



Inco grounds supervisor is deep into evergreens. See Page 8 & 9 for pictures, story.

INCO Triangle

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Legislated Catch-22 sets miners up for failure

Original Sin, some say, was invented by vested interests to ensure the need for a forgiving god.

Proposed Ontario mining effluent legislation may be creating the need for a forgiving government.

"It's something of a paradox," said Inco's Environmental Control superintendent Brian Bell. "If we follow all the Ontario government's effluent treatment directives to the letter, we still can't meet their standard for the resulting water quality."

The clean water regulation requires the mining industry to utilize the Best Available Technology (BAT), a stipulation that Ontario's miners are very close to applying already. The resulting technology-treated effluent, however, won't meet a unique provincial effluent toxicity standard that's used nowhere else in the world.

"The legislation directs that the water has to be clean enough that rainbow trout and water fleas can live in the effluent pipe.

"To date," said Brian, "the technology economically available to do that is unknown." He said a joint government-industry technical committee could not find an economically achievable technology anywhere in the world that could make effluent non-toxic to the new Ontario standards.

"Inco is continuing to do research on its own and in conjunction with others in the mining industry to solve this problem and we are continuing to talk with the province to resolve this paradox," said Brian.

The proposed regulation establishes limits for pollutants discharged by metal mines and refineries. It is designed to reduce significantly the amount of toxic and conventional pollutants entering Ontario's waterways from the mining industry.

Developed under the Municipal/Industrial Strategy for Abatement (MISA) program, the goal is to virtually eliminate the persistent toxic substances from wastewater discharged into Ontario's waterways.

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Communicating with the public is the key to Inco's emergency preparedness program and volunteers such as South Mine superintendent Ivon Chaumont visited neighboring schools to bring the message to school children during Emergency Awareness Week October 4 to 11. Ivon spoke to students at St. James Separate School in Lively. The special week also included a New Sudbury Centre mall display. Information packages were also mailed to Inco's neighbors.

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Gerry Courtemanche holds the Canada Recreational Fisheries Award.

Inco lineman wins environmental award

For decades of contributions to environmental initiatives, hunter education, natural resources, wildlife management and other areas of nature preservation, Power Department lineman Gerry Courtemanche holds the prestigious Canada Recreational Fisheries Award by the Ministry of Fisheries and Oceans.

The award is given to those "who did their best to ensure healthy recreational fisheries for Canada," said a ministry release. It cites Gerry for "extraordinary work for more than 20 years in and around his home town of Hanmer.

"Your determined efforts to advance recreational fisheries have also been an important contribution to the sustained development of Canada's natural resource heritage," the then Fisheries minister John Crosbie said. "This award recognizes your outstanding personal contribution to recreational fisheries in Ontario as well as the superb example you have set for others."

Gerry's biography reads like a one-man ecological task force, from presidency of the Junior Trailsmen Conservation Club in 1973 to appearing before government on gun control legislation.

His memberships include the Canada Nature Federation, Canadian Wildlife Federation, Ontario Conservation Officers and Forestry Associations, the Trailsmen Rod and Gun Club as well as a two-decade affiliation with the Ontario Federation of Anglers and Hunters.

"The OFAH (Ontario Fed-

eration of Anglers and Hunters) is built on people like Gerry," said association executive vice-president Rick Morgan. "I have seen him in action and can honestly say that the award comes as no surprise to me."

Gerry's long list of conservation efforts includes developing a five-year reforestation program in Blezard Township, numerous fish stocking and bird nesting programs, hunter education courses, environmental clean-up programs as well as educational programs that include speaking to youngsters in schools and scouting about environmental issues. He is also involved in formulating an advanced moose hunter program for the province.

"It's sort of overwhelming, when you consider the people attending the conference were research scientists, fisheries management and people who are interested in conservation from across the country," Gerry said after receiving the award.

"It was quite interesting to know you were being recognized by these people for the work you have done," he adds. But most of all "I have to give full credit to the members of our club."

Gerry attributes his involvement in conservation to fellow Inco worker, Frood welder Oliver Barrieault. "When I was first involved with the Junior Trailsmen, Oliver was president and one of the founding members of the Trailsmen Rod and Gun Club," Gerry said. He gives Oliver full credit for being the person who influenced him the most and does so to this day.

Environmental technology as good or better than any worldwide

continued from page 1

According to Brian, who is chairman of both the Ontario Mining Association environment committee and the mining industry representation on MISA, the project began six years ago with an industry-wide \$15 million year-long effluent monitoring program.

Inco alone spent more than \$1 million on the monitoring.

The data collected was used by a MISA Technical Committee of government and industry to conduct a worldwide

search for technology used to treat mining effluents with the intention of applying the best technologies in the province.

"As it turned out," said Brian, "the committee discovered that the technology already in place in Ontario was as good as or better than anywhere in the world. Therefore, we won't have to make a major technological investment to treat our water. He said Inco will have to make minor changes in effluent treatment systems.

Brian said, however, that

the legislation drives the technology to the limits of what's possible.

He said there will be more costly monitoring of effluents required by the industry as well as more reporting to government, but the industry isn't as concerned about that as much as the Catch-22 involved in the proposed legislation.

"It just doesn't make a lot of sense," said Brian.

Released on Sept. 13, the draft legislation is going through a 60-day comment period.

Inco Reserved Scholarship Competition for Children of Canadian Employees and Pensioners 1994 Awards

Up to twenty 4-year university admission scholarships will be awarded in the 1994 competition. The awards are valued at \$10,000 each (\$2,500 annually). Up to five \$1,000 finalist scholarships may also be awarded.

ELIGIBILITY

Children of full-time Canadian employees, pensioners, expatriates from Canadian locations and of deceased employees are eligible to enter the competition. Candidates must have a strong academic record and be enrolled in a secondary school program of studies required for university admission. Award winners are expected to enter university in 1994.

SELECTION

An independent committee of high school principals will select award winners on the basis of the complete academic record, SAT scores and information supplied by the applicant and the high school. Award winners will be announced in mid-August, 1994.

APPLICATION

Application forms will be available from September 1, 1993 at local schools, your place of work, and at:

Office of the Administrator
Inco Limited Scholarship Program
Box 44, Royal Trust Tower
Toronto-Dominion Centre
Toronto, Ontario M5K 1N4
(416) 361-7844

THE APPLICATION DEADLINE IS APRIL 8, 1994

SAT TEST DEADLINE

APPLICANTS MUST REGISTER FOR AND WRITE THE SCHOLASTIC APTITUDE TEST ADMINISTERED BY UNIVERSITIES AND SCHOOLS ACROSS CANADA. PLEASE NOTE REGISTRATION DEADLINES AND TEST DATES. TEST DATES IN OTHER COUNTRIES MAY VARY.

REGISTRATION DEADLINES

September 27, 1993
October 25, 1993
December 13, 1993

TEST DATES

November 6, 1993
December 4, 1993
January 22, 1994

SAT Test material is available at the applicant's school

TA-0043

Company's school support a factor in Chamber award

Inco's participation in last spring's Stay In School Awareness Week was instrumental in an award bestowed on the Sudbury and District Chamber of Commerce

The Sudbury and District Chamber of Commerce has received the President's Award from the Ontario District Chamber of Commerce for its involvement in the Stay in School Awareness Week.

"I thought you would be pleased to know that the article written in the Inco Triangle was part of the information enclosed in the submission application," said Stay in School promotion officer Sue Dupuis. "This article referred to Inco's outstanding participation in the Job Shadowing program held during the first week of March 1993. I am certain Inco's participation in the

program was instrumental in supporting our application and receiving the award, since it represents a community partnership at its best.

"Please extend our sincere thanks to your staff on behalf of the Sudbury Regional Youth Trust Committee and members of the Sudbury and District Chamber of Commerce for their support of this very rewarding project."

Young company gets Inco boost

Inco's environmental contributions sometimes go unsung . . . or at least . . . hardly noticed.

Buried near the end of a Toronto Star (Aug. 10, 1993, Pg. B1) story headlined "Company bugs mine waste dumps" is Inco's support for a young company that is pioneering new environmental technologies.

Under the Star's banner

"Success Stories: An occasional series about dynamic companies," the story features Margaret Kalin, president of Boojum Research Ltd., and her unique, environmentally-friendly approach to reducing high acid levels in mine waste by turning tailings ponds into marshes. (A more detailed account of the ongoing project and Inco's part in it were outlined in a feature

in the Oct. 1992 Triangle, Pages 8&9.)

"Revenues are currently non-existent for the new company," states the story near the end of a Page 2 continuation, "and Boojum Research survives on about \$750,000 provided by Energy, Mines and Resources Canada and a handful of resource companies including Inco Ltd., CAMECO Corp. and Talisman

Energy Inc."

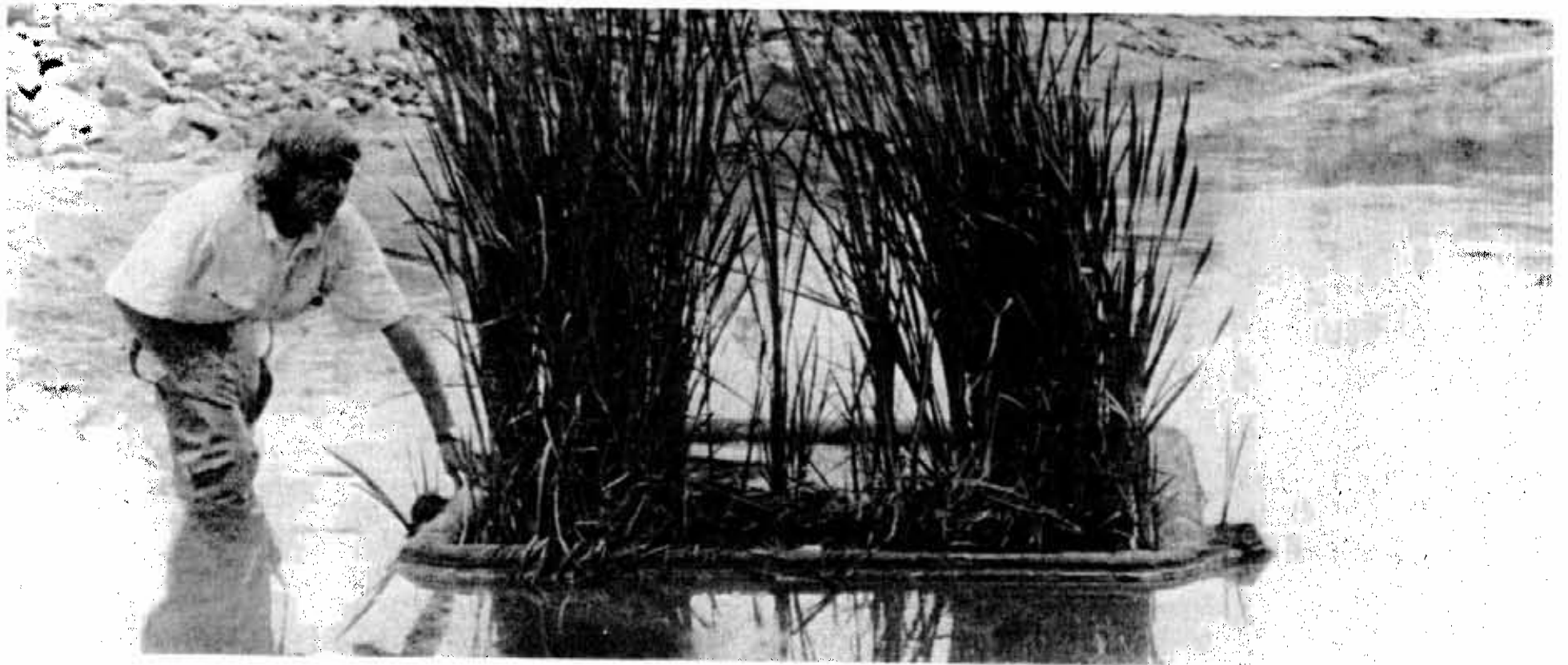
In a process called ecological engineering, the company is researching ways to use nature itself rather than chemicals to neutralize acids.

The article quotes an estimate by Mining Association of Canada president George Miller of \$6 billion for the cost of mine close-outs and restoring abandoned sites.

According to Miller, the

cost will be especially felt in Ontario where the law holds mining companies responsible for proper and safe mine closure.

Kalin has already established a growing list of satisfied clients and Boojum is poised to cash in on "an industry searching for a low-cost, natural alternative to expensive chemical treatment."



A Boojum researcher prepares a "float" of bullrushes during research carried out at Inco.

Inco supports Carleton research

Inco Centre at Carleton University in Ottawa will provide additional space for a three-storey Centre for Research in Particle Physics, the Department of Physics and the School of Computer Science as well as make it possible for the Department of Mathematics and Statistics to move from the Dunton Tower into the ex-

panded Hertzberg Building.

An Inco donation of \$750,000, along with funding from the province and the university's own fundraising campaign, made the project possible.

Inco vice-chairman Walter Curlook was among those taking part in the ceremonial sod-turning recently.



Workmen prepare No.1 flash furnace before its start-up this summer.

Mills retirement party

The Central Mills Association will hold its 10th annual Retirement Party on Oct. 30 at the Sports North Villa.

The association is honoring 26 new pensioners this year. Cocktails are from 5:30 until 7

p.m., followed by a buffet dinner.

For more information or tickets, please call Angie Gagnon at Clarabelle Mill at 682-5730 or Susan Benoit at Copper Cliff Mill at 682-8805 or see an association representative.

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If you can read the headline to this article, the pay office needs your help!

The pay office has a letter concerning an Inco pensioner in its in-basket. The correspondence is in a foreign lan-

guage, possibly Lithuanian, and attempts to translate the letter into English have been unsuccessful so far.

The headline to this story is a sentence from the letter. If you understand or recognize the language it would be much appreciated if you contact Rita at the pay office at 682-5875.

Ambitious abatement project recorded on film

When you spend \$600 million to clean up the environment, it's a good idea to make a note of it.

To commemorate the commissioning of Oxygen Flash Furnace #1 and the completion of the Sulphur Dioxide Abatement Program, AV House Multimedia Productions of Toronto is producing a new video on the program.

To be broadcast on national television, the film will not only bring the massive environmental effort to the public, but seeks to recognize the army of people who were involved in the project over the past few years. "We want to give those involved a chance to tell their own story," said Alan Fox of AV House, who also produced the Inco's *Taming the Demon Ore*, a very suc-

cessful film about the history of mining in the Sudbury area (see Sept. 1991 Triangle). There is a terrific opportunity here to tell the public about this project and generate favorable publicity about Inco's environmental commitment."

Filming for the production inside the flash furnace was completed during the shutdown.

MAKING *Change*

North Mine energy project has 18-month payback

The mathematics show promise: a \$250,000 North Mine improvement that'll pay for itself in 18 months and immediately start saving cash every year from there on in.

"It began back in late 1991 when the large Howden compressor went down with mechanical problems," said Copper Cliff Mines maintenance

superintendent Tom Bayford. "We weren't sure what direction we should take at the time, to fix it or to replace it, so we did an audit of all our present and future compressed air needs."

With an eye to energy costs as well as productivity, maintenance and manpower, North Mine decided to go with two new, high efficiency

units.

"The large compressor was very expensive to run, both in normal operation as well as maintenance. Although it ran at about 50 per cent of capacity to supply our needs, it was consuming 80 per cent of the electricity it would use at full capacity. At the same time, there was no way to reduce output on short notice, and

surplus supplies of air were "blown off." New units could be easily fine-tuned, with production limited to what was needed. "And there was very high maintenance costs in keeping it running," said Tom. "The Howden unit was at least 20 years old."

Tabulating in about \$110,000 in Ontario Hydro incentives reduced Inco's capi-

tal costs for two new compressors to approximately \$140,000.

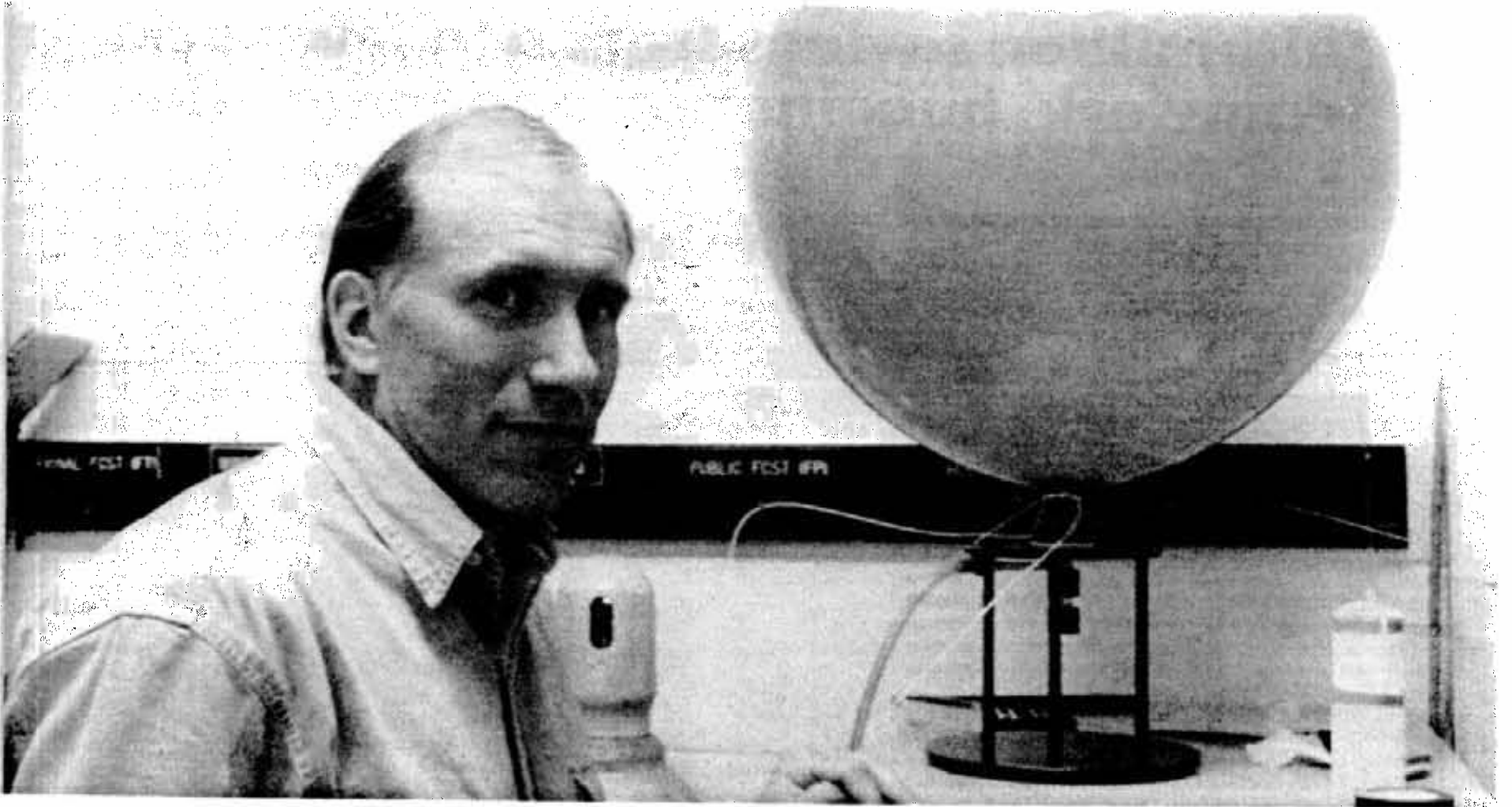
Conservative estimates figured North Mine would realize annual savings of about \$80,000 from lowered operating and maintenance costs, increased flexibility, automatic unloading and some 1,800,000 kilowatt hours of energy savings per year.



Ontario Hydro Customer Energy Service manager John Hodges shows a \$105,200 rebate check to Inco for their energy efficient compressor project.

Ray Dupis, John Jutras, Leo Vienneau, Larry Dupuis, Bob Gareau and Ontario Hydro's Rand Weatherley at the compressor controls.

MAKING *Change*



Frank Bruhmuller inflates a balloon for testing wind direction.

Inco's 'weather man' a step ahead of plume

The environment is a sensitive issue facing many industrial companies in the '90s. Inco is on the cutting edge of new technology dealing with the preservation of the environment.

Millions have been spent on developing new ways of eliminating sulfur emissions in the air, as well as on land reclamation projects.

Inco has been involved for some time with land reclamation projects to refurbish dam-

age done to the environment by early mining in the Sudbury area.

Governments have also imposed restrictions on the amount of sulphur dioxide emitted into the air. As a result, the air around Inco operations must be monitored continuously. Failure to comply with government regulations could result in fines or costly court appearances.

Inco's weather station has been set up to monitor and

regulate the amount of sulphur dioxide released by the Superstack as well as the stack from the Nickel Refinery.

Frank Bruhmuller and Graham Laporte are two senior environmental analysts who control emissions from their base in the General Engineering building in Copper Cliff. With the use of high-tech computers and satellite communication, a complex weather prediction system is in place to monitor emissions 24 hours a day.

"We monitor all weather conditions much like the weather station at the airport. If we find conditions are not right, we can recommend production be cut back at the Smelter rather than go over the limits imposed (by the government)," said Frank.

Two mobile vehicles follow the plume of smoke around the Sudbury area to get a more accurate reading. Working in conjunction with the base and mobile detection units are many permanent monitoring

stations, dispersed throughout the region to monitor the air around the clock.

Another weapon in the environmental analysis arsenal is a "sonde" balloon. After it is launched, the Odolite, suspended under the balloon, measures wind speed, direction and temperature at 2000 meters. Information gathered is sent back to base and interpreted. This procedure is repeated three times a day to predict any changes in weather patterns.

MAKING *Change*

Team on the road to savings

Down in the depths of Inco's Creighton Mine a group of people got together to try and solve the problem of poor roadway conditions on the 7200 level. They knew that if the roadways were better, that would allow an increase in equipment availability because of the reduced down time. So a team was formed called the 7200 Fleet Utilization Team. The team consists of mechanics Gord Hirschfeld and Doug Coffin, electricians Lovilo Bortolotto and David Mansfield, foreman Neville Johnson, Ray Parker and Ray Leahy, miners Carl Henbruff, Hugh Duncan and Ron Young, and scoop operator Phil Lamothe.

Through brainstorming the team concluded that there was no roadbed material for the grader to smooth out on the roads. There are many costs that are caused by poor roadway conditions such as tire costs, production losses and mechanical losses. The team did some investigating and comparing of the costs of other mines. For the electric scoops the poor roads wear out the long cable faster. This was proven by the costs compared from Creighton and Crean Hill mine. Crean Hill spends in 4 years on cable what Creighton spends in one. With the tire costs, Creighton spends 43 per cent more money on tires than the nearest mine.

The team came up with the idea of using crushed development rock

right from underground. To do this a rock slide would have to be installed at the end of the belt. This new crushed rock would provide a smooth surface upon which the machines could travel and can be easily graded. The only problem is that no one is sure if the graded rock can withstand the pressures exerted by the heavy scoops that routinely pass by. So this project is going to be tested for three months in order to gather more data on the rock. If this idea is a go, not only will the mine be saving money on tires, maintenance and cable but the team has calculated a savings of \$24,000 per hour that is used for hoisting this unused rock to the surface! That works out to roughly \$290,000 per week. The team would like to thank the C.I.T. Mobile Equipment Team for providing them with the data on the tires. Good work team...

Closing the loop... The leaders of the C.I.T. have recently joined forces with three TQI co-ordinators with hopes of communicating the many success stories that have been realized in the Ontario Division... Continuous Improvement members that have gone out to spread improvement... Bob Brosseau has gone back to Creighton Mine... Joining the ranks of the Continuous Improvement effort are Tom Blanchette and Ed Lew working with the Ore Flow Team. Al Smith and Eric Mitchell have joined the Materials Management Team.

MAKING *Change*

Multi-million savings from a 'a few bucks,' teamwork, imagination and innovation

Take a few bucks in Radio Shack hobbyist electronic gear and a Canadian Tire wheelbarrow and add some scavenged dials, gears and gizmos. Mix it all up with some of the good old Inco imagination, improvisation and a lot of teamwork.

What do you get?

A recipe that's saved Ontario Division at least \$20 million over two years and is expected to continue saving megabucks in the years to come.

The "recipe" is a much-improved mineral detector that transmits data about underground geology as it is lowered down drill holes. It was developed through the teamwork of Sudbury employees and Manitoba Division people as well.

In search of ore bodies, miners have probed, prodded, blasted, drilled, electronically penetrated, mapped, tapped with hammers, dug into, flown over and dug under just about every inch of the Sudbury basin.

But not unlike the proverbial blind man who feels the elephant's trunk to discover the shape, Inco geologists must come up with precise information from ballpark data on potential underground ore bodies. The methodology is sometimes educated guesswork, at other times more intuition than science. Yet every foot of increased accuracy in the geologists' enlightened predictions of underground ore bodies means less useless rock and more valuable ore removed by Inco miners.

The concept of using electronics to find ore has been around for decades, but recent developments at Inco have enhanced the procedures to previously unheard of accuracy levels.

"We began looking at the problem about 10 years ago," said chief mine geologist Ron Colquhoun of Mines Exploration. "The concept of mapping electronically for underground metals has been around for a long time, but we wanted to get more dependable information."

"It began with a \$200 Radio Shack metal detector - the kind hobbyists use at the beach or in the park to look for change or other collectables," said Mines Exploration's supervisor of Technical Services Brian Thompson. "We took the device and tried to adapt it to our own use."

Al Bentley, Jim Muir, Bob Freeman, Don Brown and others at Mines Exploration tinkered with the detector over the years in an effort to give Inco

miners a better picture of where to mine.

"Water proved to be the major problem," said Brian. "When we lowered it down dry holes, it worked great. But when things got a bit wet it failed."

Despite this limitation, the device has been used and steadily improved for about the past nine years, vastly enhancing the job of more accurately defining ore bodies and even finding new ones.

"But we were still having a lot of problems with moisture," said Brian.

In August of 1990, during a visit to Inco's Manitoba Division in Thompson on an unrelated matter, Ron overheard discussions about dilution problems (mining too much rock with the ore).

Ron told them about the probe being used in Sudbury.

Ron took the probe to Manitoba and put it through some trials. "It failed after only four holes due to moisture problems, but everybody was ecstatic about the results they were getting from the data." Thompson took the idea and ran with it. The device was taken to a diving equipment firm where it was retooled and

made waterproof.

Manitoba took delivery of the new unit in March of 1991. It worked great. The water problems had been overcome.

The results were so good that we have nine units now. Each mine has its own probe."

Conservative estimates reveal that in 1991, precise in-

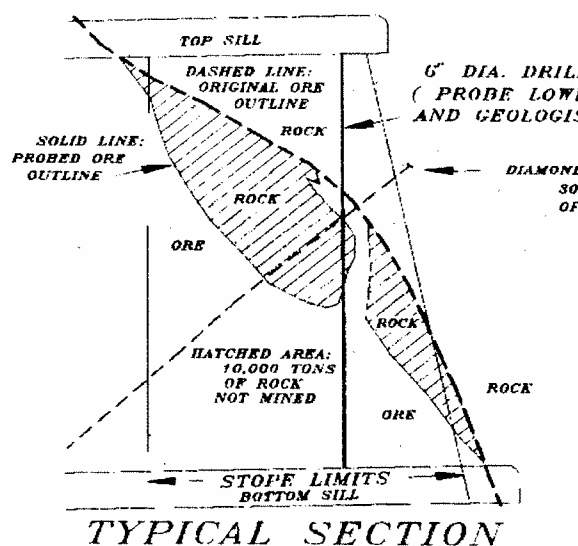
In the same year, about 71,000 tons of additional ore valued at \$6 million was found using the device.

In 1992, with all nine probes in operation, about 172,000 tons of rock was avoided, saving \$4.4 million, and almost \$9 million in additional ore was found the same year.

During the same period, Inco Exploration and Technical Services geophysicist Al King was working with people in Thompson on an automated data collection system that puts the data electronically into an autocad drawing, eliminating the tedious and time consuming job of recording and plotting the data.

Field tested already, the units are being used while refinements are still underway. Ultimately, a data system will accompany each unit.

Unlike Thompson, Inco's Sudbury operation is interested in copper as well as nickel. Under development in Sudbury now is a sister device that detects copper as well as nickel. A prototype has already been field tested and is being further refined and fine-tuned.



The area of diagonal lines represents thousands of tons of rock, avoided with the use of an Inco-developed probe, that would have been removed with only the diamond drill information.

Results from an initial order of three units, one for each complex in the Sudbury operations, were nothing short of amazing. "The thing just loves nickel sulphides," said Ron. "It's extremely sensitive."

formation from only three probes avoided the removal of 45,000 tons of rock. Without the detailed information, the cost of removing the rock would have been about \$1 million.



Ron Colquhoun demonstrates the wheelbarrow-mounted electronics: Big savings and improvements for just a few dollars and a lot of improvisation.

Simple but effective, the device is nickel-sensitive.



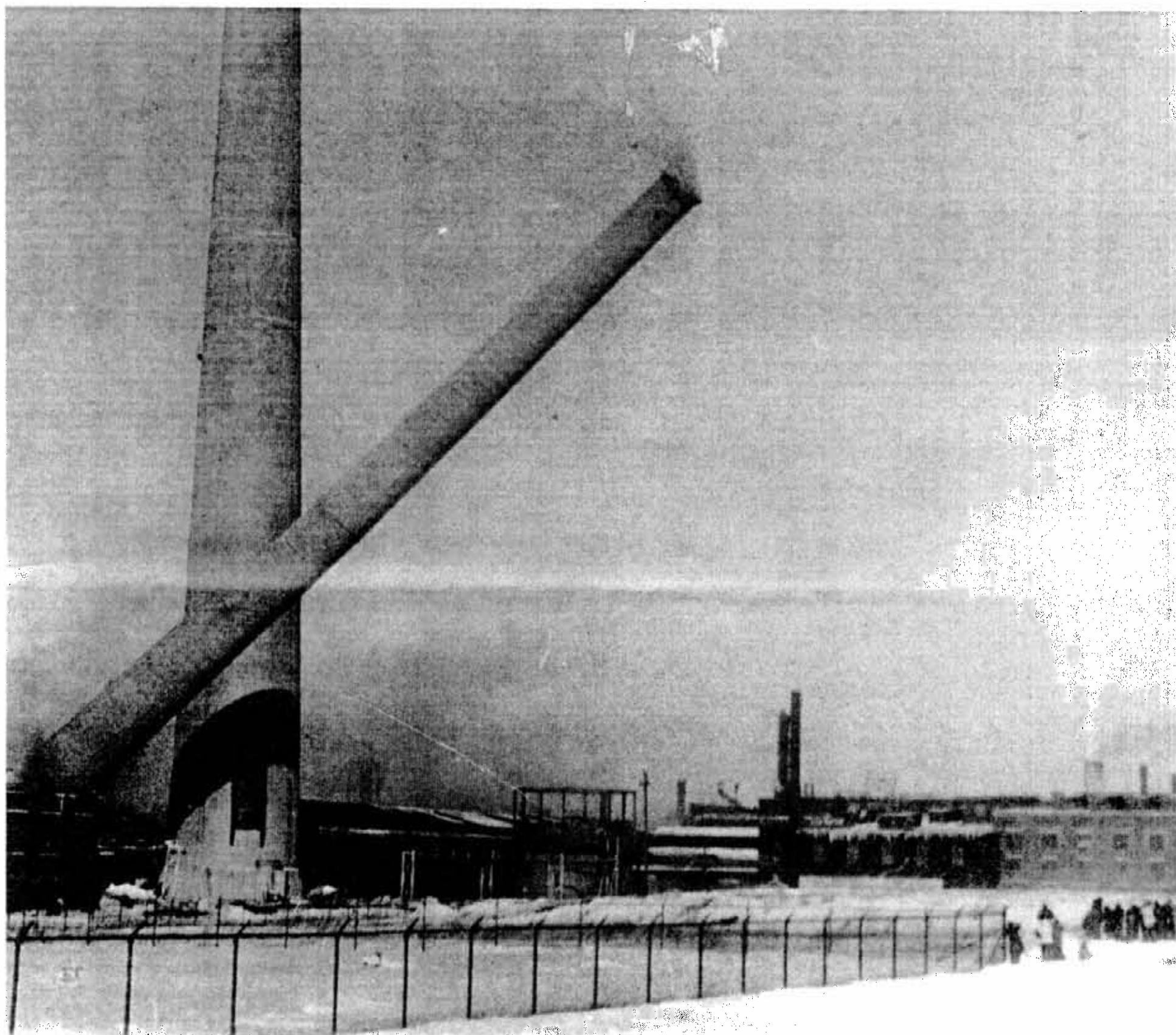
Mines Exploration senior geological technologist Tom Hood and Ron Colquhoun show the probe, the business end of the device.



A wheelbarrow frame works perfect for mobility and getting into tight spaces as demonstrated by senior technologist Tom Hood.

MAKING *Change*

Port Colborne stack dismantled as part of environmental initiatives



On February 5, 1966, this 2,700 ton stack was taken down with explosives. The remaining 460-foot stack will be dismantled.

Environmental work involves more than planting grass and trees.

A half-century ago, the Port Colborne Refinery's 460-foot stack was a sign of prosperity, jobs and growth. To many people these days, such structures

are an expensive eyesore.

That's one reason Inco is preparing to dismantle the stack which has been a landmark on the Lake Erie skyline for some 57 years.

"Time has taken its toll on the old structure, which has been sitting idle since 1986," said refinery manager Haydn

Davies. "Repeated freezing and thawing has allowed moisture to penetrate the concrete, opening cracks and exposing the reinforcing steel to corrosion. If this condition continues, the structural integrity of the stack will be diminished."

The demolition is part of an impressive schedule of decommissioning work slated for Inco's Ontario Division operations in 1993. Other projects scheduled or completed include the demolition of the old Number 1 building at Port Colborne, built in 1918, and a pellet building and concentrator in Sudbury.

"Demolition experts from Canada and the United States submitted proposals to remove the stack," said Haydn. "Two methods were tendered — toppling the stack in one piece with explosives, or removing it piecemeal using hand-breakers. For the safety of neighbouring residences and plant facilities we chose the piecemeal procedure."

Built in 1937 to handle off-gases from the refinery's nickel operations, the stack served a variety of pyrometallurgical processes over the years. The stack became a familiar landmark to residents of Port Colborne and to Lake Erie

sailors.

Most materials from the stack will be recycled. Metal parts—such as copper lightning conductors, stainless steel step irons and steel reinforcing rods—will be sold to scrap metal dealers. The concrete will be ground up for use as structural fill within the refinery and the brick lining will be used to construct a screening berm on the refinery landfill.

In 1936 the contract was awarded to the Custodis Chimney Company to construct a new 500-foot tall chimney replacing an existing smaller 350-foot stack built in 1917. The new stack was commis-

sioned on January 17, 1937.

Dimensions and Data

Original height from top to the foundation: 500 ft.; from the ground: 510 ft. Present height from top to the foundation: 450 ft.; from the ground: 460 ft.

Diameter at top: 18'-6"

Diameter at bottom: 48'-4"

Walls are constructed of reinforced concrete ranging from 27" thick at bottom to 6.75" at top.

The stack has a liner of 4" thick acid-resisting brick.

Total volume concrete: 2400 cu yards

Total brick: 600 cu yards

Total mass: 6000 tons



At the more traditional glass-enclosed greenhouse in Copper Cliff, over 100,000 seedlings are grown annually.



The light at the end of this tunnel is a better environment.



The less healthy of two seedlings in each of 40,000 pellets must be removed by hand.



Hundreds of trays of seedlings absorb substitute sunlight from overhead lights. Lining the rock walls is material to reflect light.



Co-op student John Poltie thins out the seedlings.

Inco's underground greenhouse at Creig

During a tour by scientists of Creighton's Sudbury Neutrino Observatory underground excavation, somebody made an off-hand reference to a visiting nuclear physicist about Inco's underground greenhouse, located not far above the particle physics experiment.

"Now *that* I'd like to see!" said the visiting scientist. "This neutrino stuff is old hat."

The comment is indicative of the attention the unique underground facility has attracted over the past dozen years. While the company spends multi-millions on emission reductions, revegetation and a host of other

environmental projects, the sprouting of seedlings in a tunnel carved in solid rock 4,600 feet below the surface continues to draw its share of attention from television networks, Toronto newspapers, university publications and even National Geographic magazine.

"I suppose the continuing popularity of the project is not only that it's underground, but also because growing things doesn't fit the public's mining stereotype," said grounds supervisor Mike Peters, whose job includes growing the approximately 110,000 seedlings annually in the Creighton drift.

This year marks a major

expansion of operations at the underground garden. For the first time, a second crop was planted immediately after the first crop of 40,000 seedlings was transported to surface in May.

Coupled with a boost in seedling output at the Agriculture department's surface greenhouse in Copper Cliff, the annual production of red pine and jack pine seedlings will increase to 250,000 from 80,000.

"Not only are we planting a second crop," said Mike, "but we've increased capacity by nearly 50 per cent in the underground greenhouse."

Other refinements on surface include a computerized

spraying system on a boom that travels back and forth over the rows of trays spraying a pre-programmed mixture of water and fertilizers.

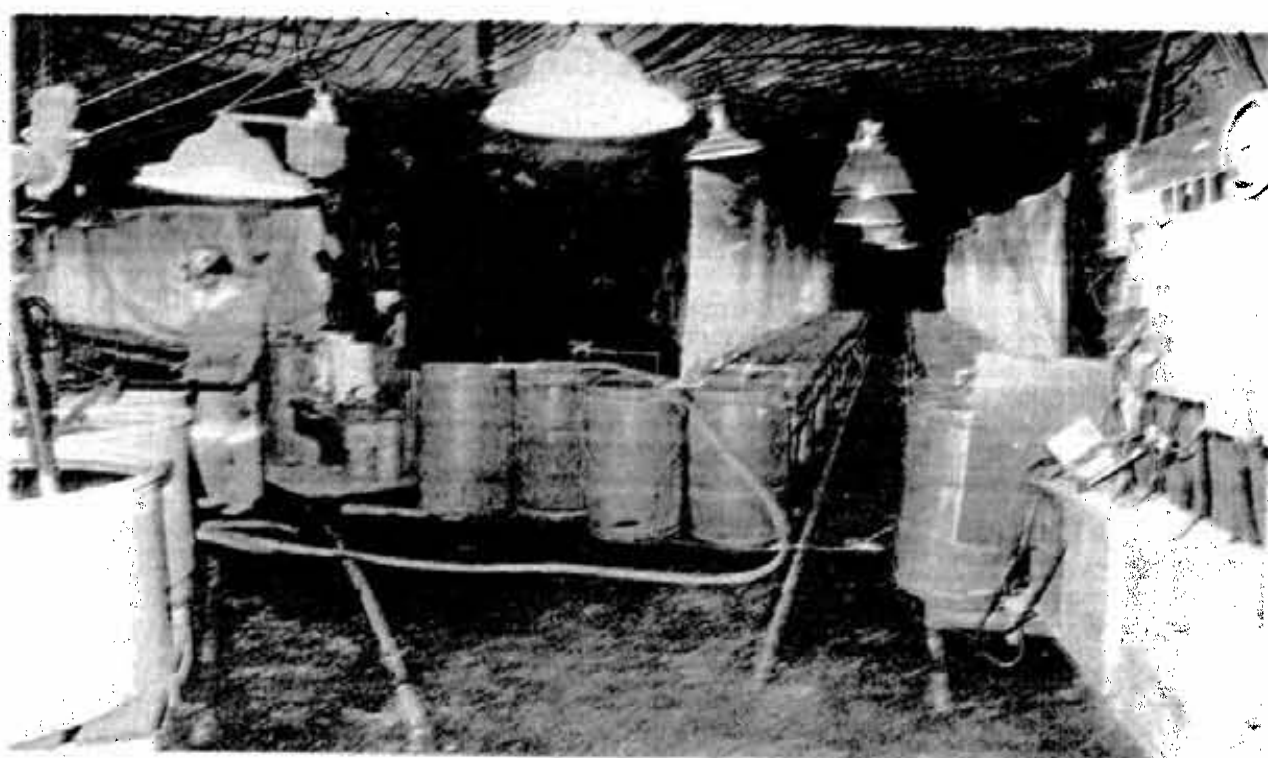
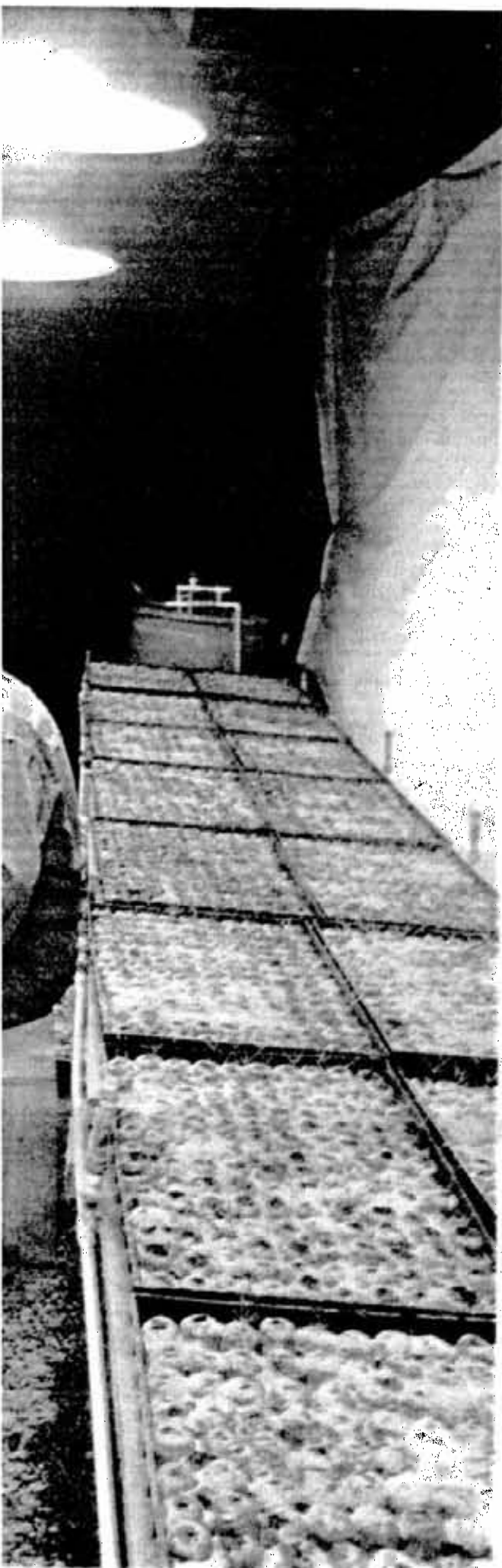
Not all the work is automated. The underground and surface crops are nurtured in 250,000 loony-sized peat pellets that host two tiny seedlings each. The painstaking job of thinning each pair is done by hand.

The facility, a Y-shaped excavation at the end of an unused Creighton drift, houses huge water tanks to feed the automated sprinkler system, rows of overhead lights that substitute for surface sunlight, fertilizer tanks

and all other things necessary for growing plants. A "time shift" is used that has lights on all night and off during the day to reduce peak power demand.

The advantage of subterranean gardening is heating, by far the largest expense in operating traditional glassed-in above ground greenhouses. More effective control of insects is also a major advantage.

"We get even germination down here within 10 days due to the consistent heat and humidity," said Mike. "With the control you have over the 'weather' down here, you can fine-tune the conditions to get the best possible results. The



The Y-shaped underground greenhouse. In the foreground are tanks and drums to hold mixtures of water and fertilizers.

Mike Peters holds a healthy seedling ready for planting.



Fertilizer is mixed with water to feed the seedlings through an automated sprinkler system.



ton Mine still attracts public attention

heating is free. It's a constant 26 to 28 degrees Celsius down here."

Ironically, the project, which today supplies many of the trees Inco plants as part of its greening program, began as a community-based venture to expand economic opportunities.

The idea was conceived in the late '70s at Laurentian University and was intended to test local facilities in the production of food. Spiralling energy costs and produce quality were factors prompting the experiment.

Inco threw its weight behind the project, supplying not only the facility, lighting, electricity and plumbing, but

also agricultural department employees to help maintain the project.

By 1980 the feasibility of growing food underground had shown promise. Tomatoes, leaf lettuce and cucumbers were successfully grown. The project also harvested a great deal of positive publicity for Inco. Keenly interested in changing public misconceptions about the industry, Inco saw the project featured in newspapers, magazines, on television and on radio across the country.

The interest continues today. Media calls about the underground facility come in regularly, despite the fact that the project is over 10 years

old. Stories on the greenhouse were carried in the National Geographic and Equinox magazines within the last two years.

The last crop of Sudbury underground vegetables was picked in 1983, but not before the project's pioneering work had spread to other places. At least one underground vegetable patch, based in part on Sudbury research, is harvested today. Hudson Bay Mining and Smelting in Flin Flon, Manitoba is host for the operation.

Inco, trying to obtain a larger volume of trees for its stressed land reclamation program, took over the project and converted the

crop from tomatoes and cucumbers to seedlings.

Today, some half-million trees sprouted underground have helped turn previously stressed land into a forest-like setting.

"The first few crops were planted in the Coniston area," said Mike. "They are shoulder-high now and healthy."

Thousands are planted annually in Inco's tailings area, where the underground seedlings are planted in sterile "soil" coaxed back to life by Inco's reclamation section.

Here, too, the success has been encouraging. The "evolution" from mining waste to grasses and trees can

be easily seen by a quick tour around the different stages of the project at the tailings area.

Thousands of seedlings are also donated to groups such as scouts, the region, city and schools.

Creighton miners, who must accommodate the "Aggies" on their twice-weekly underground trips as well as conduct the transportation of seedlings to surface, aren't forgotten.

"We always leave a few trays for the miners who take them home and plant them. Some of the miners have a series of trees from every year planted on their properties."

Nine Inco volunteers among winners of prestigious medals

Nine Inco employees and pensioners deserve a pat on the back. Over the years they have worked quietly behind the scenes without much fanfare. Recently, these volunteers were recognized for their community involvement.

These nine individuals were among more than 75 area residents to be awarded a special Canada 125 Commemorative Medal during a special ceremony for their significant contributions to Canada, to their community or their fellow Canadians.

Their contributions varied from teaching young people how to play the bagpipes to sitting on

hospital boards and committees. Each of these men in their own way filled a needed role. The medals will act as a reminder of the values of service, individual respect and community effort which this country was built on and will continue to depend on for its quality of life.

Though the recipients were proud to be honored, the real reason why they volunteered was not for recognition but the satisfaction of helping others.

Here is why they were chosen to receive the Canada 125 Medals:



Sirio Bacciaglia

Active doesn't begin to describe Sirio's community involvement. The retired Ontario Division property analyst has dedicated himself to helping people.

He has been a model volunteer working with more than 12 different organizations including recording secretary at Societa Caruso in 1962, Vice-Chairman of the Ontario Film Review Board today and is the current president of the private, non-profit, Casa Bella Senior Citizens Apartments.

The Sudbury native said he felt honored to receive the medallion. "It's almost like a dream. I never expected it," he said. "There's always ups and downs in the process and when you are rewarded it makes it seem worthwhile."

There are so many more volunteers that need to be recognized according to Sirio. "It's unfortunate that we see all the tragedies in the world and little is said about the good things done in the community."

He encourages others to volunteer. "We're all a spoke in the wheel and when we make a contribution in our own way it benefits the whole community."



Salih (Sam) Enver

Whether at home or abroad, Sam has devoted himself to helping the less fortunate and as a result has made quite a contribution.

Through the Sudbury Multicultural Association Refugee Trust Fund he has helped to deliver aid to Somalia, Bosnia-Herzegovina and Kurdish refugees.

In addition to this, he has worked with the Islamic Association of Sudbury to expand race-relation issues. Recently, he was asked to sit on the Anti-Racism Committee Cabinet Round Table where he will be the sole representative from Northern Ontario for the next two years.

Sam believes volunteers like himself do it because they believe in helping others. "There is a feeling of satisfaction knowing that you can make a difference."

For the past 15 years he has been involved with many projects. He has

sat on the United Way board and helped bring affordable housing to more than 40 area families with the Lighthouse Non-Profit Homes project completed in 1992.

Currently, Sam works at Inco's Copper Refinery as an instructor and has been with the company over more than 23 years.



James Grassby

At 75, James is an inspiration. For more than 50 years he has been an energetic volunteer in Sudbury and continues with his charitable work today.

To his credit, he has been an active fundraiser for the Cancer Society, churches, schools and hospitals. He has helped found five co-operative credit societies. Currently, he is the executive director of the Laurentian University Development Campaign and is a financial adviser to numerous groups.

James believes that the Canada 125 Medals have a purpose. "Recognition is vital," he said. "It is not a frill. It's important for building self-esteem."

And that is exactly what he lived by when he ran his departments at Inco, giving recognition where it was due. Since 1940 he worked at a variety of posts. In 1981 he retired as executive assistant to the Senior Vice-President of Finance in New York City.

Though he has been honored with many awards he explained why the Canada 125 Medal ceremony meant so much to him. "It was such a pleasure to see the quiet people behind the scenes who usually go unrecognized receive their medals."



Morris Hucal

Awards like the Canada 125 Medals give incentive to younger people to volunteer believes Morris. Recognition is a good way to encourage youths to get involved by inspiring them with the work others are doing.

In his opinion, more awards should be given out. "There are a lot more volunteers out there who should be recognized."

Morris has been involved in various organizations. For the past eight years he has been on the board of directors of the Sudbury Multicultural-

Folk Arts Association and is the president of the Ukrainian National Federation.

The medal has been the icing on the cake for him. "It was a proud moment for me and I felt very honored," he said. "It is nice to be living in a free country where people appreciate one another."

After 36 years, Morris retired in 1991 from Inco. His last position was Smelter General Foreman of Maintenance. Now he spends his time growing garlic and promoting the second annual Garlic Festival.



Sam Laderoute

When the Canada 125 Medal recipients marched in for the ceremony at Civic Square on May 14 they did so in style. It was Sam who proudly lead them in playing his bagpipes.

Since 50, he has been working with local teenagers. "It was a challenge to take young people who didn't know a bagpipe from a saxophone and teach them to play," said Sam who lead the Copper Cliff Highlanders Pipes and Drums to three national championships and 14 provincial championships.

Although awarded the Order of St. John in October 1988 by the late Governor General Jeanne Sauve and recommended for the Order of Canada, Sam has remained tireless in his community involvement.

Proud of his heritage, he said he felt quite jubilant to receive a medal. "I feel good about saying, I'm Canadian. I think it's too easy to label people wrongly by names like French-Canadian or English-Canadian."

Sam worked 41 years at Inco from mining to co-ordinating tours with Public Affairs. Four years ago he lost his eyesight, but that hasn't slowed him down. He continues to volunteer with the Canadian National Institute for the Blind and the Sudbury Regional Police.



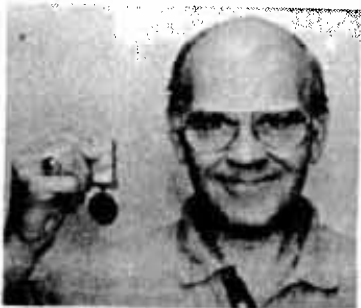
Dave Lennie

Since 1988, Dave has put 35,000 miles on his Olds '98. That's the equivalent of a trip to Florida and back and a couple of jaunts to Toronto. But Dave hasn't become a "snowbird." Since retiring he's been busy volunteering

After working more than 40 years at Inco he retired as manager of Levack operations. He later answered an ad by the Children's Mental Health Service, now Network North, who were looking for drivers. He applied and has been driving patients to and from the Algoma Hospital for their appointments ever since.

Dave enjoys what he does. "I like talking with the people and I think they tend to appreciate that I listen to them," he said. "It keeps me pretty busy and out of mischief."

Being recognized for his volunteer work with the Canada 125 Medal was an honor although Dave has always felt appreciated for what he does. "When you've driven a family to the hospital and they get out of the car and say thanks for the ride, that's the nicest thing."



Ron MacDonald

It is not the value of the recognition that matters to Ron it is what it represents. To him the Canada 125 Medals are important for what they say and that is thank you.

"I certainly didn't expect it and I wish everyone else out there who volunteers could have a medal too."

Ron, who has been volunteering since '75, started when he became involved as an officer in the union. He worked at Inco as a maintenance mechanic between 1950 to 1988. Today, he is a member of an average of seven to eight boards of directors ranging from the Laurentian Hospital to the Cambrian College Foundation. He has also been the president of the Sudbury Regional Development Corporation.

As past president and now staff representative of the Steelworkers Local 6500 union, he believes that anyone can do something and get paid, volunteers do it because they want to.

Though he expects to retire soon from the union, Ron doesn't plan to slow down. "I hope to continue volunteering if not increase the amount that I do now."



Charles White

Receiving the Canada 125 Medal has been a highlight in Charlie's life. "It has been one of the biggest achieve-

ments in my life next to marrying my wife," he said.

Charlie has been a political leader for many years. He served his community as reeve of Waters Township for 14 years, nine years on Walden Council and another nine years as the community's mayor. "I certainly couldn't do it by myself, I had the full support of my family," he said.

Charlie was honored to receive the medal. "Never in my dreams did I expect to be given this medallion. I appreciate it very much," he said. "It will be with me for the rest of my life."

He is also a member of the Sudbury Memorial Hospital Board of Directors, an honorary member of the Walden Kinsmen Club and a member of Elks Lodge 356.

Retired after 37 years at Inco as a welder in Copper Cliff, he has no trouble keeping busy. "I have so many offers to join clubs that I could go out every night if I accepted all of the invitations."



Wayne Wilson

Being a board member at the Sudbury General Hospital has had its moments for Wayne. Building the hospital's heliport and the development of the perinatal unit are only a couple of examples.

Wayne was invited by a board member to join when he was just a young engineer at Inco. Although he is now retired after 32 years of service, leaving as materials processing coordinator, Wayne is still active in the community, not only giving his time but sharing his expertise when the opportunity arises.

"It is a nice feeling seeing a first class institution grow," he said. "There is a lot of satisfaction knowing that you had an inherent part behind it."

Wayne expects more people to become volunteers. There is more than 250 volunteers at the General now. "I like to promote volunteerism," he said. "When people tell me they are bored and have nothing to do I say that's nonsense."

Although honored by receiving the Canada 125 Medallion Wayne said that everyone who volunteers in the true spirit really doesn't expect recognition.





HERITAGE T H R E A D S

by Marty McAllister

It looks for all the world like one of those red-veined maps you find at the back of an in-flight magazine, showing routes that arc from city to city, continent to continent.

Air routes? Impossible. When this map was printed, Orville and Wilbur were still oiling sprockets in their Dayton, Ohio bicycle shop. It would be four years before those same Wright brothers would use one of these red veins to send their famous message home from Kitty Hawk: "Success four flights. Average speed through air 31 miles longest 57 seconds. Inform press. Home Christmas."

Talk about networking!

A fold-out from Bedford McNeill's 1899 Mining and General Telegraphic Code, this map is of a different time, a different world, a different technology. It shows the land and sea cables that connected the Old and New Worlds, stretching from the Chinese Empire to Persia ... to the British Isles ... to the Dominion of Canada and the United States ... and across to Vancouver and San Francisco. Only 33 years after the first trans-Atlantic cable had been immersed between Ireland and Newfoundland, growth in message volume already required a dozen more.

The shrinking of the world was well under way — long before the telephone could be more than a near-distance convenience. This was the world of telegraphy, a mature technology with many nuances.

Like the code books one can still find squirrelled away in Ron Orasi's magical archives.

Amylo, anyone?

The McNeill was a code book that promised "safety and secrecy" with its 45,767 cipher words.

Words like **ballotta**, meaning "plenty of buyers, but no sellers"; **guberno** ... "there is no need now"; or, as a few of my friends might send, **oblongness** ... "am quite prepared to retire".

That was just one book. There was also the Telegraphic Mining Code of 1888, by C. Algernon Moreing, which saw a lot of use in early messages between Sudbury and the Canadian Copper office in Cleveland, and Leiber's Standard Telegraphic Code of 1898. And, at approximately the size of today's New York City telephone directory, there was the massive Western Union code book.

In the latter, proving that some things don't change, there is the code word **amylo**, meaning: "Has baggage been found?"

Were activities really that clandestine? Yes and no.

When you remember — that far back? — that every message had to be tapped out by the telegraph operator (let's not get into the high-speed telegraphy that soon followed), sending ... / . / . / just to say hello, it makes sense that one had to pay the going rate for each word. So, the trick was to make one word represent several. Leiber, for example, showed how 30 words could be reduced to four, 79 to five, and so on.

The cost benefit was significant.

But, yes, there were times when things had to be kept secret. Not necessarily sinister, mind you. After all, we're talking about what was

Can you keep a secret?

unquestionably the world's biggest party line. Who can forget the old Saturday afternoon western, where banditos climbed a pole and tapped into the message that told when the shipment of gold was due? Amazing that Santa Fe owned a railroad but couldn't afford a code book (Oops! Have I spoiled something for you B&W duster fans out there? Sorry.).

Anyway, if you can imagine a conversation that you wouldn't want monitored by eavesdroppers, you can imagine the popularity of these books. Some were very general, and others — like McNeill and Moreing — were written for a particular industry.

The cipher words themselves, as the above examples show, were sheer gibberish. Pronounceable, but still gibberish. Except to the people who had a copy of the code book.

Not always what it seemed

But what if, say after 1900, the people at both Canadian Copper and Mond had the same book? No if about it; they did.

And what if, which he did, A.P. Turner wanted to wire the latest gossip to MacIntosh in Cleveland — without Hiram Hixon intercepting? Or, how could MacIntosh confide in Turner about his thoughts on Colonel Thompson's wheeling and dealing (before, of course, Inco was formed and Thompson became board chairman)? There was a way to do that, too.

First, one needed to take advantage of the word lists at the back of the code book. More nonsense words, but with no meanings assigned. These were the ones that users could personalize, to represent an associate's name, a unique production area, a crucial time or place, or whatever.

Then the fun began. As Bedford McNeill wrote: "Increased secrecy when cabling can be secured if it is mutually agreed between any two correspondents to employ the cipher words not in their actual order, but in some other and prearranged order."

It'd be like taking my Spanish/English dictionary and deciding that, by moving forward six lines, nudillo would mean nutmeg instead of knuckle. It could drive an eavesdropper crazy!

But did they really do that? You bet.

High stakes

In June of 1911, one month before the big fire, gold fever was already boiling over at the Porcupine.

Off in New York, Ambrose Monell, E.F. Wood and other people at International Nickel were keeping the development of Dome Mines very close to their chests. Crews of Inco people were being transferred there, and it was important not to advertise exactly what was going on or when. So, Wood dispatched copies of the McNeill code, by then the 1908 edition (which was completely changed from the old one), to only a select few people — including, yep, A.P. Turner at Copper Cliff. Along with the book was a confidential instruction as to what the change in word order would be.

The success of the exercise, however, remains a mystery; after all, it was a secret, you know. But one thing's sure: Harry Oakes sure didn't get rich on any of those telegrams ... unless ...



Is this guy a dentist or a welder or is he about to be devoured? Actually it's a Greenspoon Brothers employee preparing equipment at the site of the pellet building salvage operation.

Inco gold medalist

Carol Erkila, 19, is a double gold medal winner from Sudbury in cross country skiing competition. Skiing competitively for only three years, Carol represented Canada at the Special Olympics Winter Games in Austria earlier this year.

Carol's mother Shirley, employed at Inco for 16 years, works as a Safety training clerk at the Nickel Refinery.

Shirley and husband Roy attended the week-long event in Austria to cheer on her daughter. "It was really exiting," Shirley said, "and I think it was a very good experience for her."

Carol was one of 104 athletes who represented Canada at the Special Olympics Winter Games. She competed in four separate skiing events and took home gold in the one

kilometre and women's relay race.

Shirley said that of the five different winter sports the Special Olympics offer, her daughter loves cross-country skiing the most.

Her win in Austria made her parents very proud. "Carol, representing Sudbury, was the only athlete from northeastern Ontario," Shirley said. Talking about Carol's plans for the future, she said her daughter will definitely compete again in cross-country skiing, "but for the time being she is into power lifting."

Carol holds a record in powerlifting and would like to compete internationally.

An avid bowler, Carol also enjoys track and field and baseball and won the gold medal in speed skating at a Manitoulin competition.

in touch

Gerry Wallace shows his winning ballpark style

At 76, Gerry Wallace claims that he is older than dirt but the Inco pensioner is still sweeping the dirt off home plate.

When he isn't playing ball with the Three-Score club in Clearwater, Florida, he's behind the plate umpiring more than 160 games a year in Ottawa where he now resides.

His secret for staying young is simple. "If you take life seriously, it's going to kill you."

Since he was six, Gerry has been involved in the sport in one form or another. In 1939 he was hired on at Inco. "My job was to play second base for the Copper Cliff Redmen in the old Nickel Belt league," he said. "It was a wonderful experience especially now to look back on."

Though he quit active play in 1958, Gerry didn't become a spectator. Instead, he became even more involved, helping to set up a physical fitness centre in Copper Cliff, coaching and leading referee clinics.

Some of his other achievements include being inducted into the Sudbury Sports Hall of Fame in 1968 and umpiring the first game at the Terry Fox Complex.

When he retired in 1978 from product costing, Gerry said he took a few good umpire clinics in the United States. Today, he is still umpiring baseball and softball games right up to the semi-professional level of Class A.

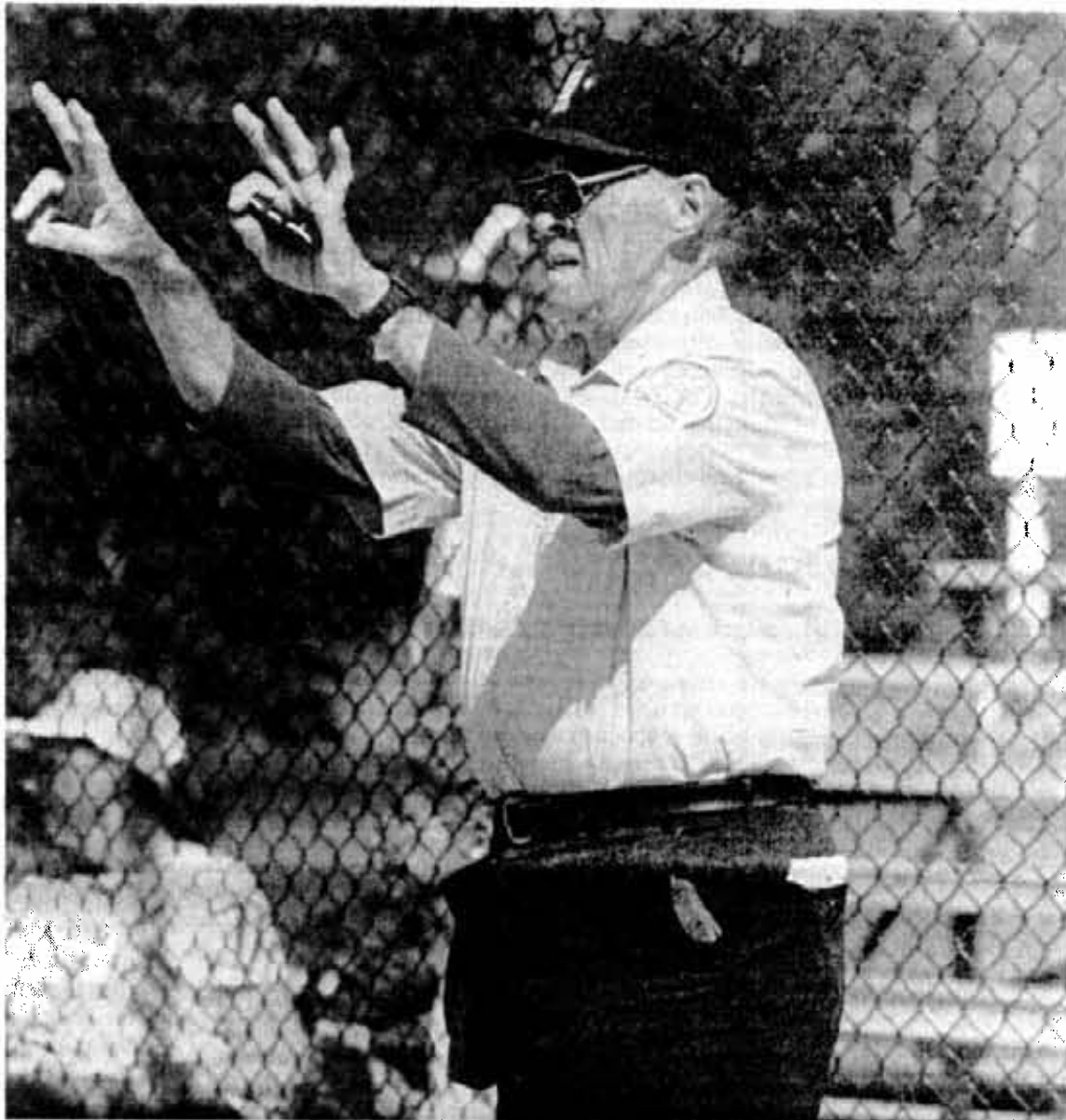
Recently Gerry returned to familiar turf when Revenue Canada invited him back to Sudbury as a guest umpire in their annual softball tournament. Gerry proved he was in fine form during the three-day competition held in July.

His love of the game and the people who play it comes through in the one-liners he uses to keep the game fun. "Sometimes in the fourth or fifth inning when the catcher is getting tired I'll grab the ball and throw it back to the pitcher," said Gerry. "I had one catcher turn to me and ask me if they can have my arm and I ask him if I can have his head."

Age isn't important to Gerry. "I don't wear my birth certificate on my sleeve," he said. What is an issue with him is what people do with themselves. "I want other people to know that just because you're 70 or older that you're not done. You can still make a difference."

Contribution means everything to the veteran umpire. "I'm putting something back into the system that gave to me," said Gerry. "I think people should look in the mirror and ask themselves what they can contribute."

Gerry is already looking forward to coming back to Sudbury for next year's tournament but he's taking it one day at a time. "I thank God every evening when I go to bed and every morning for giving me one more day."



Gerry Wallace in action

Inco bids farewell to Mary Whalen

"Of all the billions of people God created, there are no two alike, just as no two snowflakes are alike. There is never duplication. Therefore, you are responsible for what you do."

Mary Whalen on her 100th birthday, Inco Triangle, March 1990

Sudbury and Inco lost a longtime friend October 3 with the passing of Mary Whalen at the age of 103.

Mary had been Inco's oldest living pensioner. She joined the Engineering Department in 1929 and retired 21 years later in 1950 at the age of 60.

A friend and inspiration to those who knew her, Mary's legacy is one of generosity and caring.

A longtime community volunteer, she brightened the lives of others through her work with such organizations

as the Catholic Women's League, the Third Order of St. Francis, and The Council of Friendship, a welcoming service for new Canadians.

During her years at Inco, Mary resided in Copper Cliff. For the last 12 years she lived at Pioneer Manor, channeling her charitable work to helping other residents in poor health.

In a 1989 interview, Mary attributed her longevity to "moderation in all things and living one day at a time."

She will be missed.

"I've had great sorrows and great joys, but life has been very interesting. the longer I live the more I realize the hand of the Lord has been on my shoulder all the time."

Mary Whalen at 99, Inco Intouch, Spring 1989

In Memoriam

NAME		AGE	DIED	YEARS OF SERVICE
Bimm	Ellard	78	Aug. 14/93	41
Burt	Irvine	64	Sept. 30/93	37
Dim	Ferdinand	90	Sept. 4/93	40
Dominick	Paul	58	Sept. 17/93	21
Dudynskyj	Mykola	78	Sept. 22/93	33
Gagnon	Maurice	66	Aug. 26/93	31
Gauthier	Ronald	62	Sept. 5/93	39
Harris	Floyd	71	Sept. 20/93	30
Horrick	William	77	Sept. 28/93	43
Jones	Clinton	88	Sept. 4/93	33
Keaney	Desmond	73	Sept. 15/93	37
Leondoski	Michael	77	Sept. 9/93	25
McNamara	Patrick	44	Sept. 15/93	22
Miglioranza	Aurelio	80	Sept. 10/93	25
Neuman	Karl	64	Sept. 11/93	32
Paquette	Fernand	60	Sept. 26/93	33
Sampson	Leo	55	Sept. 21/93	34
Schrader	Herman	63	Sept. 18/93	41
Teskey	Lawrence	68	Sept. 9/93	39
Wiqqeshoff	Henry	72	Sept. 12/93	32

Joint family day a resounding success

Well over 2,000 people turned out for a four-department joint Family Day celebration that included everything from train rides to hamburgers and pop.

Purchasing and Warehousing, Transportation, Divisional Shops and the General Office began planning early August to make the event successful.

Each department did their best to entertain visitors - especially the youngsters - at

various displays and demonstrations.

One of the most popular, judging from the long line-ups, was the train rides offered by Transportation. The department also offered a visitors' picture taken inside a tipped over slag car pot.

At Divisional Shops, visitors were treated to several demonstrations of machinery and procedures.

While the Family Day provided family and friends with a better idea of what mom

and dad do at work, it also revealed the great deal of pride that Inco employees have in their work.

Helping to organize the event were volunteers Mona Lefebvre of the Comptroller's department, Bob Storie and Allan Rogers of Divisional Shops, Gary Crepeau of Transportation, Maureen Riutta and Liz Chorkawy of Information Systems, Roger Lasci and Bill Beavers, Janice Matchuk of Purchasing and Warehousing.



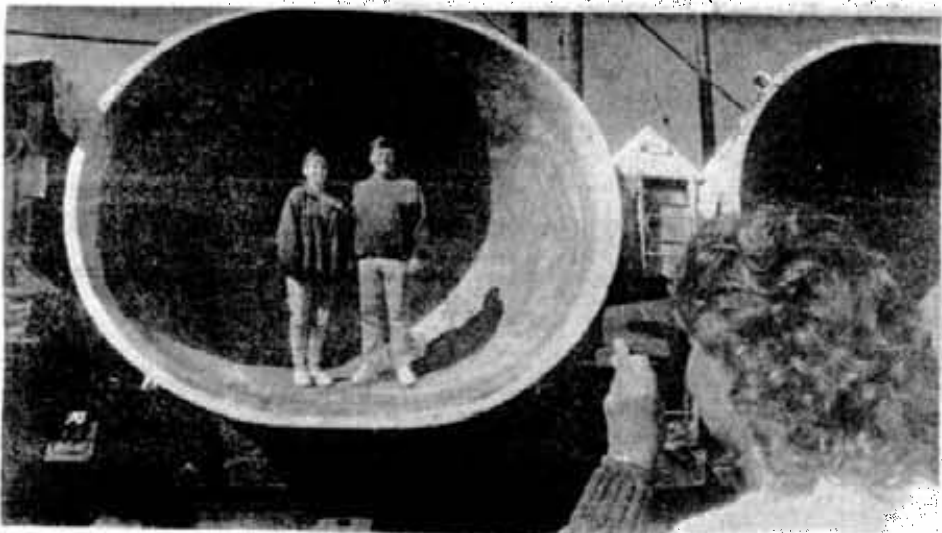
Judging from the long line-ups, Transportation's train rides were a hit.



Divisional Shops machinist John Bishop explains the machinery to sons Trevor, 7, and Cody, 5.



Machinist Richard Brown demonstrates his craft for young Divisional Shops visitors Meredith, 11, and Ben, 12, children of Internal Audit's Rick Eles.



Information Systems data base analyst Paul Campbell and daughter Leanne pose inside a slag pot while volunteer Marilyn Sasseville, wife of Transportation's Ray Sasseville, takes a picture.



Transportation's Vince Perdue officiates as Nicholas Jeffkins, 4, son of Transportation process clerk Genny Jeffkins, takes a spin of the wheel to win a frisbee embossed with a safety message (inset).



Central Maintenance and Utilities manager Al Cruthers smokes another pile of burgers for the waiting flood of visitors.

Information Systems manager Armand Chartrand wonders if the tiny burger he's serving will do the trick for Inco energy conservation mascot Less Watt. The young lady is Michelle Austin, 7, niece of "Uncle Bill" Beavers of the Divisional Shops warehouse.



EVH FOR YOUR HEALTH

From the Occupational Medicine Dept.

This is the second of three parts on how you can have energy to live life to the fullest and prevent illness by what you THINK, DO AND EAT.

If you are the type of person that tries to save as much energy as possible you may be doing just the opposite.

Most physical activity increases your energy immediately and for the future. It can be as simple as walking a few yards, going up the stairs or doing a few stretches.

Unfortunately, many of us think that we already do enough physical work and try to do as little physical activity as possible. Yet if we could continue to play as we did as children we would grow old much more successfully and decrease the chance of a lot of the health and injury problems that we tend to accept as a normal part of doing physically demanding work or growing old.

Physical activity wakes up the brain and makes it more alert

When we move there is a tremendous amount of stimulation to the brain from the muscles, joints, tendons, skin and balance system which makes the brain more alert and ready to pay attention and learn.

If you're tired or having difficulty concentrating and there are some things that you want to do, go for a short brisk walk or do something active around the house.

Physical activity increases the production of our brain chemicals that make us feel good and decreases aches and pains

Our brain produces over 100 different chemicals that affect over 2,000 reactions in the body. Physical activity, that we enjoy, increases the production of the positive chemicals (endorphins and others) that make us feel good. They are morphine-like chemicals that also decrease our aches and pains.

This chemical change takes place with any physical activity that we enjoy doing. If we do not like what we are doing or feel sorry for ourselves, or do too much at one time, then it will not have the same positive effect.

Immune System and Fatigue

Our immune system fights disease and illness. Physical activity helps it function better. When we overdo or underdo our amount of physical activity or we resent what we are doing our immune system is not as efficient and has to work harder. This decreases our energy. We may ultimately get sick if the immune system isn't strong enough to win against the germs or disease process.

People who do too little or too much physical activity at one time rob themselves of the positive effort of physical activity on their energy

Many of us go out of our way to "take life easy" instead of taking every opportunity we can to walk, go up or down stairs, etc.

Do you tend to "take life easy" or do you do too much? Answer the following questions and find out.

Energy: You can increase it by what you do

Yes No

- ☐ ☐ I look for the parking space closest to where I am going.
- ☐ ☐ I always use the elevator instead of the stairs.
- ☐ ☐ I take the car, even if I am going only a few blocks away.
- ☐ ☐ I watch TV most of the evening. I get others to get me things
- ☐ ☐ I seldom or never exercise or go for a walk after work.
- ☐ ☐ I do enough activity at work.
- ☐ ☐ I deserve to just rest when I'm home.

If you answered "No" to most of the questions then you already have some good habits for energy, unless you answer "Yes" to the next set of questions below.

1. Take note of how you feel at the end of your day and how much energy you have when you are at home.

2. Change some of your habits so that you increase the amount of physical activity you do in your regular routine each day.

3. When you feel tired, do some easy physical activity such as going up the stairs for something, walking, doing a few gentle exercises during TV commercials, moving to some music, etc.

4. At the end of the week assess how you feel at the end of your day and how much energy you have. Unless you have been overdoing it you should feel better and probably have done more things than usual.

Yes No

- ☐ ☐ When I start doing something I don't stop till it's finished no matter how tired I am.
- ☐ ☐ I exercise regularly but if it doesn't hurt a little I feel it isn't doing much good.
- ☐ ☐ I never warm up or pace myself when I'm doing exercises or strenuous work. I just get at it and don't stop till it's finished.

If you answered "Yes" to 1 or more of the above questions you may be doing too much at one time, you may be breaking down your body and decreasing your energy because you are not giving your body a chance to get rid of the fatigue products produced from activity.

Do a little experiment with yourself for a week. Do a few warm-up exercises before you start any physical activity. Plan how you can do it with some short breaks or do a few stretches often. When exercising, plan to do less or use less weight. Remember, exercising is suppose to make you feel good. "No pain no gain" is for fools.

At the end of the week see if you have more energy and have been able to do the things that you normally do.

Know your nature, then change if necessary to increase your energy.

Port Colborne

Historical displays, equipment at Port Colborne open house

History came to life at the Port Colborne Refinery September 11, as more than 1,100 people turned out for our open house.

The open house, held in honor of the plant's 75th anniversary, featured a number of historical displays, pictures and even Inco's first fire truck which is owned, and was lovingly restored, by the Nicholson family in Wainfleet.

Retired Inco employees Jim Walter and Bill Kantymir both contributed to the display.

During Waste Reduction Week, Inco employees had

an opportunity to highlight some of their own good ideas. One measure currently being taken involves the recycling of used oil filters. The used filters are thrown in a blue bin where they are later gathered, dismantled and virtually each component can be recycled and reused.

Environmental Control supervisor Dave Reed says employees have shown a strong interest in, what they would like to see recycled, particularly when it comes to items used in the auto shop such as oils and batteries. Any recycling of those products is not only useful, it avoids

placing such potentially hazardous products in the landfill.

Thanks to employee surveys and suggestions, a number of other waste reduction ideas are now coming to light in all areas - from reducing paper use to reusable containers.

Highlights from the list include reducing paper through electronic mail; recycling fine paper, pop cans and newspapers; diverting and recycling lead carbonate; sending used grease to pre-cast concrete manufacturers instead of burning it; purchasing more "green"

products such as recycled paper and separating and reusing products of demolition.

Employees were also reminded of Fire Prevention Week with a number of safety tips and drills.

Through the local newsletter InPort Nooz, refinery employees are updating their skills on Pareto charts and check sheets. They are also taking a closer look at their safety performance during 1992 and 1993 and looking at how Lost Time Potential (LTP) statistics can be improved within the plant.

Demolition of the Inco

stack is still a few weeks away. In the meantime, the historical structure still dominates the Port Colborne skyline and trucks continue to be re-routed as a safety precaution.

On a local note, the Inco display at the Port Colborne Historical and Marine Museum continues to draw the attention of tourists from both sides of the border.

Museum curator Virginia Anger estimates that just under 9,000 people have been through so far and she expects as many as 10,000 people will have viewed the display before it's taken down in December.

Falconbridge/Inco cooperative in emergency preparedness

Falconbridge has adopted Inco's public awareness emergency response logo and will use it in their own information package.

The logo, containing the acronym ACT (Always go indoors, Close all doors and windows, Turn off furnaces, air conditioners or other air intakes) was coined by Inco last year in an expanded emergency awareness campaign.

Inco Emergency Preparedness Coordinator Berno Wenzl said the request from Falconbridge came after Inco supplied the company with information about Inco's recent public awareness campaign.

"Of course we agreed," said Berno. "Inco has always been interested in getting community-wide involvement and Falconbridge's efforts are welcome."

He said Falconbridge will also join Inco and the regional fire departments at the New Sudbury Centre for the 1993 Emergency Awareness displays this fall.

"The more people and organizations in the community we can get on board with emergency planning, the better," said Berno. Falconbridge and Inco have similarities in some areas where we can share information with them and vice-versa. A good example is the Levack Complex where our properties are side-by-side. We have agreements that ambulance, fire and other emergency services can access each other's property.

"Being competitors in the nickel mining business doesn't get in the way when we consider the safety, health and environment of our employees," said Berno.

Sharing a logo is only the tip of the iceberg for Inco-Falconbridge cooperation in areas of mutual interest that range from environmental protection, sharing water supplies and treatment to exploration and mine closure planning.

Says Mike Knuckey, Falconbridge's senior vice president of exploration: "We've got to take a look at the bigger picture. Inco used to be our main competitor - now all of Sudbury is competing with Norilsk, the large nickel producer in northern Siberia."

A recent item in a Falconbridge corporate publication outlined the history of the nickel producers' competition-turned cooperation.

"The two companies were fierce competitors as they scrambled to make their name in the nickel business," the article states. "It didn't help matters that they literally lived on top of one another with claims and mines sitting side by side."

Over the years, the two companies have split up the land around the Sudbury basin in a checkerboard pattern, forcing them into contact with



Inco Emergency Preparedness coordinator Berno Wenzl looks over his Falconbridge counterpart Al White's shoulder during discussion about preparedness cooperation.

one another whether they liked it or not.

An Inco-Falconbridge Joint Technical Committee set up in the mid-1950s to deal with the day-to-day mining concerns between the companies is still working and hammering out agreements. Inco's three representatives are Mines Technical Services manager John O'Shaughnessy, Exploration superintendent Larry Cochrane and senior project engineer Ed Skene.

"The Mining Act says you must tell your neighbors what you're doing and you have to stay away from mine borders unless you have their agreement," points out Falconbridge's Bob Susil who acts as secretary for the joint committee. "Here in Sudbury, it would be difficult to mine anything without these agree-

ments. The other thing to remember is that in almost every situation, it is economically beneficial for both companies to cooperate together."

A few examples of company agreements include; a corridor agreement at Falconbridge's Lindsley site allows Falconbridge to exit from the mine onto Inco property; Falconbridge also purchases water from Inco for Lindsley and the Onaping area mining complex. Falconbridge sells water to Inco from their Lockerby Mine and from wells in Onaping for Inco's Levack property; road agreements allow both companies access to their own properties through the other's land; party wall agreements also allow each company to mine portions of an orebody just feet away from the other, diamond drilling contracts allow one company

to drill for mineralization from the other's property.

Perhaps the most advantageous cooperation to the mining companies as well as the community as a whole is in the environmental and exploration areas.

Sudbury's superintendent of Environmental Services for Falconbridge Bob Michelutti, and Inco's Brian Bell co-chair a joint environmental committee that discusses environmental issues of common concern such as new environmental legislation or research and development work. "When it comes to the environment, we don't compete with one another, we help each other," said Bob. "It's better for the environment and we can get more of a bang for our buck."

Through a Moose Lake water treatment agreement Falconbridge treats Inco seep-

age and mine water from the Coleman area. At the same time, Inco has agreed to treat the mine water from Falconbridge's Lindsley site. The advantage is obvious. Instead of two expensive state-of-the-art treatment plants virtually side-by-side, the two companies share a single plant.

To meet Mining Act requirements for mine closure plans, the two companies have decided to submit a joint mine closure plan for the Sudbury area mines because so many mines are linked to one another. The joint closure plan will be the first and only agreement of its kind anywhere in Ontario or Canada.

The Whitewater Joint Venture that looks for copper-zinc deposits inside the Sudbury basin is an example of cooperation in the area of exploration.

Yesterdays todays



40 Years ago

Wild horses and bucking bulls in Azilda? A guy riding a bucking bull backwards! Inco miners and smelter workers flying through the air like acrobats! It was all part of the fun-filled day at the Murray Mine Athletic Association picnic and it stole the show from the baseball games and novelty races.

Even the kids got into the act with 10-year-old George Hebert Jr. "sticking to the back of a bounding bull as if he was glued there," said the article. But it was not all spine tingling thrills and wide-eyed excitement for the 2,000 spectators because they settled down to more relaxing entertainment, too, consuming 50 cases of soft drinks, 27 gallons of ice cream and 2,000 cones, 1,200 weiners and buns, 19 pots of beans and 34 quarts of milk. After which, the kids went for pony rides.

Other feature stories that month were: "Process Of New Iron Ore Plant Makes History," "Judges Report Very Gratifying Garden Results," "All Services At Library See Steady Increases."

25 Years ago

The ocean floor holds an almost inexhaustible supply of nickel and other metals, said the article, but the problem is to harvest it. The metals are contained in manganese nodules, some more than a foot in diameter, that blanket the bottom of the ocean floor like wild flowers in an abandoned field. Yet the problems are so great to retrieve it that only 200 samples (for the public) have been raised from the Pacific so far, where the ore is considered good enough to process.

It was a problem that Inco was investigating in 1968, with the possibility of eventually retrieving it.

But there were a host of problems. The ore was in 15,000 feet of water, where

Of miners and a lot of bull

the pressure was 6,600 pounds per square inch. How could the nodules be raised from such depths? Would the expense justify the procedure? Would processing the manganese nodules be a problem?

They were the questions John Shaw, executive assistant at Inco in New York, was trying to find out in experiments he was conducting 25 years ago.

Other feature stories that month were: "Hearty Fellowship Reigns At Quarter Century Club Meet," "The Wonderful World Of Sky Divers," "Initiative And Hard Work, Not Miracles, Set Nickel's Future." (Company president Albert P. Gagnebin's address to the 20th Annual Quarter Century Banquet.)

14 Years ago

The crews, along with their respective supervisors and support staff were to be commended for completing a complex job safely and in record time, said mine superintendent Jim Ashcroft.

Flawlessly completed in less than five shifts, it was the first time that the cage and counterweight suspension ropes were changed at the Coleman mine. The old ropes, 1-3/16 inches in diameter, and 2,400 feet long, with a break strength of 186,000 pounds had been in use since 1970.

Before the change, the procedure was reviewed with the crews, outlining each job step by step. Any deviation from the procedure, during the job, was carried out only after a careful review of the problems.

The ropes were changed one at a time and all safety procedures were followed to the absolute letter. It was a test of expertise and efficiency that the Levack maintenance and operating crews performed admirably, said the article.

Other feature stories that month were: "Ontario Division Receives 'Electric Energy Efficiency Award' From Ontario Hydro," "Open House At New \$25-Million Canadian Alloys Rolling Mill Attracts 6,700 Sudbury And District Residents," "J. Edwin Carter Dispels Gloomy Forecast On Visit To Nickel Capital."

INCOME ideas

by Susan LeMay, CMA

Paying the bills for your children's education

Increasing Costs

Post secondary education IS expensive. In 1992 it cost as much as \$10,000 a year for a student attending school away from home. Social Contract cutbacks are going to increase this cost. Universities and Community Colleges are feeling the pinch of reduced government grants. To help make up for these funding cuts, the Council of University Presidents recently recommended fee increases of 50% between now and 1995. Other costs such as laboratory fees and activity fees, are also increasing. As an example, parking fees at Laurentian University and Cambrian College in Sudbury have doubled since last year.

Trends in Enrolment

This fall, there have been many newspapers articles describing the increase in enrolment at Universities and Community Colleges. Record numbers of students are continuing in school after they complete high school. There are few jobs available for high school graduates. The message is clear. High school is no longer enough.

What Can You Do?

Your options depend on how soon your son or daughter will be a university or college student.

Income Ideas #2...2 Short Term Strategies

If you are faced with these expenses now, there are a few things you can look at—fee reductions, tax deductions and government assistance.

Sometimes student activity fees include items that are optional and if

the student asks, these fees may be refunded. For example, student fees often include health insurance, so your child, who may still be covered by your INCO Benefits Plan, is being charged for a second health insurance policy. Proof of insurance under your plan may result in a refund of up to \$100 if the student asks for it.

A university student with little or no income can give her/his tuition receipt to a parent, grandparent or spouse who helps pay the bills. The spouse or parent can then claim the student's tuition tax credit and reduce their tax. This works if the student earns less than about \$6,500 annually. If the student earns more than this amount, then be sure that s/he claims all the other deductions and credits available. For example students are allowed to claim moving expenses if, when they finish school for the year, they move to a new location to work for the summer. Similarly, if the student receives a scholarship, or has a job at school, the cost of moving back to school can also be deducted from the student's income and this may bring the student's income down enough so that a parent can claim the tuition credit.

Students are eligible for the GST tax credit and for some Ontario tax credits. If they are over 18, they should be sure to

Income Ideas #2...3 file and claim these.

Long-term Strategies

Parents with young children can ensure that, when the time comes most of the funds needed for education are

available. Regular saving is the key. Many parents used to save Family Allowance payments for their children's education. Family Allowance payments are gone; replaced by a new tax-free child benefit. Many INCO employees are not eligible for this benefit. Another regular savings plan needs to be found. This could mean something as basic as putting a set amount into a bank account on a regular basis. If you prefer something more structured, you could consider a Registered Education Savings Plan.

Registered Education Savings Plans (RESP)

You can set up a RESP to provide funds for the education of your children or grandchildren. There is no tax deduction for any parent or grandparent who makes contributions to a plan. However, the interest earned in the RESP grows tax free in the plan and will be taxed as the student's income when it is taken out. The reasoning is that the student will have less income and so will pay less tax—in fact the student may have so little income that there will be no tax to pay.

Know What You Are Getting

In the last issue of The Triangle I commented that if it looks

Income Ideas #2...4 too good to be true, it probably is. RESPs have pitfalls. Suppose none of your children or grandchildren enrolls as a full time student in a qualifying program at a recognized postsecondary educational institution. The amount you invested in the plan might not be returned to you. This will depend on the agree-

ment between you and the plan. You will not receive any of the interest unless you become the student. Before enrolling, it is worthwhile investigating the terms of the individual plan. They all have different restrictions. For example, some plans offer no guarantee on the amount your contributions earn; it might depend on how many participants actually use the funds for education and how many have their contributions returned to them with-

out any of the earnings.

Revenue Canada has restrictions too. Contributions are limited to \$1,500 per year for each child registered. Maximum contribution per child is \$31,500 (\$1,500 for 21 years). Plans are ended after 25 years.

Stock brokers, investment dealers and financial planners sell RESPs. You should be able to enquire, at no cost, about the details of particular plans from any of these.

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Bik Nbre

2065
Sudbury, Ontario

WILLIAM L GAGNON
BOX 2 SITE 11 R R #1
LIVELY ON
POM 2E0

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.

Letters and comments are welcomed and should be addressed to the editor at Inco Limited, Public Affairs Department, Copper Cliff, Ontario POM 1N0. Phone 705-682-5428