my friends. That's a motivator right there."

A theme that came up with several employees at Levack/McCreedy West was that people take safety as a personal responsibility.

"We try and make sure everything operates smoothly around this plant," said operating shaft boss Bruce McKee, a 26-year Inco employee.



Bruce McKee

"I think it's got a lot to do with people working safely themselves and having experience in the job that they're doing."

The constant reminders on working safely have helped make it a way of life at the mine, he said.

"Nobody goes on the job if they're not trained and if they're not comfortable working. We have a good training program. If you're not comfortable, you'll be trained until you are comfortable to do that job."

The training and safety messages in The Triangle, safety bulletins and other publications as well as in everyday conversation are paying off at Levack/McCreedy West, said Bruce.

"If somebody sees somebody doing something out of the ordinary, they will go up to them and they will mention it to them and say, 'Hey buddy, don't you think there could be a better way?' Everybody helps each other, which makes for unity in your work group."

Supervisor Bill Card said safety is a constantly developing aspect of work that employees must grow with.

Despite many years of experience, Card said Levack/McCreedy West employees have shown a willingness to learn and add to their safety knowledge and practices.

"They have a very good attitude. I think there are a lot of new initiatives that we take today that we didn't years ago and they make quite a difference to all of the people involved. Things like more safety programs (such as the Getting to Zero workshop). I think people are a little more careful today."

Levack/McCreedy West Mine superintendent George Aniol said employees have taken the Ontario Division's Seven Safety Principles to heart and put them into everyday use.



"You watch out for other people in the area. You do your scaling before you start mucking," said scoop operator Dan O'Bumsawin (inset), outlining a few of the daily safety routines he's learned after 22 years at Inco.

"We've also got the Neil George Safety System, where the employee does an initial inspection upon entering a workplace - much like scoop operators or mobile equipment operators will do initial checks of their equipment to make sure it's in running order and proper condition."

Little things such as daily safety discussions in the warm room and an electronic safety bulletin board also add to a healthy work environment, George said.

"We like to get employees involved. Communication is essential to the employees. We have them involved in procedures where they have a lot of input into how a particular job is being done. We get them involved in previewing new pieces of equipment and we'll take them up to the supplier. We have safety drills. We'll have a planner go out and just kind of do an inspection of the piece of equipment before it comes here. We do that for any piece of equipment to try to determine what deficiencies it has. The employees enjoy that and they have direct input into the process."

George summed up what makes the team at his mine as good as it is: "They're an experienced workforce. It's an excellent workforce. They're hard-working. They've got a very good work ethic, a good attitude and they've taken responsibility towards their own safety. And I think that's what helped us to get where we are."

- A HISTORY OF WINNERS -

Inco's All Mines Safety Award was created in 1962 to honor the mine with the best safety record during the previous calendar year.

The winners have been:

- | | |
|-----------------------------|--|
| • Creighton - 1961 | • Copper Cliff South - 1980 |
| • Murray - 1962 | • Coleman - 1981 |
| • Murray - 1963 | • Stobie - 1982 |
| • Frood-Stobie - 1964 | • Garson - 1983 |
| • Frood-Stobie - 1965 | • Stobie - 1984 |
| • Creighton - 1966 | • Frood - 1985 |
| • Garson - 1967 | • Frood - 1986 |
| • Levack and Murray - 1968 | • Garson and Copper Cliff North - 1987 |
| • Garson - 1969 | • Frood - 1988 |
| • Murray - 1970 | • Frood - 1989 |
| • Frood-Stobie - 1971 | • Garson - 1990 |
| • Kirkwood - 1972 | • Little Stobie - 1991 |
| • Copper Cliff North - 1973 | • Little Stobie - 1992 |
| • Copper Cliff North - 1974 | • McCree West - 1993 |
| • Kirkwood - 1975 | • Garson - 1994 |
| • Crean Hill - 1976 | • Little Stobie - 1995 |
| • Crean Hill - 1977 | • Levack/McCreedy West - 1996 |
| • Copper Cliff South - 1978 | |
| • Garson - 1979 | |

- SEVEN SAFETY PRINCIPLES -

Following the Division's safety principles is part of the daily routine at Levack/McCreedy West Mine.

- All injuries can be prevented.
- Employee involvement is essential.
- Management is responsible for preventing injuries.
- Working safely is a condition of employment.
- All operating exposures can be safeguarded.
- Training employees to work safely is essential.
- Prevention of personal injuries and incidents is good business.

Lively High and Inco go 'High Tech'

Inco Limited is helping Lively District Secondary School take learning into the 21st century.

As mentors, advisors and supporters, several Ontario Division employees were on hand last month when the school officially opened its first 'High Tech' room as part of a brand new learning program called T.E.S.T. - Technological Education Solutions for Tomorrow.

The product of a broad community partnership of industry, education and business, the T.E.S.T. program and the High Tech room are part of a pilot project designed to provide students with the latest in communication technology, manufacturing technology and technological design.

The program officially begins next fall, but a test project is underway for the final semester of this school year.

Students will train on computer-operated equipment encompassing electronic communications, live communications, graphic communications, project design, process and production planning and application of design processes to solve technological problems. An emphasis will be placed on career development activities to help students prepare for the transition to work and further education.

In a keynote address to 500 students and members of the program advisory committee, Vice-President of Milling, Smelting and Refining Mick Throssell stressed the importance of building a high-powered, technologically trained workforce to meet today's challenges.

"I believe that you cannot survive in the fiercely competitive, global marketplace over the long haul without the best-trained, motivated and skilled team players you can find and develop," he said.

Whether it's desktop or Internet communication, computer-based training, mass spectrometer testing in our labs or tele-operated mining drills, there isn't a department in our workplace left unchanged by technological innovation.

Mick told the students that industry awaits their arrival because of the energy, knowledge and skills they will bring.

The 6,400 employees of Inco's Ontario Division have a long history of partnerships with the education sector in Sudbury, where in the course of a year more than 800 students from grade school to college pass through the company's doors.

Steve Gorecki, a member of Inco's Information Systems department and a member of the Lively High Tech Advisory Committee, jumped at the opportunity to participate in the project.

"It's my community's school," said Steve. "I have a daughter who started Grade 9 this year and another coming up through the school system who will be here in a few more years. When I was offered the



Grade 11 student Erin King and Steve Gorecki of the Ontario Division's Information Systems department, visit the Inco Limited web site on the Internet in a portion of the Lively High Tech Room dedicated to communications.

opportunity to participate, I felt I had a lot of experience in the information technology area that would benefit both the school and the students here."

That kind of volunteer commitment has not gone unnoticed by Lively High principal Les Lisk who says Inco was instrumental in helping establish the High Tech room.

"The one constant about Inco is its people," said Lisk. "Whether it's in a robotics section or engineering, they are always there willing to give us their time - and it's usually their free time."

"They give us their advice, they help us set up the equipment and their support is ongoing. It's not hit-and-miss where they're here one day and then you never see them again."

Lisk said the High Tech room has already generated a great deal of excitement among the current crop of students involved in the test project.

"This is totally different from a regular classroom," he said. "The whole room has been set up in a module approach so students can come in and work at their own pace. We find students coming in here on their spares, at lunch and after school they're so interested in it."

A former student of Lively High and now a member of the High Tech Advisory Committee, Dan Foy of Matte Processing thinks the High Tech room is a great idea and wishes something similar had been available to him.

"When I went through high school they had the shops but they didn't have anything like this," he said. "They had the electronics shop, the machine shop and other different shops, but everything was separate. Now, by combining it with automation and computers, they're able to offer something comparable to what is being offered at the college level. Hands-on learning and working together as a team to accomplish one goal - that's



Grade 12 student Michael Clarke, the son of Accounting supervisor Dave Clarke, looks through the camera eyepiece in the video editing section of the new Lively District Secondary School High Tech Room.



Jeremy Raymond, a Grade 11 student at Lively High, explains the mechanics of his remote-control arm to Dan Foy of Inco's Matte Processing department.

where industry is going now." The opportunity for advanced learning is not lost on students like Mike Clarke, son of Accounting supervisor Dave Clarke.

"This offers me the chance to learn about something I really want to learn about," said Mike, a Grade 12 student who plans a career in video editing. As far as video editing and graphics design are concerned, you can't get the courses I want around here, even through the universities



Grade 13 student Cynthia Norman, daughter of Smelter electrician Dave Norman, explains her autocad computer program to Lori Horner of Inco's Human Resources department.



In a keynote address at the official opening of the Lively District Secondary School High Tech Room, Inco's Vice-President of Milling, Smelting and Refining Mick Throssell told students "there isn't a department in our workplace left unchanged by technological innovation."

- HIGH TECH ROOM MODULES -

- Computer skills
- Project design
- Personal management skills
- Electronic communications
- Multi-media applications
- Graphic communication
- Manufacturing technology
- Technological design

and Cambrian. But this program gives me the chance to learn about it right in my own high school."

Grade 13 student Cynthia Norman is using the program to help her choose the proper career path.

"I'm hoping to get into either mechanical engineering or architecture," said the daughter of Smelter electrician Dave Norman. "This program offers me more of a background for helping me decide which path to choose. I'm not

PARTNERS IN HIGH TECH EDUCATION

- Ministry of Education and Training
- Inco Limited
- Lively District Secondary School
- Cambrian College
- Laurentian University
- North Star Computers
- Nickel Centre Credit Union
- TRO Learning (Canada Inc.)
- Electrolab
- Sudbury Board of Education

used to working with computers and it's helping me out a lot. It doesn't take long to learn everything. It doesn't take long at all."

Grade 11 student Erin King doesn't know what she wants as a career yet, but she does know the High Tech room will help her make an informed choice.

"I think a centre like this will give anyone assistance no matter what field they are going into," she said. "A lot of people ask me what I want to do when I grow up and I have a lot of different ideas - sports, medicine, geology. Whatever field I enter I know that something like this will help."

Inco employees joining Steve Gorecki and Dan Foy on the High Tech Advisory Committee include Trueman Hirschfeld, Greg Newson, Greg Baiden, Al Akerman, Richard Riach, Don Strain, Lori Horner and Peter Cunningham.

Remote guidance system draws praise



Leif Bloomquist and his navigation system for robotic mining vehicles captured first place in the corporate design category at the Ontario Engineering Competition at McMaster University in Hamilton last month. The lined gutter in the foreground represents an underground drift.

A university student has proposed a high-tech solution to a dirty job. Leif Bloomquist came up with a practical tool designed to make working underground safer while he was on placement at Inco's Mines Research department. He worked at Inco

from September to December 1995 and May to August 1996 as part of his co-operative program at the University of Waterloo.

So how did he do it?

Necessity, it's said, is the mother of invention. In this case, Leif felt it was

necessary to improve the mine guidance system used by scooptrams.

A luminous rope snakes its way through mines giving scooptram guidance systems something to follow.

But the rope needs periodic cleaning, which Leif frankly described as a "dirty job" — one he'd rather avoid in favor of other tasks with Mines Research.

"The luminous rope can get caked with dirt. I had to clean it at Stobie Mine. I remember thinking while doing that job, 'There must be a better way.'"

So he developed a prototype called the Laser-Based Navigation System For Autonomous Underground Vehicles.

Testing of the one-and-a-half meter long by one-meter wide, remote-controlled prototype, which he has been driving around university hallways, is scheduled to be complete in April.

But already the fourth-year system design engineering student knows he's on the right track.

Leif finished first in the corporate design category at the Ontario Engineering Competition hosted by McMaster University in Hamilton last month.

He did, however, have some help in coming up with the idea to work on his project because Inco's Mines Research department had posed the problem for participants to work on.

But it was Leif's design that beat out nine other entries — several of them designed by teams.

Like all good engineering, Leif's design was simple but effective, said Christina Van Drunen, a member of the advisory board of the Ontario

Engineering Competition and an engineer-in-training with Inco.

"The judges were obviously impressed by it. It was simple engineering, which is the most cost-effective because fewer things can go wrong."

Leif's system uses a laser light pulse on the walls of a mine to find the centre of a drift.

"We have to further develop the system and test it in our process," said Eric Hinton, supervisor of Inco's Mining Automation Program.

Eric said he doesn't know when Leif's prototype could be used in a mine, but he was impressed by it and by Bloomquist himself.

Eric said the laser guidance system project is indicative of the many benefits Inco receives by taking engineering students into its operations.

"He was a tremendous asset to the company. He's a new breed of engineer, who is fully computer literate."

Eric added that having the "new breed" as part of a co-operative education program reminds Inco people that "we have to keep pace with technology."

Christina said the competition itself provides a good experience for Inco people, such as Copper Refinery maintenance supervisor Berno Wenzl, who judged one of the other categories at this year's event.

"It's a fantastic opportunity for Inco to meet the highest calibre engineering students in the province," she said.

Leif added that working on placement with Inco gave him a chance to put his years of university learning to good use with the world's largest nickel mining company.



Leif Bloomquist has been testing his navigation system, shown here on its wheeled base, by driving it remotely through the hallways at his university.

Automation improves switchboard

Inco's Ontario Division is available at the fingertips of outside callers.

An automated answering service offering callers an easy-to-follow menu of dialing selections was put into operation earlier this month and phone calls at the switchboard have dropped by 75 per cent.

Anyone dialing the Division's main number at 705-682-4211 hears an automated attendant offering eight different options for routing the call properly.

- If the caller knows the extension of the person they wish to reach they may enter it immediately.
- Pressing 1 allows the caller to reach any employee with a phone system mail box by spelling his or her name (last name first) on the telephone keypad.
- Pressing 2 transfers the caller to the Benefits department.
- Pressing 3 sends calls to

Payroll and Pension.

- Pressing 4 sends the call to Accounts Payable.
- Pressing 5 reaches the Employment office.
- Pressing 6 reaches Public Affairs.
- If the caller is calling from a rotary phone or still requires assistance they may stay on the line.

"The instructions are clear, concise and easy to follow," said Harvey Wickenden, supervisor of Services and Operations in Information Systems. "In the event of an emergency, if someone holds and there is no one available to take the call at that moment, instructions are given on how to reach #1 First Aid."

In the past, said Harvey, it was necessary to staff the switchboard full-time. Now, the auto attendant allows for far greater staffing flexibility in dealing with such issues as department meetings, employee illness or vacations.

"This allows us to provide the switchboard operator with more value-added work while not taking away from the quality of service to the customer," said Harvey. "We no longer require someone 'tethered' to the switchboard and that person is free to help in the mail room, attend training or fill in where required. It's a much more flexible system that makes more efficient use of our employees."

To date, Harvey has not heard a single negative word about the system which he said improves and enhances the department's service by routing calls directly to the source without needless re-routing by a switchboard operator.

"The system is designed to assist the majority of callers who are seeking employment, benefits information, answers to payroll questions, vendors seeking Accounts Payable or others seeking general information from Public Affairs."

Honoring an Olympian



Levack Complex manager Jon Gill presents Olympic cyclist and Levack native Eric Wohlberg with a limited edition sculpture of a loon crafted from Inco's nickel-copper sulphide ores. Eric, accompanied by proud father Elwood Wohlberg of Mines Technical Services, was honored by the town of Onaping Falls earlier this year. Eric is currently enjoying a highly successful cycling season.

LETTERS

TO THE EDITOR

Dear Editor,

Childhood is the most important, informative and character-building years a person will experience. The lucky ones, as adults, can reflect on their childhood memories as a time of fun and friendship. However, for disadvantaged children, it can be a sad and lonely time of life.

The Sudbury-Manitoulin Children's Foundation is a non-profit charitable organization that gives disadvantaged children the opportunity to attend summer camp. In this, we hope to change unhappy childhood memories and help them learn to swim and play, appreciate nature and the environment and, most importantly, form new and lasting friendships. In short, giving these children a chance to be "just kids" in an otherwise hectic world.

Your donation in 1996 played its part in helping the Foundation provide this service. During the past 13 years we have been able to send close to 4,500 children to summer camp. During the summer of 1996, the Foundation was able to send 406 disadvantaged children to camp at an average cost of \$160 per child.

Our goal each year is to give every child referred to the Foundation the opportunity to attend summer camp. With your continued help this goal could be reached.

Yours truly,

Anne Apolloni
Coordinator
Sudbury-Manitoulin Children's Foundation

Dear Editor,

I would like to take this opportunity to inform you how pleased I was to learn that I had been awarded the Inco Scholarship. This scholarship is a great benefit to me as I am sure it has been to all those who earned it before me.

I would like to thank you for this award and commend your efforts at furthering education by making it available.

Sincerely,

Thomas Knox
Englehart, Ontario

Dear Editor,

I am writing to thank Inco Limited for the Inco Limited, Ontario Division, Open Scholarship that I received on February 10, 1997.

I am very honored to be one of the recipients of this scholarship. I have worked very hard this last year-and-a-half trying to keep my grade point average at 4.0 which, as you can imagine, is no easy task.

On top of this I have tried to keep involved in the community and with the extracurricular activities that the school has to offer. It is really nice to know that my hard work has paid off and that people are noticing that there are students that really do try and they are noticed for their achievements.

Again, I would like to express my appreciation for this scholarship. It really does mean a lot to me. Thank you very much.

Yours truly,

Kimberley Harris
Cambrian College

Dear Editor,

I would like to take this opportunity to thank you for the Inco Scholarship Award which I received on January 24 at the Haileybury School of Mines. Incentives like this give you that little extra drive that may be needed to get an 'A.' This has encouraged me to strive for high grades in semester two. Thank you again.

Sincerely,

Michael Banks
Marathon, Ontario

Dear Editor,

As a recipient of the Inco Limited, Ontario Division, Engineering Bursary for the second straight year, I am again honored to accept your generous donation. As a student, it is very rewarding to see local companies generously supporting the Cambrian Foundation which in turn rewards deserving students for their hard work and dedication.

This spring I will graduate from the Civil Engineering Technician Program. I have been offered a full-time position with Alpine Construction of Sudbury as a Carpenter's apprentice. I hope to gain experience in the construction industry and later start my own company or become employed in the field of Project Management.

Once again, I would like to thank you for the extra incentive to achieving excellence.

Sincerely,

Stephan Roy
Sudbury, Ontario

Dear Editor,

I would like to thank Inco Limited for providing me with the Inco Limited, Ontario Division, Engineering Technology Bursary. It is a great honor to be recognized for my achievements. It is good to see a large corporation such as Inco take interest in the education and training of today's youth.

This is the first time I have received an award for academic achievement and greatly appreciate the opportunity to continue my education. If it were not for the bursaries and scholarships that Inco Limited and other companies provide, many hard-working and determined students would not be able to continue their education. I assure you that I will put this scholarship to good use. Perhaps in the future, Inco Limited will employ me and I can put my training and education back into the company.

Thank you so much.

Craig Jeanveau
Espanola, Ontario

Dear Editor,

On behalf of our group from the Newfoundland Department of Industry, Trade and Technology I would like to express our sincere thanks to Inco for an excellent tour, luncheon and meetings.

This session was extremely valuable in assisting us plan for Voisey's Bay, particularly with respect to operating and purchasing requirements.

Again, thanks.

Sincerely,

Dave Hallett
Manager, Industrial Benefits
Voisey's Bay Project

Dear Editor,

Thank you for choosing me to be the recipient of your \$200 scholarship. I plan to use the funds as an aid in furthering my education. Your generosity is greatly appreciated.

Sincerely,

Julia King
Port Severn, Ontario

Dear Editor,

It is a real honor to have been chosen as a recipient of the 1997 Inco Limited, Ontario Division, Engineering Technology Bursary. Thank you for your support in my studies in Electronic Engineering and I look forward to attending the Award Ceremony.

Sincerely,

Clement Roberge
Verner, Ontario

Dear Editor,

On behalf of the Salvation Army, I wish to take this opportunity to express very sincere appreciation to all Inco employees for the generosity shown during the 9th annual Inco Food Drive held in 1996.

As in the past, food collected will be distributed to assist those who are less fortunate in the Sudbury region. This past Christmas, a total of 600 registrations were processed and families assisted, representing more than 2,000 individuals.

During your 1996 food drive approximately four tons of food was collected which is an increase over 1995. This response is remarkable and is a tremendous help to our office in meeting the needs of so many people not only at Christmas, but well into the New Year.

So again, please accept our most sincere appreciation for all your kind efforts. Thank you for caring. Working together, we can make a difference. God Bless!

Sincerely,

Captain Larry Bridger
Public Relations Director
Salvation Army

Dear Editor,

I would like to thank Inco for its generosity in the donation of scholarship money to the Haileybury School of Mines. My name is Jesse Bridges and I was fortunate enough to have received a \$200 bursary donated by Inco. I received the award based on my grade point average and I will continue to work hard to improve myself and further my career in the field of instrumentation.

I plan to put the money toward my schooling in the form of book payments or a tuition payment. Being a student, every little bit helps to better myself for a long career in the field of instrumentation.

Once again, I would like to thank you for your generosity in thinking of others and helping them through tough times when they needed it most. You are truly a magnanimous company and will always be remembered as one in my mind.

Sincerely,

Jesse Bridges
Instrumentation Student
Haileybury School of Mines

Dear Editor,

Last month we had our regular staff meeting update and were pleased to have received a presentation by John LeMay and Andy Lemay on energy matters at Inco Limited.

Their presentation was very well-received by all and certainly provided pertinent information about Inco, world leaders in energy management and reinsurance of its mainstay in Sudbury with the recent announcement of capital expenditure at Victor Mine.

That type of information to area businesses and the public at large gives all a good feel for our community's immediate and long-term future, especially with Inco's expansion to Voisey's Bay.

Please convey our sincere thank you to John and Andy for their excellent presentation and to Inco for being world leaders in energy control.

Yours truly,

Harvey Prudhomme
General Manager
Sudbury Hydro

Dear Editor,

Thank you for choosing me to be the recipient of your \$200 scholarship. I plan to use the funds as an aid in furthering my education. Your generosity is greatly appreciated.

Sincerely,

Julia King
Port Severn, Ontario

Know your goals and your options before investing



INCOME ideas by Susan LeMay, CMA

In the last two columns I've discussed the importance of paying yourself first, establishing short-term financial goals and beginning to create an investment pyramid starting with the very liquid, relatively risk-free lower return investments and gradually adding those with higher returns, higher risk and lower liquidity until you reach the limits of your comfort zone.

Educating Yourself

Researching your investment options becomes more important. There are many bonds and money market funds available. Do your homework. There are ever-increasing numbers of firms advertising to get you to let them manage your hard-earned money. The person with the most to gain from placing your money carefully is you.

You may want to use an investment advisor to guide you through the maze of choices available. Shop around for someone who understands your goals. Then establish exactly what you are paying for and when.

There are two basic types of advisors out there. There are fee for service advisors. They can help you establish your goals and help you assess your risk preferences. They are paid for the time they spend with you even if you choose not to invest anything. They do not sell any type of investment. There are also advisors who recommend and sell products. Their advice is 'free'. They earn commissions on everything you purchase.

Medium Range Goals

Once you have taken care of the details for survival in any economic circumstances you can start thinking about your future and its needs. Medium range goals are the ones you plan to achieve within the next five years. They could include options like the downpayment on a home, travel, home renovations or special projects. These are very specific goals and any one of them is worth planning for. Each of us sets our own goals, but the strategies for achieving them are the same.

Both medium and long range goals allow you to establish investments with lower liquidity and a correspondingly higher return. Access to the funds can be planned and you won't need them until later. Where these investments fit on the risk pyramid will depend on your risk preferences.

Long Range Goals

How long is long? More than five years is a good rule. The further into the future you are planning, the less definite your goals are likely to be. It is difficult to be specific because so many things can change and if you are too tied to your long range plan, you will miss opportunities the future presents. What are some long range goals? One of the big ones for many of us is to have a secure retirement. You can decide how you would like to live your retirement and how much money it will take, but this may be a long way off in the future. The current talk of changes to the Canada Pension Plan has some people worried that they will have to provide more of their own savings for retirement. If your plan includes financial goals for retirement, then you would have to reconsider how you are going to reach your goal.

A second long term goal for parents of young children is providing for their education. Increases in tuition fees at colleges and universities in the last couple of years have changed your financial needs if this goal is going to be met. Changes in government rules to Registered Education Savings Plans may also have an effect on how you work at reaching this goal.

An Ongoing Process

Both providing for your children's education and your own retirement are examples of another aspect of financial planning. At a certain future point these goals will move from long to medium and then to short term. When your child reaches high school, education becomes a medium term goal. When you are over 55, ensuring a comfortable retirement may become a medium term goal. It is important to remember that all your goals will eventually become short term goals. Your financial planning is an ongoing process. As you meet goals, you add new ones. You continue to decide rather than allowing circumstances to dictate. You take control.

Most of us work hard to earn our money and our money should work equally hard for us. This is the reward of financial planning. The plan has to be dynamic. It is not a set it and forget it kind of thing. How often should you review your plans? Ideally, you'll do it annually – sooner if anything in your financial life changes. That ensures that your initial investment of time and energy is not wasted.

LET'S TALK SAFETY

with Ron Rafuse

Good housekeeping improves safety.

Every one of us likes to look at a nice clean car and we all admire a yard with a lawn that is well looked after. When you take your car to a garage you always feel that it is better serviced if the garage is clean and well organized.

This is all called 'good housekeeping'.

When things are neat, tidy, organized and in place, it portrays an attitude that people care about what they do and how they do it. It shows a professional approach to the tasks at hand.

There is an old saying that has been around for many years and still holds true – *A place for everything and everything in its place*. When things are put in their proper place and the work area is neat and tidy, it can only lead to a safer workplace.

If you think about most accident sites, they go along with low standards and poor housekeeping. We know that 90 per cent of workplace accidents are caused by the actions of people and it is the same people who have control over the housekeeping in the workplace. Proper housekeeping also means less equipment failure because the equipment in areas with good housekeeping is clean and well-maintained, and this is all part of safety.

With clean, well looked after tools and equipment, supplies neatly stored and the work area kept in good condition, the people here have pride in their work. This pride and care demonstrates their attitude towards how the work is done. Pride in the workplace demonstrated through good housekeeping goes hand-in-hand with safety. We all know that when we go somewhere that is neat and clean we feel much more confident in what happens in this area.

Each person should take the time over the next few weeks to look at where they work and say – "Is this the way I want it to look and how can it be improved so that it is at an acceptable standard?"

This is a topic that should be discussed at safety meetings and with your foremen in the workplace.

As spring approaches, it is always on everyone's mind to clean up. So let's all look at the area we work in with a "what can be done to improve" attitude and ask ourselves, "Does this meet my standards? Do I have the same standards at work that I have at home? Would I feel proud if anyone were to walk into my workplace?"

If you can answer yes to all these questions, your attitude towards safety and your work is well in hand.

I hope that over the past few years in following these articles we now see that safety is a combination of issues that are within our control. It is led by attitude and pride in what we do and how we look after each other. It is held together by good housekeeping and orderliness and an attitude that the work can only be done one way – the proper way, without taking any shortcuts with safety.

• • • • •

As winter draws to a close and spring comes along, keep in mind the dangers that are presented around lakes and rivers. We all can say – yes, we have heard it every year. But, every year people fall through thin ice and die.

Safety does not take a holiday and it does not matter what activity you are doing. Whether you are at home or at play it must become the foremost concern with you and those who you are with.

Ron Rafuse is superintendent of Safety in the Ontario Division



FOR YOUR HEALTH

From the Occupational Medicine Dept.

by Heather Wallingford

What happens when I do gentle exercises?

Your muscles, tendons and ligaments are stretched and become more flexible and ready to work. The muscles and joints are also healthier because of better circulation. If you exercise enough your muscles will get stronger.

When should I do a warm-up exercise program?

You should do gentle exercises before work or any physically demanding activity at work, home or play. If you are not doing much physically, you should do one or two gentle exercises every 15 minutes for 30 to 60 seconds. If you get up after sleeping feeling stiff and sore, you should do a gentle exercise program about one hour before bedtime.

Do warm-up exercises do anything else for my health?

Yes, definitely!

Even gentle exercises will decrease blood pressure, stress and weight while increasing alertness, energy, muscle strength, circulation, good cholesterol and your ability to react to unexpected situations. It has been said that "Exercises add years to your life and life to your years."

When is the best time to do exercises?

Exercises can be done anytime. They can be done as a group or one at a time when you have a spare minute or you're waiting for someone or something.

The following exercises can be done in your regular work clothes. They can be done before you start your workday, before doing any physically demanding work, a few at a time when you have a minute during the day, at home in the morning or evening, and before any physical activity.

How often and how fast should I exercise?

You should exercise slowly and under control. Move-Hold-Relax is a good rhythm. Five times each is recommended, but fewer is fine if you don't have time.

Do not do any exercises that are enough to give you any discomfort. 'No pain, no gain' is for fools.

Neck exercises are a must since they stimulate the brain to wake up all the muscles of the body. However, do not do neck circles or arch backwards as this puts undue stress on the little joints of the neck.

1. • Bend ear to shoulder
• Keep looking ahead
• Straighten
• Repeat to other side
2. • Turn chin to shoulder
• Keep eyes level
• Return to middle
• Repeat to other side



3. • Bend head forward
• Straighten
• Keep neck straight
• Push neck and shoulders back
• Do not look up



You may feel a stretch that may go down to your shoulder blades but it should get less with each repetition.

4. Shrug shoulders
5. Pull shoulders forward and back
6. Make circles forward and back

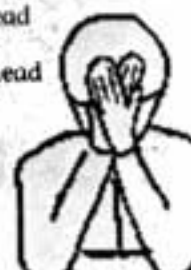


Gentle exercises pay solid dividends

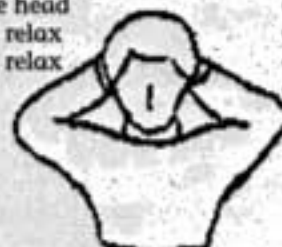
7. • Put hand on right side of head
• Turn head against hand
• Do not move head
• Hold 2, 3, 4 then relax
• Repeat to other side



8. • Put hands on forehead
• Push against hands
• Do not move your head
• Hold 2, 3, 4
• Relax



9. • Clasp hands behind head
• Push against hands
• Do not move head
• Hold 2, 3, 4, relax
• Hold 2, 3, 4, relax



10. • Bend elbows and hold arms at shoulder height
• Bring elbows together
• Hold 2, 3, 4
• Move elbows back
• Hold 2, 3, 4



11. • Clasp your hands with fingers interlaced
• Keep your fingers clasped
• Turn the back of your hands toward you until your palms are facing away from you
• Keep fingers clasped
• Stretch arms and fingers out in front of you as far as you can without hurting
• Do not force
• Return to starting position
• Repeat to the right and left



12. Repeat at shoulder height

13. Repeat over your head

14. • Pull your belly button up and in
• Hold 1, 2, 3, 4
• Do not raise your chest and shoulders
• Do not lose arch in your back



15. • Stand in a comfortable position
• Keep toes on the floor
• Lift one heel up
• Lower
• Repeat with other heel



Take a few minutes every day to look after yourself. You are worth it.

In Memoriam

Name	Date of Birth	Date of Death	Years of Service	Name	Date of Birth	Date of Death	Years of Service
Raymond Barbeau	07-11-49	02-01-97	24	Maksymilian Mazur	02-01-25	02-16-97	35
Lino Cruz	10-10-27	01-29-97	18	Earl McAvoy	11-08-11	02-03-97	41
Werner Dangers	06-29-29	02-04-97	32	Jack B. McConnell	11-23-11	01-09-97	25
Romeo Ducharme	05-11-22	02-23-97	36.5	William Moskal	05-01-34	02-15-97	38
Norbert Forget	07-14-19	02-05-97	29	Roland Paquette	08-06-28	02-12-97	27
Harry Fraser	09-18-14	02-09-97	38	Ronald Rondeau	08-04-11	02-04-97	23.5
Jean Goubrouen	05-09-21	02-04-97	20	Albert Roper	03-30-12	02-06-97	29
John Jamieson	12-07-22	02-11-97	37	Dennis Ross	10-12-51	02-24-97	26
John Komar	04-12-31	02-21-97	40	Rino Sefarino	09-30-14	02-19-97	45.5
Paul Lambert	02-25-22	03-06-96	19	Robert Skelton	01-27-14	01-27-97	24
George Langevin	04-16-28	02-21-97	35	Terrence St. Louis	05-13-46	01-25-97	31
Aime Langlois	02-28-14	02-17-97	32	Frank Torok	09-22-15	02-21-97	20
Joseph Leger	09-16-27	02-14-97	24	Joseph Tremblay	03-26-22	02-15-97	26.5
Rodolph Lemieux	12-21-17	02-26-97	19	J. Leo Trotter	02-05-26	02-12-97	33
Margaret MacDougall	11-13-23	02-26-97	18	George Viau	06-23-29	02-05-97	38.5
Roland Marzetti	10-04-29	02-07-97	28	Ford Wear	12-28-21	01-30-97	33
James May	03-17-19	02-19-97	35				

I heard it down at . . .



The Dry

by Jerry Rogers

682-5204

Well, folks, I s'pose I got to 'fess up. When I first come here near 10 years ago, I was kinda puzzled 'bout what ya were talkin' 'bout. Near ev'ry job's got its way of sayin' things different-like and minin's like none other.

I walked 'round in a fog, like, for quite a while - some of ya might say still is - before I unnerstood that the CARs everybody fretted over weren't with Transportation, that fugitive emissions weren't meant to escape, that the Dolly Partons had nuthin' to do with county 'n western, that the square set ain't yer moms and pops, that an elephant was no ordinary hang-up and there sure was a difference 'tween a chute and a shoot.

Anyways, my ear caught on finally to what ya were sayin' and I bin writin' a little dictionary on how to talk like a minor, er, miner (or just a plain ol' Sudburian). Mind ya, minin's mostly guys so there's lots I can't write down. Hal No sir, Bob, not today. So, grab yerself a pint outta the fridge and see if ya see yer buds in somuv these here sayin's.

Member, there's more where these come from.

Adam's ale. Just plain water.

age before beauty and Beauty is a horse. After you.

ah c'mon. Please.

backdoor. An excuse.

backside man. The guy holding the line on a survey crew.

batry. A battery.

beehive. Same as the Dolly Partons.

bent right outta shape. Very drunk.

bikers. Sledheads or snowmobilers.

Black Saturday. July 15, the day the Smelter pulls the plug on electricity.

bootleg. Not to be confused with butleg, an illegal seller of cigarettes.

brand new secondhand. Used.

cockin' around. Hanging out, doing nothing at all.

camp. South of the French River, it's a cottage. North of the French, it's a camp. Anyplace further north than Capreol, it's a cabin.

check the level. I've got to go to the can.

Chemmy. Chelmsford. Or Chemasferd.

chicken today, feathers tomorrow. Feast or famine.

collar to collar. Getting paid from the time you leave home and return.

Cold enough for ya? Popular greeting at any Tim Horton's in January.

deadly Lively. Where Creighton miners go for coffee.

deep cacca. Another real mess.

dig where the dirt's soft. Not likely in the Cambrian Shield.

dish. As in, he's got some dish at home. Not his favorite squeeze but a satellite with a smart card to get Direct TV free.

dressed to kill. Getting ready for Quarter Century.

drill down. Now we're getting down to the real costs.

eat the confetti. Get married.

elephant in the reactor. A real hang-up at the Nickel Refinery.

everything in life is timing. Good for any screw-up that gets outta hand.

everything's rolling along singing a song. Come on, smell the daisies.

Falky. Falconbridge.

fart in a mitt. All over the place.

feelin' pretty good. Not quite drunk as a skunk.

FEAR. Forget everything and run.

Frenchman. As in, The Frenchman or the French River.

Four Corners. When is it not?

gave him shit in boxcar letters. Big trouble with your boss.

g'dayg'dayg'day. Hello

get the buffalo in motion. Ride at the front.

give me my slice. Of whatever's being handed out.

go the hockey stick. Time to get rough.

good cards. Best position to be in.

grab your dabber, let's get at her, it's bingo one in the furnaces. Let's go to work, boys, in the Smelter.

Hammer, Hammer. Hammer.

hard a hearin'. Deafier than a post.

hard milers. Speeders on 69 North.

heavy horsepower. Stand back, they're bringing in the big guns now.

honeydew. The lament of every Inco pensioner. As in, "Honey, do this. Honey, do that."

Hot enough for ya? Popular greeting at any Tim Horton's on an afternoon during shutdown.

hurting pups. Hungover.

That, folks, is all I wrote. Hang in there 'til the next edition for more. And if ya got any fav'rites, send them along.

Tales of Newfies, math whizzes and rock stars

The Newfie parade to Sudbury rolls on this winter and into spring. With the last contingent of 46 from Argentina, the home of the new Inco smelter, now a

So you want to talk like a Sudburian?

memory, the Division gears up for another gang from St. John's in mid-April. To a person, the Newfoundland and Labrador visitors are impressed with the accomplishments and commitment of Inco people. Here's what Labrador Senator **William Rompkey**, a former cabinet minister in the Trudeau cabinet, had to say after going 4,100 feet underground at South Mine, touring Clarabelle Mill, the Smelter and the Nickel Refinery, studying computer-based training and visiting the Cambrian College/Inco training centre in Rayside-Balfour: "We were impressed not only by the standards of excellence that are in place but by the morale of the managers and workers and by the enthusiasm of those we met. It seems to me that that speaks volumes for the Company. Of course, we did not see Sudbury without snow but maybe we can go back when it is gone to see what has been done to protect the environment," he writes . . . You can tell how much interest there is in the Sudbury operations when you hear that the Labrador City delegation spent 29 1/2 hours to get here. **Karen Schellinck**, that community's director of economic development, says because of an air pilots' strike they had to fly to St. John's, but the capital was fogged in so they had to go to Gander and then back to St. John's, then hop over to Halifax to deplane because of Toronto air conditions. Once they got the word they could fly on to Ontario, they again got caught up in bad weather in Toronto and were re-routed to Ottawa. They were the last of 300 air travellers lining up for sold-out accommodations in Ottawa. Natch, their luggage got lost. When they finally did the milk route back to Toronto and onto Sudbury, they encountered more rough stretches. "The pilot coming in said he was going to attempt to land, hope for the best," she laughed at the thought. "By this time, we

were punchy. We all laughed and cheered when we landed. Was it all worth it? Absolutely. Definitely. Because of all the unexpected meetings and the welcome we got in Sudbury." . . . Sudbury is doing its bit, too, for Newfoundland. Among the new faces with **Voisey's Bay Nickel Company** are **Loris Molino**, who is now Voisey's superintendent of Smelting and Refining and **Glen O'Neil**, manager of Engineering and Maintenance and former plant engineer at our Nickel Refinery . . . At home, **Karim Kassam**, 18-year-old son of **Sadik Kassam** of General Engineering, scored a rare 800 out of 800 in the national Scholastic Assessment Test (SAT) in mathematics. Karim, one of six Sudbury students Inco will sponsor to the Ottawa-based Forum for Young Canadians, is also aiming for an Inco scholarship this year to go to McMaster University in Hamilton next fall . . . Speaking of Inco offspring, do you remember the Triangle story a few years ago about the lead guitarist for the rock group **Alice Cooper**? He was **Peter Friesen**, son of **Menno Friesen**, superintendent of Mines Technical Services. After touring with Alice Cooper, Pete released four albums with an English group called **The Almighty**, got married to an English gal in Africa in December 1995 and is back writing songs for a new band. "He's not starving, let's say, but he's not making a lot of money," says Menno. "His wife's a marketing major working in the London record business. She works with Paul Simon. So Pete's got good connections and the two of them work hard." . . . The death of **Phil Marchildon**, the Canadian pro pitcher who played ball with the **Creighton Cubs**, has rekindled baseball days for a number of former Inco employees. **Bill Brown**, one of Inco's tireless public tours ambassadors, says the calibre of ball in the old days was quite high with imports leading the way. Scouted in high school in London, Bill came north to play for the **Frood Tigers** and retired as an assistant to the Copper

Refinery manager in 1983. **Wes Hart**, a fixture at the Copper Refinery for 42 years until retiring in 1975, saw Babe Marchildon pitch for Philadelphia in Detroit. "He sure was good. He certainly looked like a big leaguer," Wes recalls.



Before the era of the thermos bottle, miners kept their boarding house coffee warm by placing the bucket on a nail base with a candle under it to supply the heat. This reproduction of early methods used in the mining industry is one of a series that will appear irregularly in the Triangle.

MAIL POSTE

Canada Post Corporation / Société canadienne des postes

Permettez-moi de vous dire / Permit me to tell you

Bille / Bill

2065

Sudbury, Ontario

Manager I
JerrySUDBURY PUBLIC LIBRARY
74 MACKENZIE STREET
SUDBURY ONTARIO CANADA
P3C 4X0

David Brazeau

The Triangle is published monthly for employees and pensioners of the Ontario Division of Inco Limited. Produced by the Public Affairs Department, members of the International Association of Business Communicators.

Letters and comments are welcomed and should be addressed to the Editor at Inco Limited, Public Affairs Department, Copper Cliff, Ontario P0M 1N0. Phone 705-682-5429