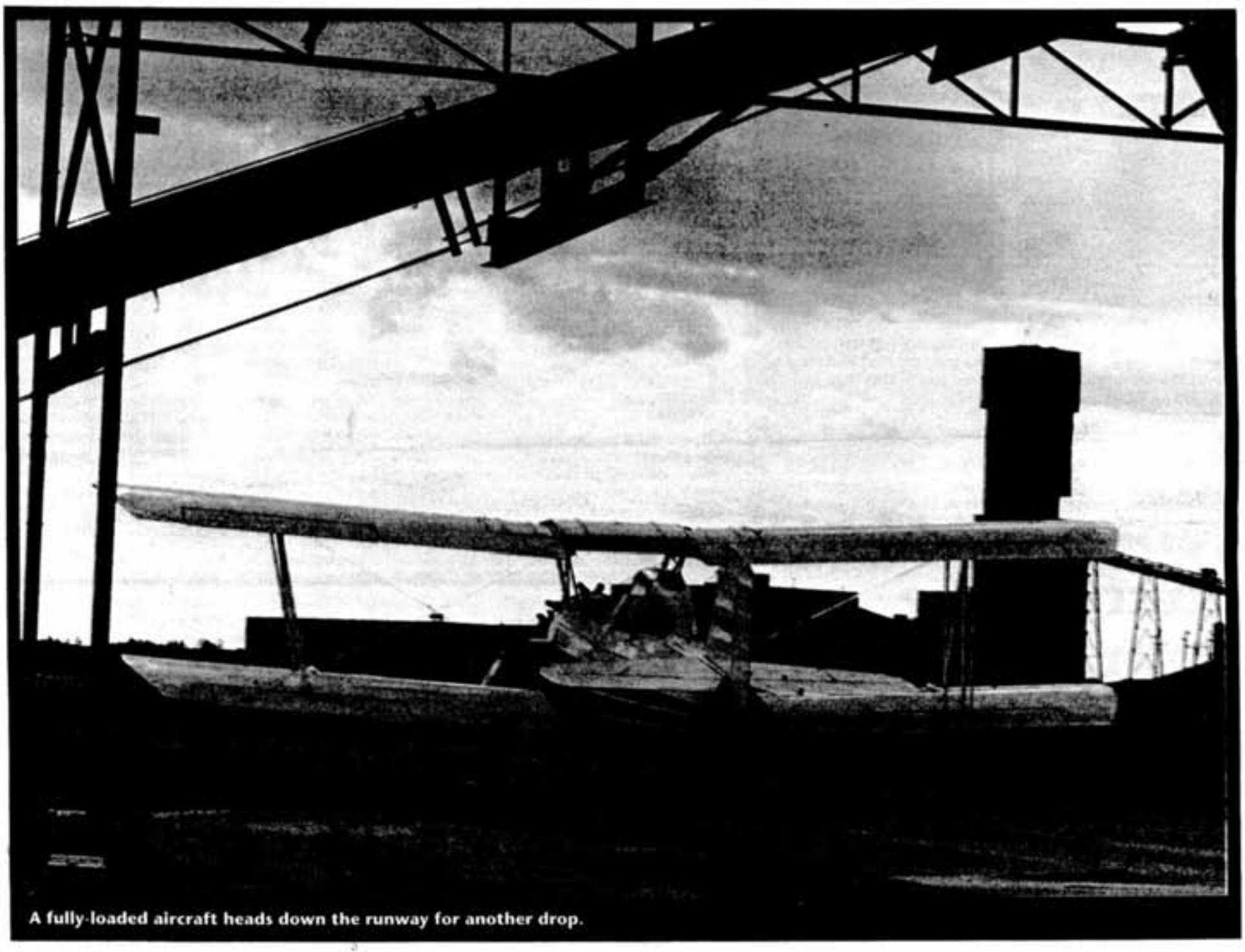
Goodbye bear hugs for Creighton pensioners. See page 12 & 13.

INCO
Triangle
Printed on Recycled Paper
September 1994 Ontario Division Vol. 53, No.6

Regreening takes root

Aerial seeding puts pilots' skills to test



A fully-loaded aircraft heads down the runway for another drop.

Pierre Rouleau soars past headframes and smoke stacks, his bright yellow aircraft starkly contrasted against the barren, blackened rocky knolls.

Travelling at more than 100 miles per hour at treetop level, he picks out the exact spot on the blurred landscape below and skillfully drops the two-ton load of lime exactly where it was meant to go, paying attention to his controls as the aircraft suddenly becomes two tons lighter within a few seconds.

"You need a special kind of pilot to do this. It takes special training," said Pierre.

It takes about six seconds to drop the load. Many years of experience by Agric Air pilots like Pierre and their ground crews have reduced the time for landing, reloading and take-off to just two minutes. Depending on how far the drop zone is from their operational base at the Frood airstrip, the runway sometimes resembles a shuttle service with a loaded aircraft waiting to take off while a second aircraft lands to pick up another load.

Pierre is understandably enthusiastic about Inco's regreening program in general and specifically the company's decision five years ago to experiment with aerial seeding of areas inaccessible by the usual shoe leather and all-terrain vehicles.

"I like to fly," Pierre admits, but that's not the only reason he welcomes the Inco assignment.

"It's a high-profile program and quite frankly it's the kind of job that we would like to have in our resume."

Pierre and his fellow pilots get a lot of satisfaction seeing the difference their 1,625 acres (including this year) of Inco aerial seeding has already made. "You can see it from the air. It's obvious. There's a lot of green that wasn't there before."

One reason he's eager to promote Agric Air's involvement in the Inco regreening program is to help change public misconceptions that often undermine his chosen line of work. "People tend to see us as barnstormers and crop-dusters who deal with chemicals and pesticides."

In fact, he said, forestry and agricultural biological work is their main expertise, and they've flown as far as Mexico and Africa to do it.

The Inco experience has also proved a valuable learning experience for Agric Air. "It's the first time we've concentrated so much work into such a short period. This year we had three weeks to do 500 acres. We apply about 10,000 pounds of lime per acre and another 770 pounds of seed and fertilizer.

This year's aerial seeding

continued on page 3

Doug Hallman of Laurentian University presented a paper on the construction and operation of Sudbury's Neutrino Observatory, located at the 6,800 foot level of Creighton Mine.

Lamacraft: Drilling a bigger hole

The telephone, the auto mobile, the airplane, space travel . . . all were beset with problems that only trial and error could overcome.

Ralph Lamacraft, with Inco's Mines Research Department, knows this only too well.

Ralph presented a paper to the World Rock Boring Association outlining the difficulties of increasing three-foot and a four-foot ventilation holes into an eight-foot hole.

The research project at Coleman Mine, which would also serve McCreedy East, was a joint venture between the Robbins Company and Inco. To create a larger hole from a smaller hole, a great deal of stability is needed in order to keep it in line. The setting up of a drilling platform structure was basically uneventful. This was followed by some mechanical problems, but the quest to complete the 670-foot hole went on. At 186 feet, the reamer hit a major problem which remains a dilemma for Ralph today.

He is optimistic that new technological designs will eventually enable him to complete the project. He is consulting with other experts in the field of stabilization and assisting in learning new techniques in disc cutting.

Ball updates backfill

In the space age, the old adage of "What goes up, must come down" may no longer be applicable.

However, as underground miners have found out, what comes up from underground, must be back-filled underground.

This posed a unique problem for Inco engineer Steve Ball, which he outlined at the World Rock Boring Association conference in Sudbury. Steve's challenge was to fill in the holes from the 20 million tons of ore Inco hopes to recover below the 3,400-foot level of Garson Mine. Garson operated from 1929 until 1986 when operations wre temporarily put on hold due to depressed nickel markets and problems with ground stability. Ball told the audience an innovative rock excavation technology for today's mining seminar some of the problems encountered in resuming operations at the mine.

The answer was a new, innovative paste fill system. A long hole bore drill will bring the toothpaste-consistency substance to the 3,400-foot level. Steve has succeeded in getting the hole through a 57-year maze of various mining operations. Despite some dewatering problems, Garson is now on line to get the paste fill system in operation. The gravity-fed fill will consist of fine sand, reclaimed slimes and three per cent cement. Garson expects to become a full production facility in the coming weeks.

Inco well represented at conference

The World Rock Boring Association is not an aspiring group of musicians.

It's a serious group of men and women which held a three-day conference at the Willett Green Miller Centre at Sudbury's Laurentian University recently to discuss innovations in rock excavation technology for today's mining.

More than 100 delegates from eight countries around the world attended. Inco was very well represented, offering three of the sixteen papers presented.

Inco's Steve Ball discussed a new underground fill delivery system, titled "The Need for Accurate Large Diameter Long Hole Drilling" at Inco's Garson Mine. Ralph Lamacraft explained down-reaming experiences and Glenn Elliott assisted in an update on Borpak operations. Another paper was presented by Doug Hallman of Laurentian University on the construction and operation of Sudbury's Neutrino Observatory, located at the 6,800 foot level at Creighton Mine.

The opening keynote address was made by Milt Jowsey, a 33-year Inco veteran and a retired vice-president of Mining of the Ontario Division. He outlined the history of mining from the early days to the present high technology environment. The WRBA session was highlighted by a banquet at the Science North Cavern with Inco Ontario Division President Jim Ashcroft as guest speaker.

Hydraulic drilling is a Canmet experiment

Could hydraulic jumbo drills be the way of the future at Inco?

Jayant Pathak, of the federal government agency, CANMET, presented a paper to World Rock Boring Association delegates. Pathak is leading an experimental project at a small underground gold mining facility near Val d'Or, Quebec using jackleg drilling equipment. Though jacklegs are all but non-existent at Inco operations, Pathak is testing the water-powered devices in the narrow vein mine.

In his address entitled "Water-Powered Jackleg at the Experimental Mine of CANMET: Experimentation and Adaptability Study", he expressed the advantages of changing to a hydraulic system. He pointed out that the devices are used in mines in South Africa, but noted the dissimilar working conditions with Canada. South African mines are deep and hot with temperatures often exceeding 40 degrees Centigrade. Miners and drill operators, at times, are forced to sit or kneel in work areas of one metre or less. Pathak claims there would be many advantages of converting to a hydraulic system from a pneumatic system. It would mean less noise vibrations, a higher production rate and an overall 44 per cent reduction in operating costs. Most important, for the health and environmentally conscious, hydraulic drills produce only 10 per cent of the dust emissions created by pneumatic drills. CANMET is now in the process of modifying its experiences with the jackleg drills for possible use in jumbo drills.

Former Inco VP gives brief history of mining

While the basic metallurgical process of forming tin and copper to produce bronze has changed little since the Bronze Age, the methods used by the extractors of these and other ores have evolved greatly over the centuries.

At the keynote address of the World Rock Boring Association (WRBA) converence in Sudbury, retired Inco Vice-President of the Sudbury Mining Division Milt Jowsey outlined a history of the mining industry. Hundreds, even thousands of years ago, the ore extractors were invariably slaves or serfs. Less than a half century ago, a strong back was a major job prerequisite for miners. Jowsey, a Second World War air force flying ace, recalls noticing the metamorphosis that began in the early '50s. He told the WRBA delegates of the new technology, particularly raise boring.

He noted that historically, Canada depended on foreign technology and equipment. Although he says this is changing, much more effort and resources must be spent on research and development. He summarized that senior mining officials must definitely support research and development and ensure that new innovations are seen to fruition.

This year's 500 acres brings aerial seeding total to 1,625

continued from page 1

program included an ambitious, multi-discipline, multi-institutional research project that will test nature's own method of restoring area lakes against a second method where nature is assisted by aerial bombardments of lime.

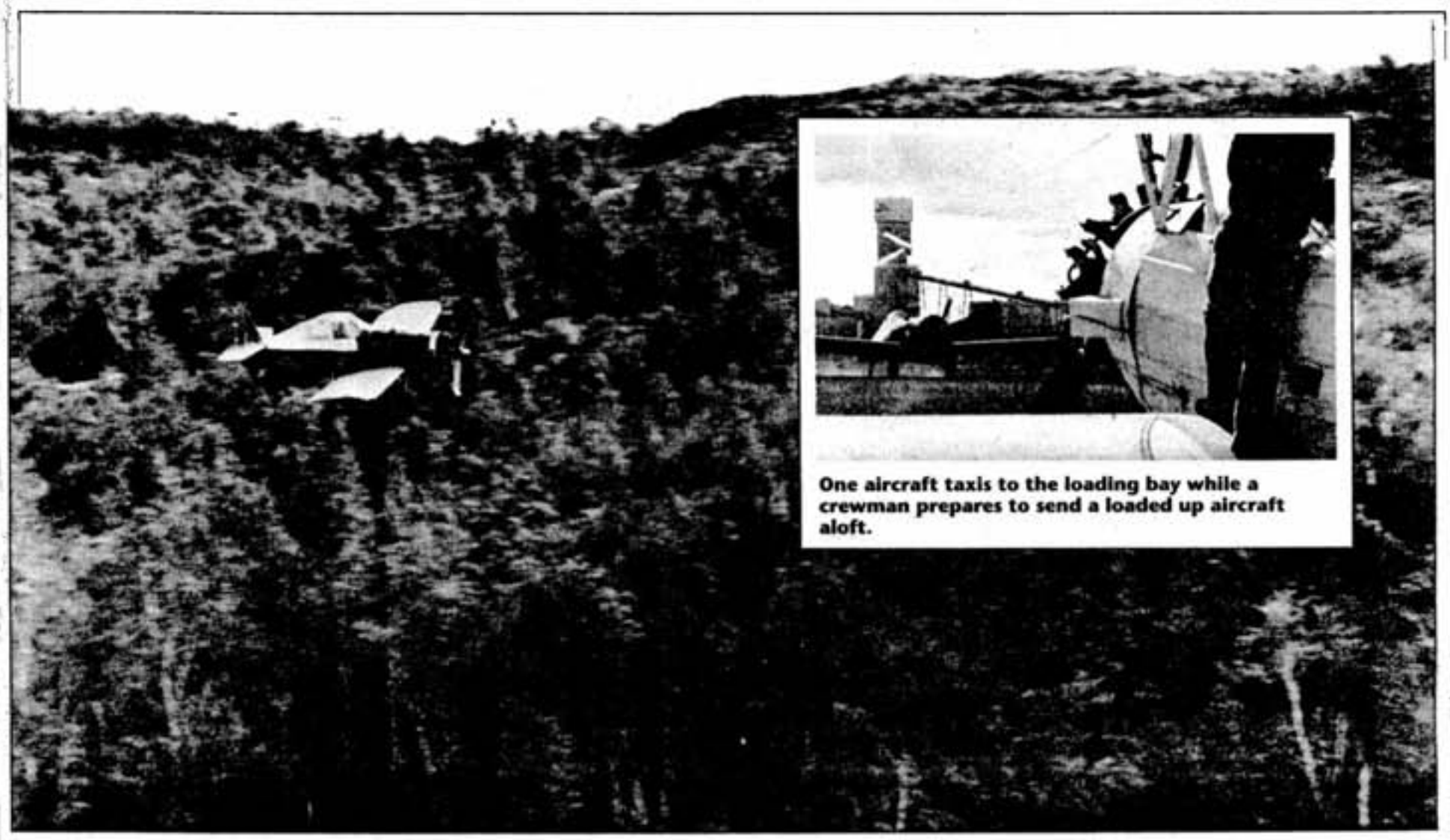
Laurentian University is Inco's partner in the project in the Daisy Lake watershed area, which involved applying dolomitic limestone in one subwatershed while another of identical size was left untouched. Both areas will be monitored to see if the aerial liming improves the water quality of the subwatershed.

Lakes treated with lime in the past have improved temporarily, but returned to previous acidic levels because of nearby acidic soil and streams.

Also seeded this year was a 100-acre corridor east of the Lasalle extension behind MCTV and 300 acres west of Little Stobie towards Highway 144.

Inco's environmental coordinator of Decomissioning and Reclamation Paul Yearwood, said the aerial experiment has been a great success. "Perhaps the most obvious place to see the difference is along Godfrey Drive near Clarabelle Mill. You can't help but notice the difference that the aerial application has made in just a few years."

The aerial application can get into places virtually inaccessible by other methods. "In some of these areas it would probably take us a month to do by foot or all-terrain vehicle what one of these aircraft can do in a single drop."



One aircraft taxis to the loading bay while a crewman prepares to send a loaded up aircraft aloft.

A Bull Thrush airplane buzzes a section of bush near Stobie Mine. It's the kind of landscape the pilots would like to create.

A tractor, bin of lime, conveyor and overhead loading facility help keep the aircrafts' time on the ground to under two minutes.

It looks like a realignment for the Frood-Stobie headframe as the Agric Air Bull Thrush aircraft takes off from the nearby Frood airstrip.

Pierre Rouleau fuels up with the engine running.

Flat tires and other maintenace work is done much like repair work in a race track pit stop. With only three weeks to do 500 acres, aircraft are on the ground as little as possible.

A bag of seed is fed into an aircraft hopper.

MAKING Change

Savings by solving the mysteries of the furnaces

Instrument men Don Strain and Alf Doherty run the computer program that allows analyzing of burner performance.

Jim Bolger, Dave Ballantyne and Gates Perrault at the furnace.

The anode furnaces used to be the Copper Refinery's own little mystery. Experienced operators were the refinery's "mystics" who interpreted the cries, wafted the subtle aroma and felt the heartbeat of the demons in the machine.

"Intuition," explains combustion technician Jim Bolger. "Running the furnace burners was more intuition than anything else. With enough experience, you could tell by the sound if everything was working right. But at best it was an educated guess, and there was no way for a new man on the job to tell."

Although risking the Copper Cliff Refining's dependency on its most valuable eyes, ears, nose and throat, Jim felt the refinery needed a demystified yardstick to calculate how things were going inside the furnaces.

"In 1992 it was costing us about $1.6 million to run the four burners and the price of gas was expected to go up. We were facing a 25 per cent increase in the cost of natural gas," said Jim.

With a major overhaul on the horizon and parts for the existing equipment expensive, hard or nearly impossible to get, Jim came up with the idea of upgrading the natural gas burners.

"There were no obvious operating problems with the equipment at the time," said Jim, "but we just figured things could be improved."

The two burners in each of two furnaces were last upgraded in 1962. "It was state-of-the-art equipment back then, but it's close to antiquated by today's standards," said Jim.

The evolution of Jim's original idea was a textbook model of cooperation and teamwork.

> ***"It was kind of a surprise to everybody when it started without a hitch, considering all the things that could have gone wrong,"***

"It began as your basic good idea that became a Cadillac version with all the input from others. I don't think it would have gotten off the ground without the ideas of other people."

Jim points to enlightened management as the major reason the project got off the ground. "No question. Management here has become much more receptive to new ideas and suggestions regardless of where they originate. If you come up with an idea, people listen. It wasn't always like that."

First to be tackled was the seat-of-the-pants operation of the burners. "Without instrumentation there was simply no way for us to tell how efficiently the burners were operating. We had suspicions that things could be run a lot more efficiently, but we had no way to analyze the performance," said Jim.

Enter instrumentation man Alf Doherty. Working with Bailey Systems, the manufacturer of the computer control systems that runs other segments of the refinery's analysis system, Alf helped expand the control system by about 35 per cent to cover the burner operations.

It was refinery electrical engineer Dave Ballantyne's job to tie the two systems together and to design the crucial wiring systems.

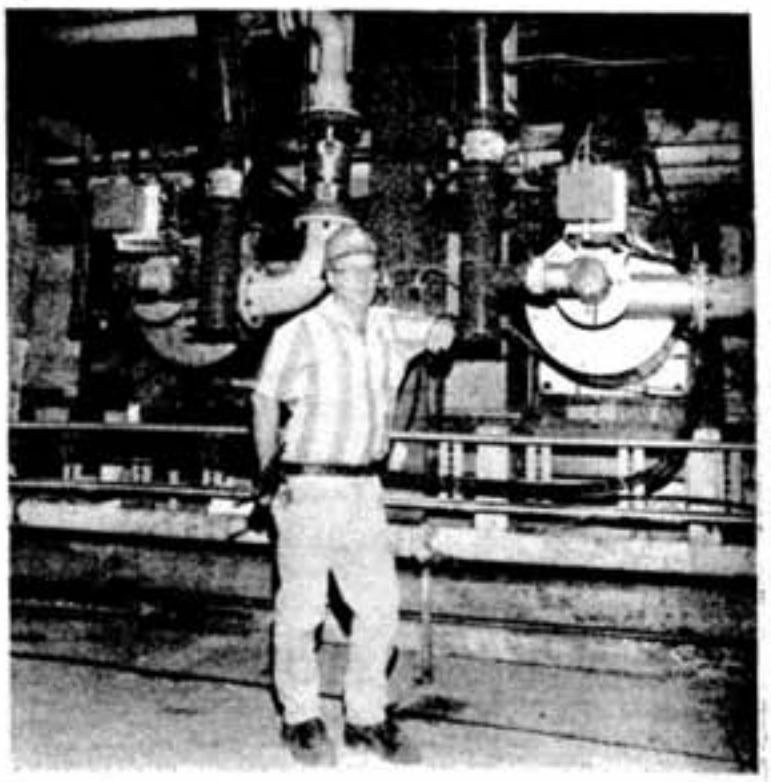
"The hardest part was making new equipment fit into an old container," said project manager Gates Perrault. "We had the full cooperation from just about everybody to get this thing done, and that included the furnace operators, instrumentation people, electricians and just about all the trades people we have. It was the 100 per cent input from everybody that allowed us to pull it off."

Much of the work was innovative, untried and extremely critical. Not only did the high-tech control system need to be installed and the wiring hooked up, but an end wall had to be taken out of the furnaces and replaced along with all the old and new piping, cables, switches and valves.

And it had to be done in the four-week refinery shutdown.

"There was some question about whether we could do it," said Gates. "We had six months of weekly planning to get every detail in place."

Engineered by Garth Harris and carried out by maintenance mechanic Austin Lane and crew, the job was done with a few days to spare.



Jim Bolger stands by an end furnace wall. The wall had to be removed and rebuilt.

When the switch was thrown and everything worked as planned, there were a few sighs of relief.

"It was kind of a surprise to everybody when it started without a hitch, considering all the things that could have gone wrong," said Gates.

It's too early to provide exact figures, but savings are expected to be substantial. "We figure between 12 and 30 per cent improvement in gas efficiency," said Jim.

For anode furnace instrument man Don Strain, the advantages are already evident. "It makes my job easier. Diagnosis is much easier than before. You can tell what's wrong and where the problem is quicker and with more detail.

Burner analysis will no longer require an educated ear. In fact, the project has made the burners almost inaudible. "Used to be you had to wear ear protection around the furnace," said Don. "You had to scream at people if you wanted to be heard."

No more. "There's been a vast improvement in the decibel level. It's so quiet that it's hard to tell when the burners go down," said Alf.

In fact, the unexpected improvement in the noise level has brought about the need for a solution to a totally unexpected minor problem.

"Since we can't hear the burners anymore, we're in the process of installing a warning light to let us know when the furnace is out," said Alf.

MAKING Change

Something fishy about this award

MNR recognition for Inco Spanish work

Garry Stevens and Hal Kohls (left) during a check of water levels at Ramsay #7 dam.

Think Inco. Picture Inco people: A skyline of smokestacks, headframes and mountains of ore, molten metal, scooptrams, jumbo drills, faces under hardhats with headlamps that slice through the underground blackness.

Think again. Picture a fishing pole.

Inco Power Department geotechnical engineer David Vitone proudly lifts a certificate of recognition, signed by MNR minister Howard Hampton, for Inco's "valued partnership in fisheries management on the upper Spanish watershed."

Inco's main objective may be wresting tons of ore from deep beneath the Sudbury basin and converting the hard rock into saleable metal, but there's no better example of the company's serious committment to the environment than the decade-long attempt to find a compromise with the sometimes conflicting interests of all of the Spanish River watershed's inhabitants.

"We work together for the common good. We could only have accomplished what we did with everybody working together. I think we (Inco) did our share," said Dave. The award was, at least in part, in recognition of compromises made to reach a water management plan for the 23,000 acres of land and 6,700 acres of water that make up the 80 miles of lakes and rivers of the Spanish River watershed.

Inco and E.B. Eddy Forest Products, in co-operation with Ontario's Ministry of Natural Resources, manage the water that runs through the system. Inco, the most involved of the two private partners in the program, is interested in generating hydro-electric power at its four generating facilities on the Spanish River – at High Falls #1 and #2, and Nairn and Big Eddy. Inco derives between 17 and 20 per cent of its annual power needs from the system, using it as a kind of "peak control" to reduce consumption when costs from Ontario Hydro are highest. By nature, Inco's consumption is in great peaks and valleys, and Inco uses its Spanish hydro to lessen the financial impact of an intricate Ontario Hydro billing system that escalates hydro costs at peak periods.

Water regulation technician Garry Stevens and assistant Hal Kohls help Inco control a resource almost as vital to its survival as nickel. At a time when energy costs are going up along with labor, environmental and most other operating expenditures, the two are "mining" hydro-electric power

Last year Inco saved more than than $17 million on hydro purchases, part of that due to better management of the Spanish system.

"Water is our version of high grade ore," said Dave. "Our compromise involved considering such things as fish spawning before drawing water from the system."

The biggest challenge has been getting the word out. "Education, getting everybody to view the watershed as a whole rather than their own little corner. That's made the difference," said Dave. "Once that was done, cooperation and teamwork kicked in."

Garry and Hal act as Inco spokesmen in the area. They know that most people rely on the watershed for a good vacation at the very least and their very livelihood at most. With the various interests of the local residents, the environment, government and Inco's power needs at stake, operating the system can be a juggling act.

In theory, the solution to maintaining water levels is as simple as turning on the tap, the "plumbing" consisting of a series of six lakes interconnected by rivers. Water flow between lakes is controlled by a series of retention and spillway dams that act as faucets. Water's too low? Open the tap. Too high? Turn it off.

But the problem is that there's only a limited amount of water. Garry and Hal point out that problems started when residents used to see only the water in front of their cottage or under their particular canoe.

Both are convinced that Inco's relationship with people on the system has greatly improved over the past few years, mainly through a continuing dialogue and a willingness to be open and frank. Inco uses the biggest portion of Spanish hydro in the winter months when hydro costs are highest. In the summer, most of the adjustment of levels is done to help ensure there's enough water in the system to maintain an environmental balance, to allow fish-egg hatching and to bring water levels to near as normal conditions in exceptionally dry or wet seasons.

"It works out to a compromise with our power needs, nature, and our neighbors on the system. We give up between 10 per cent to 15 per cent of storage water in the summer months to help maintain an environmental balance," said Dave. "That probably works out to between $1 million to $2 million in lost hydro production, but it's a price the company is willing to pay to be a good neighbor on the Spanish. It's also the kind of thing that proves there's real teeth in Inco's Environmental, Health and Safety Policy."

Stevens, at the helm of Inco's powerboat, patrols 6,700 acres of Northern Ontario waterways.

David Vitone holds the Ministry of Natural Resources certificate of recognition awarded to Inco for their environmental efforts on the Spanish River watershed.

MAKING Change

Teamwork a major factor in Clarabelle success

Teamwork has been so much a part of the success story at Clarabelle Mill this year that a special Team Appreciation Barbecue was held for mill employees.

A summary of the teamwork that has been going on over the past year at Clarabelle Mill would have to list almost all of the people at Clarabelle, since the mill's smooth operation demands full cooperation from everyone. Nevertheless, a detailed account of some of the success stories and the people involved has been attempted. Our appologies for anyone who has been inadvertantly left out.This is the second of two articles listing some of the people involved in the significant strides made at Clarabelle.

Eight teams have been working diligently for the past two months to join the **Transportation and Milling** Areas, eliminate duplication and share resources. This massive team escort will start to pay dividends in fall.

Some teams are involved in introducing new technologies at Clarabelle Mill. We are now using space-age wear resistant materials which often extend the wear life many fold over the previously used parts. "Alanx" ceramics are used for suction side plates on pumps, "Rod ceramics" as chute liners for coarse particles and "Irathane" for all flotation impellers and stators.

Rollie Bosch has just replaced our xanthate flowmeters with state-of-the-art, accurate and maintenance free mag flowmeters.

Fred Boyer and Ron Garbutt have teamed up to connect our 40 personal computers to a **"Local Area Network"** (also called "LAN"). This allows these micro computers to talk to many other computers throughout the Ontario Division.

When disaster strikes, team work is more important that ever. The problem with the cracked trunnion on the SAG mill was successfully resolved by a team. When #4 mill needed to be converted to a rod mill, the shift crews and bullgang teamed up to deball the mill in record time. Special thanks to **Mike Gaudette** from North Mine, who blasted the fine ore bin numerous times to provide ore for #4 rod mill.

Safety concerns are almost always resolved by teams. **Doug Morrison** teamed up with **Rick Gagnon, John Kutchaw, Terry McKenzie and John Kanerva** to find a safer and faster way to service crane rails at the crushing plant. On their recommendation, a static line was engineered and installed.

Thanks for a job well done.

The list below shows some of the "Safety Teams" which were active over the past year:

- Deta Handling Failsafe
- Sulfuric Acid (Low Sulfur Tails) Failsafe
- Tipple Failsafe
- Semi-Wet Crushing Failsafe
- Confined Spaces
- Critical Job Procedures
- SAG Liner changes
- Central Mills Reagent Failsafe
- Overhead Power Lines
- Natural Gas Lines
- Near-Miss Report
- Tugger Hoist Failsafe
- Removal and Installation of liners in the Simplicity Screen Oversize Launder
- SAG Lube Procedure Failsafe
- Cleaning Fine Ore Bin Feeders
- Review of O.D. Safety, Health and Environment Program
- Silica Dust Removal in the SAG area
- Trip to Strathcona Mill to compare Safety Programs
- High Risk Areas
- Mobile Equipment Breaking Systems on Ramps
- Crushing Plant Oil Room Spillage
- Emergency Preparedness
- Contractor Access and many more.

After a critical review of our Burning and Welding Procedure by **John Jetty, J.P. Hotte, Ray Leblanc, Paul Lebeau, Henry Bielanski, Julian Savage, John Fisch, Harry Northorp, Bill Sheppard, Pat Corcoran, Frank Langeman and Tracey Hobden**. John took it on himself to give presentations to all work groups.

The recent Environmental. Health and Safety Audit by a team of six auditors took two weeks to complete. A Central Mills team, headed by **Bob Shaw**, supplied the auditors with information, explanations and support. The report from the audit is expected soon.

A major safety team effort is really paying off. Safety statistics for 1993 and 1994 have been excellent.

There is still a long list of teams left to describe, too many to mention here. I will just mention a few

"Do the job ourselves instead of contracting out" is the mandate of the **Contracting Out Team. Norm Bodson, Rick Gagnon, Ted Boyd, Gary Smith, Terry Mckenzie, Colin Craig, Gord Camillucci and Jack Hamill** have reduced our contracting out dramatically.Switch tagging up to 550 volt can now be carried out without the help of an electrician by many Clarabelle Mill employees, thanks to the diligent and thorough efforts of the **Switch Tagging Team.** Thanks go to **Gary McLean, Murray Jewitt, John Dandenault, Jim Illnitski, Gary Kurlicki, Dave Wylie, John Kanerva, Andy Belanger, Keith Gullon** and many others!

- Vendor Rationalization is a joint effort between the Purchasing department and all plants, including Clarabelle Mill. Their goal is to buy from fewer suppliers, generate less paperwork and get better prices and quality. This year, about $340,000 will be saved in grinding media cost by switching from balls to billets for our ball mills.
- **When Rick Gagnon** teams up with **Kurt Koski** and the suppliers to modify the crusher hydraulic system, he takes first prize with a $10,000 Suggestion Plan award!
- The TQI Steering Team co-ordinates the team efforts, training and establishes good communication. Members are **J.P. Gervais, Maurice Hubert, Marcel Leclair, Terry McKenzie, Joe Dippong, Dietrich Liechti, Mick Throssell and George Whitman.**

Over the past year, numerous Clarabelle Mill employees attended leadership, team building and facilitator training. Some of the courses include Facilitatorship ("Ralpha"), TQI Training, Leader 2001, Leader Effectiveness Training (LET) etc.

What can be done better in the coming year?

- Close the loop better. A better job will be done in telling everyone what we are doing. (The "Team Board" on the bottom floor will give everyone more information).
- Everyone will get a chance to work on a formal TQI Team. (This is difficult for 12 hour shift crews.

On shift, it is easier to do small, informal projects to address concerns of crew members, for instance, spillage avoidance projects).

Outside comparisons for Inco's hydro operation

Inco's Power Department has been in the forefront of Ontario Division's cost-cutting efforts, with energy conservation projects slicing millions off the company's annual electricity bill.

Now the department will compare notes with others to see if there's a better, more cost-effective way to run the hydro generating program on the Spanish River Watershed.

In late September, the Power Department played host to the second meeting of a group of hydro producers that is sharing information to learn from each other about hydro generation.

"It's a group that involves people like us, mainly industries that produce hydro as a sideline from the main business," said Power Department engineer Mike Chorkawy. "In comparing notes with others like us, we hope to share information, to learn how we compare with others and how we can do better.

Inco and E. B. Eddy Forest Products, in co-operation with Ontario's Ministry of Natural Resources, manage the water that runs through the system. Inco, the most involved of the two private partners in the program, is interested in generating hydro-electric power at its four generating facilities on the Spanish River - at High Falls #1 and #2, and Nairn and Big Eddy.

Inco derives between 17 and 20 per cent of its annual power needs from the system, using it as a kind of "peak control" to reduce consumption when costs from Ontario Hydro, the huge government-owned utility, are highest. By nature, Inco's consumption is in great peaks and valleys, and Inco uses its Spanish hydro to lessen the financial impact of an intricate Ontario Hydro billing system that escalates hydro costs at peak periods.

Along with Inco, the performance benchmarking project includes Great Lakes Power Ltd., LaCie D'Energie McLaren Quebec, Abitibi-Price Grand Falls, Chi Developments and Abitibi-Price Saguenay Hydro Division.

Abitibi-Price Saguenay Hydro Division initiated the performance benchmarking project in order to create a model for measuring the company's ability to fulfil its mission; to provide the customers with a good, reliable and low cost product while maintaining the integrity of the assets with no unacceptable operating risk.

The objective of the first meeting, attended by Mike and Power and Utilities superintendent Peter Pula, was to present the Saguenay project to some comparable hydro utilities in order to evaluate the interest level of delegates in this project, identify organizations that are suitable for it, sign up potential collaborators and define the project organizational structure and strategy.

Each participant described his organization's type of installation and main activities and outlined his needs for benchmarking and expectations from the project, including such things as health and safety, environment, cost and other specific issues such as training and reliability.

Utilization of equipment, defining operational objective, water management optimization, measuring the hydro contribution to reduce customer product costs and maintaining condition of assents will also be part of the benchmarking process.

MAKING Change

Ministry and Creighton cooperate, not confront

A cooperative, united approach to occupational health and safety by employees, management and government initiated at Creighton Mine is getting support from all quarters.

"It's the way to go," said Creighton Mine Occupational Health, Safety and Environment co-chair Randi Condie. "The way we want to do it is to prevent accidents rather than look for somebody to punish when an accident happens."

The mine ventilation man and his co-chair, mine superintendent Fred Stanford, were part of a team set up to examine a better way to deal collectively with the critical issue of occupational health and safety at the mine.

What they came up with is a program that adapts the preventive, cooperative approach that's proved successful in programs such as community-based crime prevention.

Ministry of Labour electrical mechanical inspector Fred White was instrumental in the change in direction. He said he was not satisfied being "the guy with the big stick" who came in to impose punishments after an accident happened or a problem was uncovered, so he asked the mine's OSHE committee to help him change the relationship in much the same way that police forces have turned to education and community involvement to prevent crimes from happening in the first place.

"I told them I wanted to change the way I worked with them as an inspector," he said. "I told them I will put the big stick to sleep. They know I will prosecute if I have to, but as long as we're improving and they don't give me any need to, I won't do it. And nobody has tried to take advantage of that."

The change in direction lead from frustration at the workplace accidents in Ontario that stubbornly remain high despite all-out efforts to reduce the numbers since the Occupational Health and Safety Act was passed in 1978.

White points out that it wasn't Creighton's accident rate that triggered the new approach. Instead, it was an effort to be proactive, being visible on-site when problems weren't happening rather than running around after the fact.

Creighton miners, from senior management to people in the drifts, were behind the change in direction. Safety audits were conducted in areas identified by the joint health and safety committee as being of concern, including working conditions, heat and dust levels and sources of ignition of mobile equipment.

Ministry of Labour Health and Safety Branch inspector Fred White, OSHE co-chair Randi Condie, and worker safety representative Dollard Dolbeck look on as Creighton Mine superintendent Fred Stanford affixes a MOL-OSHE "Searching for a Better Way" decal.

"I think there's more trust these days that the company is serious about safety. And the people who are doing the work are involved in the process. They're involved in finding solutions. I think that all makes a difference," said Randy. "This way, the ministry is more of a service to Inco than an adversary."

He said a major reason for the backing of employees in the effort is because they were involved in the decision making. "These decisions aren't made anymore on an elevated management level," he said. "Employees are approached for their input and ideas more than before, and that's made a difference."

Undoubtedly, said Randi, safety cannot be commanded. "It takes the conscientious efforts of everybody at the mine. But there's not question that today's miner is better educated, more skilful and better trained than ever before. That usually goes hand in hand with a much more responsible attitude about safety as well."

Worker safety representative Dollard Dolbeck agreed. A member of the OSHE committee, Dollard's input was crucial. "There's no questions that our employees are much more motivated if they are included and consulted in the process" he said.

The cooperative efforts were very successful, according to White, who said problems were identified and recommendations made to improve things, some of the subsequent solutions leading to "significant" improvements.

Most of the problem solving was done by the miners themselves. White said he didn't lead the discussions, but offered advice and assistance instead.

After an examination of statistics revealed that a majority of injuries were back injuries stemming from awkward positions people work in and the nature of the work, an ergonomics expert went underground to examine the working conditions. Recommendations about improving positioning and equipment modifications were adopted as part of a long-term strategy to reduce the number of back injuries. An in-house video about preventing back injuries was also produced.

White says the preventative approach is working. "It's by no means perfect, but the improvement in attitude is fantastic."

Fred Stanford says working with the ministry to resolve problems can be refreshing. "On the whole, it just helps when you've got a problem brewing to be able to phone the ministry and get constructive help without worrying about them coming out with the big stick."

"In the past, one of the problems was we had our priorities and things we were trying to do to improve and the ministry had theirs. The use of the big stick to make us focus on their priorities was not an effective solution. Sitting down and thinking the issues through is much better.

"The education and consultation approach makes people more receptive to ideas."

Register now for training

Inco's Human Resource Development department is urging employees to indicate their training interests and needs by registering quickly for the dwindling number of openings that still remain in this year's training sessions. Here is an outline of workshops remaining for the rest of the year.

For more information about these learning opportunities, please contact your area's training supervisor.

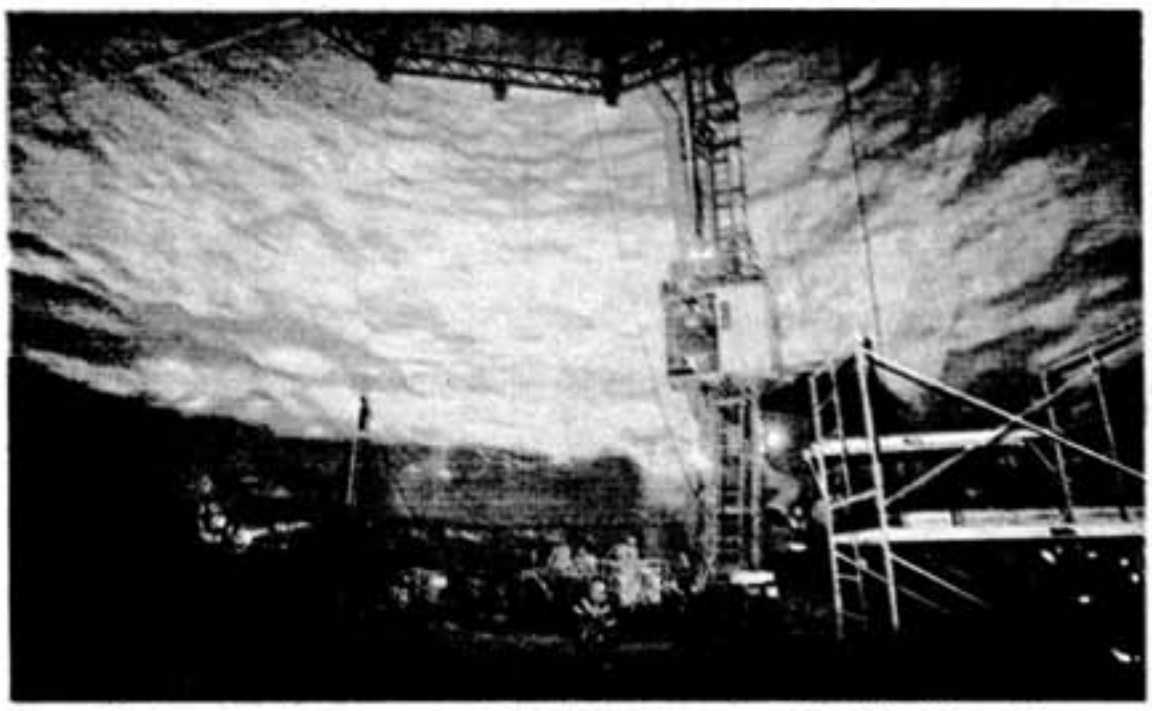
Calendar of workshops remaining for 1994

Workshop	Sept	Oct	Nov
Basics of Project Management	14-15	24-25	
Creative Presentation Techniques	19-23		21-25
Effective Decision Making	20-21		14-15
Gold of the Desert Kings	14		16
Leadership	21	19-20 (4 days)	26-27
Managing Personal Performance	16		
New Role of the Leader	13		4
OHSA & Mining Regulations		9	
Team Facilitation		26-27	
Understanding Employee Rights			5

Creighton Mine's neutrino drift is as clean as driven SNO

Doug Hallman of Laurentian University's Physics Department does some early morning work at the SNO above-ground facility before going to the underground site.

Who turned off Dave Schroeder's water? Nobody. This is an air shower that blows any remaining dust off the specially-designed anti-lint and anti-static coveralls.



A partial view of the huge cavern. The 20,000 square feet of wall (without floor or ceiling) was sprayed with nine coats of waterproofing material . . . by hand.

The entrance to the underground observatory looks like many other underground drifts.

This structure, at the top of the cavern, provides access to the huge acrylic vessel that will hold 1,000 tonnes of heavy water.

A lot is expected from today's underground environment. It's as safe as technologically possible, as comfortable as ventilation allows and underground lunchrooms even attempt to provide that homey touch.

But dust-free?

"Well, not exactly dust-free, but close," said contamination control specialist Dave Schroeder who has been hired by the Sudbury Neutrino Observatory to make the Creighton Mine underground facility as dust-free as possible.

With the drilling, blasting and constant activity that goes on in most mining environments, controlling dust seems like almost an impossibility, and Dave admits the task was challenging.

"The normal air we all breathe in the surface environment averages out at about 150,000 particles per cubic foot," said Dave. "We want to bring that down to 10,000 here at this underground facility."

Despite massive ventilation efforts, the very nature of the underground mining environment creates more dust than the surface environment.

Dave has worked on "clean rooms" in the electronics industry, including the Cruise missle and fighter cockpit display research projects.

New to the underground environment, Dave talked to Inco ventilation people who have many years of experience trying to make the underground environment the best it can possibly be.

"I talked to Inco's suppliers, too," said Dave. "I even talked to the drymen to see what kind of soap they used in their clean-up work and what worked best. Inco people were invaluable in directing me to people who could help in my work. I got lots of telephone numbers of experts who could help."

Dave said the work initially began with brooms and shovels. "The trick is to get it as clean as possible and keep it that way, rather than cleaning it constantly. We used high pressure power washers and eventually we wiped everything down by hand.

"I'd estimate that we've scrubbed this entire facility down at least three times."

But keeping the facility clean isn't a matter of equipment and technology, it's one of education. "One careless person can bring an unbelievable amount of contamination into the facility," said Dave. "People who use the observatory will have to be trained in keeping it clean."

A workman installs a ventilation pipe that brings cool air to the people working in the huge cavern. At 6,800 feet underground, the temperature can get as high as 90 degrees fahrenheit.

Floors and equipment sparkle at SNO. Note the overhead ducts that distribute filtered air through the facility.

Many of the pipes and ducts in the facility are labelled.

Craig Danyluk cleans out the nozzle in the equipment washdown bay. Looking on is SNO construction supervisor Joe Giroux who retired from Inco in 1991.

The underground lunch/conference room.

Contamination control specialist Dave Schroeder examines one of a series of filters used to reduce dust in the observatory.

A workman washes off his workboots before entering the underground observatory.

Creighton ideal for observatory

The procedure begins with a boot bath, then personnel strip down and take a shower and dress in socks, underwear, t-shirt and specially-designed anti-lint and anti-static coveralls that remain at the facility and are washed every two days at SNO laundry facilities.

Lunch pails are placed in two plastic bags, a black bag that is discarded at the shower stage. The inside white plastic bag is used to repack the lunch pail to avoid contamination when leaving the observatory.

Individual plastic baskets are provided for shoes and toiletries and are used to deposit underwear, socks and t-shirts on departure.

An additional three stages must be passed before entering the main laboratory, including a tacky mat and a vacuum shoe cleaner that removes any remaining dust from shoes. The final stage is a space-age shower that uses high pressure air rather than water to blow off any remaining dust particles.

Snow and SNO are definitely in the forecast for Sudbury.

Doug Hallman of Laurentian University's Physics Department gave delegates at the World Rock Boring Association conference in Sudbury a review of on the Sudbury Neutrino Observatory now under construction on the 6,800 foot level of Creighton Mine.

Hallman outlined the progress of the cavity which will house the 22-metre diameter by 30-metre-high, world class facility. He noted it was no doubt the best deep mine site in North America for the project.

Although he tried to keep his presentation as brief as possible, his talk was a major highlight of the three-day conference. A lengthy question and answer period followed. Hallman noted the size and stability of the construction works and the cooperation of Inco in disposing of the rock so as not to interrupt Creighton's production schedules. He was especially thankful for the assistance of Inco's now retired Phil Oliver.

Everything appears to be on schedule, he said. The next major phase will be in October of 1995. The workers will begin filling the enormous acrylic vessel which will hold radiation-free heavy water valued at $3 million. The heavy water is on loan from the Canadian government. It is expected first observation of the elusive neutrinos will occur by the end of next year.

ISO TODAY

Internationally-recognized quality standards at Inco

It's called the "International Organization for Standardization —ISO— and it poses an interesting question: what would happen if all your employees decided to take their pension at the same time, and the last one out turned off the light and shut the door.

Could a new workforce pick up where your pensioners left off?

How many of your operations are carried out by the know-how, seat-of-the-pants experience of senior employees? How many production procedures have been established to the peak of perfection over the years by trial and error? How many are done that way by tradition?

Now for the crucial point: How much of this know-how, trial and error and tradition is written down somewhere?

Even more importantly, how do you get the word out to your world-wide customers that your products will remain at the same high standards even if such an unlikely event was to take place?

A fundamental premise of ISO 9000 is that a company should be able to continue making its products at the same level of quality even if there is a significant turnover in personnel. This requires that all procedures, work instructions, processes and related activities be exhaustively documented.

The surface plants of the Ontario Division (and the Clydach Nickel Refinery) and the Manitoba Division are collecting documentation and job procedures and writing manuals in order to have the processes involved in the production of market products certified at the ISO 9002 level.

For each product or process being certified, a policy and a procedure manual must be written which detail the activities, events, organizational structure, responsibilities, procedures, processes and resources for achieving the established quality policies and objectives.

The manuals and each element of the Quality System in place at the plant site are assessed by a recognized, independent third party before the overall Quality Program is registered.

The ISO, a worldwide federation of national standards bodies such as the Standards Council of Canada, was founded in 1946 and is headquartered in Geneva, Switzerland.

The founders of ISO chose this name because they believed that the development and use of standards would make all things equal. The objective of ISO standards is to create a level playing field internationally.

The work of preparing international standards is normally carried out through technical committees. Each member body interested in a subject for which a committee has been created has the right to be represented on that committee.

Today the ISO has a full-time staff of 146 representing 27 of the 91 member countries. This full-time workforce supports 173 technical committees, 631 subcommittees and 1,830 working groups all made up of volunteers from member nations. To date, 68,580 pages of technical text have been generated.

In the years just prior to 1979 when the Technical Committee ISOITC 176 was formed, "quality" was rapidly emerging as a new emphasis in commerce and industry. Various national and multinational standards had been developed for commercial and industrial use or for military or nuclear power industry needs. Some standards were for contractual use between purchaser and supplier organizations.

These various standards were not sufficiently consistent for widespread use in international trade. Terminology in these several standards and in commercial and industrial practice also was inconsistent and confusing.

The publication of the ISO 9000 series in 1987, together with the accompanying terminology standard, has brought harmonization on an international scale and has supported the growing impact of quality as a factor in international trade.

The ISO 9000 series consists of:

ISO 9000: Quality Management and Quality Assurance Standards-Guidelines for Selection and Use

ISO 9001: model for Quality Assurance in Design/Development, Production, Installation and Servicing and is for use when conformance to specified requirements is to be assured by the supplier during several stages which may include design/development, production, installation and servicing

ISO 9002: model for Quality assurance in Production and Installation for use when conformance to specified requirements is to be assured by the supplier during production and installation

ISO 9003: model for Quality Assurance in Final Inspection and Test for use when conformance to specified requirements is to be assured by the supplier solely at final inspection and test

ISO 9004: Quality Management and Quality System Elements-Guidelines

At the 9002 level the Quality System is made up of 20 elements:

1. Management Responsibility
2. Quality System
3. Contract Review
4. Document Control
5. Purchasing
6. Purchaser Supplied Product
7. Product Identification and Traceability
8. Process Control
9. Inspection and Testing
10. Inspection, Measuring and Test Equipment
11. Inspection and Test Status
12. Control of Non-Conforming Product
13. Corrective Action
14. Handling, Storage, Packaging and Delivery
15. Quality Records
16. Internal Quality Audits
17. Training
18. Statistical Techniques
19. Design
20. Servicing

For anyone who has been with the company for more than than ten years, the format is similar to the Five-Star International Safety Rating System. For each product or process being certified, a policy and a procedure manual must be written which details the activities, events, organizational structure, responsibilities, procedures, processes and resources for achieving the established quality policies and objectives.

The manuals and each element of the Quality System in place at the plant site are assessed by a recognized, independent third party before the overall Quality Program is registered.

Next column: Who are the independent third parties? What do they do? Why is registration important?

Inco reps active at CIM conference

Inco people were prominent among those taking part in this year's CIM Geological Society's Fourth Annual Field Conference at the Sheraton Caswell Hotel in Sudbury.

Planned by representatives from the Ministry of Northern Development and Mines and several local mining companies including Inco Limited and Inco Exploration and Technical Services, the theme of the conference was "Exploration and Mining Geology of World Class Deposits: Strategies for Success"

"We tried to offer presentations of interest to both exploration and mine geologists", said Mines Exploration superintendent and program committee co-chairman Larry Cochrane. "Too often the mine geologist is left out when technical programs are planned. For this conference, we incorporated talks of interest to geologists working at all stages of exploration, development, and mining – and the number of delegates who attended told us that our program appeals to all these interests."

Among the speakers in the session on "Corporate Strategies" was Terry MacGibbon, Director, Exploration, North America, for Inco Exploration and Technical Services Inc. Senior executives from five other major mining companies, each of whom described a different strategy for successful exploration and development, also took part in the session.

In addition to the technical sessions, four short courses and five field trips were arranged. Gord Morrison, senior geologist, Inco Exploration and Technical Services Inc., was one of the leaders of a surface tour of the Sudbury Basin. Gord's field trip, and two of the other four, were filled to capacity more than a month before the conference started. Likewise, two of the four short courses were filled weeks before the conference. "I was surprised at the interest shown in the borehole geophysical methods short course we were offering", commented Alan King, senior geophysicist, Inco Exploration and Technical Services Inc. "It proves that other people recognize the success we have had using these techniques and want to learn more about them."

Andy Bite and Steve Ball acted as hosts for a field trip to Garson Mine, focusing on the geology and ore mineralogy of the Garson deposit and allowing an overview of technological developments and new approaches in safe, cost-effective and environmentally sound mine development.

Inco played an important role in the poster session, where displays of ore, core samples, level plans, and sections from almost 30 of the largest mines in northeastern Ontario and northwestern Quebec were on view. Nine of Inco's mines from the Sudbury area were highlighted in the session.

"This was one of the largest mining-related conferences ever held in Sudbury," said Ed Debicki, Manager of Exploration, Ontario for Inco Exploration and Technical Services Inc., and finance chairman for the conference. With delegates from across Canada and at least 10 other countries, it was an excellent opportunity for all participants to exchange information and ideas. It was also a real boost to Sudbury's economy. Inco's generous financial support ensured that the conference was a success and that many of the Canadian delegates from outside the Sudbury area as well as other parts of the world went home with good memories of the conference and their visit to Sudbury."

Sports Sports Sports Sports Sports Spo

Proud PPO tradition revived on the greens

It looks like the Safety and Plant Protection Golf Tournament is slowly re-establishing its long-standing tradition of good times on the greens.

Organizers Mike Neault and Janie Stokes report the annual event has grown steadily since it was revived three years ago.

Almost 60 golfers turned out to play nine holes at the Pine Grove Golf and Country Club. "A good turn-out, one team more than last year," said Mike.

Even the weather cooperated. "It rained a bit when we started but it soon cleared," said Mike.

Rick Trottier was the only Inco employee on the winning team. Teammates Jim Panko, Don Heaphy and Kevin Manuel are all sponsors.

Rick also won the putting competition.

The event included prizes for all and a steak supper.

Laura Diniro, Lino Filippini, Janet Wyman and Bill Rorison.

Yvan Denis and teammates Cheryl Emblin, Norma James and Brenda Bresnahan take time out for a picture.

Claims administrator Lino Filippini takes a swing.

Cathy Mulroy, Don Burke, Al Burns and Merv McLaughlin strike a competitive pose.

Student Leanne Knight and PPO Phil Perras: Why walk when there are wheels?

PPO Mary Ann Eibl and Bob Rivard of the Welding Shop watch the action.

September 1994

in touch

Smiles mix with sadness as latest group of retirees say their final farewell

There is absolutely no question, insists Rolly Wing, that work looks a whole lot different when the decision to put your nose to the grindstone is up to you.

"I've been working since I was 15 years old," said the retired Inco risk management supervisor, "and I can't see me quitting altogether right now. I'm too young. I want to keep myself active, to shoot for goals. I can't do nothing.

"On the other hand," he mused with a leisurely philosophic look on his face, "I don't want to work from nine to five again. I'm not sure I want to do the full time thing again. I'm shooting for perhaps three to six months of work a year . . . maybe."

By the time Rolly was rifling through his desk at the General Office in search of personal paraphernalia collected in his 30 years at Inco, he'd already been approached by several companies about working full-time.

"I'll be doing some underwriting and risk management consulting, but on my own terms," he smiled. "It won't be a money thing with me. Just something to keep me busy."

Rolly packed up and moved out in June.

Payroll analyst Dick Bontinen won't be leaving until October, but he's already planned his retirement. He'll still be connected with people's payrolls, but from another angle.

Dick will augment his pension income with earnings as a blackjack dealer.

"I'll probably deal about 15 or 20 hours a week," said Dick. "I don't want this to become a full-time job. Basically, this'll back up my pension income and give me a chance to get out and meet people."

Dick holds a government license as a dealer. He's also taken a dealers' course and table test for a local company.

He's been hired already.

With more than 30 Creighton miners not returning to work after the summer shutdown, the mine held a special thank you session not only for the miners, but for their wives as well. "We know that the support of the ladies behind our guys is what makes it all possible," said industrial mechanic Wayne Sawyer.

In a short ceremony at the mine's lecture hall, people who had worked together for decades said goodbye to each other. It was a mix of good humor and emotion. To the roars of onlookers, the new retirees were presented with the tools of their new trade . . . brooms. Others were speechless, visibly moved by a warm bear hug and backslapping goodbye.

The wives were presented with flowers and the group was taken to lunch at the Tradewinds where they were presented with a gift certificate from the Creighton Mines Association and a small sculptured figure of a miner with shovel on a piece of ore.

"It was the first time we

Rolly Wing won't quit working now that he's retired, but he'll follow his own schedule.

Dick Bontinen won't have a hard time dealing with retirement.

Armed with a broom, the "tool of his new trade," Gord Morris says goodbye to his workmates while his wife, Christena, looks on.

tried something like this and it turned out to be quite a moving experience not only for the people who were leaving but for us who watched them go," said Brian Crowder of Employee Relations who helped organize the event.

Of all of the new retirees, John Koski undoubtedly had the easiest time adapting to his new pensioner status.

And why shouldn't he? His daily routine at Creighton, the underground environment, the work to be done and even many of the faces under the hardhats are the same today as when he retired in June.

In fact, the only difference between Inco John and Pensioner John is who he's working for.

His last day as an Inco Creighton miner was on June 22, but seven weeks later he was back underground at Creighton. This time he was working for the Sudbury Neutrino Observatory project, running a tram shuttle service to the underground scientific facility.

"I was considering retiring for some time, but the company offer kind of made my mind up for me. I knew at the time that there was a job with SNO if I wanted it, but I wasn't sure about taking it at the time."

Only 48 years old, John decided to sign on with the project. "It's much the same as before in a lot of ways," he said, "but I guess working when you choose to does make a difference."

The following is a list of people who participated in the most recent voluntary early retirement program.

Is this Creighton's John Koski before . . . or after retirement?

ABEL, WILLIAM
ACKLAND, GARY
AELICK, CLIFFORD
AHLUWALIA, GURJEET
AMYOTTE, DAVID
ANDRESS, KELLY
ANDREW, ROBERT
ANNIS, GORDON
ARMSTRONG, LORNE
ATANASKOVIC, MIODRAG
BAILEY, GLENDON
BAILEY, RICHARD
BALDELLI, RONALD
BALKAM, DONALD
BANJAR, TIBOR
BARNES, JONAS
BARTON, RUPERT
BASTO, JACK
BAYLEY, MERLE
BAZINET, LAWRENCE
BEAUCHAMP, RICHARD
BEAUDRY, FRED
BEAUDRY, OMER
BEDARD, RON
BELAND, JEAN
BELANGER, ARMAND
BELANGER, JACQUES
BELL, BLANCHARD
BELL, RONALD
BENOIT, ALLAN
BERTRAND, GERALD
BHUSAL, CHABBI
BILIBAJKIC, MOMIR
BISSON, JAMES
BLACK, JAMES
BLAFFERT, DIETER
BLAIS, MICHAEL
BLANCHARD, GERARD
BLANCHETTE, THOMAS
BODSON, MAURICE
BODSON, NORMAND
BOHAN, LAWRENCE
BOISVERT, JULES
BONTINEN, RICHARD
BOUDREAU, CLEMENT
BOUILLON, GERARD
BOURQUE, JOSEPH
BOURRE, PAUL
BOYD, EDWARD
BRABANT, MAURICE
BRADLEY, LUCIEN
BRADLEY, NATHANIEL
BREGMAN, PIETER
BRISEBOIS, ANDRE
BRISSON, MAURICE
BROOKSBANK, RONALD
BROSSEAU, DENIS
BROUILLETTE, GERALD
BROWN, DONALD
BROWNSON, BRIAN
BRUNET, GUY
BRUNETTE, ROBERT
BUCHANAN, GERALD
BUCKNELL, WILLIAM
BUDGELL, WILFRED
BURNS, RICHARD
CACCIOTTI, ENZO
CAMPBELL, DONALD
CAMPBELL, EGBERT
CAMPBELL, LYMAN
CAMPEAU, GEORGE
CAPLETTE, LEONARD
CARLYLE, WILLIAM
CARNIELLO, GINO
CARRIERE, DANIEL
CARRIERE, RAYMOND
CARROLL, LUKE
CAVERLY, LAWRENCE
CAYEN, MARCEL
CHAMPAGNE, JOSEPH
CHARBONNEAU, GILLES
CHARBONNEAU, PHILIPPE
CHARTIER, DONALD
CHARTRAND, ARMAND
CHARTRAND, IRENE
CHENIER, GERARD
CHEVRIER, CLAUDE
CHEVRIER, GASTON
CHOMIAK, MELVIN
CHONG, TOH
CHRISTIANSON, JAMES
CIPOLLONE, BRUNO
CIRILLO, GIOVANNI
CLARK, J
CLEAVER, GORDON
COLLIN, VICTOR
COLOSIMO, ANGELO
COMBA, STUART
CONNAUGHTON, TERRENCE
CONNELL, SIDNEY
COOPER, ADOLPH
CORBIERE, ARCHIBALD
CORNTHWAITE, DONALD
COTE, PIERRE
COULTER, LENNA
COYLE, ALEXANDER
CRACK, WILLIAM
CRAWFORD, EDWARD
CRESSWELL, KENNETH
CROWDER, CHRIS
CROWLEY, THOMAS
DAGENAIS, DONALD
DAVIDSON, JOHN
DAVIES, EDWARD
DAVIES, J.
DE FOUGIERES, PHILIPP
DEAGRELLA, DESMOND
DECOSSE, NORMAN
DEL RICCIO, BENEDETTC
DEMEESTER, HENDRICK
DEMERS, ANDY
DENAULT, JAMES
DERMODY, PATRICK
DERY, JEAN-YVES
DESBARBIEUX, THOMAS
DESBOIS, JEAN
DESCOTEAUX, JOSEPH
DESJARDINS, CARL
DESJARDINS, JACQUES
DESPOT, STEVE
DESROCHERS, JEAN
DEVER, NORMAN
DEVOST, JEAN
DEWAR, DARRELL
DHINEL, RONALD
DINIRO, LAURA
DION, DENIS
DORE, ALFRED
DOWDALL, DENNIS
DOYON, BRUNO
DUBEAU, LAWRENCE
DUBOIS, PLACIDE
DUGUAY, JOHN
DUPONT, KEITH
DURAS, GEORGE
DUTTON, ADAM
DYKENS, RAYMOND
ELLIOTT, WILLIAM
ELLIS, DENNIS
ETTINGER, GORDON
FANNON, LAUREY
FAUBERT, GERARD
FAVRET, VITTORIO
FEELEY, NEIL
FENTON, ERIC
FEOLA, ALDO
FERGUSON, DAVID
FERGUSON, DONALD
FERLOTTE, JOSEPH
FERRUCCI, NICK
FEX, ALEX
FILLATOR, MARY
FILSHIE, JOHN
FIOROTTO, DANTE
FLOOD, GERALD
FOEHR, WOLFGANG
FOLZ, REGINALD
FORTH, ROBERT
FRASER, JOHN
FRIEND, BRUCE
GAGNON, GILLES
GAGNON, WAYNE
GAMBLE, GERRY
GAMBLE, JOHN
GAUTHIER, ARTHUR
GAUTHIER, LOUIS
GAUTHIER, RENÈ
GEDDES, RONALD
GENDRON, RONALD
GIBLIN, BRIAN
GIBSON, IVAN
GILLIARD, GASTON
GOUDREAU, RONALD
GRAFFI, SERAFINO
GRATTON, ELAINE
GRAY, RONALD
GREEN, HARVEY
GREENSLADE, DONALD
GREER, JAMES
GRICHEN, THEODORE
GUENETTE, MARILYN
GUITARD, DONAT
GUSE, JAMES
HALL, JOHN
HAMELIN, GERARD
HAMILL, JACK
HANCOCK, DOUGLAS
HANSON, JOSEPH
HARPER, MARILYN
HAWKES, WILLIAM
HEIKKILA, JORMA
HENDERSON, EVERETT
HOGUE, LEONARD
HOLGATE, TIMOTHY
HOPKINS, ROBERT
HORTON, STUART
HORVATH, IMRE
HOULE, ROGER
HOWARD, ALLAN
HUBERT, ALEX
HUGHES, ROBERT
HUPPE, JEAN-CLAUD
HUYCKE, J
HYNES, JACK
HYWARREN, ERNIE
INGRAM, JACK
INGRISELLI, NICHOLAS
JAMIESON, JOHN
JENKINS, EVERICK
JENSEN, ARNOLD

New pensioner Matti Makitalo gets a farewell bear hug from Wayne Sawyer.

JOHNSON, KENNETH
JOHNSON, REGINALD
JOHNSTON, EARLEN
JOKINEN, RAUNO
JONES, EARL
JONES, RICHARD
JORGENSEN, KENNETH
KAY, RUSSELL
KEEGAN, DONALD
KELLY, JOHN
KENDZIORA, ALEXANDER
KENNEDY, GEORGE
KERO, TAISTO
KERR, ROBERT
KIVIAHO, WILLIAM
KOLTUN, GORDON
KOSKI, JOHN
KOSMERLY, JACK
KOTSOPOULOS, DIMITRI
KOVACS, STEVE
KUHN, THOMAS
KULIK, JOHN
KURTH, WILFRIED
KVASSAY, STEPHEN
LABBE, LOUIS
LABELLE, DORIAN
LACROIX, MAURICE
LAFLEUR, ALLAN
LAFRENIERE, PAULETTE
LAGACE, STAN
LAGANA, GINO
LAM, SUEY
LAMOTHE, LAURENT
LANDRY, RICHARD
LANGDON, ROBERT
LAPALME, GERARD
LAROCQUE, LAWRENCE
LAROCQUE, ROGER
LAROUCHE, ROLAND
LARUE, CLIFFORD
LAURIN, MAURICE
LAURIN, ONEZIME
LAVALLEE, CLAUDE
LAVALLEY, LIONEL
LAVOIE, RICHARD
LAWRIE, WILLIAM
LEBRUN, GUY
LEDUC, GERARD
LEFEBVRE, DONALD
LEFEBVRE, REMI
LEMELIN, PIERRE
LEMIEUX, CLEO
LEPAGE, DENIS
LEROUX, JOHN
LEVAC, ROGER
LEVERT, DENIS
LEWANDOSKI, JAMES
LEWIS, CARL
LIZZI, BRUNO
LOYER, ANDRE
LUCIW, BILL
LUOMA, EDWARD
LUTTRELL, LORNE
LUTTRELL, WENDELL
MACLEAN, GARY
MACNEIL, MALCOLM
MAENG, HWAN
MAGGS, STANLEY
MAISONNEUVE, ROLAND
MAJOR, VIATEUR
MAKELA, RONALD
MAKITALO, MATTI
MALLETTE, ROGER
MANFRED, FREDERICK
MARCHIONI, GIUSEPPE
MARCOTTE, LAWRENCE
MARCOUX, VIC
MAROIS, LUCIEN
MARROCCO, GIUSEPPE
MARSH, DONALD
MARSOLAIS, ERNEST
MARTIN, BRIAN
MARTIN, ROGER
MASON, CECIL
MATCHIM, EDWARDS
MATHESON, GORDON
MATTHEWS, SAMUEL
MCALLISTER, CALVIN
MCAULIFFE, TOM
MCDONALD, EDMUND
MCDOUGALL, HARRY
MCFADDEN, JAMES
MCGREGOR, EUGENE
MCGUIRE, MICHAEL
MCINTYRE, LEO
MCJANNET, ROBERT
MCKAY, BERNARD
MCKENZIE, EMILLS
MCKENZIE, EXFORD
MCKINNON, HARRY
MCNAMARA, JOHN
MCNEIL, JOHN
MCPHAIL, TOM
MCQUILLAN, TERRANCE
MEI, GARY
MEI, ROBERT
MERKLEY, GARRY
MIDDLETON, KENNETH
MIGWANS, ALEX
MILLER, THOMAS
MILOSEVICH, BOZIDAR
MIRAULT, KENNETH
MOLAND, HALVOR
MOORE, MAURICE
MORBIN, GEORGE
MORIN, CLAUDE
MORIN, ROMEO
MORNING, GERALD
MORRIS, ARNOLD
MORRIS, GORDON
MOULTON, GEORGE
MOULTON, KEITH
MOXAM, CARL
MOXAM, ROBERT
MUIRHEAD, DALE
MULLER, HUBERT
MULLIGAN, JAMES
MUNARI, LUIGI
MUNRO, LEO
MURDOCK, JOHN
MURPHY, HOWARD
NADEAU, JIM
NARDI, RAFFAELE
NEGUS, DONALD
NEWELL, BRUCE
NEWMAN, WILLIAM
NOBLE, JAMES
NOBLE, JOHN
NOFTALL, WILLIAM
NORRIS, WILLIAM
NORTON, ROBERT
NYLUND, OLAF
O LEARY, BERNARD
O NEILL, MICHAEL
OATTES, JOHN
ONGARO, MARCELLO
ORAM, LEROY
ORASI, RON
PAGUIBITAN, NARCISO
PAKKALA, THEODORE
PALMER, LORNE
PANDOLFO, GUIDO
PAQUETTE, DELMER
PATTERSON, GEORGE
PATTERSON, ROBERT
PAUL, HERMAN
PEDERSEN, KJELD
PELLERIN, JACK
PELLERIN, ROLAND
PELLETIER, ZOEL
PERRAULT, ALBERT
PHARAND, BRUNO
PIATA, JOHN
PICHE, GERARD
PILON, LARRY
PILON, LUCIEN
PILON, YVON
POFF, FAY
POFFLEY, RALPH
POGUE, DON
POIRIER, ROGER
POOLE, FLOYD
POTTER, J
POTVIN, OSCAR
POTVIN, RHEAL
POULIN, ROLAND
POULIN, RONALD
POWER, CHARLES
PRENTICE, DAVID
PROKULEVICH, JOHN
QUANCE, ERNEST
QUENNEVILLE, GILBERT
QUESNEL, YVES
RAISANEN, JOOPE
RANGER, ROBERT
READY, FRANCIS
REASBECK, JOHN
RECKZIN, REUBIN
REGIMBAL, GERALD
REISCHER, JOHN
REMILLARD, EDMOND
REMILLARD, GILBERT
REMINGTON, ROBERT
RENAUD, LEO
RENAUD, PAUL
RESETAR, FRANK
RIBARIC, JOSIP
RICCIUTO, DORYNE
RICHARD, GILLES
RICKARD, JOAN
RIVET, JACK
ROBB, ROBERT
ROBERTS, RAYMOND
ROBILLARD, CONRAD
ROCCA, DOMENICO
ROCCA, GIOVANNI
RODNEY, CECILIA
ROGERSON, KEITH
ROHN, CLYDE
RORISON, WILLIAM
ROSKO, MICHAEL
ROY, ALEXANDRE
ROY, GILBERT
ROY, MICHEL
ROY, ROGER
RUTLEDGE, WAYNE
RUTZ, GARNET
SAARI, TAUNO
SABOURIN, JACQUES
SACCHETTO, CIRRILLO
SALLOWS, ROBERT
SALO, RAYMOND
SANFELICE, DOMENICO
SANTI, EDWINO
SAVARD, GILLES
SCHUETTE, JUERGEN
SCOTT, BARRINGTON
SCOTT, WILLIAM
SCOTT, WILLIAM
SEERY, ALLEN
SEGUIN, BERNARD
SEGUIN, LORNA
SEKERAK, MELAN
SERAFINI, BENITO
SHARPE, JAMES
SHAW, ROBERT
SHAWBONQUIT, ELMER
SHEA, BRIAN
SHEPPARD, EDMUND
SIGNORETTI, EZIO
SIMARD, RODRIGUE
SIVRAIS, WILLY
SKELTON, GRAHAM
SMITH, BRIAN
SMITH, DONALD
SOKOLOSKIE, ALVIN
SPARHAM, WAYNE
SPENCER, G
SPENCER, GILBERT
SPENCER, VINCENT
SQUIRELL, GRAHAM
SROGA, STANLEY
ST AMOUR, MARCEL
ST AMOUR, RENAUD
ST JEAN, ALBERT
ST JEAN, RHEAL
ST LAURENT, CAROLYN
STADDON, GEORGE
STARR, CARMEN
STELMACK, JUNE
STESCO, RICHARD
STEWART, ALLAN
STIPIC, JOSEPH
STRONG, GEORGE
STURGEON, GERALD
SUOMU, RONALD
SWAIN, JOHN
TAIT, WENDELL
TANG, VICTOR
TAYLOR, GERALD
TAYLOR, WALLACE
TEDDY, DOUGLAS
TEGEL, JOHN
TESSIER, ANDRE
TETREAULT, CONRAD
THELLAND, DALE
THERIAULT, GEORGES
THOMAS, LLOYD
THOMPSON, JOHN
THORPE, JOHN
TODD, GEORGE
TOMASINI, JAMES
TOTH, JOSEPH
TOTOLO, ALBERTO
TOULOUSE, DARCY
TRELING, JOHN
TREMBLEY, HAZEL
TROTTIER, CLEO
TROTTIER, DENNIS
TROTTIER, GERMAIN
TROTTIER, MAURICE
TRUDEAU, MARCEL
TUOMI, GARY
UDOVIC, JOSEF
URSO, LEOPOLD
VAILLANCOURT, CLAUDE
VALLEE, RAYMOND
VANAYAN, SOUREN
VANDERPLUYM, JOHANNES
VANTTINEN, MARTTI
VARIEUR, JEAN-GUY
VAUDRY, BARRY
VENDETTE, ROGER
VIAU, FERN
VIAU, MICHEL
VIGNUZZI, ALBERTO
VINCENT, ARMAND
VINCENT, JEAN
VIOLINO, BONITA
VOWELS, CLARENCE
WAKEGIJIG, RAYMOND
WATSON, ORVILLE
WATSON, RONALD
WATTS, KENNETH
WELLER, RONALD
WELLINGTON, ROBERT
WELLS, ROGER
WHITE, JAMES
WHITE, TERRY
WH ITE, THOMAS
WICKHAM, DILON
WILLIAMS, CLIFFORD
W I LSON, DOUG LAS
WING, ROLLIE
WINTER, TOM
WONG, GEORGE
WRIGHT, FREDERICK
WRIGHT, FREDRICK
WRIGHT, GARNET
W R I GHT, THOMAS
WYMAN, JACK
YAW, ALEXANDER
YEN, LESLIE
ZINGER, JAMES
ZULIANI, ELIO

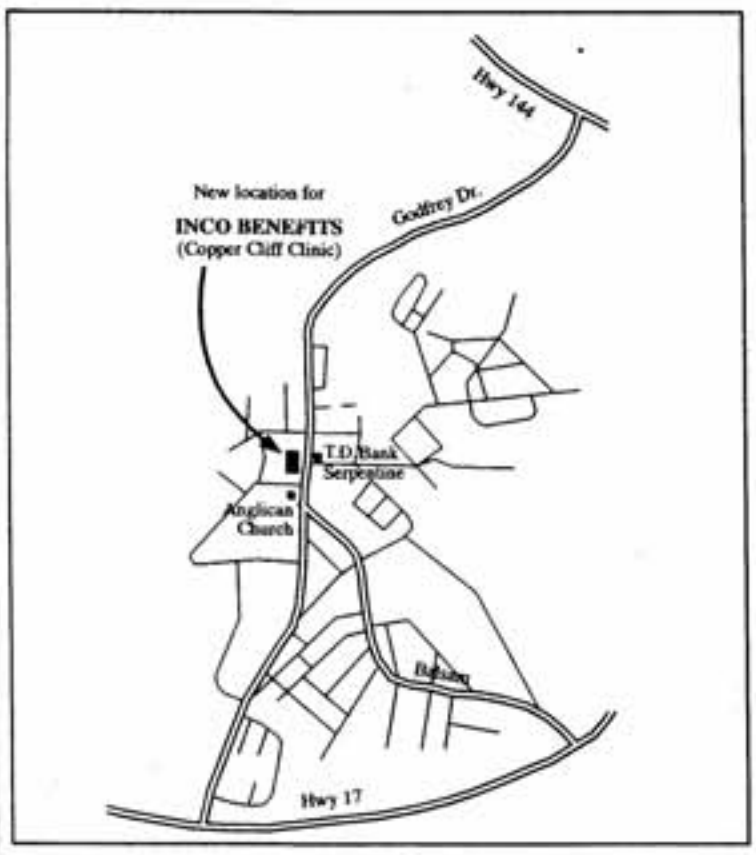
In Memoriam

NAME	BORN	DIED	YEARS SERVICE
Charbenneau, Hormidas	7/27/08	8/21/94	31
Firlej, Marjan	2/18/26	8/27/94	32
Kinsella, Nicholas	3/28/17	8/25/94	32
Maltby, Stephen	6/16/30	8/22/94	36
Natale, Almerino	11/25/20	8/22/94	31
Paquette, William	7/8/20	8/29/94	29
Plach, Jozef	10/13/22	8/25/94	32
Shwart, Walter	9/5/28	8/29/94	33
Skinner, Nelson	7/2/06	8/23/94	31
Whitman, Irvin	11/15/15	8/29/94	26
McIntyre, Simon	1/25/32	8/20/94	34
Russell, Ernest	7/28/18	8/28/94	34
Gelineau, Maurice	4/1/34	8/30/94	34

Central Mills retirement

Almost 30 new members will be inducted at the 11th annual Central Mills Retirement Party to be held on October 29 at the Sports North Villa.

For information, call Angie Gagnon at 682-5730 or Susan Benoit, 682-8805



New location for Benefits

Inco's family of pensioners and current employees will soon have a better, easier to find home for all their benefits' needs.

As of October 1, the seven member Benefits Department will be taking up new headquarters in the Copper Cliff Clinic in the heart of downtown Copper Cliff.

"It's centrally located in the community and pensioners and employees will not have to go through the inconvenience of entering the plant in order to visit the Benefits Department which has been housed in the General Office," said supervisor Terry Duncan. "The new home will allow us to provide a more effective and efficient delivery of service to all of our customers."

The new main floor headquarters provides a more direct and convenient access and is only steps away from public transportation.

The Benefits area will be prominently marked with new signs.

Telephone numbers will remain the same after the move. Anyone requiring more information can call (705) 682-6625.

"By careful planning, teamwork and foresight, we hope to minimize any confusion or problems for our clients resulting from the move," said Terry.

To further eliminate any confusion a letter including a map showing the clinic's location will be sent to all pensioners informing them of the move.

Levack Complex battles to top of ball league

The Levack Complex ball team clinched the mines' ball league title for the second consecutive year. The winners are, from left (front) maintenance foreman Denis Deschamps, mine foreman Mike Mascioli, Denis Deschamp's wife Lesley, secretary Lise Philipow, goeloigist Roger Jackson, consultant Joe Palladini (rear) mechanic Greg Chepelsky, planner Denis Thibodeau, safety foreman Dan MacIntyre, P.M. coordinator Janie Therrien, planners Trevor Courchesne and Duncan Middlemiss. Absent when the picture was taken were surveyor Carol Deslauriers, project engineer Rick Godin, ventilation assistant Brian Keen, chief mine engineer Bruce Goard, division supervisor Brian Buss, planner Leo Traynor, TQI coordinator Tom Corkal and chief mine geologist Greg Greenough.

The Levack Complex's finest (ball players, that is) came from the cellar to take top spot for the second year in a row in an expanding in-house softball league.

The team languished at or close to bottom end of the five-team league standings for most of the May to August season, then slugged their way to the top of the league in the playoffs.

"This league's mostly about coming out and having a good time," said complex secretary Lise Philipow. "We compete but it's not all that serious. The most important thing is enjoying ourselves."

A member in good standing of the winning team the Timberdogs, Lise said the league is a growing concern. "And we expect even more teams to be formed as the word gets out."

Teams from Levack, Creighton, Stobie, Frood/Little Stobie and South Mine face each other on the ball field. While the teams so far represent only mines, league membership is open to surface plants and offices.

"The more people we get out, the more fun we have," said Lise.

Games are played once a week at the South Mine ball field and team membership is kept flexible. "Husbands and wives are invited to take part," said Lise. "Those interested in playing ball or forming a team next year should start thinking about it now so that by the time the season comes around, they'll be ready. We'd like to get every plant, mine and office involved."

Weatherman's blues

40 Years Ago

He was right 88 per cent of the time, got 80 telephone calls a day and once, when the temperature sank to 47 degrees below zero, logged 700 telephone calls before he stopped counting.

Not the Prime Minister of Canada, or even a stockbroker with a genius I.Q. and a magic crystal ball, but that most intrepid of all unimpeachable stalwarts of scientific wisdom – the weatherman.

Burdened with the blight of a poor press agent, even he got his due in the Triangle... and the coverage was quite enlightening.

Not done with smoke or mirrors or guess work of any kind, apparently, weather forecasting was a pretty complicated affair, with emphasis given to temperature, wind direction and velocity, dewpoint, altimeter readings and the type of clouds over Sudbury at a given time.

All this information was teletyped to the district forecaster at Malton Airport every hour – and more frequently if conditions were unusual – and every six hours the district forecaster would send back a general weather forecast.

As scientific as it all was the weather had a fickle temperament though, said the Triangle, so that even "with sound scientific information, patience, accuracy and faithful attention to duty" the weatherman sometimes made a mistake.

Nevertheless, records proved, it was only once out of eight times . . . regardless of what your old, cantankerous uncle Silas says.

Other stories that month: "Dr. Thompson Tells of Nickel's Role in the Field of Electrons" "Random Shots of Inco Homes" "Inco Scholarship Awards Announced"

24 Years Ago

At 8:40 a.m. on August 20, 1970, a freak storm with hurricane winds of up to 100 miles an hour struck sections of Lively and Sudbury with savage intensity. In about five minutes it caused three deaths and $5 million in damage.

About 300 people were injured in the storm, some seriously, and 310 homes were damaged, 40 boxcars overturned, 3,000 telephones knocked out of service and the worst breakdown in Northern Ontario Hydro history occurred.

But after the storm was over, people pitched in to help . . . and there was a long list of them.

In an article in the Triangle, it took mayor Len Turner four paragraphs just to mention the organizations they came from.

Other stories that month:

"Nickel Belt Bowmen Find Archery a True Challenge"

"Innovation on Plating Tanks Boosts Port Colborne Potential"

"Installing 2,000 Ton Liner Next Major Stage in Stack"

14 Years Ago

Termed a tremendous success by meet organizers, the credit was given to the right blend of corporate and government sponsorship, dedicated volunteers and an excellent response from Sudburians.

Thousands of local sports fans attended the three-day event and were rewarded with top calibre performances from the rising stars of 20 nations in the first Junior Pan American Track and Field Championship held at the Laurentian University sports complex in Sudbury the previous month.

Canada captured seven gold medals, 14 silver and 19 bronze to take second place behind the United States, with 22 gold, 18 silver and 19 bronze.

An interesting performer who excited the crowd was Carl Lewis, who would go on to bigger and better things in two Olympic Games. He dominated the 100 and 200 metre races and contributed substantially to the United States winning the 400 metre relay.

One of Canada's outstanding performers was Angela Bailey "who rocketed across the finish line" in the women's 100 and 200 metre events for double gold.

Other stories that month: "A Week To Remember" (National Little League Championship) "Terry Fox – Courage Personified" "Inco Exchange Program – A Learning Experience"

INCOME *ideas* by Susan LeMay, CMA

More mutual funds

Investors owe it to themselves to know their wants and how to satisfy them. Last time I suggested beginning with investment goals and then I broadly divided Mutual Funds into classifications based on the types of investments held in the funds. Choosing the category only narrows the field a little. You can narrow the range of choices by considering how the fund has performed in the past, who the fund managers are or how the costs of running the fund are allocated to the investors.

Performance

One of the first questions that investors ask is "How has the fund performed?" Performance statistics for Mutual Funds are published in newspapers every quarter. You can learn how the fund has performed over the past month, 3 months, or the last one, two three or 10 years. The report will tell you by what percentage the unit prices have increased or decreased over each period. Yes, I did say decrease. Funds go up and down just like the shares in which they are invested. What exactly increases or decreases in value? When you purchase Mutual Funds, you buy units in the fund. The Mutual Fund manager then takes your money and invests it in shares for the fund. When you invest, the company calculates the value of all the shares it holds at that time and then divides this by the number of units that have already been purchased by other investors. This tells them the number of units your investment is purchasing. The value of the units changes from day to day as the values of the investments the fund holds change. But the number of units you hold is changed only when you make an additional investment or when you choose to reinvest your dividends in more units of the fund.

Fund managers

In any industry, there are people who do their jobs extraordinarily well. The Mutual Fund industry is no exception. Some investors believe it is beneficial to know who is managing a fund and how it has done under that manager. A change in fund manager may indicate a change in the investment philosophy, so this is another factor to consider when making your decision.

Paying for your purchase

The companies selling Mutual Funds are doing just that, they are selling them. This means that they expect a fee for their services. This fee can be calculated and collected in a number of ways.

Some funds have what is called a front-end load. This means that some of your original investment dollars are not used to buy units in the fund. Instead they are paid to the fund for managing your money. The charge is usually calculated as a percentage of the amount you invest.

Some funds have what is called a back-end load. This means that when you sell your units in a fund, the management takes a percentage of the value of your units as its fee for having managed your money for the period.

A third way mutual fund companies make their money is by charging an annual administration fee. This fee is a small percentage of the income that the fund earns from interest, dividends or capital gains over the course of a year. The company takes its share before any payments are made to unit holders.

Each method of charging has its advantages and disadvantages for you the investor, and the way you pay for management of your money should not be the deciding issue unless you are choosing between two funds which are equally suitable in every other respect.

Buying Mutual Funds requires research, setting investment goals, and making decisions. Deciding when to sell them requires much the same effort. You should have purchased them as part of a long-term strategy, so selling them should be determined by whether or not you have met your investment goals or by significant changes in the investment environment, not by the daily ups and downs of the market. The markets are affected by both economic and political events and we have to be aware of the effects of these forces on our investments and know enough to react quickly to significant changes. There is no magic formula. We cannot just invest our hard earned money and hope for the best. Interest and knowledge will make the difference.

Manager Public Affairs Jerry Rogers

Publications Editor John Gast

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.

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