



Is Guy doing TV commercials for credit cards? Find out more on page 5.

Keeping track saves cash at Creighton

Act as if it is your money.

Putting that simple premise to work is saving Creighton Mine millions of dollars.

A new streamlined supply tracking system has swept through the mine creating a renewed atmosphere of accountability, wherein every dollar spent everyday is posted on bulletin boards.

"We wanted to make people aware and accountable for what they buy," said Rob Assabgui, engineering supervisor at Creighton.

"We started a daily bulletin board of what we spend on supplies. So the three general foremen see everything their 30 or so foremen buy. And that's where the accountability comes in."

The streamlining came in by limiting the number of people who are allowed to make purchases for the mine.

"We took away some signer numbers from a lot of people so we could keep a better track of what is being bought," said

Tom McCourt, parts coordinator at Creighton.

Tom said although some people resented losing the right to make purchases, it has improved the purchasing system. "Tracking is better now."

Tom and Rob took a tip from the practice of just-in-time purchasing as well in devising the new system of accountability.

"For example," Tom explained, "a foreman might buy \$12,000 worth of bolts and take two to three months to use them up. Now we're saying 'Buy a two-week' supply instead.' That will eliminate losing many of them, waste and the expense of storing them in the yard."

Rob said as a result Creighton inventory has been reduced and waste has been eliminated since the new system was put in place in September 1996.

Last year was the first full year of using the new supply tracking system.

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Getting to the root of the problem



This is where it all begins. The roots of this greenhouse-grown pine seedling are being treated with mycorrhizae fungus, a natural fungus that Inco uses to greatly enhance survival rate and growth of its seedlings planted each year in the Sudbury region. "If we can make trees survive better and grow faster in the early stages - that's what we want," said Mike Peters, grounds supervisor with Safety, Health and Environment. This year Inco will reach and surpass the planting of its two millionth tree in the Sudbury Region. To read more about this please see pages 6 and 7.

Maintenance feat saves mine money

The people at Copper Cliff North Mine have achieved the best mining maintenance track record in the Ontario Division.

Employees recently reached one year without any missed planned maintenance inspections in the mobile, electrical and mechanical departments.

Employees at North Mine have increased their utilization of equipment between repairs and have saved money doing it.

The more the inspections are kept up, the better the performance and the less money spent on costly repairs.

It's the best way to make pieces of equipment last as long as possible, such as forklifts, trucks, jumbo drills, scooptrams, pumps and skip and cage hoists.

The team troubleshoots for little problems on 107 pieces of mobile, mechanical and electrical equipment looking to fix them before they become bigger, more expensive problems.

"Communication and group discipline has made it happen," said Ted Williamson, maintenance general foreman.

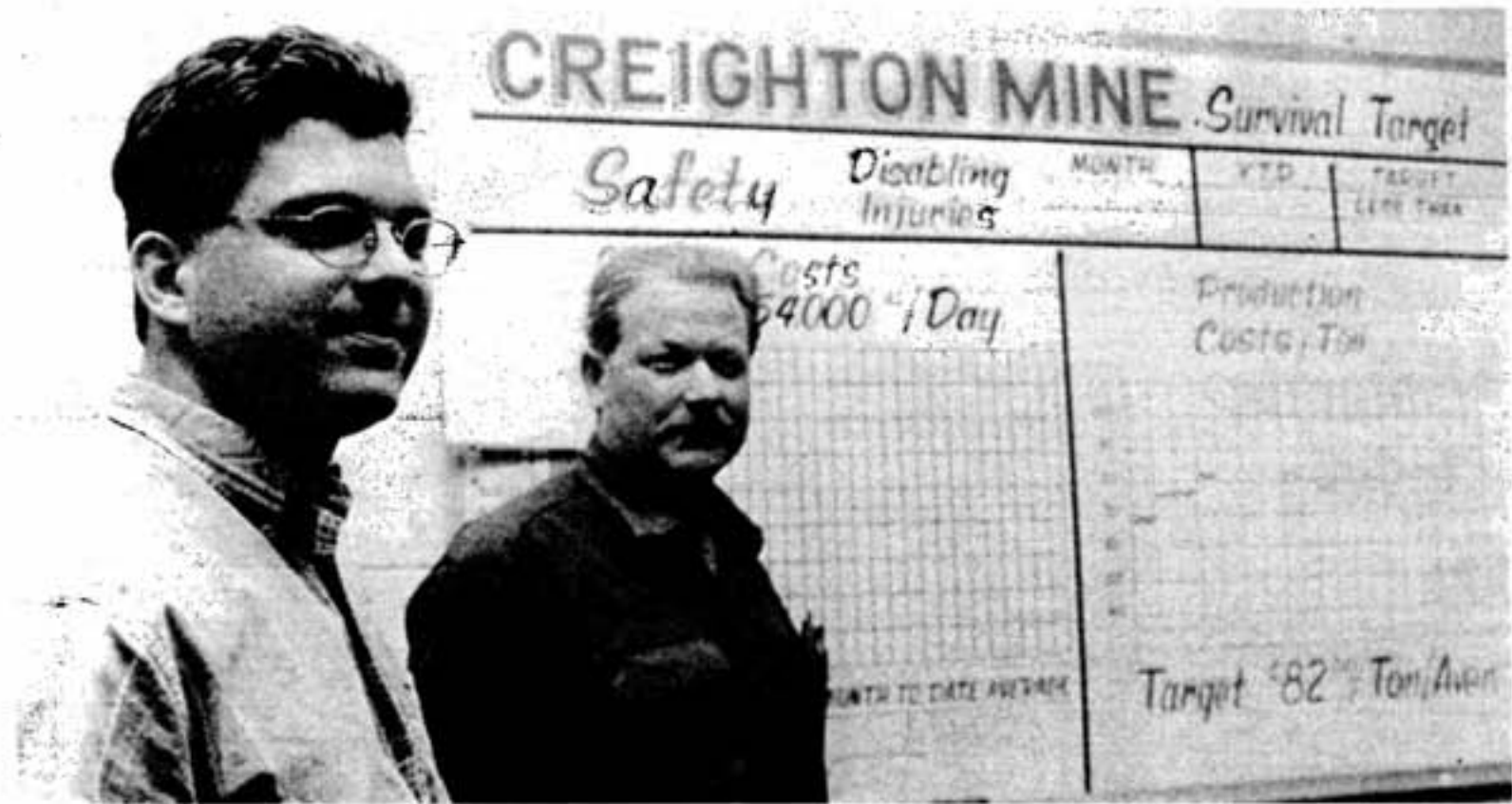
"Without the team effort, it couldn't have been accomplished," Ted said.

"It pays off," said Bryan Beach, heavy-duty equipment mechanic.

In the case of scooptrams, the benefit is easy to gauge. The better the maintenance, the better equipment availability is, which means improved safety and production of ore.

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System saves millions on supply budget



Rob Assabgul, engineering supervisor at Creighton Mine, left, and Tom McCourt, parts coordinator at Creighton, check out the costs of production in relation to spending at the mine on a bulletin board.

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And the numbers are impressive. In 1994, two years before the new system, Creighton Mine was \$2.6 million over its supply budget.

In 1995, \$2 million over budget. The system only began in September of 1996, but the result was still noticeable that year with the mine running only \$650,000 over

budget. In 1997, with a full year under the new system, Creighton was \$1.4 million under budget. So far in 1998, with only some of January's figures in,

the mine is already under budget for that month. "It's become an awareness campaign for everybody. We've caught errors in billing because now we ask 'Why are we over budget?'

And we look into it," Rob said. Tom said what has happened at Creighton is that the accountability – that is having to answer for all purchases, and seeing it in bulletins – has made people spend as though they were spending their own money. New in 1998 to Creighton has been the management of outside services and repairs, again with the general foremen and superintendent seeing exactly what is being spent on a daily basis. "It's not rocket science," Rob noted of the new system. Tom commented, "It's just such a simple way of doing business." "Mike Grace (superintendent) and the general foremen (Danny Lavigne, John Larsen and Roger Fournier) are the people making the decisions and changing the way the mine does business," Rob explained. "What we've done is give them the ability to track their money." But Mike is quick to point out that Inco's money is very much employees' money – in that it's their investment in their future.

— BRIEFS —

Safety training pays off

A recent choking incident in the workplace points out the importance of having employees trained in first aid and life-saving skills, the Ontario Natural Resources Safety Association points out. A cook on a worksite was eating breakfast when some food lodged in his throat. He fell to the floor unconscious. Another employee rushed to him, lifted the cook and applied the Heimlich Maneuver. After several attempts the food was dislodged and the cook recovered. The employee's training allowed him to react quickly and effectively to what could have been a life-threatening situation.

Conference seeks papers

Submissions for papers on health and safety are being accepted by the Ontario Natural Resources Safety Association (ONRSA) for its annual conference in the spring. The Mining Health and Safety Conference '98 takes place May 20-21 at the Toronto Colony Hotel. The conference will feature two days of papers and panel discussions, keynote speakers, 25 exhibitors and an awards banquet. Registration for the entire two days is \$495, or \$250 for one day not including the awards banquet. For more information call the ONRSA at 705-474-7233, ext. 257, and/or check out its website at www.onrsa.com. The ONRSA is a bipartite organization governed by workers and management from the natural resource sector, including members of the Mines Accident Prevention Association, the Forest Products Accident Prevention Association and the Ontario Pulp and Paper Makers Safety Association. The ONRSA

is funded through the Workplace Health and Safety Agency of the Ontario government.

Grease is the word

Inco's Manitoba Division in Thompson has just adopted the use of grease tubes as a means to reduce oil mist in the air and save money. The move is one the Ontario Division adopted at the Copper Cliff South Mine several months ago for jumbo drills and jacklegs, for example. The Healthier Alternative Lubrication (HAL), a product of Sudbury Mining Products Limited, is the only known lubricating system that meets or exceeds proposed new industry standards for allowable levels of oil mists. "You are inhaling cleaner air. But you also have better visibility than with the mist, so it improves safety," said Randy Kajtar, of Mines Research at Birchtree, where tests of HAL started for the Manitoba Division. "You have less waste. You squeeze a tube of grease into the lubricator, instead of pouring oil from a big plastic pail and spilling it in the process," said Al Adams, also of Mines Research in Manitoba. Al said the grease should extend the life of moving parts and help reduce maintenance costs.

Drilling program planned

Diamond drilling is set to start at Paint Lake in Manitoba as part of an Inco Exploration program to search for additional ore reserves in Thompson. "Because of technology, we are better able to evaluate areas that haven't been looked at in a long time," said Merv Toderian, of Inco Exploration in Thompson. There is considerable exploration planned for the Thompson Nickel Belt during the next few months, including the most extensive

ground geophysical survey undertaken since the 1950s.

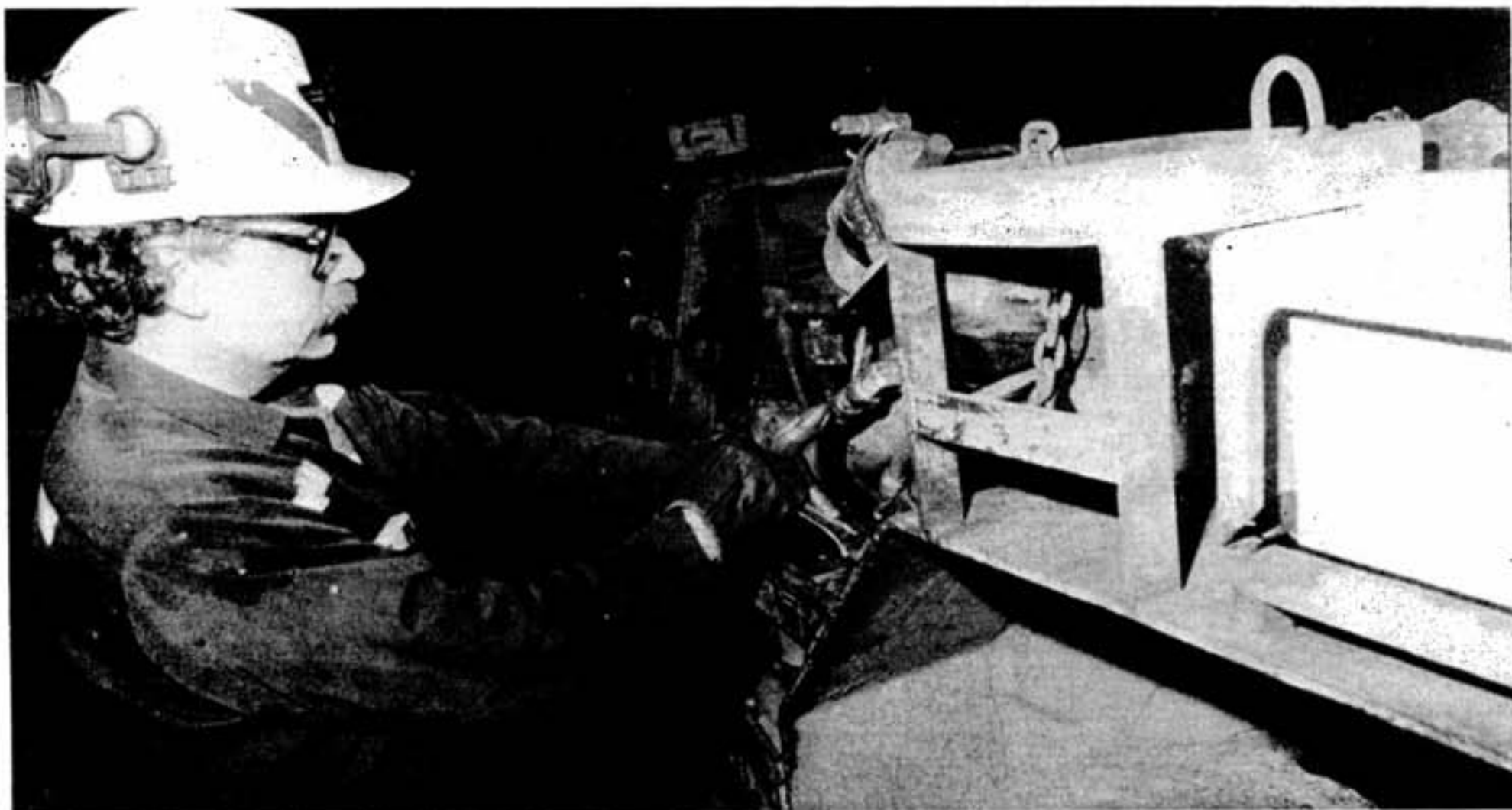
Watch your back

Back injuries tend to be the most common incurred both on and off the job. Here are a few preventive safety tips from Bernie Oliver, of Safety and Training at the Copper Cliff Nickel Refinery: * Safe Lifting – Safe lifting means keeping your back aligned while you lift, maintaining your centre of balance and letting the strong muscles do the actual lifting. * Before you lift anything, think about the load you will be lifting. Can you lift it alone? Do you need mechanical help? * Back exercises – Keep your back in shape by doing exercises on a routine basis. Even weekly exercise is a good preventive way of keeping your back muscles in shape. Of course, daily exercise is even better. * Make sure your path is clear and well lit before lifting or moving the load. Know where to put the load down before you lift it. And never twist when lifting the load.

Survey seeks ore

Inco Technical Services Limited is doing an electromagnetic survey in the Thompson area larger than any other comparable survey in Manitoba since the 1950s. The area being surveyed was chosen because it has geology similar to that which hosts the Thompson Mine, said Brent Czornobay, area geologist. The survey involves passing a current through a wire loop laid on the ground and taking measurements at regular intervals from the loop. "This method can see mineralization as much as 3,000 feet below surface."

North Mine team is quick to fix



Inspections pay off, said Bryan Beach, a heavy-duty equipment mechanic at North Mine. Bryan is part of a team that troubleshoots for problems on pieces of mobile, mechanical and electrical equipment.

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"It lowers our cost per ton," explained Darren Byrne, mobile foreman.

"We have far fewer repairs. We're even catching the small stuff before it leads to more expensive repairs."

Darren said everyone has come on board in keeping up the maintenance inspections because their importance has become clear.

"The guys have come to realize that they can't make their muck if they don't have the equipment."

Planner John Juras credits North Mine's preventive maintenance coordinator Shirley Budd for keeping each part of the operation in contact and up to date with the other.

"Toward the end of the week, Shirley gives us a preview of what still hasn't been done," he said.

Shirley helps people plan for inspections, so time is set aside and other equipment used while a scoop or scissor lift is inspected.

"It's the commitment and cooperation from management through to the worker that keeps North Mine in first place," said Shirley.

It should be noted that the inspections are done in addition to the regular work of these people. Inspections make up only a small but important part of everyone's job on the team.

Support miner Brian Boulrice pitches in by making sure most vehicles are washed before they go to mechanics for inspections.

That's not his main job either, but he said he recognizes the importance of having mechanics inspect and repair equipment rather than having them spend time washing it.

Mobile foreman Bob Latendre said, "The success of the 52 consecutive weeks of maintenance inspections can



"Without the team effort, it couldn't have been accomplished," said Ted Williamson, North Mine maintenance general foreman, standing third from left, with the team.

also be attributed to the higher target set by the team. Instead of setting a goal of just getting the inspections done, we made performing our services and repairs on that equipment our minimum goal."

Ted said, "When the whole mine is working as a team there are many gains to be made and this achievement is just one of

them. Reliable equipment makes for a safer and more productive workplace."

Also on North Mine's maintenance inspection team are industrial mechanic Ray Foucault, maintenance foreman Richard Gouin, operating foreman Mike Bourgeois and operating foreman Jim Kavanagh.

"It lowers our cost per ton," said mobile foreman Darren Byrne, commenting on North Mine's accomplishment of 52 weeks of consecutive maintenance inspections. "We have far fewer repairs" of equipment such as this in-the-hole drill.



Falls are down thanks to Clarabelle campaign



Terry McKenzie, a trainer at Clarabelle Mill, left, and Peter MacLeod, an OSHE committee member, said they've seen fewer slip and fall accidents as a result of a promotion at Clarabelle to make people aware of the hazard, especially during the winter months.

To fall or not to fall, that is the issue at Clarabelle Mill.

Actually, how not to fall has become an obsession for the mill's 200 employees.

"Everyone's aware of it," said industrial mechanic Peter MacLeod, of the Occupational Safety Health and Environment (OSHE) committee.

"The sign at the main gate is the first thing you see when you come to work."

Since October 1997, employees at Clarabelle have focused on preventing slips and falls with a blitz of promotions including signs, displays, contests and identification of places where falls have occurred.

The mill's 'Slips and Falls Hurt' sign pinpoints all the areas at the plant where people have fallen with red dots identifying 'Pain Zones,' as the employees have dubbed them.

Surface trainer Terry McKenzie, who is also on the OSHE committee, said the whole campaign stems from the belief that falls are preventable, in keeping with one of the Ontario Division's Seven Safety Principles, which states 'All injuries can be prevented.'

Terry said after many falls were reported in 1996, employees decided something had to be done.

"Our concern was the types of falls we were getting were serious."

People were getting hurt. They were missing work."

Since the promotion began there have been far fewer falls, he said.

Peter said during the several months of the promo-

tion they've focused on fall arrest equipment, salting and sanding, footwear, walking cautiously, hand-rail use and other points to continually drive home the safety message.

Terry said the slip and fall campaign also drew more attention to all safety issues.

Could Clarabelle Mill's safety promotion be useful in your workplace? Among the tools used to promote the slip and fall safety at Clarabelle are:

- Signs - At the main gate, banners in offices and on doors and a portable safety sign.
- Posters - On main bulletin boards throughout the plant.
- Displays - A dummy was placed on the main floor as part of a mock slip-and-fall accident that was seen by most employees.
- Off-the-job promotions - Safety letters mailed home to each employee and Thin Ice brochures from the Canadian Red Cross.



Displays such as this one aren't for dummies. The dummy used in this set up at Clarabelle showed the hazards of working with a ladder.

- Contests - Quizzes, prizes for the most submissions of slip-and-fall-related news articles for bulletin boards and a children's coloring contest.

• Handouts - Booklets on Slips, Trips and Falls and Walking/Working Surfaces.

• Videos - Three new videos on workplace safety, avoiding slips, trips and falls and a safety video called Step By Step.



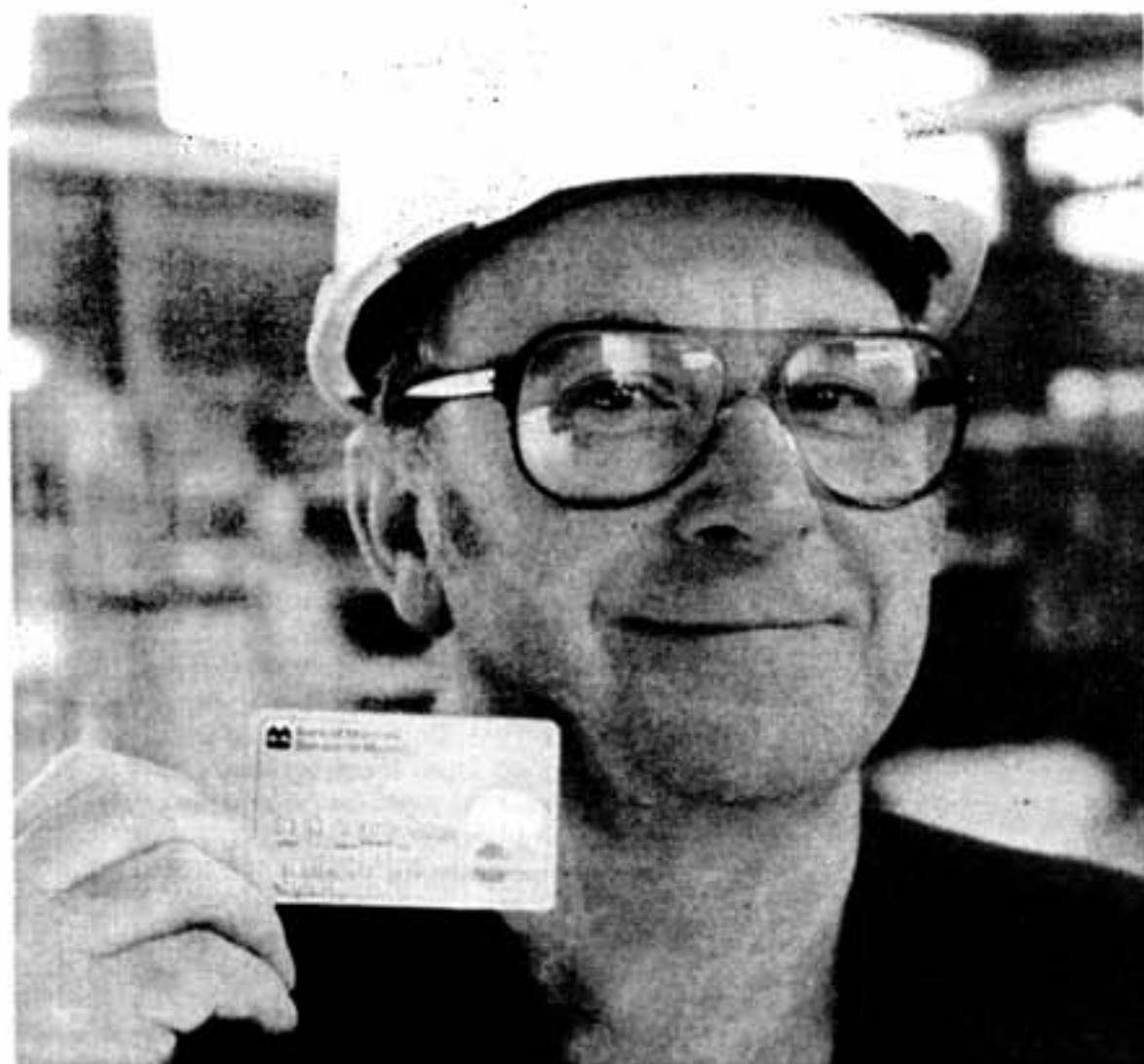
A map at Clarabelle Mill points out specific areas where people have fallen this winter. Each red dot, with an 'X' in it, marks the 'pain zones' where employees have to be extra careful at icy or otherwise slippery parts of the operation.

- SAFETY STARTS WITH PRINCIPLES -

The Ontario Division's Seven Safety Principles are:

- 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.

New Inco credit card improves efficiency



Guy doesn't leave home without it. "It's super. It's faster. We're one on one with the supplier," said Guy Desormeaux, first-class maintenance mechanic, who does some purchasing at the Copper Refinery. "We can work more efficiently because we get our supplies more quickly using this card."

The Inco card - don't leave home without it.

Doing the company's buying just became a lot less complicated.

An old system of making purchase orders through the mainframe computer system and getting the right approvals, numbers, shipping to warehouses and invoicing is quickly being replaced.

Inco credit cards, or purchasing cards, have been issued to employees who make purchases of less than \$500 for the company.

"It helps people get what they need quickly," said Hugh Third, a supervisor in Accounts Payable.

"Now it's direct - between the person who needs the material and the vendor."

The old purchasing practice was simply too cumbersome for small purchases, he said.

Anyone buying material, from office supplies to steel cable, had to go through several steps to complete a purchase transaction.

While the system maintains good control of large purchases, it was a lot of work for small purchases.

First a requisition had to

be made on-line in the non-stock mainframe computer system.

Someone else in a department had to approve that requisition.

Then an Inco buyer had to assign a purchase order number and send it to the vendor.

The vendor then had to fill out the order, ship the product to an Inco warehouse and the quantity received had to be entered into the mainframe.

The vendor then had to send an invoice to the Accounts Payable Department.

Accounts Payable then cut a cheque to pay the vendor.

"It's a lot of steps if you're ordering five boxes of pencils," Hugh said.

"It doesn't make sense to put that kind of effort into small purchases."

Now, as the purchasing cards are dispersed throughout the Ontario Division, purchases of \$500 or less will be simple.

More expensive purchases will continue to use the old system.

About 50 cards have been issued in the last year or so, with more to come in 1998.

Government and community impressed with Inco ergonomics impact on safety



Inco ergonomist Trevor Rickwood shows government and community visitors the importance of ergonomics to packaging and storing, and to the overall improvement of health and safety in the workplace.

Listening to employees and helping them work smarter is how the Ontario Division's ergonomist improves workplace safety.

Ergonomics works in conjunction with health and safety at Inco.

The relatively new industrial field of ergonomics has been getting the attention of the community lately.

Division ergonomist Trevor Rickwood took a group of government representatives, business people and a Laurentian University student on a tour of an Inco warehouse site recently.

He told the group that cataloguing items that could cause back injuries or other strains was one of the first steps in developing ways to decrease

workplace hazards.

"We wanted to identify items that were really heavy or awkward to reach."

Andrew Gerhard, kinesiologist with Sudbury Regional Hospital, said he found the ergonomic tour of Inco worksites useful to his own work.

"A lot of what I do is assess workers for injuries. So I have

to know what they do."

Those on the tour last month were familiar with ergonomics, but they commented it's still a relatively new area that many companies don't yet pay much attention to.

"It should be more common for companies to have ergonomists just to help prevent injuries," said Mr. Gerhard.

Ergonomics comes down to creating workplace environments that reduce or eliminate obvious hazards and those less obvious, such as repetitive strain risks related to lifting, twisting and even sitting.

Trevor said sometimes being a good ergonomist starts with simply listening to employees.

"We asked the guys (in warehousing) 'What's your biggest beef?' They said 'toilet paper boxes,'" he told the tour group during a visit to Stobie Mine's warehouse.

Trevor said he was surprised at the answer. He said he thought something related to the industrial activities of surface plants and mines, such as tools and other heavy equipment, would have been the most common problem for warehouse people.

"But the toilet paper boxes are big, bulky and heavy. They handle them frequently." Addressing the com-

plaint was easy, he said. "We started shipping them in half sizes."

A problem with the length of chain used in the mines was also solved by listening to people, he added.

Warehouse people found long lengths of chain heavy to move around.

As it turned out the long lengths were no longer needed in the mines as they had been in the past.

So the lengths were reduced from 154 feet to 82 feet, which is the maximum length the mines need anyway. The mines had been cutting the 154 lengths to the shorter pieces for quite sometime, Trevor pointed out.

Warehousing got a positive response from the mines customers, while dramatically lightening the handling load for warehouse employees - decreasing back injuries. And there was much less wasted chain.

"The fact Inco has its own ergonomist is a good step. And it looks like Inco makes use of him," said Peg Scherzinger, ergonomist with the Ministry of Labor, who was also on the Inco tour.

"Not many companies, especially in Northern Ontario, have an ergonomist."

If you have a workplace hazard that could use some ergonomic study and advice give Trevor a call.

Fungus application on pine seedlings helping to regreen Sudbury Region



Mike Peters, grounds supervisor with Safety, Health and Environment, said the fungus developed by a Timmins-based company is helping Inco's success rate with its seedlings. "It helps roots get nutrients and water faster." A higher success rate decreases the expensive task of returning to a site to re-plant another crop of seedlings. Some 240,000 seedlings are grown each year in Inco's Copper Cliff Greenhouse and in the naturally warm environment of the underground nursery at Creighton Mine.

Fungus is helping Inco grow trees. "Yes, it's a fungus. And it's a fungus that we want," explained Mike Peters, grounds supervisor with Safety, Health and Environ-

ment.

"It helps roots get nutrients and water faster," Mike said.

"If we can make trees survive better and grow faster in the early stages - that's

what we want. Getting trees and grass established early is important to overall revegetation success."

Mike said, "It costs us two cents per tree to do it. That doesn't sound like much.

FUNGUS FACTS

- Growth increased up to 50 per cent when pine and spruce trees were pre-inoculated with mycorrhizae before planting them on various mine tailings.
- Survival rates have been found to be three times as high on harsh mine sites, when microbially-inoculated seedlings are planted.
- Actively growing forest covers, over tailings sites, can intercept between 50 to 70 per cent of precipitation - dramatically improving survival and growth rates of the seedlings.
- Interception of that precipitation can reduce drainage discharge to waterways and ground water from mine tailings and landfill sites.
- Microbial inoculated seedlings help promote growth without the need for potentially environmentally harmful chemical fertilizers.
- Maintenance costs, including labor for tending and chemical soil amendments, are reduced through the use of microbially-inoculated tree seedlings.

Still, it adds up. But it's worth the investment. It's paying off because of the survival and increased growth rates."

Inco can't take credit for inventing or developing the fungus, called mycorrhizae.

But Mike said the company can pat itself on the back for seeking out and finding the Northern Ontario company that did.

Mikro-Tek, based in Timmins, collaborates with research institutes, government agencies, university laboratories and industry to solve technological problems in mining, forestry and agricultural businesses. Specifically, Mikro-Tek develops microbial products. For Inco it produces a microbial fungus that strengthens roots on seedlings to help them grow.

Tests of the last four years have proven that mycorrhizae works and in fact, will save Inco time and money.

Mycorrhizae is applied by spraying the seedlings, about eight weeks after germination.

"We're trying to get better survival, so we don't have to go back and re-plant. Re-plant is one of those horrible re-words. You don't want to have to re-anything."

The spring and summer of 1994 was the first year of large-scale testing of mycorrhizae-inoculated seedlings.

"We've been following three tests plots of 1,200 seedlings in the Smelter and Tailings areas. So far the seedlings get 30 to 90 per cent more growth than without the fungus. Survival in the most severe sites was three times better than trees that were not inoculated."

Indeed the areas will start looking much greener in just

a few years.

The fungus-fed saplings do more than improve Inco's image when people see reclaimed sites.

"Public visibility is not our only criteria in planting," explained reclamation coordinator Paul Yearwood.

"We're trying to improve the water quality wherever we can and establishing plant life acts as a natural filter by stopping the heavy metal uptake from the soil. It also helps in erosion control and other matters. We find that birch and most other deciduous trees come in on their own in these areas because their seeds are light and travel far. Pine seeds, on the other hand, are heavy and don't travel."

Inco started planting trees in the 1960s, when it purchased them from the Ministry of Natural Resources.

The company later started growing its own pines, taking lessons from a joint government and Inco experiment in vegetable growth underground at Creighton Mine.

While tomatoes didn't fare so well, the company learned pine seedlings flourished in the underground nursery.

For the last six years both the surface greenhouse in Copper Cliff and the underground nursery, now at the 4,600-foot level, have been producing about 280,000 seedlings a year.

That adds up.

This year Inco will reach and surpass the planting of its two millionth tree in the Sudbury region.

Work continues in 1998 with other mycorrhizal fungi as they relate to helping reclamation grasses also survive and establish themselves.

— TREES LIKE MYCORRHIZAE —

What is mycorrhizae, you might well ask? Literally, mycorrhizae means 'fungus root.'

A crucial part of a pine seedling's early survival and growth depends on its root system's ability to absorb water and nutrients, explained Mike Peters, grounds supervisor with Safety, Health and Environment.

That fungus in the root system assists seedlings in both absorbing water and nutrients.

Timmins-based Mikro-Tek, which tests and develops usages for such fungi, has found that mycorrhizae increases a plant's strength in harsh soil conditions, such as that found in the stressed land and tailings sites that Inco is reclaiming.

Under normal conditions, mycorrhizae fungi live in most soils and on the roots of most plants. But severe soil disturbance causes a loss of organic matter, nutrients, biological diversity and most naturally-occurring mycorrhizae.

The loss of this fungi significantly cuts plant productivity. But in soil conditions where the fungi is all but gone, such as many patches of Sudbury's environmentally-stressed land, a strain of mycorrhizae is being reintroduced into the soil. That's being done by spraying the fungi directly on pine seedlings, which absorb the organic material into their root systems.

That's what Mike is doing with Inco's seedlings, dramatically increasing survival rates, increasing growth and reducing the need to re-plant — therefore cutting costs.

"Beyond increasing plant capacity for mineral, water and nutrient uptake from the soil, mycorrhizae also improves soil structure and quality to enable growth of diverse plant species and soil microbial communities," Mikro-Tek states in one of its product reports.

Mycorrhizal plant species have also proven to be more resistant to certain root diseases.

The fungi may be especially important to Inco's ongoing land reclamation efforts.

"Because mycorrhizal fungi appear to have disproportionate influence on the survival and fitness of plants in new and restored habitats, it is believed that they are the cornerstone to the re-establishment of functioning ecosystems," Mikro-Tek reports.

Inco's reclamation challenges are certainly not unique to the company.

In Canada there are about 557 operating mines, generating 500 million tonnes of waste rock each year and covering about 15,000 hectares in tailings sites.

Inco rehabilitation of its tailings sites is known nationally and internationally and continues to draw corporate and academic interest. Only last summer Queen's University took a group of international business representatives to Sudbury for a tour of active and reclaimed Copper Cliff tailings sites, guided by Inco's reclamation coordinator Paul Yearwood.

Mikro-Tek states that rehabilitating mine tailings sites and otherwise environmentally-stressed land benefits more than just the affected site. "Forest covers for mine waste sites can reduce drainage volume and associated long-term treatment cost, while adding erosion control and containment stability."

A recent three-year study done by Mikro-Tek on various mine tailings showed an increase in growth of up to 50 per cent during a three-year period when pine and spruce trees were pre-inoculated with strains of mycorrhizae.



These Inco seedlings at the Copper Cliff Greenhouse are being cared for until they're ready to be planted in the real world. The potted seedling shows what the seedlings will become in only about two years. The trees are all part of a decades-long regional regreening project that resulted in a celebration of the one millionth seedling being planted in 1994 by Prime Minister Jean Chretien. This year Inco will surpass the two million mark of seedlings planted in the Sudbury Region.



Inco's greenhouse takes good care of the seedlings with personal care by environmental experts plus a warm atmosphere with the added care of an automated sprinkling system keeping the young pines moist in order to encourage growth.

INCO REGREENING

Inco's regreening efforts add dramatically to the rehabilitation of the region's natural environment.

But there's also a lot more revegetation going on in Sudbury. And Inco is a part of that as well.

Since 1978, Inco and the Regional Municipality of Sudbury have embarked on both separate and joint land reclamation efforts.

In 1997, the regional revegetation program planted 837,000 trees bringing the total to 3.54 million trees.

That's on top of the two million trees planted by Inco on its own.

Last year, Inco spent \$25,000 in cash and \$15,000 in trees on the region's regreening program, with Falconbridge Limited spending \$15,000 toward the same industry-government program.

Last year the region got a boost when Trans Canada Pipelines and the Tree Canada Foundation planted 600,000 trees, which helped the region easily better its annual average of 350,000 trees.

Stobie miners create ramp for new cru

Two Stobie Mine crews have safely and rather quickly driven a 2,400-foot ramp to No. 9 Shaft for a new crusher and conveyor system.

The new system will decrease and eventually eliminate use of No. 8 Shaft, helping to reduce the cost of production at Stobie.

"It was a great effort by both crews we had on it. They worked very hard and very safely to achieve this," said foreman **Roger Lamoureux**, who has 27 years with Inco.

"There were no injuries during the work on the ramp - and it first started in 1995. So it's quite an achievement in safety." The project has been done in several separate segments, when capital has been available during the last two-and-a-half years.

Two crews of three men each, drilled, blasted and hauled away rock to make the ramp between 2,870-foot level, where the crusher station is, and 2,400-foot level a reality.

"The ramp was developed to install a conveyor to No. 9 Shaft. With the new crusher and conveyor system we'll be able to use our guys more efficiently. On the 2,200-foot level, the ore is just about mined out so half of those guys will go to other areas of the mine. The other half are ready for pension," Roger said.

"The new conveyor will make use of No. 9 Shaft. It's a new shaft, more efficient. Eventually No. 8 Shaft will be cut back. It's just more efficient to use one shaft."

The type of diverse work done to drive the new ramp has required precision, skill, experience, committed employees and attention to safety.

"You've got to keep your mind on the job," said Marcel Proulx, a development miner with 25 years at Inco.

"You've got to be thinking about what you're doing 100 per cent of the time. And we use the buddy system, where you look out for your partner," Marcel said.

"I've been benching (blasting) the floor to develop more height in the crusher station itself," said **Wayne Belanger**, development miner with nine years at Inco.

"You just drill and blast and pop the floor up."

Wayne makes it sound easy. But it's not like he was doing this every day at Stobie.

"It's the first crusher

station I've blasted for here at Inco. You don't blast for a crusher station every year."

Rogersaid despite the relative uniqueness of the major job, people have worked without injury on it.

"We've got very good workers here. There have been no injuries since the project started in 1995," Roger said, repeating a point he's very proud of.

"It's an achievement because that was all development work. The most dangerous part of mining is development mining." Part of the

added risk in development mining is the fact that miners are constantly breaking new ground, which is quickly bolted and screened for safety.

Wayne said, "When you're bolting and screening you don't know exactly what conditions you're working under."

He said having a safety-conscious group of miners becomes even more crucial in such jobs.

Wayne added, "That's why the buddy system is so important. Sometimes you can see a

shear (crack) or a piece of loose hanging that your buddy doesn't see and you tell him."

Development miner **Andy Bouchard** said his job is straightforward - literally.

"I drill, blast and bolt," and all in a straight line guided by a laser mounted on the back of the drift.

"Andy keeps us on line," Roger commented. "He takes a lot of pride in drilling his holes straight."

Andy said he and the crew averaged about 12 feet a day on the job.

"There's satisfaction in keeping up that 12 feet a day. And it's good for bonus (pay) for the crew."

Andy also credited the use of high-tech for helping to make the ramp so straight.

"The laser system keeps a dot on the face. It saves us time. And it saves the engineers from having to come down all the time."

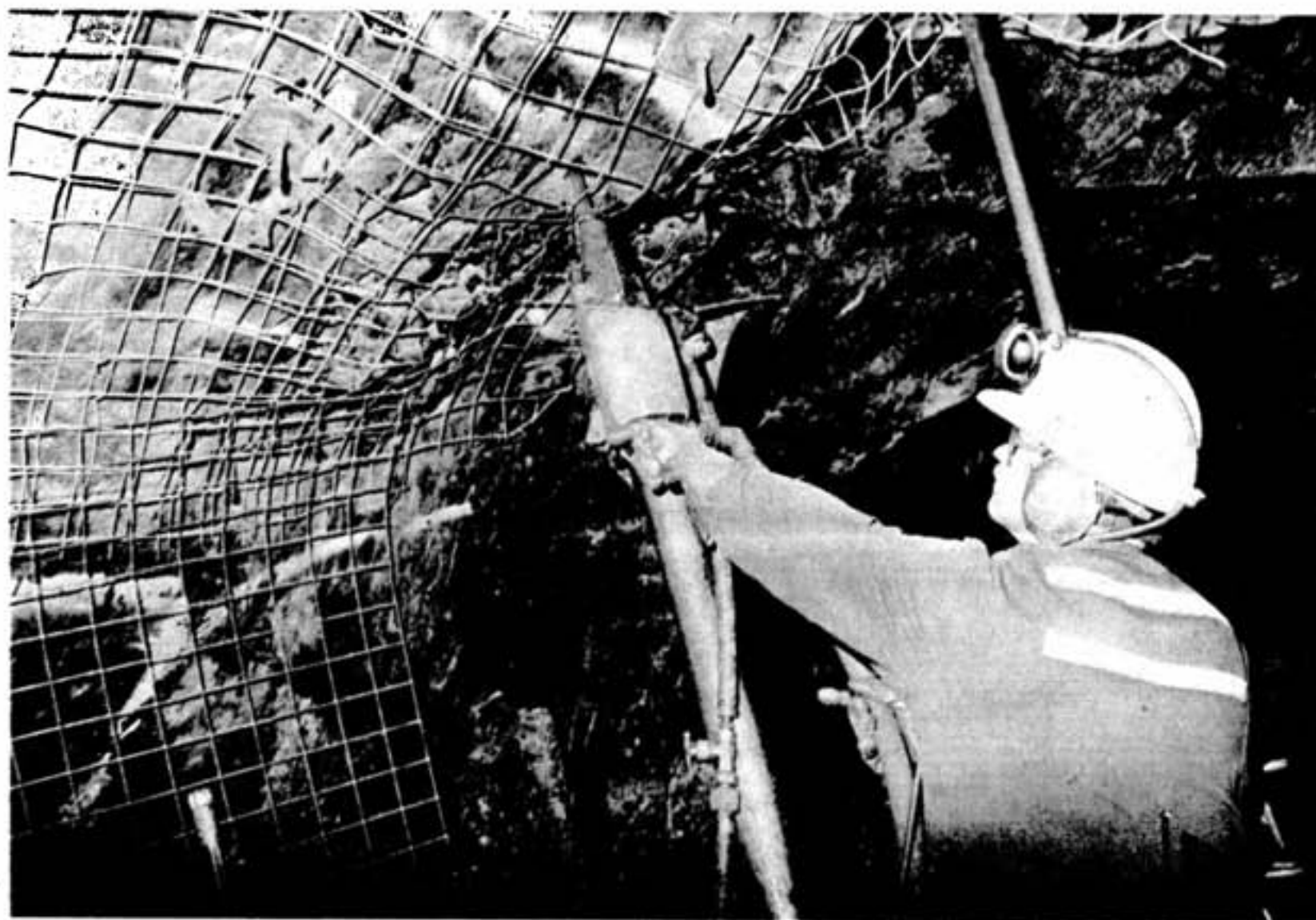
Roger said his dedicated crew made the ramp - and the greater efficiency it will bring to Stobie - a reality as quickly and as safely as possible.

"It was a 24-hour operation. I don't know any crew that could have done any better."

On the two crews are: development miners **Bill Dunlop**, **Jacques Pelland** and **Denis Savage**; and Marcel, Roger and Andy.

Harvey Buksa, Stobie chief mine engineer, added that the new ramp is vital to Stobie's future.

"It allows Stobie to continue to mine ore below the 2,100-foot level. This will give us the ability to access the next 10 years of ore at Stobie Mine."



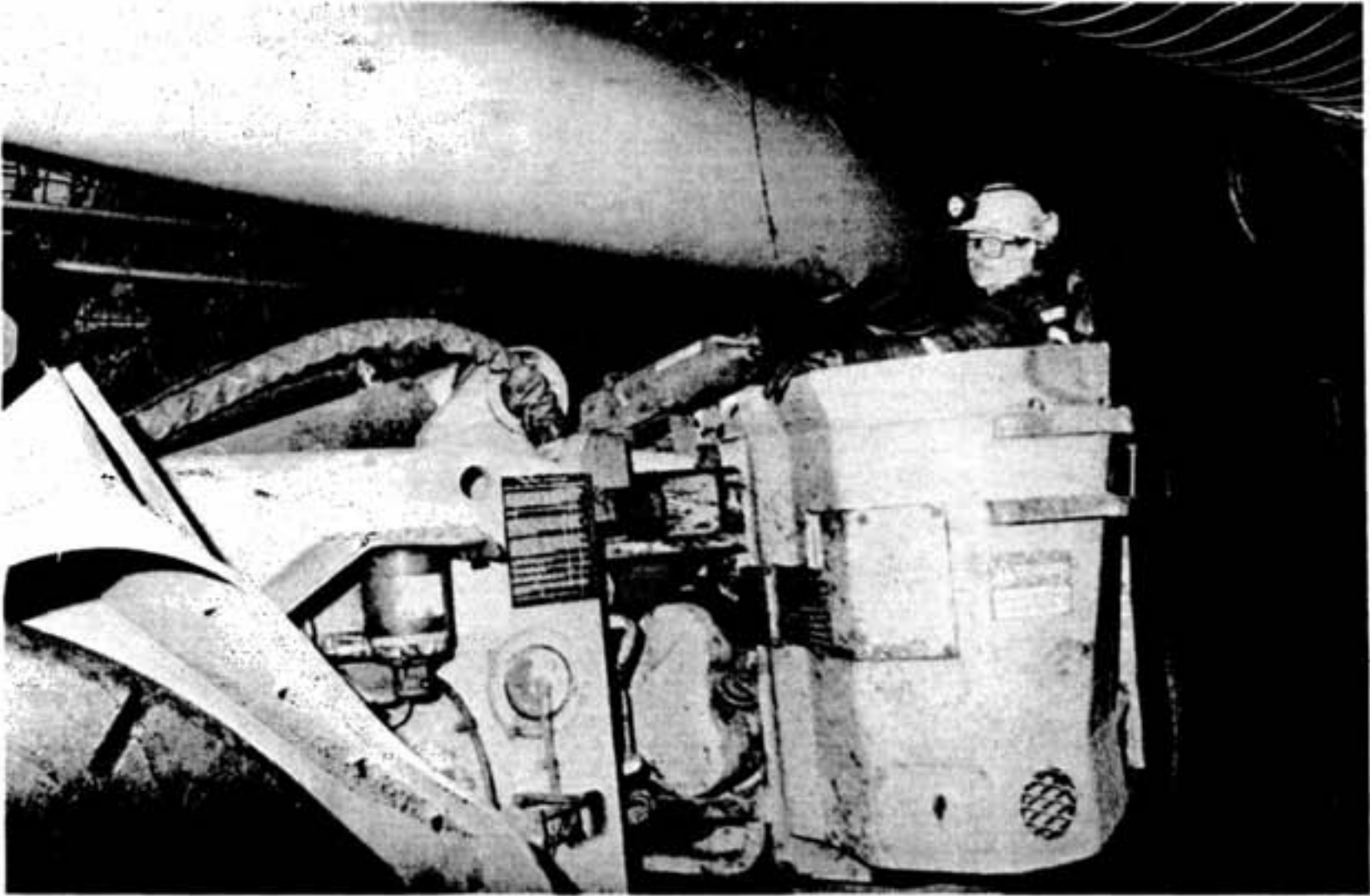
Development miner **Marcel Proulx** bolts and screens at Stobie Mine doing his part, safely and efficiently for a new conveyor ramp that will give the mine more cost-efficient access to its ore for the next decade.



Roger Lamoureux, left, talks over progress on the blasting to create 55 feet of height to fit a new crusher on the 2,870-foot level with development miner **Wayne Belanger**.



sher and conveyor system for the future



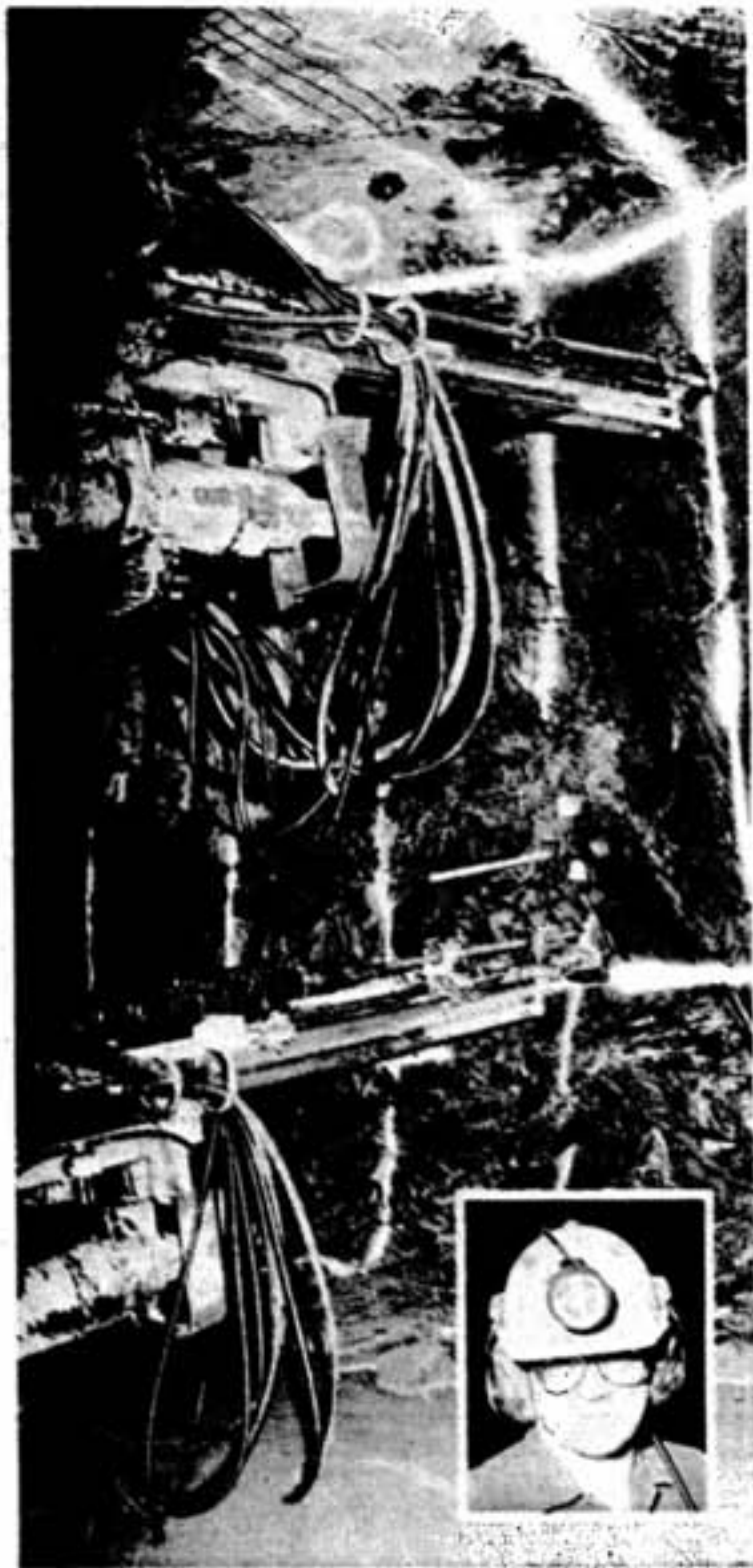
Marcel Proulx operates a scooptram to take out some of the rock blasted to make way for the new conveyor ramp. "You've got to keep your mind on the job" when it comes to safety, he said.



Foreman Roger Lamoureux, left, credits his development miners and teamwork for the success of completing the conveyor ramp, from the 2,870-foot level to the 2,400-foot level. He and his crew regularly discussed the job so everything worked effectively. Here he spoke with Marcel Proulx, centre, and Andy Bouchard about their efforts.

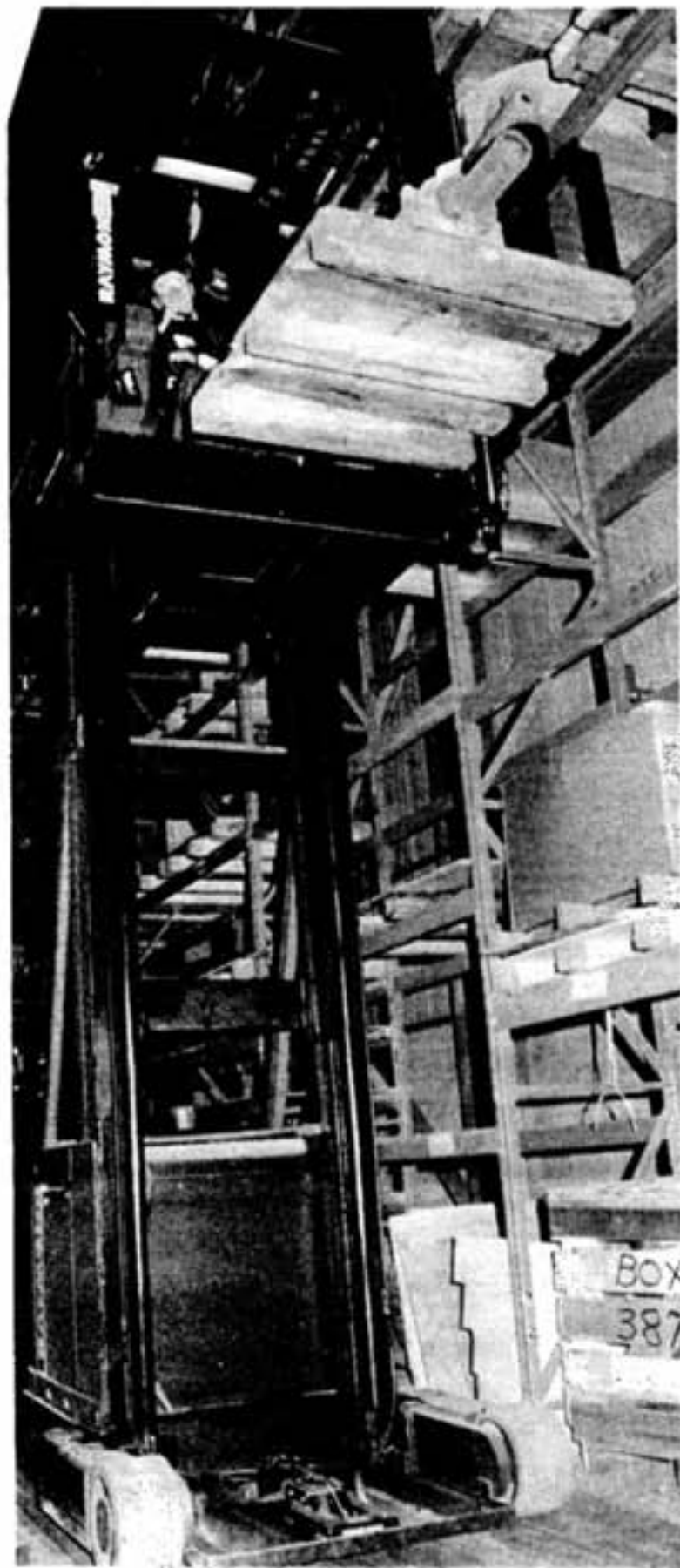


The two Stobie crews, who worked to develop the conveyor ramp met regularly at shift changes to talk safety and progress. Getting together allowed the men to know what each crew was doing and where the project was at.



Andy Bouchard operates the jumbo using a laser light beam to guide him along. "The laser system keeps a dot on the face."

Warehouse safety not taken for granted

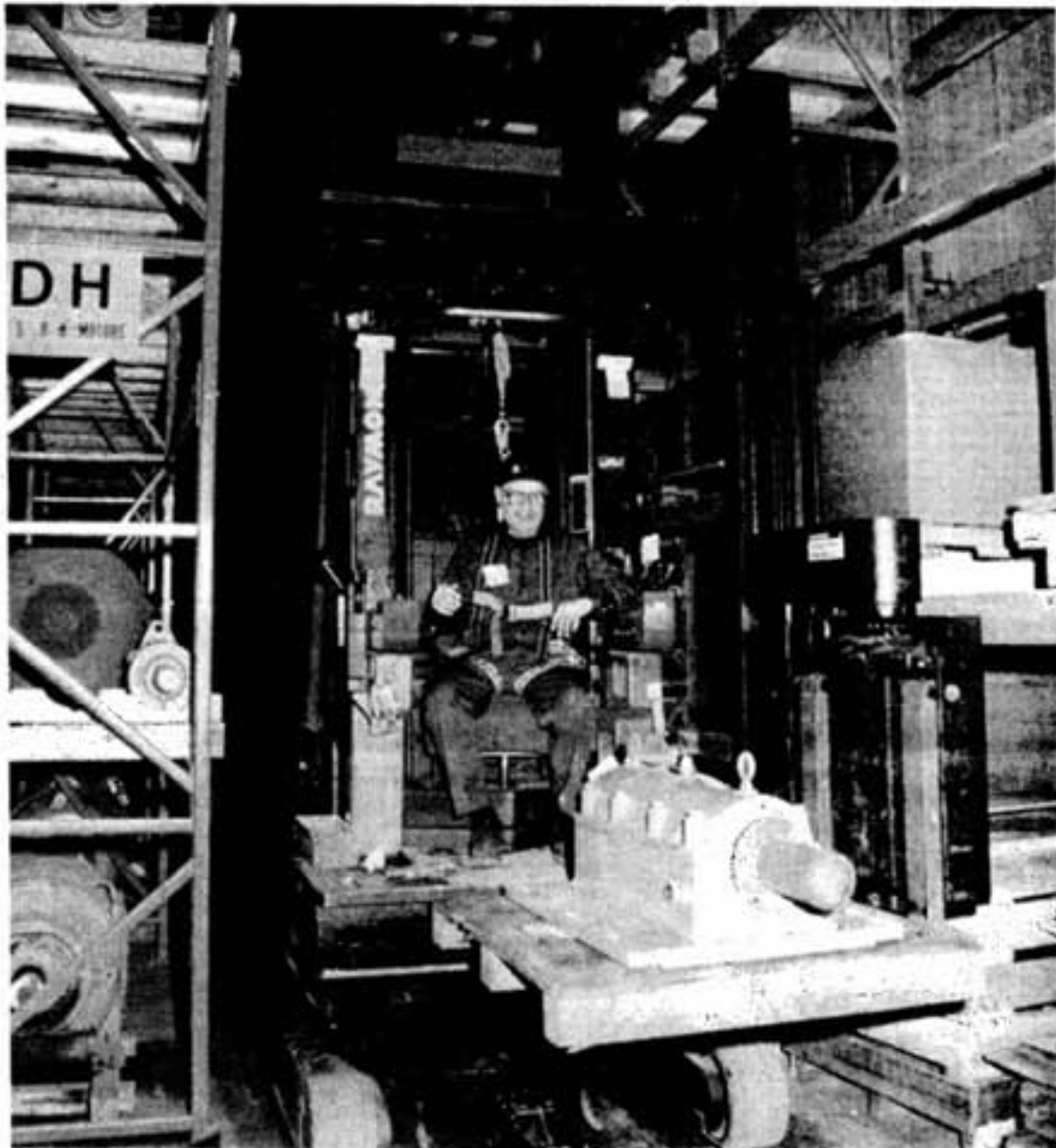


Storeman Reg Selle wears a lanyard when he operates the Manaboard forklift, which rises 30 feet with the operator to allow him to better see what he is doing. After 32 years with Inco, Reg said he's learned safety is number one. He intends to continue working safely as his retirement approaches in May.

— THE NUMBERS GAME —

Warehousing is a big business within Inco. The Ontario Division has:

- 38 storemen
- Nine warehouses and four depots
- 204,000 stock issues
- 335,000 receipts
- \$33.7 million inventory value
- 27 pieces of forklift equipment



Even after 32 years of service, Reg Selle doesn't take safety for granted.

And Purchasing, Warehousing and Traffic is encouraging that work ethic at all warehouses in the Ontario Division, said warehouse foreman Murray Edward, who works with Reg.

"We have the same procedures at all our locations. But we have more situations at Divisional Shops," Murray said. "For example, we store to 30 feet here, compared to up to 16 feet at all other warehouse sites."

Murray and his warehousemen have put together an illustrated safety procedures document that he's shown to many employees to increase awareness of hazards.

The document is aimed at warehousemen and especially at people visiting warehouses on business.

"It's a quiet place. I have to watch for my partner on his forklift," Reg said, commenting on the importance of procedures and the use of safety equipment.

"The forklifts are electric so they're very quiet. I honk my horn often and have back-up alarms to let people know where I am."

Murray said printing a list of warehouse forklift safety rules will prevent accidents provided people are made aware of them. That's why the Operating Forklifts Safely document was put together, he said.

Storeman Bill Beavers said distributing the document and talking about it is a good way to keep the procedures in the forefront of people's minds when they walk into warehouses.

"We're always thinking safety. You can't take safety for granted," Bill said.

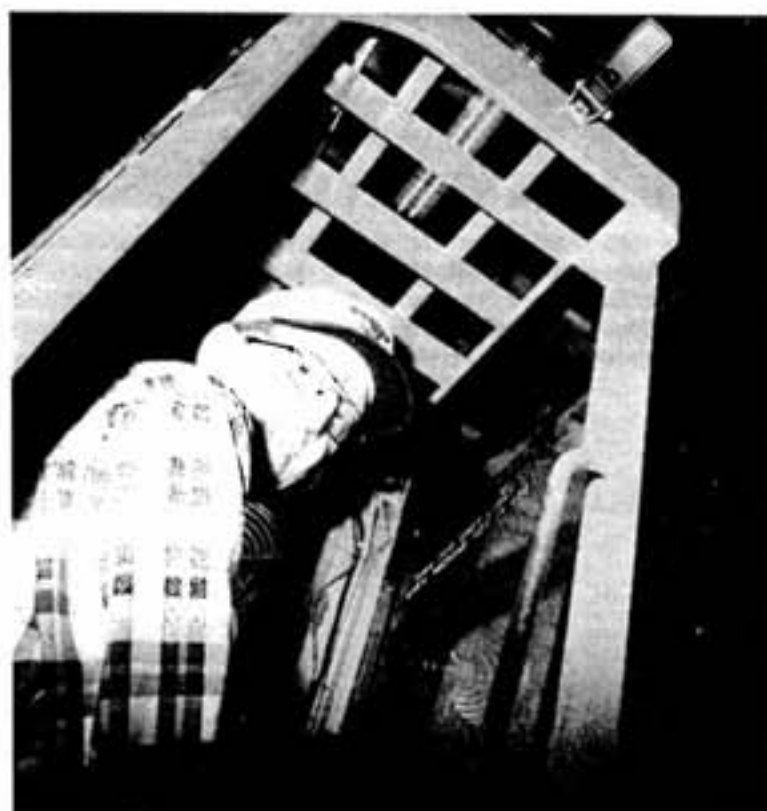
"We have flags to show an aisle is occupied by a forklift or a person," Bill said, pointing out a common-sense procedure. "That's what most of this is — common sense."

Safety procedures and equipment or indicators in use at Ontario Division warehouses include:

- Flags warning order-

picker operators of pedestrian presence.

- Mirrors and signs for pedestrians.
- Alignment of pallets to allow obstruction-free picking.
- Lines, markings and guards used to warn and restrict traffic.
- An ergo-lift brings loads to the receiver's waist.
- Lanyards are worn by operators of the Manaboard forklift, which rises 30 feet with the operator aboard to place and retrieve equipment.
- Forklift speeds are preset. The Manaboard, for example, goes no faster than four-and-a-half miles per hour.
- Vehicles are given pre-use inspection before they are operated.
- Forklifts follow a wire guidance system which is embedded into warehouse floors.
- The Sideloader forklift uses outriggers to stabilize loading trays.
- Cordless phones are used by employees when they work alone.
- Steel-toe shoes are mandatory.



Storeman Bill Beavers operates the Sideloader forklift. "You've got to have good hand-eye coordination." That's something that improves with training and experience, he said. Bill's 30 years of experience with Inco have also taught him to never take safety for granted.

In Port

NOOZ

Neighbors learn to ACT in Port Colborne



Inco neighbor, Mary Loncarevic, receives her emergency preparedness information packet from Port Colborne High School student Lindsay Williams.

If there's an emergency Inco wants its neighbors to know what to do.

"A lot of times people will hear an alarm and wonder what it is all about," says emergency preparedness coordinator Robert Leveille of the Port Colborne Refinery.

As apart of its continuing effort to provide a safe and healthy environment for its employees and neighbors, Inco is distributing emergency awareness information packages to the community areas around the plant, Robert says. "It's being done to let them know what alarms they need to be concerned about."

The ACT package, which includes a description of chlorine and sulphur dioxide - the two large-volume chemicals essential to the production of cobalt and precious metals in the Port Colborne Refinery - is being handed out to 1,200 neighbors from Lorraine Road to the Welland Canal, and from Killaly Street to Lake Erie. Inco has enlisted help from Port Colborne High School teacher George Huber and members of his history club, to distribute the

envelopes. Stuffing them was done by the special needs students.

As Robert explains the project is being done as a precautionary measure. "We've never had a problem," he says, adding a tremendous amount of energy and time has gone into developing emergency procedures. He also points out because of proper training by in-house specialists, and the fact that equipment is well-maintained, the risk of anything actually happening is minimal.

But he stresses that despite the most stringent policies and procedures, and everyone's best efforts, accidents can happen.

If there's an emergency confined to the refinery two blasts on the plant whistle are sounded, then repeated one minute later. If, however, an emergency in the plant has the potential to affect the local neighborhood, an emergency plan will be immediately put into place. "The two-blast signal will be repeated continually until the emergency is over," Robert says.

The plant whistle is tested each Friday at 12:30 p.m. for

about a minute. However, if neighbors hear the plant signal of two blasts repeated continually, they should ACT accordingly by following three important steps:

Always go indoors.

Close all doors and windows.

Turn off furnace, air conditioner, and other air intakes.

It's important to stay inside until an emergency is over, at which time the plant whistle will be turned off and an all-clear message is broadcast. News of the alert and information updates will be broadcast on C-HOW radio, 1470 on the AM dial.

"It's good to know what to do in case something happens," Roberts says. "We hope we never have to use it."

George says he is pleased the students could be involved in the ACT distribution. He says, "The students are able to provide something to the community, and get a reward for it." Inco's reward will help the special needs students take a trip to the Ontario Science Centre in June and the history students to tour historical Williamsburg, Virginia in May.

- NICKEL WORLD NEWS -

Russia's Norilsk Nickel group is considering a number of measures including reducing exports due to low world nickel prices, a top group official said.

Canmine Resources has started exploration programs on two nickel projects in Manitoba: the Maskwa Nickel Deposit, northeast of Winnipeg; and the BINCO Nickel Project, west and northwest of Thompson.

One of the world's biggest nickel miners has given a rosy outlook for nickel demand. WMC Ltd. reports that it has so far seen little impact from the Asian economic crisis.

Russia produced 23.5 per cent more nickel in 1997 than it did in 1996, the Statistics Committee has recently reported.

Average world nickel prices are forecast to drop 7.6 per cent this year, the Australian Bureau of Agricultural and Resource Economics has reported. A pike in price is expected in 1999, but the lower-price trend is expected to continue through the year 2003 as a result of production from low-cost operations.

Japan's Kanto Metal, producer of nickel ingot and nickel products, declared bankruptcy on Jan. 30 as a result of excessive debt incurred from declining nickel prices. The nickel market, meanwhile, was unmoved by news of an estimated \$55 million nickel loss by Engelhard Corp., which it is said to have lost in a fraud case involving nickel cathode and ferro-nickel scrap stocks in Japan.

Anaconda Nickel has expanded its Western Australian (WA) nickel holdings with an agreement to take a direct 42 per cent interest in Australian Nickel Resources. The companies plan to develop a substantial nickel project in WA's Mount Margaret laterite nickel belt. Meanwhile, emerging WA nickel producer Centaur Mining and Exploration expects to produce nickel for only nine cents per pound, taking into account cobalt credits for five years based on a cobalt price of \$11.76.

Inco at PLAY



Constable Scott Kirkwood, right, administrator of the Police Law and Youth (PLAY) program, presents an award of appreciation to Inco's Aurel Courville, supervisor of Advertising and Audio-Visual Services. Inco was recently thanked for its support of the PLAY program, which is spearheaded by the Sudbury Regional Police Service's Crime Prevention Branch, in cooperation with the Sudbury Wolves. Inco is a main supporter of the program along with the United Steelworkers of America, Coca Cola, The Strathcona Hotel in Toronto and Air Ontario. The goal of the program is to promote crime prevention to the youth of our community. The money donated by the sponsors is used to publish Sudbury Wolves hockey cards and posters, which are distributed by regional police at schools and during special events.



FOR YOUR HEALTH

From the Occupational Medicine Dept.

Heart and Stroke Foundation invests heavily in research on Sudbury District

The Heart and Stroke Foundation of Ontario has committed \$600,000 to examine why the Sudbury Region has a disturbingly high death rate due to coronary heart disease. Last year, the Foundation unveiled research showing that both the Sudbury Region and Sudbury District's death rate was 36 per cent higher than the provincial average.

At this time, the Foundation also unveiled its plan to undertake a first-ever research project to examine why Sudbury and 12 other Ontario communities are heart disease "Hot Spots."

"Over the past year, we've put the building blocks in place to conduct" an in-depth examination of factors that are contributing to the high death rates in this area and other Ontario "Hot Spots," explains **Dr. Monica Caverson**, the Foundation's Vice-President of Research. "We have attempted to leave no stone unturned in our investigations. This unique research project will look at what impact community health status, environmental factors, as well as the delivery of health services are having on death rates."

The Foundation reports that investigations on the delivery of health services within Sudbury and other "Hot Spots" communities is being conducted by the Institute of Clinical Evaluative Studies (ICES) - the province's expert resource on health services issues.

The Foundation has asked ICES to produce the province's first Cardiac Atlas to examine everything from the delivery of emergency and acute care services to access to specialists, diagnostic technologies and surgical procedures within Ontario's hot spots.

This Spring, the Foundation will award the other critical component of the "Hot Spot" research project, including community health status and environmental factors, to successful research teams. Intensive evaluation of research proposals submitted from across Ontario will be undertaken by the Foundation's research experts.

"Our goal to have all components of this unique research project

completed by the end of 1999, so that by year 2000 the Foundation, and its community partners, will fully understand which factors are contributing most to the high heart disease death rate in Sudbury and surrounding areas," explains Dr. Caverson. "With these findings in hand, we will be in a strong position to put meaningful measures in place to turn these death rates around."

To keep the Sudbury District on top of all research developments, the Foundation has identified Immediate Past President of the Sudbury Chapter, **Brian Baggs**, as community liaison. He will be invited to meet the research teams, hear about the research plans first-hand, and will be asked to report back to the Sudbury area on a regular basis.

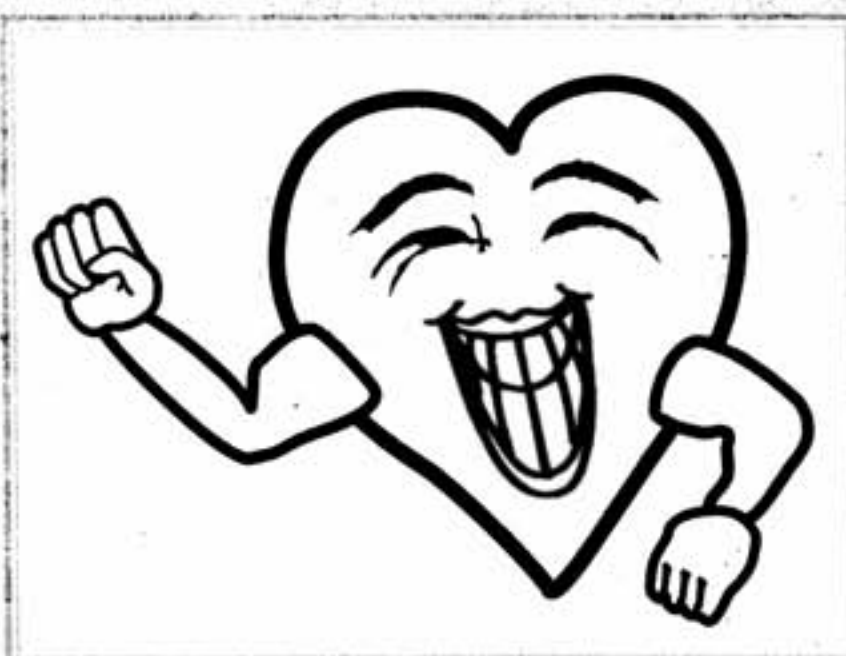
Moreover, until the research results are in, the Foundation stresses that Sudbury area residents should examine their current lifestyle to reduce their heart disease risk.

"You can significantly reduce your risk of heart disease through lifestyle changes. In fact, the Foundation has shown that half of your risk is determined by lifestyle factors," says **Dr. Ron Baigrie**, Sudbury Chapter Medical Advisor. "Risk reduction includes adopting low-fat eating habits, increasing your physical activity, not smoking and maintaining a healthy weight. In addition, you should have your blood pressure and cholesterol levels checked regularly, especially if heart disease runs in your family. And, this applies equally to women."

For helpful information on how to reduce your heart disease risk, the Foundation offers a 24-hour-a-day, 7-days-a-week free information service that has over 400 resources. This service, Heart & Stroke Healthline, can be accessed by calling 1-888-HSF-INFO.

For more information contact:

Shirley Harasym
Area Manager, Sudbury/Manitowlin District
Heart and Stroke Foundation
(705) 673-2228



Why do we do this to ourselves?

by R.S. Baigrie, M.D., F.R.C.P.(C).

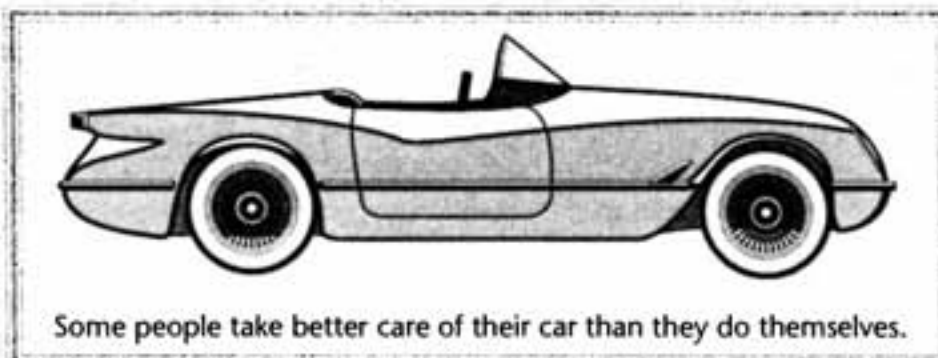
Today I saw two very similar patients. One is a young woman aged 45 years who had no particular complaints, but her family physician had found her to be overweight with high cholesterol, elevated blood pressure, the habit of cigarette smoking and a positive family history for premature heart disease and stroke. The other patient is a 58 year old man with a history of a heart attack two years ago. This man was a remote cigarette smoker who quit five years ago. His cholesterol is elevated and he is 30 pounds overweight, inactive and consumes a great deal of "junk food."

Not very many people would purchase a brand new car and then proceed to abuse it until such time it required extensive and expensive repairs. This is, however, the way many of us treat our bodies. It is well known that maintenance of ideal body weight, blood pressure control, cessation of cigarette smoking, decreasing salt and fat in our diets and keeping our cholesterol as low as possible are

ways to delay and perhaps prevent heart disease. This is particularly true in patients who have established disease such as heart attack or stroke. It is also increasingly true in patients who have not yet demonstrated any evidence of vascular disease, but who have the risk factors that predispose to the development of the vascular disease and even accelerate the process of atherosclerosis (hardening of the arteries).

Why do we do this to ourselves? Why do we continue to abuse ourselves with excessive weight, calories, fatty substances, salt, cigarette smoking and inactivity? There really is no difference between his type

of behavior and the abuse of a brand new vehicle which will eventually, and most definitely require extensive and expensive repairs! Why would anyone do anything that is known to raise the risk of heart attack or stroke when it is so easy to do the opposite? Preventive maintenance works! Do it!



Some people take better care of their car than they do themselves.

LET'S TALK SAFETY

with Ron Rafuse

At work or play focus is vital

Being focused on the goal, knowing the proper techniques and understanding what is important are essential in being the best at what you do.

In sports, an athlete does not ever take his or her focus off of the goal of being the best in the sport.

Everyone who succeeds knows the techniques and the rules that apply, in addition to the daily training and practice.

Most importantly, they apply the rules and training consistently and do the sport or event the same way each and every time. They practice perfecting it to become the best.

Also important is the proper frame of mind - to not be distracted from making the right moves and always staying focused on the goal of doing the very best they can, applying all their skill and training.

These same lessons apply to the everyday tasks in the workplace.

People are trained on the proper way to do tasks. Skills are developed and the rules are established.

Then the goal is set to have no accidents or injuries.

It takes each person in the workplace putting skill and training to work consistently following the rules to reach the goal of our first safety principle: "All injuries can be prevented."

Sometimes there are events that can cause distractions, taking your mind off the task. This is when you need to get focused.

Just as in sports, where it takes each person playing on a team to win a team sport, on the job working as a team is highly important.

Looking out for each other is what contributes to the whole team or workplace meeting the goal of no injuries - or Getting to Zero.

This means reminding co-workers if they are about to break a rule or are not doing the task properly. Also how you leave the workplace for the next shift crew or operating sequence is important.

It needs to be clear in everyone's mind that there is only one way to do the work and that there is no compromising of the rules and training that apply to the workplace.

We are all accountable for our actions.

The winter is nearly over and again this year the death toll on snowmobiles continues to be totally unacceptable.

Many people are wondering how to control the sport.

It is not lack of rules, lack of training or not being aware of the hazards. There are main causes of all the fatalities and they all fit into these categories: excessive speed, alcohol and not following the rules of driving, whether it be checking and knowing your route on ice surfaces or overdriving your headlamp beam at night.

Over and above the 30-plus fatalities during the season, there are many more who are seriously injured and numerous very close calls that could have been fatalities.

We now see that whether at work or at play, there is not a lot of difference in getting to the goal of no injuries.

The same basics apply in each: Follow the rules, be properly trained and use the skills you've developed by constantly doing it right each and every time. That makes us all winners.

Ron Rafuse is superintendent of Safety in the Ontario Division



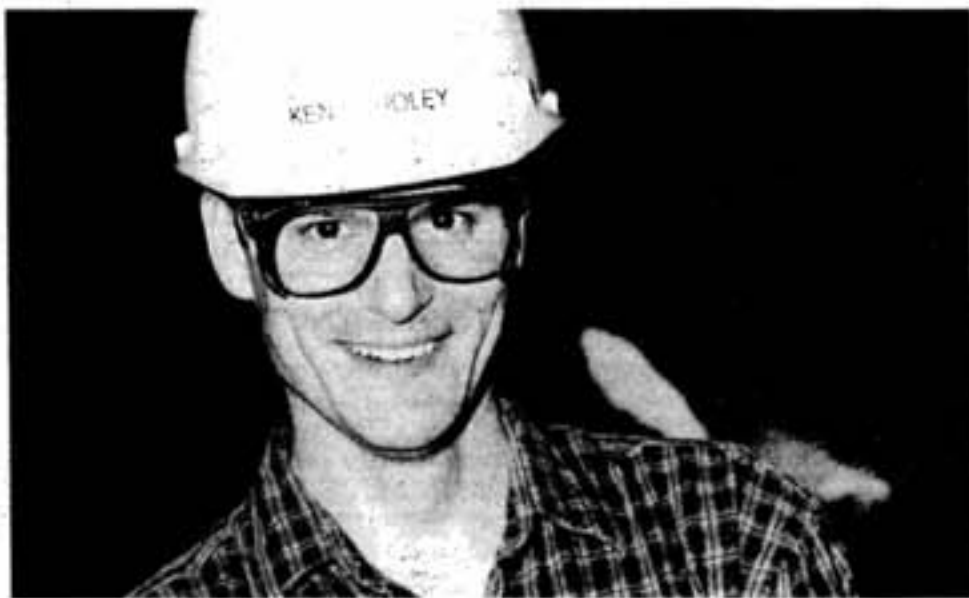
In Memoriam

Name	Date of Birth	Date of Death	Years of Service	Name	Date of Birth	Date of Death	Years of Service
Wilbert Akins	03-01-20	01-01-98	37	Weston Lepage	07-19-16	01-26-98	37
Gino Baggio	11-25-24	01-09-98	42.9	Fernand Maisonneuve	12-27-19	01-11-98	33.5
Thomas Biggs	06-21-15	01-16-98	41	Henry Martin	03-01-16	12-28-97	24.5
Nikola Byczkowski	05-20-22	01-06-98	33.5	Knox Monahan	10-24-14	01-14-98	45
Norman Campbell	11-04-11	01-23-98	19.8	Hubert Muller	11-23-38	01-10-98	27.5
Fernand Caron	03-31-29	01-25-98	40	Bruce Pattison	09-26-36	01-25-98	35.5
Iwan Dubnewycz	05-26-24	01-17-98	33.5	Nicola Rocca	11-09-27	01-25-98	21.5
Richard Faubert	08-11-33	01-15-98	31.8	Edward Rogers	06-03-26	01-17-98	40.5
Joseph Gauthier	04-19-14	01-24-98	35	Antonio Santi	12-19-16	01-06-98	10.1
Robert Grieve	04-29-21	01-10-98	34	Floyd Walker	12-01-31	01-01-98	24.5
William Hinds	07-11-16	01-22-98	39	Sidney Yates	09-05-21	01-07-98	36
Douglas Johnston	01-08-27	01-02-98	33.8	Earle Vail	04-11-38	01-31-98	36.4
Wallace Johnston	06-08-19	01-09-98	23	Michael Verbiwski	10-14-16	12-23-97	37
Eugenius Karolewski	02-14-14	01-06-98	29	Stanislaw Zalewski	05-29-21	01-15-98	32
Wasył Kowbasniuk	03-10-23	01-06-98	32				

Young engineers make Inco home



Brenna Scholey is a process engineer in the Electrowinning section of the Copper Cliff Copper Refinery. Her work involves examining the quality of copper cathodes, such as those behind her which are ready for weighing, sampling and shipment to Inco customers.



Ken Scholey, process engineer at the Copper Cliff Smelter, is involved with improving production processes, including the tapping of matte at Inco's flash furnaces.

(Editor's Note: This article is a revised version of a longer piece which appeared in a recent issue of the Canadian Institute of Mining, Metallurgy and Petroleum Bulletin.)

By Maria Smith

Brenna and Ken Scholey are one couple who can bring their work home with them and not risk boring each other during dinner table conversation.

As metallurgical engineers for Inco's Ontario Division, both Brenna and Ken speak the same language.

Brenna, who works at the Copper Refinery in the Electrowinning Department, and Ken, who works at the Smelter Process Technology Department, met in 1988 while they were completing their Bachelor of Applied Science degrees (Metals and Materials Engineering) at the University of British Columbia. The couple were married in 1994 and have lived and worked together all over North America while each of them pursued educational and employment opportunities.

Over the years, Brenna and Ken have been lucky, not only to share a mutual career interest, but also to be able to find work when each other's career took them away. In 1994, Brenna accepted a position with Eichrom Industries in Chicago — a company that manufactures ion exchange resins for use in the pharmaceutical, nuclear and mining industries. The job was a great opportunity for Brenna to apply some of the research she had been conducting at the University of British Columbia. Ken was able to move to Chicago with Brenna and complete his doctoral thesis during the year-and-a-half they lived there.

Ken's metallurgical expertise has developed through years of academic research. As an undergraduate research assistant and research engineer, Ken carried out computer simulations of matte casting processes to assess optimal cooling conditions for the separation of matte species. Ken also analysed mechanisms leading to the failure of water-cooled jackets that

make up the walls of a zinc slag fuming furnace as research for his master's degree, which he received in 1991. In 1996, Ken received his doctorate from the University of British Columbia.

At Inco, Ken is expanding upon his doctoral research to develop a mathematical model of a billet reheating furnace. He is applying his extensive knowledge of radiative and conductive heat transfer to problem solving in the plant environment.

Ken is involved in a two-year research project to develop a transient heat/mass balance model and novel instrumentation for Inco flash furnaces. The primary objective is to improve metal recoveries from the slag through improved control of matte and slag levels, while minimizing variations from target matte and slag grades. A novel level sensor probe has been developed to automatically measure not only the top of the slag surface, but the slag/matte interface as well.

In the Copper Refinery Electrowinning Department where Brenna works, residue from the Copper Cliff Nickel Refinery Inco Pressure Carbonyl Process is treated hydrometallurgically to extract copper, nickel and cobalt, discard iron and arsenic and produce a low-grade precious metals residue. Two stages of pressure leaching are carried out using an acid sulfate solution. In the second stage of pressure leaching, copper is dissolved and recovered by electrowinning as a cathode product.

As a process engineer in the Electrowinning Department, Brenna provides technical support on plant research projects and assists operations in monitoring critical process parameters. Some of Brenna's major technical projects involve acid mist control, increasing electrowinning capacity, on-stream solution analysis and development of an expert system.

Brenna says she is gaining valuable experience from working closely with Inco operations to make process improvements. Particularly, she finds that having an opportunity to apply her expertise to

solving technical challenges in a variety of projects most satisfying.

Brenna credits her five years of work at the University of British Columbia with providing very practical metallurgical challenges and exposure to industry contacts and to expanding her focus beyond pure basic research. At UBC, Brenna worked on several research projects related to ion exchange removal of impurities from copper electrolytes and bacterial leaching of ores. She also assisted in the management of a hydrometallurgy lab.

Brenna has also found her recent experience supervising and motivating young engineers and students at Inco most rewarding. Her advice to students just entering the metallurgical field today is twofold: "Develop good computer skills and learn to use the computer as a tool, but realize computers are no substitute for analytical thinking and the application of engineering fundamentals in problem solving."

"One should take risks and make sacrifices during the course of a career. Engineers should broaden their experi-

ence by accepting a variety of assignments whenever possible," she advises. "Be patient — eventually you will be able to apply all you have learned."

Both Brenna and Ken are very passionate about their work both on and off the job. "It's a hazard of the profession," Brenna says. Their passion for their profession extends to their volunteer work with the Canadian Institute of Mining, Metallurgy and Petroleum (CIM). This past summer, Brenna and Ken helped organize CIM's 36th Annual Conference of Metallurgists held in Sudbury.

The four-day conference hosted a record number of 730 attendees, including 25 student/industry presentations at the poster session. Twenty-seven industry participants, government institutions, CANMET and several international countries were also represented.

Both Brenna and Ken credit CIM's student membership program — and encouragement from professional colleagues and from Dr. Indra Samarasekera and Dr. David Dreisinger at the University of British Columbia — with introducing them to the

benefits of the institute.

CIM, Brenna says, helps its members make professional contacts, keep up to date on technological changes and develop the ethics necessary for a successful career.

"Membership contributes to one's own professional development by providing opportunities to meet and confer with colleagues and to learn by becoming active in the society — the strength of the society is its volunteers," she says. "But," Ken cautions, "you only get out what you put in."

Ken sees one of the institute's biggest challenges as increasing student enrollment in metallurgical science. "Students need to realize that though metallurgical science may seem less glamorous than other more technology-based fields such as computer programming, there are lots of opportunities to apply today's exciting technological advances to the metallurgical field."

"This is especially important in Canada," Ken says, "because we have such a sound resource base and healthy mining industry which require metallurgical expertise."

Sir Sanford goes underground



Students from Sir Sanford Fleming College, in Lindsay, took their first trip underground as part of their minerals engineering technology program. Their tour of Stobie Mine a few weeks ago allowed them to see how a modern mine with a skilled workforce operates on an average work day. Two of the students are shown here thanking Gerry Dionne, a Stobie mine engineer, for the educational visit.

Employees find hobbies with horses



Al Nowoselsky shares ownership of this seven-year-old Standard Bred named Sunshine League with fellow Inco employees Larry Doner and Chuck Keyes. Sunshine League posted 12 wins last season at Sudbury Downs.

Al Nowoselsky admits he's always been an avid sports enthusiast, from football to hockey. But over the last decade Al has opted for a different sport, trading in his laces and helmet for a leather bridle and harness.

Ten years ago, the Inco storeman with Purchasing, Warehousing and Traffic gave up the many sports he practiced to concentrate his efforts on horse-racing. And although it's a professional driver perched close behind the horse on a narrow slab of wood rather than Al, he doesn't feel like he's been benched.

"I used to play a lot of sports and it seemed you played all year for the finals, all year preparing for that championship game. I get the same feeling as the championship game. You are standing there seeing all your work go around the track."

His prize possession, Sunshine League, has indeed brought a great deal of sunshine in the form of blue ribbons to Al and its two other owners — Larry Doner and Chuck Keyes, also Inco employees. Sunshine League is one of four horses that comprise Alimony Stables. Al chuckles as he recounts how the stable acquired its unique name. Ten years ago, Al and a fellow Inco employee, Smelter bus driver Rene Guinard, were searching for an appropriate title in their new partnership.

"Ten years ago I started hanging around here and bought a race horse. We were both divorced (Al and Rene). We joked about using the winnings to pay 'alimony' ... and

that's how the name came about."

Judging from the worn out cowboy boots and faded blue jeans, the comfort in which he appears walking through the stables at Sudbury Downs, Al projects the illusion of a familiarity that dates back to childhood. In fact, Al admits he was born and raised in the city of Sudbury. So how does a city boy turn country? The lure and excitement of horse racing now has this city boy spending up to 12 hours per day cleaning stalls and washing down horses.

"I was born and raised in Sudbury, but I always loved horses. I always had a thing for them."

It was inevitable Al would eventually find himself on the sidelines of Sudbury Downs. His interest began innocently enough — placing a few bets on the races. Not content, Al bought his first horse with Rene, an investment that ended a month later. Described as a 'runaway,' the horse competed once and Al decided to sell and buy a new horse. And over the years, Al has accumulated ownership in four horses.

The animals race twice weekly at Sudbury Downs from May to November. In the winter, the horses are sold or transferred down south to race. Last winter, Sunshine League raced six times, capturing two wins, two thirds and a fourth. But luck would change. The horse "broke down" — a torn ligament sidelined the horse for two-and-a-half months. In July, Sunshine League was re-harnessed and won her first five starts in the \$2,500 'claimer'

category. The latest wins have placed Sunshine League at the top of her class with 12 wins — a rarity.

Al says he is fortunate to combine hobby and business. The horse-racing venture, quickly transformed into a business for Al and associate owners. "How many people are lucky enough to have a hobby they make money off of?"

It was through his Inco employment, Al met and became partners with Larry and Chuck. His job often took him to the Nickel Refinery Warehouse where he would enthusiastically talk horse-racing. Word quickly filtered through the warehouse and Al suddenly had two Inco employees interested in part ownership of a racing horse. The outcome was one seven-year-old Standard Bred.

While buying a racing horse can be as risky as placing bets, Al looks for certain attributes when picking a winner. "You certainly have to take confirmation into consideration. A look at the program will tell you if the horse can race. Their heart has to be in it. Racing is instinctive for horses."

Conditioning a winning horse consumes the bulk of Al's spare time during the racing season. His official work day ends at 3:30 p.m., yet his unofficial work day is just beginning. There are horses to walk and exercise, brush and wash.

A yard equipment operator and shipping supervisor respectively at the Nickel Refinery, Larry and Chuck, co-owners of Sunshine League, also share a love of horses

that dates back to their youth. Larry recalls earlier memories walking and grooming horses at a race track in Thunder Bay. After graduating from high school, Larry was hired as a groomer, traveling across North America with the country's leading trainer at that time.

"It was a really exciting time. I saw a lot of top notch horses. It was really exciting and I really liked it."



Walking and exercising his horse all part of being an owner for Inco's Al Nowoselsky. Despite being born and raised in the city, Al has always had a love for horses. Sunshine League, a Standard Bred that earned first-class standings in its category at Sudbury Downs, is also owned by Inco employees Larry Doner and Chuck Keyes.

After a few years, Larry decided it was time to settle down and quit his job. "It was a great job, but not a life for someone who was going to get married. There was a lot of traveling involved, so I decided to get away from it."

Yet his love of horses was one obsession Larry was unable to suppress for long. He always suspected the day would come when horses would become prevalent in

his life again. Larry continued to visit the race track after settling down in Sudbury. Following the races, he would trot down to the barn to chat with the jockeys. It was inevitable Larry would become a part owner in a racing horse. What he didn't expect was the excellent season his new horse debuted in.

"I just like to be around horses. It doesn't have to be a winner all the time, as long as it's healthy and doesn't get hurt. I just like horses. I get attached to the horse. You're supposed to make money and look towards the horse as a business, but for me it's a hobby. It wasn't a big monetary investment and in return it's been a lot of fun. I would recommend it to anyone."

Chuck echoes Larry sentiments, noting the thrill of watching the horse race and just "hanging around" the stables. For Chuck, his love for harness racing surfaced in the mid-70s. A close friend trained horses at Sudbury Downs and after a race, Chuck would visit the barn. In the early '80s, Chuck owned one horse outright and shared ownership in two others. A few years later the horses were sold and Chuck returned once again to the sidelines. But this time he would not remain on the sidelines for long.

When approached by Al last winter, Chuck seized the opportunity to share ownership in another horse with vigor. "It's basically a hobby, but it's a thrill to own a horse — to watch it run and be around in the stable area, it's a bit of a rush."

Chuck says the trio have been fortunate with Sunshine League's inclination towards the finish line and credits Al for his dedication and train-

ing abilities. Although Larry and Chuck leave the management responsibilities on the shoulders of Al, both spend as much time at the track as possible during the racing season. When the season closes in mid-October, Al spends the winter catching up on household tasks put aside during his busy summer schedule and anxiously awaiting the first signs of spring, the prelude to a hectic season of horse-racing.

Roy finds fitness in 'the walk of life'

There is an exhausted metaphor — *Life's a journey enjoy the ride.*

Well Roy and Arlene Charette would much rather get out and walk.

Roy, who retired as a welder from the Copper Cliff locomotive shop, has walked hundreds of kilometres from strolling crowded city streets to trekking through remote wilderness trails. And once he and wife Arlene decided to walk rather than drive, they began to see life from an entirely new perspective.

"We traveled with the kids when they were younger, but you don't get to see as much and everything is rushed. You're too busy getting from point A to point B to see much of the country. What a difference when you get out and walk," Roy said.

As members of the international Volksmarch Club, Roy and Arlene's walking shoes now take them places previously viewed from the inside of an automobile. Since joining the club two years ago, the couple have walked the streets of Sturgeon Falls, North Bay, New Liskeard, London and Niagara on the Lake.

"It's a great way to see a city. There are a lot of old houses that are beautiful and you don't get to see them if you are driving," Arlene said. "You see a lot of a community and end up going into shops. It's great to take the time to walk a city."

The couple keep a record of the cities they walk in a small booklet tucked in the glove compartment of their car. The walking club has strategic trails in most cities across North America averaging 10 kilometres in length. Once complete, the booklet is produced and a stamp verifies the site and length of the trek. The international club also has trails in Europe which Roy and Arlene speak of visiting in the future.

But while in Sudbury, the couple continue to walk

twice daily, morning and night, not with visions of strolling through the streets of Germany, but rather with a practical goal of remaining healthy in their retirement years.

Roy and Arlene joined the local chapter of Volksmarch — Nickel City Walkers — two years ago. Each morning the couple lace up their walking shoes and zip up their walking suits for the daily ritual of driving to the New Sudbury Centre by 8 a.m. to pace three to three-and-a-half kilometres through the mall before shoppers arrive. The shopping mall welcomes walkers as early as 6:30 a.m. "We don't look around, we walk at a fast pace," Roy said.

Later in the evening the couple walk an additional half hour before retiring for the night. At the end of the week, the couple have accumulated 40 kilometres. This daily regimen, Roy believes, fosters a healthy lifestyle. "I have a motto. I'll never have my wealth, so I better keep my health," Roy said.

Roy became more health conscious in the months leading up to his retirement last October. Prior to retirement, Roy admits to poor eating habits. Many of his meals came in the form of aluminum cans or contained sandwiches topped with an unhealthy supply of lunch meat. To enjoy his retirement, Roy realized his eating habits had to change.

"I changed my eating habits which are now mostly vegetarian. I gave up canned food, lunch meat, red meat and dairy products that have lots of cholesterol — but you get used to it," Roy said, adding his new lifestyle and eating habits have netted positive results. Roy attributes his increased energy level to his active lifestyle.

But exercise is not all work and no play. The sport of walking has a social dimension the couple enjoy. Often during the summer months, Roy and Arlene will meet friends on their walks and round off the morning with a hot cup of coffee and stimulating conversation. The walkers, like anglers, gather to tell stories, but tales are centered on the latest adventure

on foot, not about the one that got away.

"It's a social club as well. We go for coffee and discuss different walks. You can walk on your own or go with a group. It can be competitive or non-competitive. We can leave from here and go anywhere across Canada," Roy said.

And unlike the majority of sports, walking requires little preparation. Roy and Arlene only require a good pair of walking shoes and a warm walking suit. "It (walking) doesn't take a lot of preparation or expense. If you feel like going your only equipment is your walking shoes," Arlene said.

Although the couple originally began walking eight years ago, the pace quickened just two years ago. Roy's impending retirement spurred him into a faster momentum. "I was getting prepared to go on pension and wanted to get my life in some kind of direction," Roy recalled. And now the couple admit they are "addicted" to the exercise.

But with any exercise program, the couple admit occasions arise when enthusiasm for the morning walk deflates. On such occasions, having a walking partner helps inflate motivation. "We have the advantage of two people. If the other one is going, well you think maybe I better go. If we both don't feel like going than we'll say we are just going around the block. Once we are out in the fresh air, we keep going," Roy said.

For Arlene, the partner concept feeds her competitive edge. "If he is going, well then I'm not going to be outdone," she laughs. "We are in a routine and usually just get up and go."

While the perception of the retired person is a life of leisure and relaxation, (Roy says it took him about two days to adjust) Roy and Arlene break the conventions and admit the quickened pace has changed their lives — a change they highly recommend. "It has given me peace of mind," Roy said. "Just the beauty of it makes you feel so good and so relaxed. I can do things and I'm not short of breath. I would recommend it for anybody. Anyone who wants to walk in whatever condition or whatever age or background."



Roy Charette says it took him about two days to adjust to a new retirement schedule. Roy, a retired welder from the locomotive shop in Copper Cliff, joined the local chapter of an international walking club last year and now walks, alongside his wife, about 40 kilometres per week.

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