

INCO Triangle

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Breathtaking Retirement
After 41 years with Inco, South Mine mechanic Olgert Plavin took the plunge into retirement earlier this year. Olgert, as these pictures reveal, likes to dive headfirst into most things. See page 12 for more.



Retiree Returns - If the aircraft parked on the Sudbury Airport runway looks familiar, it should be. It's the Inco Anson, operated in the late 1960s by Inco geologists conducting electromagnetic surveys in search of ore bodies. Now sporting a wartime paint job, it's the only aircraft of its type still flying. The airplane is operated by the Heritage Aircraft Foundation in Port Hope near Hamilton, Ontario and was brought to Sudbury, courtesy of Inco, to help the 200 Squadron Royal Canadian Air Cadets celebrate its 50th anniversary. From left are pilot Brent Tyrell; cadet Ray Renaud, 15, son of Copper Cliff Mill's Ray Renaud; and Randy Dutchburn of Inco Exploration and Technical Services. Randy was navigator in the Inco Anson's crew.

Visiting panel shown need for reliable hydro supply

A whirlwind tour of some of Inco's major Sudbury operations recently was designed to impress upon Ontario Hydro's Environmental Assessment Review Panel the vital importance of an adequate and reliable hydro supply to heavy industry.

"I think we got our message across," said Engineering Department assistant manager John LeMay. "In fact, I think we got even better results from the tour than we expected. By the end of the day most were impressed by our operation here and the importance of hydro to our operations."

Ontario Hydro is pinning at least a portion of its future energy supply commitment not on expanding hydro generating facilities but on an ambitious effort to encourage, promote and facilitate energy conservation.

While Inco and other heavy industries are solidly behind the conservation efforts, some industries are concerned that energy supplies may fall short of requirements in the future. A shortage in supply would be disastrous for operations like Inco that rely heavily on hydro to run vital production systems. Not only would an energy crunch be disastrous, it would also be long term due to the enor-

mous lead time required before new generating facilities can be brought on stream.

In playing host to the panel, Inco became the only industrial plant visited during the lengthy review process. Rather than hold lengthy discussions to make industry's point, John figured a tour of company facilities would speak for itself.

The tour, conducted by Creighton maintenance su-

perintendent Ray Cousineau, included an underground visit to South Mine to see electric scooptrams, drills, crushers and other electrically-run equipment.

Clarabelle Mill, the Oxygen Plant, Power Systems Control Room, the Smelter's new furnace and the Copper Refinery's electroplating process were also featured in the all-day tour.

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Triangle changes help to reduce costs

Your Triangle this month joins the drive to cut costs throughout the Ontario Division.

Starting with the October edition, the Triangle will go to all employees, Inco pensioners and outside special interest, government and community groups in a new, more economical and environmentally friendly format.

The move to newsprint does not permit sophisticated, color reproduction but, more significantly, produces an annual saving of \$75,000.

"With falling nickel prices, anything that any of us in the Division can do to find savings and improve productiv-

ity will help make a difference in our costs," said Jerry Rogers, manager of public affairs.

In its newsprint format, Triangle will also meet environmental concerns expressed by many employees. While the old Triangle was printed on glossy stock made from recycled paper, the Triangle itself couldn't be recycled. The new version can be.

Other cost-saving measures we've taken in Public Affairs won't be as obvious to employees, but the savings of approximately \$150,000 they represent are our contribution to the overall unified Inco effort.

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Hydro use to increase despite energy conservation

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"We figured the best way to get our point across was to let them look for themselves, to let them see what it's all about," said John. "I think there is no better place to provide the big picture than at Inco's Sudbury operation. Unique from many other industries, we have all our op-

erations concentrated in one place here. "The visitors seemed to be very impressed, particularly by the cleanliness of our operations and the relatively few people around to run our operations. I think they got the message that few people means a high level of automation... and automation means a heavy reliance

on electricity."

John said the panel was made aware that Inco has an ambitious energy conservation program well underway and that major energy conservation efforts are planned in the future. "They were presented with an outline of our numerous energy reduction projects that have been com-

pleted, are underway now or are planned in the future."

A brief presented to the panel states that although energy use per pound of product produced has declined substantially since 1981 and will continue to decline, Inco's electricity use will increase in the future. Ironically, government-encouraged projects like the \$600 million Sulphur Dioxide.

Abatement Program and modernization and automation demanded to make the company competitive will re-

sult in an even heavier reliance on hydro in the future.

Inco's energy counts for over 10 per cent of production costs. The total energy bill in 1991 reached \$92.3 million of which \$61.5 was electric power purchases. That figure is expected to reach \$73.6 million this year.

Competing in a highly competitive marketplace where prices are set on world markets, Inco must control its costs in order to compete and energy is a major factor in the equation.

Communications unaffected by publication cost reduction

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It has been our intention in the past not only to keep Inco employees well informed on issues that affect them but to try to keep up with the aspirations, concerns and issues that our people feel strongly about.

In keeping with this mandate, we've attempted to cut costs in areas where this two-way communication can continue unhampered.

"In times like these, keeping our employees well informed about what's going on is more vital than ever," said Rogers.

"Just as important, employees use this forum to communicate with each other and to us. We realize that those in management aren't the only ones keeping a wary eye on the plunging nickel price. Our employees, their families and people in the community all have a stake in what's happening here, and our publications are major communication vehicles."

He said that regular Triangle readers will have noticed the changing attitude that has steadily grown over the past few months.

"Wherever we look in our

efforts to tell the Inco story, whatever operation, office and plant we've visited in the recent past, there are dedicated, concerned and responsible people who are rolling up their sleeves to do innovative, imaginative and ingenious things to make their jobs and workstations more productive and more cost effective.

"We hope our readers will view the changes not as a reduction in the level of service, but an escalation in the commitment to fight back at the tough economic times that threaten all of us."

Red Cross appeals for Inco volunteers

The Canadian Red Cross Society's Northeastern Ontario Area Office needs volunteers, and Society recruiter Vikki Jowsey hopes Inco people, particularly pensioners, will respond as they have before.

"Volunteers are the backbone of the Society's blood program," she said. "They give generously of their time and energy to ensure that the gift

of life is always available to those who need it."

She said some volunteers give blood on a regular basis while others give their time. "Presently, we need people to give their time. These individuals would be telephoning potential donors to encourage them to keep their next appointment."

If you are interested in volunteering, call 674-4003.

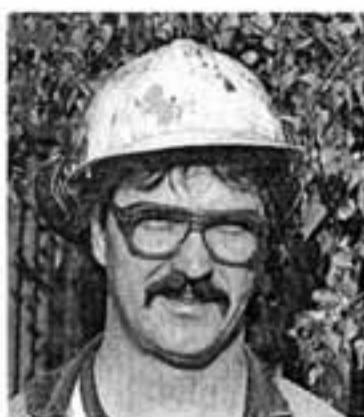
Should environmental projects like aerial seeding go ahead in tough economic times?



Larry Pharand, yard boss, Stobie: "We've battered our environment around enough. We should start to bring it back to where it used to be. It may be less important than our jobs and mining, but I don't think it should be cut out totally. Perhaps cut back."



Slavko Volf, yardman, Stobie: "I would say yes, go ahead with the environmental work. I don't think it threatens our jobs. Who knows if it will get to that point? I see environmental work as important if not more important than jobs. It should be high in priority."



Ray Czerkas, industrial mechanic, Clarabelle Mill: "To pick between jobs and the environment is a hard choice to make. Both are important. It's kind of a Catch-22 situation for the company to be in. If it means lost jobs, environmental work could wait for a year or two."



Dave Ferguson, maintenance apprentice, Clarabelle Mill: "It's sending out mixed signals. Inco is saying it has to cut costs, yet we're spending money on aerial seeding. If it's a question of jobs versus environmental work, scrap the environmental work. It can wait."



Don Brisebois, loco fitter, Transportation: "I feel that the environmental work should continue, regardless of economics. Stopping would be a major mistake. Inco is committed to the environment. On the other hand, industry has to survive and that comes first."



Denis Lefebvre, ventilation supervisor, North Mine: "It's a balance between jobs and the environment. I hope it doesn't come to that. I think it's necessary to clean up the environment for our children, but it may have to be put on hold until things improve."



Bernie Beauchamp, loco car mechanic, Transportation: "We should hold the environmental work until we're in a better financial position. We could end up with a perfect environment and nobody working. There would be a lot of angry people around here."



Glen Wilson, loco car mechanic, Transportation: "Nobody's said anything about it threatening our jobs, but I suspect that it could come to that. We've seen all this before at Inco. Dropping nickel prices and jobs lost. I wouldn't want to ever see it again."

INTERVIEW

Sopko speaks candidly about problems facing Inco in tough economic times

Since last spring, the price of nickel has plunged, Russian nickel has flooded the market and the tattered world economy is struggling back to life.

For nickel producers weathering these brutal conditions, it's one more rough period in a century of boom and bust.

In recent weeks, events have accelerated and overtaken the most optimistic of recovery scenarios. As one of the world's largest nickel producers, Inco is regarded as the company to provide leadership and inspire stock market confidence in the industry.

Although Inco has recently announced sweeping measures to cut production and reduce costs, including a company-wide, three-week production shutdown in mid-December, company officials have been front and centre in speaking candidly about the nickel situation today.

The following interview from the CBC show Profile, offers excellent insights into recent company decisions.

If you find this informative reading, let us know at 682-5425 and we will do our very best to run more background articles on the nickel business in upcoming editions of the Triangle.

CHRISTINA POCHMURSKY (Host): On today's Profile, you'll get an inside look at Inco Limited, the world's largest nickel producer. Company earnings are being squeezed by low metal prices and high production costs. We'll ask Inco's new chairman, Michael Sopko, how he plans to turn things around. And two mining analysts will be by later to tell us where they think Inco's stock is headed.

Inco has been in the nickel business since the turn of the century. It supplies about 500-million pounds of hard metal to customers every year. Since nickel is a key ingredient in the manufacture of stainless steel, the metal finds its way into everything from subway cars to art sculptures.

A lot of Inco's nickel comes from Sudbury, Ontario. It's the company's core operation, employing more than 8,000 people. Other big operations are in Indonesia, Japan and Wales. Inco is in the forefront of innovative technology, including remote control mining. This system allows an operator to work on the surface while, thousands of feet below, a huge machine loads, hauls and dumps ore at his command. But all of this sophistication hasn't been enough to offset low nickel prices. Prices have steadily fallen over the last three years and that, in turn, has hurt Inco's bottom line. Profits dropped to \$83 million from a high of \$750 million a few years ago. The downward trend has some investors wondering if it's time to bail out of Inco before it's too late.

And joining me now is Michael Sopko, Inco chairman. Michael Sopko, you took

over as chairman of Inco in April, and the company is in a bad fix right now with low nickel prices and high production costs. So either you're a man who's a sucker for punishment, or you love a challenge.

MICHAEL SOPKO (Chairman and CEO, Inco Ltd.): Wow! Well, first of all, let me just say it was excellent timing on my predecessor's part. You should keep in mind that the metals industry is very cyclical. In the case of nickel, we're talking a five- to seven-year cycle. We have our boom periods and we have our difficult, or bust, periods. We're

component equates to about 50 per cent of the total operating cost. That would compare to the 15 or 20 per cent that we have in Indonesia. Consequently, if you're going to compare or compete with the likes of Indonesia and other countries where labor costs are small, your productivity — and that means technology and performance of people — has to be that much higher.

Unfortunately, during a three- or four-year period, we didn't keep pace. We had what at the time were considered to be appropriate collective bargaining agreements signed with our unionized people, and unfortunately productiv-

'87, the Canadian dollar has gone up by 15 cents. That's over a \$200 million-a-year hit on pre-tax earnings due to exchange rates only. Now, I could cry about that but I can't set the policy. You know, that's what we've got to live with, and the important thing is that we have to learn how to compete at whatever the exchange rate is.

POCHMURSKY: And whatever the cost of nickel itself is, which has been going down and down and down. At what point do you see some relief from that score? When are nickel prices going to start rising again so that you can

but longer term, we see good potential growth rates for nickel. We see the Russian nickel being absorbed and certainly we're working very closely with them to make that happen.

POCHMURSKY: Now at one point, Inco was going to buy a smelter in Australia — and that got, sort of, whisked away from under your nose. Is that a major disappointment that you had to live with? Or are you just concentrating on life at home and mining at home?

SOPKO: Well, we're committed to maintaining a certain market share. The nickel market is expanding and we have to expand with it. Australia offered us the opportunity of getting nickel units for the Pacific Rim countries where we are a very big player. We worked on that deal for the better part of a year. We thought we had a deal with the banks — but then the minority shareholder, which is the government of Queensland, put a number of onerous conditions on our becoming a partner that we just had to walk away. It wasn't whisked away from us, we walked away from the deal. It just didn't make sense any longer for us to participate.

POCHMURSKY: But are you looking at any other smelters around the world? Or are you looking actively towards expansion at this point? Can you afford it?

SOPKO: Certainly we can afford it. We wouldn't have gone after Australia if we couldn't afford it. We certainly have expansion possibilities. We have a smelter in Guatemala which we could start up in short order. It's sitting there right today — we have a tremendous ore body out there. We have the potential of expanding in Indonesia. We earlier this year announced the purchase of major interests in New Caledonia, which is the largest nickel ore source in the world. So, we've been in this business 100 years. We've got ores available for the next 50, 60, 70 years, and our intention is to continue to be the leading nickel producer in the world.

POCHMURSKY: And just looking into the future, when do you expect the fortunes of Inco to start turning up from this cyclical dip that you see now?

SOPKO: Well, I'm optimistic. We're still showing a small profit for this year. I'm optimistic that, with all the measures we're taking to improve our cost situation, that we're going to start making bigger dollars even in this difficult situation.

POCHMURSKY: Michael Sopko, thanks very much.



Michael Sopko, Chairman and CEO, Inco Ltd.

going through one of those right now. Yes, there are many challenges. Challenges are usually great opportunities and we certainly are taking every advantage now to do what's necessary to become much more competitive globally.

POCHMURSKY: Okay, let's just talk about some of the obstacles in your way. Analysts are very concerned about Inco's production costs. They've increased from \$63 a tonne to \$140 a tonne in the last four or five years. And they say that's just too much; you can't possibly be competitive on world markets with those kinds of production costs. So what are you going to do about it?

SOPKO: Well, let me first of all say that those costs are real. We still are competitive with most of the nickel industry by virtue of our size and technology. About one-third of the increases that you refer to is due to ore grades and ore tonnages. Now, we've been working very hard at bringing on line new mines — higher grade mines. And we're making progress there, and we expect that trend will continue in the years to come. We're already realizing some benefit there today.

Another important part of our costs is employment costs. In the nickel industry here in Canada, our employment cost

ity didn't keep pace with the salaries we were paying.

POCHMURSKY: But will you ever be able to be truly competitive? Because as I understand it, and I don't know a lot about nickel mining, but the mines in Canada are underground; they're expensive to get at; they're environmentally controversial — whereas for example in Russia, which is the world's largest producer of nickel, the kind of nickel they have there is open pit, environmentally friendly, you've got low labor costs. I mean, aren't you at a disadvantage that you won't ever be able to overcome?

SOPKO: Well, that's what they told us in the early '80s when people were predicting we only had so many weeks to go before we went bankrupt. We showed them that Canadian operations can be competitive. In fact, our Ontario and Manitoba divisions were the lowest-cost producers in the world. And that's what we're faced with today; addressing the question of ore grade, addressing the question of labor costs and productivity.

And we also have another disadvantage, and that's the Canadian dollar now. The impact of a one-cent increase in the value of the Canadian dollar relative to the U.S. dollar costs us \$14 million a year in pre-tax earnings. Now since

have a better bottom line?

SOPKO: First of all, let me say that nickel consumption is at a very respectable level today. The problem is there's too much supply. A large part of that additional supply is coming from Russia. Russia used to consume large quantities of nickel internally for armaments and other purposes. Their economy is in such a shape and their policies have changed to the point that internal consumption has dropped dramatically. And they need the hard currency.

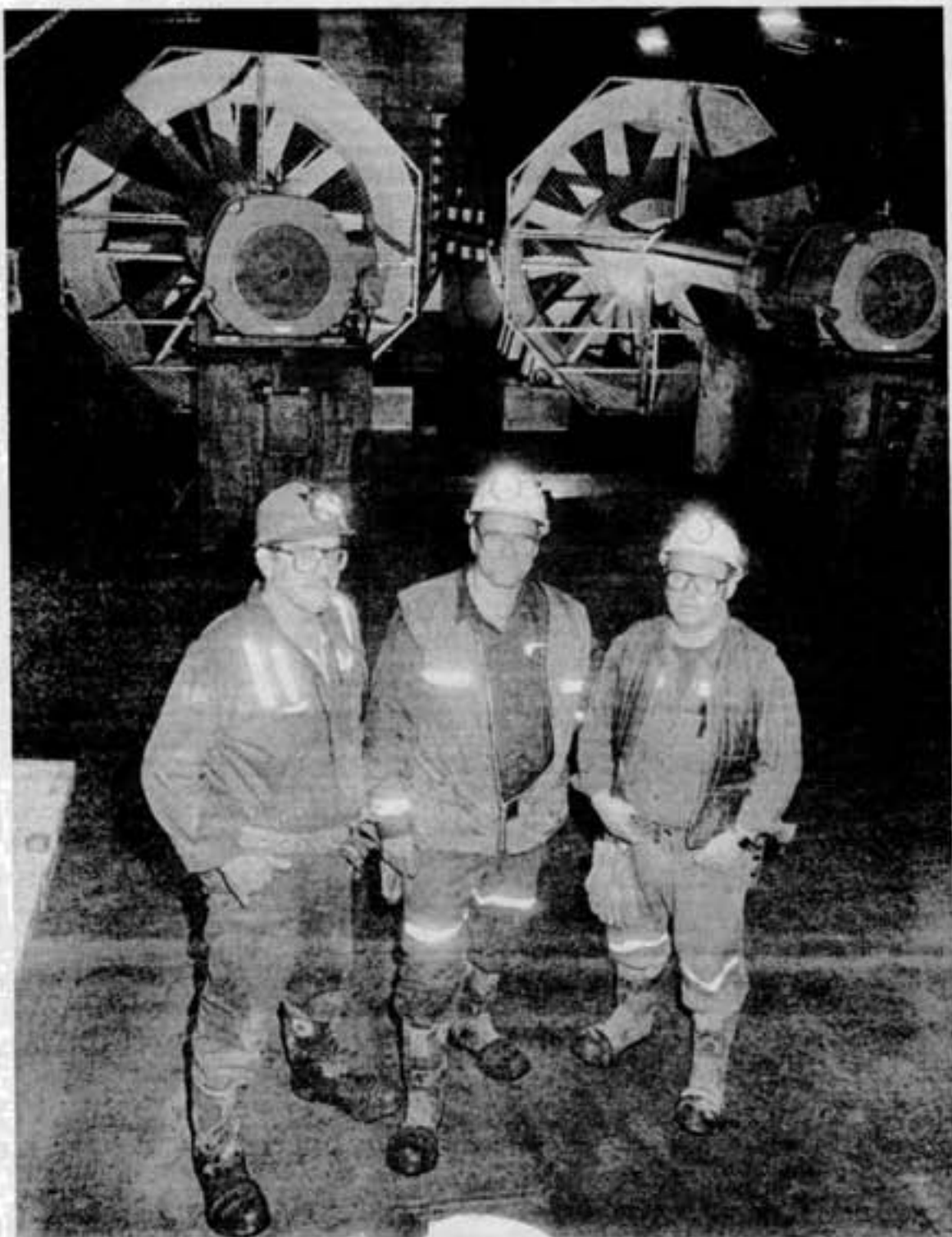
POCHMURSKY: So they're selling it.

SOPKO: What they do is they sell it.

POCHMURSKY: At distress levels.

SOPKO: And that has put more nickel on the market than the market can absorb at this time. Now, two things can happen. On the one hand, people can say, "Well, there's too much nickel. We'll cut back." Well, that hasn't happened. On the other hand, we can wait for the world economies to pick up to the point that the extra nickel will be consumed by the ability of the people to buy more materials. That will take a while to happen. So in the short term, yes, there is a problem in the supply-demand relationship —

MAKING *Change*



Gaston Duval, Henri Gervais and Ben Pye: Keeping things cool.

Major project by Stobie miners cuts costs, tightens scheduling and control

When it comes to cool dudes, you can't beat the Stobie miner.

And Gaston Duval, Henri Gervais and Ben Pye have earned the reputation of bringing some of the mine's biggest fans on board.

The fans in question are two huge 12-foot diameter ventilation fans at Stobie's 2,340-foot level that complete a major project to keep up the air supply as Stobie miners go deeper and deeper.

The fresh air supply fan system was the second and final stage of a project that saw identical booster return air fans installed at the 1,400 foot level of the mine by Inco Construction.

"I can't recall ever trying anything like this with our own people before," said Gaston, the construction leader for the three-man Stobie crew. "It was a real challenge. Since it was the first project of

its kind for us, we had no accurate way to estimate how long it would take us."

Judging from sheer size alone, it seems almost impossible that the three are responsible for the massive installation. They're dwarfed in the huge cavern that houses the fans, motors and concrete footings that they assembled, piece by piece, over the past nine months.

"We figured it would take longer than it did," said Gaston.

Stobie Construction Foreman Jim Zinger calls that an understatement, although he isn't surprised at the performance of his people.

"I knew our guys could do it," he said. "Judging from how well other projects have gone around here, I had no doubt at all."

Mine superintendent Mike Grace has a similar view. "This just reinforces the conviction

around here that our people have the skills and motivation to take on the most ambitious projects," he said.

"Much of the success of the overall project can be attributed to the cooperation and teamwork of just about everybody at the mine, from engineering and electrical to mechanical and operating groups," said Mike. "We held weekly meetings that ensured good communication and proved invaluable for eliminating any unnecessary delays."

For a major project like this one it's important not only to get the work done, but to ensure the prompt and timely delivery of the components. That takes teamwork. Just how smoothly this project went is a good indication of the way people work together around here.

"We decided to do the second stage ourselves, not only

to bring our costs down, follow our own schedule and gain more control of our own project, but to make it possible for Inco Construction to go on to other needed projects elsewhere."

Although it's the biggest project tackled by Stobie's own people that Mike can recall, he was confident from the start of their ability to do it.

"If we have the time, we have the people with the abilities to do most anything," he said.

He said the second phase finished on budget, on time and without injury. The lion's share of the work was done by the three-man crew, although temporary help was provided as required.

While the work went smoothly, said Gaston, it wasn't easy. "All of this stuff had to be brought down piece by piece, along with the normal traffic here."

Once at the site, it had to be assembled. Concrete floors, pillars and bases for holding the two huge, six ton high-efficiency motors were installed first as well as an overhead rail for moving the heavy sections into place.

"It was an interesting project, quite a challenge," said Gaston. "I think most of the guys would jump at doing something like this again. If you have a good crew with everybody working well together, that makes all the difference. I figure the next time we'd do it all the quicker. You learn on every job."

He notes that there is an "incredible difference" in the high-efficiency motors and fans compared with older equipment.

"When you turn these things on it feels like they'll blow you over. The force is incredible. Yet they hardly make any noise at all."

MAKING Change

Inco labs earn highest level of accreditation

Chemists in lab coats, rows of beakers with colored contents, little mechanical arms dipping probes into revolving sample holders. It all has the appearance of a Boris Karloff movie.

But that's where the similarity stops.

Inco laboratories, their employees and methods have once again placed themselves under the microscope to ensure work being carried out here is second to none around the world.

Just over a year ago, the analytical chemists and support staff in Inco's five Ontario Division laboratories earned themselves a berth among the best on the continent by gaining accreditation from the American Association for Laboratory Accreditation.

In what chief chemist John Bozic calls the labs' contribution to the company's quality improvement emphasis, the labs have recently earned an even higher level of accreditation with the application of requirements of the International Standards Organization (ISO).

"This reaccreditation done

by an independent auditor from the American Association for Laboratory Accreditation means that we have expanded our proven expertise and qualifications to the highest level possible," said John. "It's not just simply a reaccreditation, but also an expansion of what we can confidently do here. We have proven our ability, for example, by having all the analysis involved in the sulphur dioxide emissions calculations accredited."

The labs are also now accredited for automotive catalyst analysis for platinum, palladium and rhodium. The analysis is done for General Motors, one of several customers outside of Inco serviced by the lab.

"They are very pleased at the lab's high level of accreditation," said John.

John said the high level of competence in Inco's analysis work tends to build confidence among Inco's many customers.

"When we sell a product to the customer that we say has only a one part per million impurity, the accreditation means that the customer can



Analytical supervisor Bill Flora, chief chemist John Bozic, quality control coordinator Al Glaab and section leader Dave Maskery examine a sample at the Central Process Technology lab.

feel confident we are qualified to come up with that figure. If we are selling nickel and it's going to be used in a high performance jet engine, that

confidence is crucial."

Analytical supervisors at Inco laboratories are Jim Bellamy at the Copper Refinery, Gideon Smith at the Nickel

Refinery, John Breau at the Smelter and Bob Varden at the Port Colborne Refinery. Al Glaab is the Quality Control coordinator.

Voicemail effectiveness depends on user

Calm, cool and collected as we think we are, we've all had the experience of losing our composure at the busy signal we've been getting for the last hour or so... or the person who we just know is on the other end of the ring and won't pick up the phone.

The experience can ruin an otherwise sunny day.

TIM, Inco's Telephone Integrated Messaging system, is an attempt to give Inco telephone users a less frustrating day. The system has been in operation for about three years and is working well. Telecommunications coordinator Mary Sitko said that more than 50 per cent of people in the Division who can be

hooked up have done so. Between 10 and 20 new people sign up every week.

Yet, Mary warns that happy TIM users can inadvertently cause a new

back to him within a reasonable time," said Mary. "That's like responding to a friendly hello with a snarl. You're telling him or her that you're not interested in what they have to say."

Mary points out that this unfortunate "message" can be sent inadvertently if the TIM user doesn't keep his recorded greeting up-to-date. "If you forget to replace your 'out-of-the-office'

with our system," said Mary, "but that doesn't mean it can't be improved. Our success relies heavily on the best possible communication."

Used to its fullest potential, our voice mailing system can be a major contributor."

Some suggestions Mary has for TIM users include:

1. Don't hide behind voice mail; reply promptly.
2. Personalize your greetings and change them frequently.
3. Leave detailed messages to avoid telephone tag. If you're requesting information, make sure your messages

are complete and concise. Good information helps the recipient respond completely to requests via voice mail.

4. Address only one or two topics per message.

5. Be brief. If you're rambling, re-record.

6. State the key point by the third sentence. Don't save a surprise for the end of your message.

7. Talk live or write a memo if the topic is sensitive or complex.

8. Use the urgent delivery option with discretion. In some cases an urgent delivery option can trigger a person's pager.

Nationalize or Eulogize

At a ceremony marking the expansion of Inco's J. Roy Gordon Research Laboratory, Ontario Premier Bob Rae, whose New Democratic Party once called for the nationalization of Inco, praised the company's research and development track record and called it a great Canadian success story.

"We don't give ourselves enough pats on the back for

things we do well," Rae was quoted as saying in the Sept. 15 edition of the Toronto Star.

About 300 people attended the Mississauga event, including federal and municipal representatives. Officials used scissors powered by nickel-cadmium batteries to cut a nickel-coated fibre ribbon, a product of Inco's research labs.

kind of problem that comes closer to an insult than a frustration.

"Consider the person who's left you a message requiring a response and you don't get

greeting with 'on-vacation-for-three-weeks' message, the caller is going to think you're ignoring him or her.

"The overwhelming majority of users are very happy



MAKING Change

Port Colborne project 'shear' ingenuity

Port Colborne's Yard, Shipping and Shearing AutoShearing team has gone a long way to improve what they do.

All the way to Manitoba.

When the Total Quality Improvement team noticed some problems with their cathode quality, they approached the problem from supplier to customer, beginning a chain reaction that today saves money, time, effort and a lot of frustration.

Since the Port Colborne Refinery is the major electronic customer of Inco's Thompson, Manitoba Refinery, Port Colborne team representatives travelled to Thompson to discuss the situation with their northern counterparts.

Geza Szalkai, Inno Stocco, Gary Hoffman and Bob Reyburn took along two videos explaining Port Colborne's overall operations and



Team spirit was the key to finding solutions in the autoshearing process. Some of the people who contributed are, from left; Nardo Grimaldi, Biagio Crognale, Heiko Leers, Inno Stocco, Bob Reyburn, Barry Bitner, John Overall, Tony Domenicucci and Flor DiBartolomeo.



Biagio Crognale, Garry Hoffman and Nardo Grimaldi with the troublesome "finger" type feedgate.

autoshearing in detail. Problems experienced by Port shear operators were illustrated, along with possible solutions or suggestions for improvement.

"We discovered ways of improving things that are to our mutual interest," said TQI coordinator Bob Reyburn. "By working together we discovered areas where we could reduce variation. Through cooperation, we made each other's job easier and more effective."

Within hours of the presentation, the Thompson operation instituted significant changes in the way cathode sheets were sorted. Even before returning to Ontario, the Port team saw signs that the cooperative effort initiated by the visit would further improve the cathode quality going to Port Colborne.

The exchange proved beneficial to both. Discussions with Thompson revealed differences in the way maintenance crews change manual shear blades, and the Port

Colborne team is now, at the request of Thompson, producing a training video on their method of blade changing for use at both refineries.

"It's the perfect example of cooperation and commercial teamwork," said Bob. "We learn from them, they learn from us. They made adjustments at their end to make our job easier, but it ended up being a two-way street. They learned from us, too."

The Manitoba connection was only part of the focus as the team studied all aspects of the Port Colborne process which cuts full-plate cathodes into squares for Inco customers.

Customer complaints about inconsistent sizing, high maintenance costs and frequent down-time made the process an area with high potential for improvement.

"Although we're still improving the process, the equipment is already running more reliably than ever," said Bob. "I think that's because everybody involved in the process



Bob Reyburn and David Rusenstrom with the newly designed slotted gate.

was canvassed about what should be done to improve it. We have just about everybody involved, from maintenance people and industrial tradesmen to electricians, shear operators, sorters and engineers."

Customer complaints about inconsistent sizing have already been greatly reduced, thanks to an idea by maintenance mechanic Inno Stocco that led to a redesigned feedgate.

The feedgate aligns the strips and holds them as they are cut into different sizes. A row of spring-loaded steel fingers on the feedgate that held the strips was the problem. Fingers would break off

causing slippage of the strips and subsequent inconsistent sizing. The problem also created significant maintenance problems and equipment downtime, and the broken-off piece became unwanted foreign material in the finished product.

Inno's redesign replaced the fingers with slots in a length

of steel.

"It practically eliminated the constant maintenance problem and downtime," said Bob. "We used to have to shut the shear down at least once a day. With the new feedgate, it runs for months without a hitch. Slippage has been greatly reduced as well, making our sizing more consistent and our customers happy."

Still a prototype, the new feedgate design is still under development in an effort to further reduce the amount of slippage.

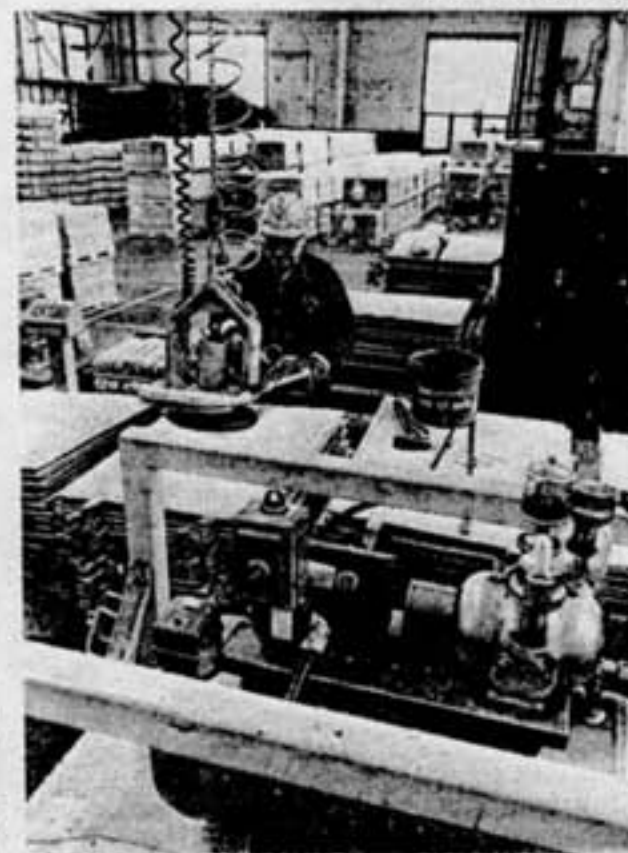
A design change in the vacuum lifter used to pick up the cathodes has been implemented as well. Redesigning the suction head and supplying a dedicated vacuum pump for the operation has virtually eliminated the problem of cathodes dropping due to suction failure. A redesigned handle on the equipment has also made it easier and safer to operate.

Team members are also working with blade manufacturers in an effort to increase the number of cuts each knife can handle. Heat treatments and sharpening are just some of the possibilities being looked at. Any increase in the life of the blades would eliminate some of the four-hour downtime required to change them. The blades are now changed about twice a week.

The team discovered another blade problem in a unique way. Since nickel is slightly magnetic, each blade must be demagnetized by the manufacturer. Team members suspected that inconsistent demagnetizing was a problem and that pieces were hanging up on the blades due to magnetic attraction, resulting in off-sized pieces in the product.

Since the blade moves too fast for the problem to be seen, the trick was to verify their suspicions. To solve the problem, a slow motion video camera was set up and suspicions were confirmed. "We're chipping away at the headaches a piece at a time," said Yard, Shipping and Shearing supervisor Gary Hoffman. "There's no doubt that the overall production is up. We have less downtime, and fewer unforeseen snags and frustrations for the operators."

Process engineer Heiko Leers sees the AutoShearing project as more than a productivity and cost-saving accomplishment. "The system operates more effectively today," he said, "because the people on the job were consulted. The teamwork aspect of the project is obvious and people know it. It builds teamwork and pride in the operation."



Nardo Grimaldi with improved vacuum lifter. In the foreground is the new compressor dedicated to the lifter.

MAKING *Change*

From Divisional Shops to the Smelter, we're doing things better

Continuous improvement, total quality improvement, total quality management, call it what you will — it means one thing: utilizing the brain power of every employee. This is no great secret and it is beginning to become an ever-increasing part of our division's culture.

This past spring it could be seen in the C.C. Smelter when they faced production problems. With excess capacity in the process before and after the Smelter's nickel circuit it was time to put that brain power to work to meet the increasing demands of other operating areas. Responding to the need Sid Segsworth, nickel circuit superintendent, put together a cross-functional team to help identify areas of opportunity for improvement in the smelting process. Made up of Sid, converter skimmer Andy Contant, industrial mechanic Tony Fragomeni, main aisle crane man Maurice Regimbal, smelter foreman Ed Forget, process engineer Loris Molino, and Smelter TQI coordinator Don Stewart, the team used brainstorming techniques to identify issues that affected the converter aisle's performance. The team's hard work resulted in a recommendation that four areas of opportunity be studied. These are: process communications, training and manpower, tuyere maintenance practices, and environmental dusting.

In late September four teams will be established to study the concerns and produce recommendations for action. Great stuff guys. We will update everyone on these teams outcomes in a future edition... Shed a little light

What is the best way to shed light on a problem?

Well, as the people in the Divisional machine shop complex discovered it can be a tricky issue. An opportunity was seen to improve the lighting in the area but the ques-

tion was how. When the shops were built in the late 1970's high pressure sodium (HPS) lighting was installed giving the workplace the yellowish-orange hue that is characteristic of these type of lights.

Established a lighting team to look at what improvements could be made. Lead by Bryan Chisnell, shop electrician, the team consisted of Jim Angove, machinist, Rock Bouchard, heavy duty equipment me-

will be the benefits? The most obvious outcome will be an increase in the colour rendition factor from 22 to 70. The colour rendering index is scaled from 1 to 100, with 100 being daylight illumination.

Lights are now turned off during the off shift hours which amounts to 50% of the time. This will result in approximately a 28% reduction in the lighting power consumption. The lower percentage cost reduction is due to lower off peak power rates. Congratulations to Brian and his team for their success...

Closing the loop

The Continuous Improvement Action Team's loss is the C.C. Copper Refinery's gain. Two of its team members are moving to the C.C.C.R. Ugo Dorigo of the Central Maintenance and Utilities CIAT is returning to his job as the TQI coordinator there and Steve Wood, formerly general foreman of Levack Mine and member of the Ore Flow CIAT team is joining the refinery's management group as superintendent of refining.

The Ore Flow team is also proudly giving up Bob Kerr, formerly mine foreman at Cobalt mine, who will take up a new position as TQI coordinator for the Froid-Stobie complex. To Ugo, Steve, and Bob we extend our best wishes and thanks for a job well done.

CIAT and TQI, how do they fit together? That will be the topic of a mini-conference slated for late September. Designed to identify how to build on the successes and avoid the pitfalls each process has experienced, the conference will bring together representatives of both groups. The Sudbury operation's 10 TQI coordinators and the 10 CIAT team leaders will meet to discuss the future of the quality movement and offer up suggestions to the executive steering team on how best we can foster the principles of quality improvement. Certainly an example of teamwork at its finest...

If you have any questions or comments about this column please call us at the CIAT office at 682-5231 or fax us at 682-5312.



This is the team that is literally throwing some light on the Continuous Improvement philosophy at Divisional Shops. From left are general foreman Willy Metson, mechanic Rock Bouchard, machinist Jim Angove, electrical technician Bryan Chisnell, Engineer Jeff Fuller and team facilitator Scott Stewart. Not present is machinist Tim Morse. The light fixture is a 400 watt high pressure sodium unit of the kind to be replaced with 1,000 watt metal halide units.

Over the years concerns were expressed that the poorer colour rendition of the HPS lights did not offer the necessary support to some aspects of the work performance that should be expected in a precision machine shop operation. But given the Division's emphasis on energy conservation, the switch back to the whiter mercury vapour lighting could not be contemplated. As new products came on the market though, new options presented themselves.

Early in 1992 the shops es-

tablished a lighting team, led by Bryan Chisnell, shop electrician, and Willy Metson, shops general foreman, Tim Morse, machinist, and C.I.A.T. facilitators Scott Stewart and Ugo Dorigo. They had many factors to consider such as colour rendition, light output, installation patterns and cost. The team's final recommendation, which was accepted, was to replace 98 of the 298 existing 400 watt HPS lights with 98 1000 watt metal halide fixtures by December of 1993. The cost of the fixtures will be \$43,000. So what

The ambient light in the shop will increase from the current 76 footcandles to 115 footcandles with no increase in the operating costs. Additionally from information accumulated by the team, the improved lighting conditions will have a variety of benefits such as: increased morale and productivity, greater accuracy, improved safety, and less worker fatigue.

A second major outcome is that an energy conservation program has begun to reduce lighting costs in the shops.



Lighting up with Less

Ontario Hydro Industrial Energy Advisor Mel Hargu and Power Department energy coordinator Andy Lemay display and energy-saving compact fluorescent bulb that uses approximately 45 per cent less energy than a standard bulb. The energy-saving bulbs are just one part of an Inco-wide lighting retrofit project that will save Inco an estimated \$1.5 annually. Mel presented Inco with a \$250,000 cheque, part of a \$1.2 million package of Hydro incentives tied to Inco's energy conservation efforts.



Population explosion a key element in unique environmental project

A carefully nurtured, well-housed, well-fed, rapidly propagating and pampered workforce of countless billions may help Inco transform once-active mining sites as near as possible to their pristine natural state.

If researchers can work the bugs in.

In a unique research project partially funded by Inco, researchers are building test neighborhoods to entice alkalinity-producing bacteria to move in and propagate.

"We are trying to harness the bugs to treat the acidity in the water," said project manager Tom Hynes of Environmental Control. "The bacteria release alkalinity in the water, neutralizing the acidity during the process of converting sulphate to sulphide."

If it works, said Tom, at least part of future decommissioning of Inco sites may be done in the most environmentally-friendly method possible, without huge applications of chemicals and other more ecologically-disruptive procedures.

"We're trying to set things up so nature itself can do the

job," said Tom.

For the past three summers, researchers from Boojum Research Ltd. of Toronto have been "ecologically engineering" a series of ponds at the base of the tailings dam at Makela Seepage Station. Called "engineered wetlands," the ponds have been organically engineered to be as hospitable as possible to the de-

sired kind of bacteria.

Water seepage at the base of the dam is diverted into the test ponds. Iron settles in the first two ponds and the treatment takes place in the remaining two ponds.

Researchers have planted cattails on floating mats to provide a food source for the "bugs." Very hardy and able to withstand the acidic water,

the cattails decay and serve as a meal for the bacteria. The floating mats keep the roots off the bottom where they would compete with the bugs for nutrients in the bottom sediment.

"We are not introducing new kinds of bacteria," said Tom. "The organisms we need are naturally present in the environment. What we are

trying to do is to help propagate a larger population of the ones we need for the process."

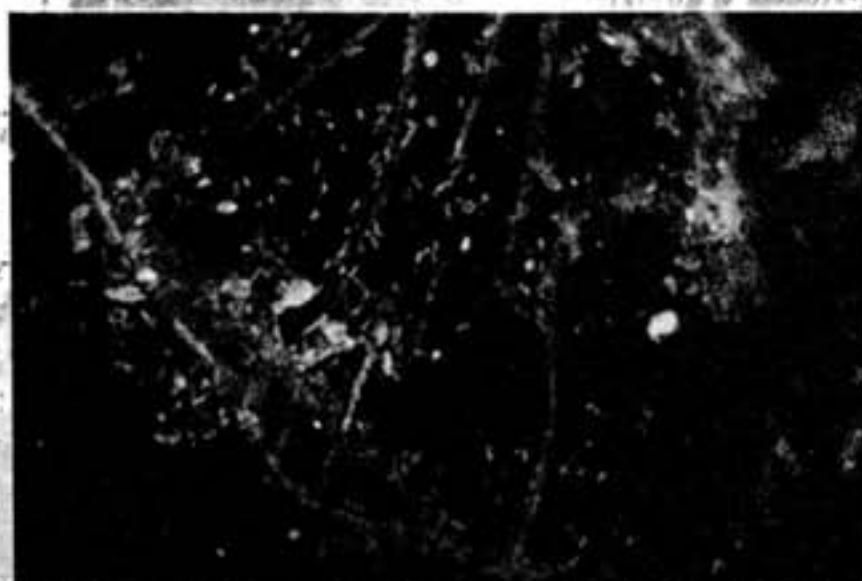
To provide the necessary food chain, about four or five different kinds of bacteria must feel at home in their experimental Inco environment.

"We have to find a way to keep them all happy," said Tom.

He said there's ample evidence that the procedure works. "We've taken a highly acidic area at the tailings and used the procedure to greatly reduce the acidity. What is uncertain is if it'll work at a scale that is useful for us."

The successful tests were done with waterflows of no greater than a litre a minute. This year's testing will determine if the procedure will work at the much greater waterflows needed for mine decommissioning purposes.

"We are trying to establish where the limitations of this process are," said Tom. "If the waterflows are too fast it will flush out the bugs or move through the ponds too fast for the chemical reaction to work effectively. If the waterflow



Bacterial colonization from Makela site samples in which the acid reduction using microbiology processes is active. Spiral shaped bacteria typical of sulphate reducers are apparent. The magnification is 1,700 X.

limits to the procedure are too slow, it will make the procedure ineffective for our requirements."

By the end of this year's monitoring, researchers should know if they'll continue or scrap the project.

"This has never been tried before. It's basic research," said Tom. "We estimate that it has about a 50-50 chance of working. It may not be a sure bet, but if it works it would be a major breakthrough in our decommissioning strategy."

Avoiding heavy dosages of chemicals would be just one of the advantages. "It's a low maintenance, passive solution," said Tom. "There isn't the power consumption, pumps, machinery, maintenance and manpower that's usually required for decommissioning work. It's particularly useful for sites in remote areas where access is difficult, where it's difficult to get men and machinery in."

If the experiment succeeds, about the only Inco input into the process would be periodic monitoring to see if mother nature is doing the job.

Even if it works, Tom doubts the method will be applicable in the near future to larger sites such as the Copper Cliff tailings area. But it would be ideal, he said, at the many smaller sites. He speculated that further research and experience gained in applying biological engineering could provide answers for using the method at larger sites.

Applicability to site-specific conditions, according to Boojum Research president Margaret Kalin, is the thrust of this year's research. "Rates of metal removal from waste water streams will be quantified based on pond depth, flow, metal concentration and growth rates."

"Although the effort to arrive at ecological engineering solutions has yielded to date no completed success stories, a successful decommissioning solution lies in helping nature re-establish ecosystem equilibrium in the long-term. The potential economic benefits of this approach seem to outweigh those of any other current decommissioning option."



Researcher Alan Unwin spreads slow-release fertilizer on the platform soil.



Inco summer student Mary-Jo Santi and Alan Unwin do some water sampling in an outdoor on-site laboratory.



Boojum Research's Matthew English and Jim Savage of Environmental Control examine a cattail root.



Martin Smith holds up flax and hay that provides food for acid reducing bacteria. The blackened sections are re-mineralized metals.



Matthew English of Boojum Research stretches to plant cattail seedlings on a floating platform.



The series of ponds at the base of the tailings dam at Makela Seepage Station show as white boxes just above the lower right corner of this picture. The photo was taken last winter.

Soggy PPO golfers fashion flood wear

Never mind that it wasn't sport at its professional best. It was the avant-garde in rainwear.

Safety and Plant Protection Golf Tournament participants shook defiant fists at the heavy grey overcast sky, drizzling rain and soggy greens and tailored imaginative raincoats out of plastic garbage bags supplied by the Pinegrove Golf and Country Club.

It looked a little like a Landfill Convention as the wrinkly green golfers sloshed around nine holes, some fanning wildly at the little white ball in an apparent effort to dry it off.

"It's the first tournament we've had in over a decade," said Len Leclair, one of the organizers. "All 48 people who registered for it turned out despite the rain. Nobody cancelled out. That has to tell you something about the enthusiasm around here."

He said it was the department's summer students who were instrumental in reviving the annual golf tournament. "The students wanted to do something together with our employees before they had to leave. We figured it was a good time to test to see if the tournament could be revived."

Not only will the tournament be held again next year, but Len figures it'll be expanded to 18 holes. "With this kind of response, we'll go with it again."

Holding social events in the department is particularly hard, he said, because of the nature of the work. "We've got a good percentage of our people on duty at any given time. That makes it hard for us to get everybody out. But our supervisors did their best to allow as many people to turn out as possible."

Len Leclair gets ready to swing.



Guest golfer Cathy Mulroy of North Mine fans the ball, apparently to dry it off. She came prepared with a raincoat.



Plant Protection officer Roger Daoust is dressed in a high-fashion garbage bag gown and Audio Visual's Mike Barrette wears a fashionable plastic miniskirt as they attempt to get some life out of the golf cart.

Food for Thought

Power Breakfasts

Do you skip breakfast? Or, do you breakfast on coffee and donuts?

If so, you are one of many Canadians who do not start their day with a nutritious meal. About one-third of adults over 15 years do not have breakfast regularly. As many as half of Canadian children have a poor breakfast or none at all.

Breakfast is a powerful meal because it gives energy to replenish your body after an all night fast. Breakfast eaters have more energy and concentration than breakfast skippers and they also have diets with more of the necessary nutrients.

Reasons often given for skipping breakfast include:

I have no time. I'm rushing to work. I like to sleep late.

I want to lose weight

I'm not hungry when I first wake up.

If you believe you are saving calories by skipping breakfast, think again. You almost always eat more later in the day.

If you are not hungry first thing or you are short on time remember, breakfast does not have to be eaten immediately when you get out of bed. You can pack breakfast and eat in the car on the way to work or on your morning break.

If you can't face a whole breakfast meal then start out gradually. Even one or two nutritious foods like a glass of milk and a piece of fresh fruit are better than nothing at all.

Also, if you snack late at night or have heavy evening meals this may reduce your appetite for breakfast foods. If this is the case, try changing your snacking and supper habits.

What foods make up a power breakfast

A good breakfast should provide one-quarter to one-third of your daily calories. Your breakfast should have at least three of the four food groups — fresh fruit or fruit juice, breakfast cereal or whole grain bread, and a protein

food from the meat or milk groups like cheese, milk, yogurt, eggs, peanut butter or cold meat or fish.

It is also important to choose lower fat, high fibre breakfast foods.

Watch out for the granola, bacon, sausages, danish and croissant. They are loaded with fat and calories.

Eggs, are they okay?

If, like most people, your blood cholesterol levels are normal, there is no need for you to cut out eggs or any other cholesterol-containing food. Up to five eggs, including those used in cooking and baking, is considered a reasonable weekly intake for healthy people.

However, if your blood cholesterol level is really high and it is not coming down, eggs will be restricted not only because of their cholesterol but also because of their fat content.

Reading breakfast cereal labels

Hot or ready-to-eat cereal is one of the fastest and most nutritious breakfasts. Add fruit and use two per cent, one per cent or skim milk and you have an easy, inexpensive healthy meal. All cereals are low in fat except store bought granola.

Cereals are among the best labelled foods. Look at the nutrition information on the side panel and buy one that is a high or very high source of fibre.

Fast food breakfasts

Choose wisely. Egg and cheese combinations on buns or biscuits are loaded with fat and sodium. Some large size muffins can have as much fat as deep fried donuts.

What about coffee?

You should drink no more than four cups of regular coffee a day. Try half coffee and half milk, a decaffeinated coffee or a brew that mixes regular coffee with decaffeinated grounds.



Lionel Rodrigue, Garnet Phillips, Cathy Mulroy, Lise Phillipow and Bruce Sheehan wait for the next well-done steak.

Contest will name Inco energy mascot

The Power Department is entering the second phase of its Energy Awareness program with the launching of a contest to name the program's cartoon mascot.

Open to elementary school children of Inco employees, the contest is advertised in this issue of the Triangle.

According to Power Department energy coordinator Andy Lemay, the contest is part of a wide-ranging program to continue promoting energy awareness through on-going poster and information projects directed at reminding employees that all have a stake in reducing electrical costs.

The first phase of the program involved the production and distribution of a video entitled *Who left the lights on?* The video features interviews with a cross section of Inco employees who elaborate on energy saving meth-

ods that have been or soon will be implemented throughout



the Division as well as things employees have done to cut energy costs at home. Along with the contest, a coloring

book titled *Who left the lights on?* has been commissioned. To be made available for employees to take home to their children, the coloring book will include mazes, quizzes, comic strips, facts and falsehoods and a host of other interesting activities to help promote an awareness of energy consumption.

Ontario Division president Jim Ashcroft is one of seven judges who will pick the winner of the mascot naming contest. Others on the panel are Steelworkers Local 6500 and 6600 presidents Dave Campbell and Harold Love, Engineering assistant manager John LeMay, Karen

DeBenedet of Public Affairs, consultant Ralph Senderowitz and cartoonist Vic Theriault.

A computer systems operator with Information Systems, Vic drew the mascot and will be doing the lion's share of the work on the coloring book, posters and other program art work.

The contest winner will be announced in the November Triangle.

Come up with the best name for the Inco Energy Awareness Mascot and win:

- A tour of Inco's Power Department
- A framed copy of the Energy Mascot poster
- A rechargeable battery kit
- An official Energy Awareness T-shirt
- Your name will appear in every copy of the Energy Awareness coloring book

I think this mascot's name should be:

Clip this ad or send us the name you have chosen in a short note and include:

your name _____
 age _____
 address _____
 telephone _____
 name of school and grade _____
 mom/dad's name and where they work at Inco. _____

Send your entry to:
 Inco Power Services Centre,
 C/O Andy Lemay, Copper Cliff, POM INO

S.H.E. says...

Safety, Health and Environment

Inco searches for lost volcanoes

The raven soars in lazy circles and screeches a taunting cry as he surveys the land and the man crouched in the field below. The sound of the bird draws the attention of Mike Peters who raises his head from his work and shields his eyes from the hot sun as he looks toward the sky. "That bird knows the secret of the lost volcanoes..."

Does this sound like the beginning of a dramatic novel? Well, it's just another day in Inco's land reclamation program and volcanoes and ravens are at the centre of this particular story.

Mike Peters, grounds specialist - turned volcanologist (of sorts) has his hands

full of volcanoes as he explains the situation. These aren't the kind of volcanoes that spit fire and molten lava. Just the opposite. "They nurture and protect pine seeds as they germinate and develop into seedlings."

The "volcanoes" are actually compressed peat moss and are under evaluation for use in Inco's reclamation program. A pine seed is glued to the bottom of a peat pellet which is then placed into a one-inch hole in the ground and covered with a compressed peat cone whose appearance is similar to that of a volcano. The seed is protected through the germination stage and later the peat dissolves into the soil surrounding the grow-

ing seedling. The advantage is that all growth stages occur in the field.

The existing growing program requires much more manual handling. It begins when seeds are planted and germination occurs in the Inco greenhouse or at the 4,600 foot-level of Creighton Mine. After germination the seedlings are moved outside to acclimatize. Screens shield the trays of seedlings from direct sunlight. This "hardening" period lasts approximately two weeks. The seedlings are then planted in areas where a grass cover has been established.

This past spring Inco's reclamation experts, always searching for ways to improve greening efforts, placed 125 of the volcanoes in a test plot located between Clarabelle Mill and North Mine.

A few weeks later, it was discovered that most of the volcanoes had disappeared. Among those that remained, most had germinated successfully. Small wire cages now protect them.

Anxious to solve the mystery of the lost volcanoes, Mike consulted with experienced foresters. Yes, they had seen this before. Apparently, ravens have a cravin' for the peat moss pellets and cones and have been caught "croplifting" in similar tree plots.

A quick check of the

Audobon Field Guide to North American Birds provides a clue to the large black birds' motivation. Ravens' nests consist of a mass of sticks containing a cup lined with fur, lichens and moss! This revelation resulted in a theory. Somewhere this spring, nestled high on a cliff or in the top of a tree, the peat moss volcanoes helped to nurture and protect raven hatchlings!

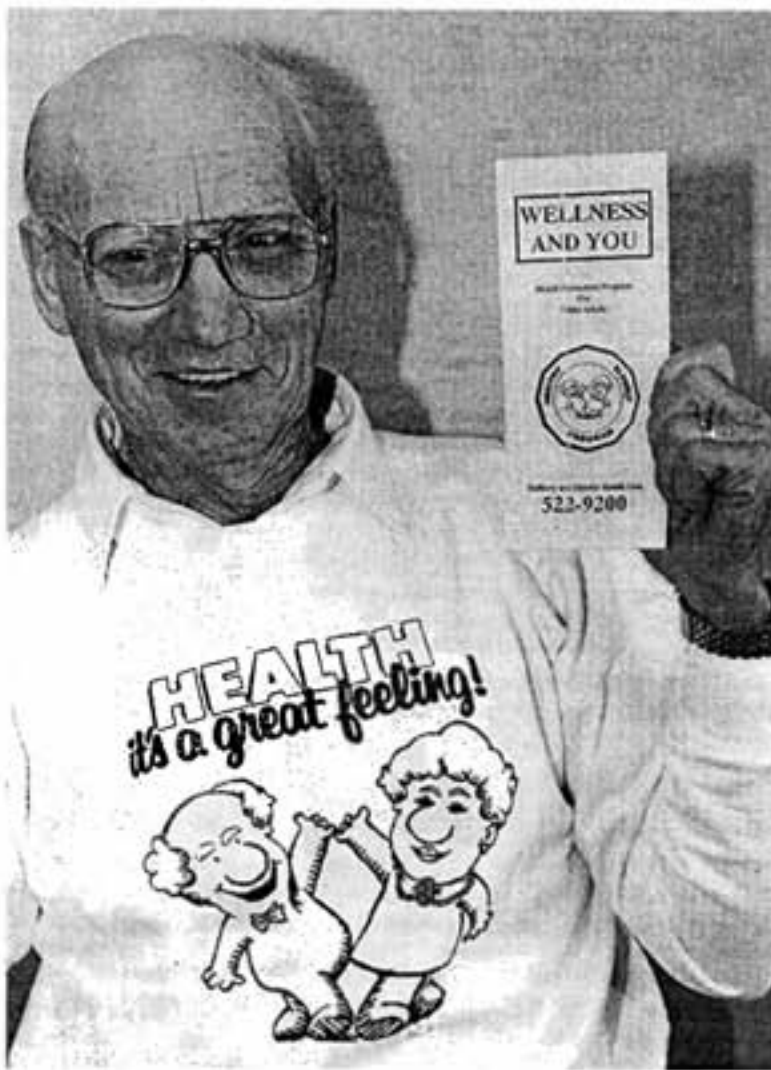
Curious to verify the theory, environmental personnel took advantage of an unfortunate circumstance which befell two ravens who chose to make the Inco tailings area their home. A large nest, built years ago and used annually, was toppled from its perch atop a dead poplar tree during this summer's memorable wind storm. A quick dissection of the grounded nest's construction materials yielded, among other things, sticks, fuzzy cattail seeds, wads of string, some "O" rings, insulation, a wire bucket handle, some copper wire, and yes, shredded bits of compressed peat moss. Mystery solved.

Despite this year's setbacks, if the experiment is a success and the "volcano" program worth expanding, then a new method of discouraging the ravens will have to be sought. The prospect of small cages littering the landscape is not an attractive one.

The odd scarecrow might be interesting.

in touch

Wellness a project for Inco pensioner



Roger Paquin: health is his project

Roger Paquin may be 68 years old but the retired Inco employee says he feels like he's 40 years young.

Eating right, exercise and cutting out bad habits are a few of the things to which he attributes his good health. "I have always been fortunate to have good health but I'm now learning better ways to look after myself," he said.

For the past two years, Paquin and his wife have been involved in a health promotion program called Wellness and You sponsored by the Sudbury and District Health Unit.

"I have learned quite a bit from the program. Before attending the sessions we never thought about the amount of cholesterol in the food we were eating. Now we always check when we go out shopping," said Roger.

A public health nurse visits the Club Joie de Vivre to which Roger belongs. About once a week, she discusses various issues with the group, ranging from the myths about aging and what is in your medicine cabinet to street and home safety.

Roger has tried to practice what he has learned and it's paying off. "I believe if you

take care of yourself you will feel better and I do," he said. "My wife says that I eat better now than I ever did. If I don't have breakfast in the morning I don't leave the house."

Retirement certainly hasn't slowed Roger down. He is as busy now as he was when he worked at Inco for 47 years. He started working when he was 14 and retired in 1984 at the age of 61. Paquin worked as a crane operator in Coniston and then as a lift truck operator in Copper Cliff.

The hardest part is fitting all of his activities in. "I like to keep busy by doing carpentry and gardening. The only problem is that I have no time to go camping," he said.

Staying active is important for Roger. "I talked to one guy who said that he got up in the morning, ate breakfast, had a cigarette and then watched television the rest of the day. That's not the life for me," he said.

Roger has just started an exercise program with the Club Joie de Vivre. "It's a lot of fun. We get together once a week every Saturday to walk and do various exercises."

He is leading a healthier lifestyle now and encourages his friends and family to fol-

low his lead. "My daughter used to go to work in the morning without eating breakfast until I told her that it was the most important meal of the day," said Roger, who has raised eight children in Sudbury.

Over the years he has kicked a few bad habits. He says that he quit smoking cigarettes when a package cost 38 cents. "I just threw them out one day and I have felt better ever since." He now passes sweets by. "I went to an Inco Christmas party last year and I took a box of donuts with me but I didn't have any. I laughed and told the secretary that they weren't good for me."

Dorothy Thomson, Wellness and You program coordinator, says Roger is a typical participant. "He is in good health but like many seniors he needs to know how he can keep that way," she said.

"We have a number of retired Inco employees in the program which is geared to the specific needs of people 65 and older."

If seniors are interested they just have to contact me at the Sudbury regional health office and I can find them a spot in the free program."

It's hard to keep a good pensioner down

"One ... two ... three ... Bungee!!!!"

Without a second's hesitation, Inco pensioner Olger Plavins dove head-first from the platform 150 feet above Cedar Pointe Mall. Arms stretched straight out in front and eyes bulging, he watched helplessly as the ant colony on the pavement below rushed at him to reveal a sea of upturned faces.

"Actually, coming down was the easiest part," said the 65-year-old former South Mine heavy equipment mechanic who retired this year after 41 years with Inco. "It's standing in line waiting to go up ... that's the hard part."

The loose tether trailing the airborne figure like an um-

bilical cord straightened and stretched, then contracted. His ankles tied to the cord, Olger yanked into reverse. The tether contracted and stretched at least four times, and in the split-second still point between the tether's contraction and expansion, Olger flopped around like a kite in a windstorm, then plunged downward again.

"I was standing in the lineup waiting to go up and I started to edge my way out when my son asked me if I was going to go up. That did it. That's when I made up my mind to do it. I'm not afraid of heights but I'm not all that comfortable with them either. It scares me sometimes."

"On the way up on the

platform my heart was kind of pounding. I knew that if I hesitated, I'd be in trouble. I decided to jump right away. I figure the longer you wait, the worse it becomes."

The trip up on the platform seemed an eternity, but once out on the ledge there was little fear left, only pure excitement. On the count of three, he sailed into the air like an Olympic diver.

"I've always liked personal challenges. That's one of the reasons I liked my job at Inco. It was always interesting, always something new. I don't think I did this to prove something to other people. I see a challenge as a personal thing. I do it for me."

A bare-chested Olger hung

like a slab of meat in a butcher shop as the last bounce went out of the elastic tether. The wild gyrations had pushed his



Olger Plavins steps onto the platform.

sweatshirt almost over his head. The tether slowly lowered Olger to a thick mattress on the ground. With feet still tied to the cord and laying flat on his back, Olger spotted his son among the sea of spectators. Wearing a broad grin, he gave a triumphant two thumbs up.

Olger claims he's normally not the daredevil type, although some of his regular activities like windsurfing and downhill skiing (he's been on the Ski Patrol at Onaping for the past 10 years) are hardly the traditional activities of a senior citizen.

"I keep busy now that I'm retired," he said. "Time sure goes fast when you're a pensioner."

No accidents, missed shifts in 39 years for Levack historian/miner

When you pay attention to your own life as closely as Hans Brasch does, perhaps 39 years of accident-free work isn't as amazing as it sounds.

Despite the fact that he's been involved in virtually all of the most hazardous underground jobs in his lengthy career as a Levack miner, Hans' records don't show as much as a hangnail.

And then there's the Levack skip hoistman's penchant for record keeping. He stores, records and indexes just about every significant event of his life, from the first buck he made at Inco to on-the-job photographs taken almost 40 years ago.

That could explain why he's never missed a shift in his four decades at Levack... and why his wife, Christine, claims he'd go to work sick even if he had to carry his head under his arm.

After all, something might have happened while he was home convalescing, and Hans wouldn't be there to record it, photograph it and paste it in his personal archives.

When Hans retired early this year, Levack lost not only a conscientious, punctilious, safety-minded and loyal employee, they may have also ended an unofficial record of the daily life and happenings at the mine.

"I guess I was born a record-keeper," he said as he pulled a picture from among hundreds and proudly shoved it across the dining room table. It showed a young man, shovel in hand, digging muck somewhere in the bowels of Levack. "You started as a shoveller back then, and shoveller meant just that. You shovelled muck for eight hours a day. When you went home after a day's work, you were exhausted."

Hans' album covers just about every stage of his career at Inco. There are pictures of Hans with a pick and shovel, at the helm of an underground tram, with drills, and other pieces of machinery. "I've been a pipeman, driller, motorman, and on and on. I guess I've done about everything there is to do at a mine."

As well as the hundreds of photographs, there are binders of typewritten records that contain, among other things, dates, times, and locations at Levack where he's worked. Photocopies of significant items, such as the first dollar earned, certificates and awards, break up the type. Each page is carefully protected with plastic report covers.

Leaves home

Leaving his native Germany in 1952, Hans got jobs as a dishwasher, logger and construction worker in Canada before signing on with Inco. It was all the moving

around he was going to do. After starting at Levack he declared it home.

"I liked it here and that's where I was going to stay. I never moved anywhere else but Levack."

He was scared stiff the first time down in the mine, but it was good money and he figured he'd make a go of it.

tucked the camera under his arm and snuck it underground. "Later they relaxed the regulation, but back then it wasn't allowed."

His photography shows a unique record of the changes at Levack, and unlike Inco's official record of major events, developments and new projects and equipment, it

the 1923 fire department. In the same book, a second picture taken in 1865 shows his great (he hasn't figured out how many "greats" should precede) grandfather who was a farmer at Zanegg.

"A rich farmer, I figure. You know how much it cost to have a picture taken in those days?"

Rich history

His family has a history of prominence, and perhaps Hans' penchant for recording the family record comes from the fact that the Brasch family has something to record.

Many of his ancestors were mayors, judges, firefighters or held other public service positions. Although Hans' father died on the Russian front in the last war, his mother continued the tradition of public activism until she died three years ago. She was president of a province-wide consumers association and looked after welfare programs and other public concerns. She earned a national decoration for her public service.

"Mother kept a lot of records too," said Hans. "I've got boxes of them right here. I don't know what all is in there yet."

Christine's role seems to be one of patience as her engrossed husband crawls through mountains of paper, hunts down obscure records and spends hours cataloguing and recording. "Once he starts, he doesn't give up," she said.

On the other hand, Christine is no passive observer when it comes to just about everything else. When her husband decided to build a house along Highway 144 between Chelmsford and Dowling, it was Christine who helped her husband fill in a swamp on the property by carting tons of rock Hans blasted out for the foundation.

"She was my powderman," said Hans. "We built most of the house ourselves, Christine and I. We had some help from friends, but we did most of it ourselves."

Levack life

The latest chapter in the

Brasch family record ties into Levack, and Hans said he doesn't regret one minute of it.

"I don't want to lose my personal history. Your mind plays tricks, but when I go back and look at the pictures or read about something, it all comes back to me. Things were tough back then, but luckily they've changed. Much of the backbreaking work is gone and management style has gone from confrontation to communication and cooperation. Thinking back, I guess that's the major change that has made the work a lot more worthwhile. Today, you get the feeling that you are part of the company, that you are motivated to work rather than yelled at."

"Of course, in those days just about everybody shovelled at the rock face. Today you rarely see anyone lifting a shovel."

Ironically, Hans sees the initial years of backbreaking work and mean-hearted management as a blessing. "I had something to compare (modern) conditions to," he said. "You can appreciate the job more that way."

Hans keeps his records not only for himself, but for his children. "They're not into it (family archives) yet. That's probably because I'm still around to do it."

Million memories

"I'm happy and satisfied with my life and that's reflected in my records," he said. "I feel my life is worth remembering. Many people measure their lives against what other people have. I feel like a millionaire and I don't have a million dollars."

"I liked my work and Levack has been good to me. The decision to retire wasn't an easy one. But then, I guess I had to quit sometime."

A certificate, handed to Hans by complex manager Jon Gill on the retiree's last day at work, states the affection accumulated over almost four decades.

"We thank you for the reliability and dedication you have given to your job," the certificate states. "This has been reflected in your unblemished safety record. It is also notable that during your entire history with us, there is no record of you ever missing a day's work."

"We wish you and your wife Christine many years of happiness in your retirement."

A second certificate, signed by Levack Complex maintenance superintendent Roy Landrye and Levack Mine maintenance general foreman Doug Koroscil, made Hans an honorary member of the Levack Maintenance Department for his "work and dedication over and above the duties of a hoistman and operator at Levack Mine."



Hans Brasch and wife Christine look over the detailed photo record of his 39 accident-free years at Levack.

It was one time that his fear and archival instincts came into conflict. Inco wasn't exactly an easy go back then, he explained, and the management style was basically

shows changes from a miner's perspective.

Viewed from a broader perspective, the brief Inco years turn out to be only a tag-along footnote to a Brasch family



Leavack Complex manager Jon Gill (left) and maintenance superintendent Roy Landrye flank Hans Brasch on his last day on the job. The plaque he's holding commemorates his contributions to the operation and his many safety-conscious years.

screams and threats followed by blind obedience.

Cameras weren't allowed underground and Hans faced leaving a chapter of his life unrecorded. But he braved the wrath of his supervisors,

history that he's traced back to the 16th century.

He'll show you a book about his Austrian hometown of Zanegg that features a picture of his grandfather among a score of others in a picture of



HERITAGE THREADS

Sailing into the deepening twilight of the 20th century, our corporate ship isn't exactly hydroplaning. In today's economy, it takes a good captain just to avoid the icebergs.

Costs are a struggle. Metal prices groan ever downward. LME nickel warehouses look like winners at a pie-eating contest. Industry profits fail to excite. All in all, it's mighty tough to succeed at the old game.

My economist friend dislikes comparing serious business to a game, and he bristles when the people in an industry are called "players". Gosh, he's picky.

Okay — if this isn't a game and we aren't players, how do we describe the conundrum we find ourselves in?

Well, here's a \$50 buzzword that may help us figure it out: paradigm. Isn't that special?

Pair—a—What?

Paradigm.

Pronounce it the way it looks and it brings to mind two dogs after a buried bone. Not quite.

A paradigm (pair-a-dime, if you weren't sure) is basically a pattern. It's a way of tackling something according to certain rules. It sets limits. If you follow the rules, stay within the limits and solve the challenge, you win! Just like a game, right?

So, why not just use the easy, old-fashioned word — other than because it upsets my friend? Well, have you ever gone to the Legion, even at your thirstiest, for a paradigm of darts? Of course not. A sudden change in the rules could be dangerous.

You see, that's the big difference: with paradigms, losing is not honorable. You can't just buy another round, laugh it off and try for the best two out of three.

There are two basic kinds of paradigms: the good and the bad ones — those that solve problems and win, and those that do not. Or, look at it another way: old, ineffective paradigms are like ruts. Good ones, old or new, are paths to success.

And there are lots of them — thousands of little paradigms, dealing maybe with the way we go about baking a cake, using retirement years or re-capping a hoist rope — and huge, extremely difficult ones like recovering from Hurricane Andrew or marketing our metal products around the world.

Pretty heavy stuff, huh? Well, how do you think this beat up old electrician feels, trying to write about it? Bear with me, dear hearts — and don't skip to the dirty parts.

Old Idea, New Name

Did you ever worry about learning something new and then discover that most of it was just common sense that had already crossed your mind many times?

Well, how about this? Our buzzword may be new, but the idea's as old as the hills. You've seen it in action all your life. Believe it or not, you've likely tried to shift more than one paradigm in your day.

You've tried every time you've said: "The way we've been doing this just isn't good enough!"

Just think back.

Remember all the things you've had to do just because they've always been done that way? Remember the problems they said couldn't be solved? And remember the ideas you had? Oh yeah, those ideas.

Unless you just arrived last night or have really been keeping your creativity under wraps, you've likely been told a time or two to keep your bright ideas to yourself. Or maybe to do something more anatomically difficult. If so, you know a lot more about

Nickel and 'Digms

paradigms than you think.

Sure, new ideas have been accepted and put into practice and you and I know about lots of them. But the point of all this jabber is that we need more new ideas — a whole lot more.

Quality's Not Enough

Our TQI folks may want to wash out my mouth with soap, but the quality revolution is only part of the story. Just doing things "better and better" won't keep us in the lead. Don't get me wrong: it's crucially important and we must do it, but it'll only qualify us to run with the pack. To get ahead, we have to innovate.

A super-alloy, trillion-hoofbeat horseshoe might be the finest on earth, but that market has come rather "unglued". Even before we enter the new century, we're going to have to do newer, better things — things that existing paradigms say are impossible.

We've had to do it before. As you know, during the First World War our industry (and hence our company) was caught up in defence production. But, when hostilities ended, the bottom fell out of our market. As good as nickel-steel armor plate was, no one needed any. So, Robert Crooks Stanley and his people scrapped our old marketing paradigms and developed new ones that helped create peacetime uses for our principal product.

At the end of the Second World War, the problem was ore reserves. To meet anticipated increases in peacetime production new deposits had to be found. But the old way of doing things, solely on the ground, with teams of geologists and diamond drillers, would be too slow and unpredictable. So, right, they changed the paradigm: enter aeromagnetic exploration. Result? The great Thompson nickel discovery.

So, what's the challenge now?

There may still be a few who think it's just a matter of waiting. The recession will end, demand will pick up and one sunny Monday morning we'll wake up and find that everything is beautiful again. Just one big, friendly cycle.

My economist friend says no. This time, it's big, structural stuff. The world of nickel production and consumption has changed forever, requiring real changes in the way we do things. It's paradigm time again and we're gearing up to shift a few.

A big-ticket item is the new addition at the J. Roy Gordon Research Lab and the commitment of more money to research. That arena, boys and girls, is where a lot of our bets will have to be placed.

But, just because our scientists will continue to be in hot pursuit of new, marketable products, that doesn't mean we mortals can't toss in an idea or two.

That's another thing about new paradigms: sometimes the freshest and best ideas come from someone who isn't tangled up in the cobwebs of the old one. Besides, we aren't just employees and pensioners, we're consumers too.

Think about it: worldwide, what've we got — active and retired? Thirty — maybe forty thousand? I don't know off the top of my head, but for sure it's a huge gang of loyal, tuned-in consumers of nickel products. Imagine: if only one in a thousand of them had a hundred-tonne idea for new thingamabobs. That's a cool \$25 million in extra sales! And I know that the Inco family is smarter than one-in-a-thousand.

So, what's all this got to do with our heritage?

Well, if we didn't keep innovating, in both production and marketing, our heritage threads would be snipped pretty short. Then what would I write about?

That's one paradigm I'm not anxious to change.



INCOME ideas

To eat is to be taxed

Basic groceries do not collide with the GST. Does that mean you can eat GST-free?

Not if you're like most Canadians who eat at restaurants or order take-out food at least several times a week. And, of course, there are lunches during the week, snacks during the day and food at the movies or sporting events. All are taxable.

For the most part, there's not much you can do about it. No matter what you order, where you order, or when you order, seven per cent is going to appear at the bottom of your bill . . . most of the time.

GST Tactic

It may take some searching, but look for "small" food vendors . . . hot dog wagons, weekend food stalls at the market, some food sellers at country fairs. Many vendors will sell less than \$30,000 of food a year, which means they do not have to be registered to collect the GST. And that means you can eat GST-free.

Exploring the restaurant coupons . . . two-for-one deals, half-priced meals . . . usually means cutting your GST way down too. In most cases, GST is paid on your net cost, not the cost before using the coupon.

Take-out food doesn't escape the GST. Neither do delivery charges. However, you can probably lighten your GST burden by picking up your order instead of having it dispatched to your door.

GST Alert

Tips or gratuities are not subject to the GST unless they are included in the price of your meal. If they are, have the gratuity separated on your bill after calculations of the GST.

When buying food, try to take advantage of the "pig" rule. This one says that if you buy lots of certain food items there's no tax, but if you buy just one or two, GST applies.

GST Tactic

If you're buying a few doughnuts or muffins, make sure you buy at least six. Then there's no GST. If you buy only five, be prepared to pay the seven per cent.

Everything bought at a vending machine is taxable. As well, buying a small carton of white milk at a lunch counter is taxable but won't be taxed if bought at the supermarket or corner store.

GST Alert

When buying food not suitable for consumption on the premises, such as a bag of coffee beans at the coffee shop, a pound of sliced meat at the luncheon deli or a litre of chocolate ripple at the ice cream parlor, make you're not charged GST.

These are basic food items and are exempt.

SNO control building officially opened

Inco has always relied on advanced technologies and on strong research and development programs.

That's just one of the reasons why the company is committed to the Sudbury Neutrino Observatory, said Inco vice-chairman Walter Curlook.

"From discovering new uses for nickel to developing new methods of mining, from pursuing new technologies in processing and refining to adding further value to our nickel, Inco is a world leader," said Curlook to media, scientists, government representatives, educators and other dignitaries attending the official opening of the observatory's Operations Control Building at Creighton Mine recently.

The 400-square-foot building, located about 2,000 feet from the Creighton Mine administration building, houses SNO offices, several laboratories and a transfer area for materials and equipment used in the observatory construction 6,800 feet below ground.

A rail connection with the No. 2 shaft allows direct underground shipments to the observatory site.

"I'm proud that Inco is playing a vital role in pioneering this scientific project and has been a major supporter from the beginning," said Curlook.

He said the decision to participate took "serious thought" because of possible interruptions and negative impacts on mining operations at Creighton, the Ontario Division's deepest, oldest and one of its richest mines.

A strong technology and research background isn't the only reason for Inco's support, said Curlook. "Another reason is that we at Inco wanted to support our Canadian universities so that they too can be in the forefront of expanding the

boundaries of knowledge."

Helping put Sudbury on the map was another reason for Inco's involvement, he said.

"By sharing our Creighton Mine facilities, we are enhancing the changing image of Sudbury itself. Sudbury is more than just copper/nickel mines.

consider," he said during the brief official opening ceremony following an underground tour of the site, "that this is all being constructed so far in the ground, and then you have to factor in getting equipment and materials to the workers.

servatory will be nestled in a 10-storey high cavern carved out of solid rock.

Nearing the halfway point in construction, about a third of the 70 by 100 foot rock cavity has already been excavated by Inco miners.

Peter Moran, president of

of cooperation," is how John Gammon of the Ontario Ministry of Northern Development and Mines referred to Inco's involvement as well as the many other organizations that pooled resources to put the project on the map.

"Inco workers contributing to the project are proud to play a small role in this world-class scientific project," Creighton Complex manager Mike Sylvestre told the group. "We all fully understand what's going on here and why this project is so important, and we are all working very hard to do the best job possible."

Also taking part in the ceremony were Norman Sherman of the National Research Council, Pardeep Ahluwalia of Industry, Science and Technology Canada, Arne Sorensen of the Northern Ontario Heritage Fund, Malcolm Harvey of Atomic Energy of Canada Limited, and David Hendrie of the U.S. Department of Energy. SNO Institute director Art McDonald officiated the event.

Also on hand for the ceremony was Queen's University representative George Ewan, a member of the SNO Institute Board of Trustees and head of SNO Scientists Management Committee; Dieter Buse of Laurentian University and Andre Roberge and Clarence Virtue of the Laurentian physics department.

Risto Laamanen, head of the Operations Control Building builders Laamanen Construction and John Feede and Rene Godin of the project management and engineering design firms also attended.

Inco representatives included vice-president of Mining John Kelly and Creighton Mine superintendent Fred Stanford. Representing Local 6500 of United Steelworkers was president Dave Campbell.



The Sudbury Neutrino Observatory's 4,000 square-foot Operations Control Building is located 2,000 feet from the Creighton Mine administration building.

Sudbury is also an educational, medical, government and cultural centre. The SNO project gives Sudbury a prominent place in the international arena of basic fundamental science. Sudbury's place on the map is getting bigger and bigger.

Inco donated the site and Inco miners, engineers and staff are building the massive laboratory. The location promises to make the Sudbury facility the best of its kind in the world. Approximately 1.4 miles of rock between the cavern and the surface will act as a filter, screening out all but the most penetrating of subatomic particles like the neutrino.

Inco's contribution wasn't lost on Minister of State for Science William Winegard. "It's really mind-boggling to

"I'm particularly impressed with Inco's involvement. They are as enthusiastic as we are. That bodes well for the future."

He said that Canada's role as a major contributor to scientific research isn't the only image that's being enhanced. "I was told by a German official that Canada is leading in the area of networking and cooperation. There are very few things in which we can say Canada is a world leader. This is one of them."

The \$61 million underground observatory is a multinational effort involving scientific organizations and researchers from Canada, the United States and Britain. Funded by a 55-member group of international scientists and scientific and research organizations, the underground ob-

the Natural Sciences and Engineering Research Council said the facility is the only major scientific project in which Canada is playing a leading role. "We are not a big country," he said. "It was important that we got our act together and did it jointly, in face of every obstacle and barrier."

Regional Chairman Tom Davies called the project "fantastic," adding that it is on the lips of people wherever he's travelled, from South America to Spain.

He lauded Inco's participation. "I can just imagine what it's like for the mine's supervisors, how to fit all this into the schedule and meet operating targets. I don't think that has been properly recognized."

"A testament to the power

Stobie is prize for visitors

University student Stella Karras wasn't intimidated at all by the thought of touring the depths of Stobie Mine. It was just getting there and getting back.

"I heard that the ride in the elevator... lift... or whatever it's called, is shaky and bumpy and that it goes really fast. That bothered me a bit."

Turns out, she said, that the ride in the Stobie cage wasn't the spooky experience she imagined. "It was great," she said.

Stobie Mine played host to Stella, 23 and student Stephen Walkes, 22, winners of an all-expenses paid trip to Sudbury in an Ontario Mining Week contest. The Inco visit was part of a three-day stay in the city that took them to Science North, Laurentian University, Falconbridge and other local attractions.

Stella heard mixed messages about Sudbury. "I heard that it was barren rock, like a

moonscape. But I know somebody from Sudbury and she said that it is a beautiful place with lots of lakes and trees."

Seeing it herself convinced her that the latter is true. "It is beautiful," she said.

The underground tour at Stobie also left her with a different impression than the one she imagined.

"The only thing I've ever seen on mining was some old Depression movies about miners with black faces. It surprised me that the it's so clean down there. The underground garages are as clean as the ones up here. And everything is so big," she said. "The tunnels are a lot bigger than I thought."

Inco also provided lunch for the visitors at the Copper Cliff Club.

Stella is a zoology student at the University of Toronto and Stephen is a business student at York University.

Both said the underground

visit was an eye-opening experience. Both will write a short essay on the trip which should be published in the Ontario Mining Association newsletter.

The two students won the trip to Sudbury by answering five questions on mining at a mining exhibition at Ontario Place this past summer. They were randomly chosen from 600 students who also answered the questions correctly.

Ontario Mining Association manager of communications Peter McBride, who accompanied the students, said that the visit to Sudbury was designed to let people in southern Ontario know that "the north extends further than Barrie," to provide students a first-hand view of some of the world's most energy-efficient and productive mineral processing plants and to experience some of the cultural and educational facilities in Northern Ontario.



Ontario Mining Association communications manager Peter McBride with Mining Week contest winners Stephen Walkes and Stella Karras at Stobie Mine.

Yesterdays todays



Getting down to new technology

9 Years Ago

"North Mine A Unique Research Facility" was the caption in the October issue of the Inco Triangle. It announced the planned reopening of the Copper Cliff North Mine as a full-scale research facility to improve Inco's competitiveness in the mining industry.

"I really don't know of any other mine of its kind in North America," said Claudio Barsotti, manager of Mines Research.

The type of research that was to be done in the mine included ore removal, electrification, drifting, ground support, roadways, lighting and blasting.

It was scheduled to be back in production by January, 1984, with 120 employees, and according to Barsotti, producing 2,000 tons of ore per day. That production "will pay its way," he said.

Barsotti claimed the \$11,000,000 investment Inco was putting into the mine showed the faith the company had in the Mines Research department's ability to develop new mine technology that could be applied throughout the industry.

25 Years Ago

In 1967 the program was expansion . . . expansion . . . and more expansion.

In an address to the Quarter Century Club in Sudbury, Henry S. Wingate, chairman and chief executive officer of International Nickel, announced plans for a \$50-million capital investment program to develop the Copper Cliff South Mine and expand and modernize the Iron Ore Plant.

Plans were made to sink a 4,000-foot production shaft and a 2,000-foot development shaft that would eventually become part of the mine's ventilation system.

The mine, just opposite the Copper Refinery in Copper Cliff, would produce 4,000 tons of ore per day.

The expansion and modernization of the Iron Ore Plant would include the installation of a new roaster and kiln, an extension of the present leaching and pellet plant, and other facilities. It would increase production by 30 per cent over the current annual production of 900,000 long tons.

The multi-million expansion in 1967 and the planned \$80-million expansion in 1968 would eventually expand Inco's workforce by 1,700 new jobs, said the chairman.

40 Years Ago

In October's issue of the Inco Triangle, one of the leading articles was on the opening of Sudbury's new public library on McKenzie Street.

"In an impressively beautiful home of its own on McKenzie Street the Sudbury Public Library has settled down to be of broader use to the community," said the article. "Eloquent of the cultural ambition of the city is this artistically designed building with its spacious rooms and halls, its rich appointments, its well developed educational services and its provisions for future expansion."

Three-and-a-half times the floor space of the old library on Cedar Street, the new library already had 12,000 subscribers to its services and about 30,000 books on its shelves.



Artist Paul Kovanen takes a picture of the Crean Hill headframe. The photos are for a re-creation on canvas.

Crean Hill Art

Crean Hill on canvas . . . in oils.

A difficult assignment, but budding artist Paul Kovanen claims painting scenes depicting underground mining operations at Crean Hill is an assignment he wouldn't have missed.

"It may seem like there's not much color down there in the shaft, but if you know what you are looking for, it's not all grey. The high contrast is good, it can give you

quite a dramatic effect."

A crane operator in a steel plant and part-time artist, Paul was commissioned by the United Steelworkers of America to paint a group of four paintings dealing with industry and the environment. Two of the paintings will be of the steel-making industry and the other two of the mining industry.

He is painting scenes from the Stelco operation in Hamilton and Algoma in Sault Ste.

Marie. Inco is the only mining operation he's painting.

The Inco assignment takes him into a new field. "It would take about two or three hours to paint a scene and we didn't want to hold up underground operations or get in the way," said Mr. Kovanen, "so instead we decided to take photographs of operations. We took pictures of the huge jumbo drills and rock bolting."

Working from photographs may present a challenge, he said, but it also has certain advantages. "You can pick which scene is the most effective, and because there are several photographs of the same scene, you can combine the best effects from each. Although I like realism, it's still up to me to be interpretive, to put emphasis where I want it."

He also took pictures of the Crean Hill headframe.

"I'm not sure what I'll be painting yet, although the two-boom jumbo looked the most impressive through the camera lens. We'll have to wait to see how the pictures turn out."

Although interested and active in art all his life, Mr. Kovanen has been painting seriously for only four years. He took formal training late in life and the Steelworkers' commission is the first major project he's been on.

"This is an excellent start," he said.

Tagging along with Mr. Kovanen on the underground tour was his art teacher Tony Cooper who said he didn't want to miss the opportunity to see the inside of a mine.



Inco for Sail

Inco sponsored one of 16 sailboats in Sail for Hope, a new promotion by the Sudbury and District Unit of the Canadian Cancer Society to help raise funds for patient



services, education needs and research. Held on Lake Ramsey at the Sudbury Yacht Club, the event included an hour of sailboat cruises, a barbecue, door prizes and swimming. (Above) retired Inco mechanical specialist Charlie Dobson and Dennis Shannon sail a boat sponsored by Bell Canada. (At left) Fred Miller and daughter Joanne proudly show off the Inco flag that flew on their boat.

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