INCO
Triangle
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This little gadget in Marcel Bray's hand is worth $10,000. Why? See Page 13

Hooked on Work

Welder Cal Hihnala shows how plying his trade at Inco's welding shop can be more like putting a brush to canvas than simply putting fire to metal. The welders swear that Cal is seen here fabricating a jig for lake trout in very deep water, but we figure it's gear for lifting nickel and copper matte ladles. The folks at the Shops Alley facility tested their skills to the limit last summer, and they've passed the challenge with flying colors. See story and more pictures on Page 8.

Mission possible:

Seeding flight soars

The mission, the men, the machines.

From a makeshift runway overlooking the Copper Cliff Smelter Complex, the sounds and the images on a crisp October morning conjure scenes of a dashing Errol Flynn in a vintage war movie.

At precisely 11:34 a.m. on October 2, Pierre Rouleau revved up his yellow, single-seat biplane and soared off on what may prove to be a historic flight at Inco.

With a stogie clenched between his teeth, aviator glasses glinting in the morning light, the 32-year-old pilot swung the Grumman Ag-Cat over the languid Upper Pond before arcing over the hilltop behind Clarabelle Mill.

In five-minute intervals over approximately 10 days in October, Rouleau and his flying partner, Jacques Dubois, willl have limed,

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Triangle goes green

Faithful readers of Inco's monthly employee publication may not see the difference right away, but a change in this Triangle and all future issues is aimed at saving a forest or two.

Starting with the September Triangle, we will print all 25,000 copies on recycled paper. It will be recycled, coated stock paper and it is just one way we are making a contribution to Inco's new Environmental Impact Policy.

The switch comes after a year's search for a good quality recycled paper that was economically feasible.

Recycled paper normally costs considerably more than regular newsprint.

Public Affairs Manager Jerry Rogers said that because of Triangle's wide distribution and the company's strong commitment to environmental protection, it was essential that Triangle reflect this heightened environmental consciousness.

"As individuals, we all can make a contribution and we all must get behind the effort to lessen the impact on the environment," said Jerry. "If we don't, the plaques on the walls announcing our ecological responsibility will become as empty and meaningless as last year's calendar. It's an effort that should be actively supported not only by industry and big business, but by every individual as well."

He offered a challenge to every office, plant and mine to make their

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Firsthand Look

Inco Board of Directors member Judy Erola talks with Copper Refinery operator Dave Barrett during a board tour of the plant this month. Inco's Sudbury operation played host to the annual meeting of the board for the first time in six years. For story and more pictures, see Page 9.

Hats off to Fay, paper cups are in at Inco

Inco employees have warmed up to environmental issues these days. . . on their finger tips.

Hot coffee may occasionally burn the fingers now that disposable coffee cups made of insulating styrofoam have been replaced in Inco warehouses. But most Inco people are showing a willingness to make the small sacrifice on behalf of the environment.

"We've had no complaints yet," said Inco Purchasing buyer Ron Poirier. "From past experience here, most people at Inco are responsible and are willing to do their part in such efforts."

The recent move to replace styrofoam cups with biologically degradable paper cups at the Inco warehouse is perhaps one of the best examples of how Inco's Environmental Impact Policy has been taken to heart not only by the company, but by employees.

It was Construction Department secretary Fay Poff's concern about the use of styrofoam cups that focussed attention on the problem.

"The move is just the most visible example of how people are getting involved," said Environmental Control and Occupational Health Manager Larry Banbury. "We are finding that many ideas and suggestions are being initiated by our employees."

The participation is eagerly sought by the company, he said, to add another element to a general company-wide examination of procedures, equipment, materials and facilities in search of better, cleaner, environmentally-safer ways of doing things.

He said that a multitude of projects are being studied, ranging from such things as shredding scrap paper produced regularly at many of Inco's operations and using the shredded paper for composting material at Inco's tailings area, to finding ways of recycling oil used for underground machinery, equipment and vehicles.

Larry feels the move away from styrofoam cups is not only symbolic of the environmental efforts, but is a significant step forward.

Ron Poirier agrees. "We go through about 60 cases of the styrofoam cups a month here, and there are 200 cups per case. That comes out to about 1.5 million cups a year that'll be removed from the environment.

"That's not just symbolic. That makes a real difference."

"I don't think our folks will mind the odd hot finger."

Inco's rail system a treasured find

Red carpet rolled out for railroad enthusiasts

It was just another day at work for the folks at the controls of Inco's rail system, but for three out-of-town visitors it was like kids in a candy store.

"If we would have seen half of what we saw today, we would have been more than happy," said Doug Boyd, a rail buff who was given an all-day tour of Inco's rail system. "They (Inco) were absolutely fabulous the way we were treated. Not all outfits are that cooperative."

The computer programmer from Virginia and two friends, Ian Platt and Peter Jobe, went through scores of rolls of film as they visited "at least half of your roster" of locomotives.

The three visitors said Inco personnel, although rail operations were in full swing, did their very best to give the visitors what they wanted to see and photograph. In at least one case, a locomotive was moved to provide better camera angles.

"They took a lot of time for us," said college professor Ian Platt of Ingersol. "You could tell they're busy people, yet they did their best. I hope we didn't get in the way too much."

Inco's system is considered unique in rail buff circles both for its size and the electric locomotives, according to Toronto Star circulation sales representative Peter Jobe. He describes the Inco electrics as "the Whooping Cranes" of the train buff's world, a major coup to add to his collection of more than 20,000 slides.

"I don't think you'll have to worry about being deluged by others like us," he said. "We swap train photographs like other people swap baseball cards so others won't have to come here to get their own pictures."

Chasing trains is what the three do for recreation, a pursuit that has taken them as far away as Europe, Mexico, and all over the United States and Canada.

With some 200,000 slides (valued at some $40,000 in film alone) in his collection, Doug has been "shooting" trains for 10 years. He's never left the continent, although he hopes to go to Australia in his pursuit of trains as soon as he gets the cash.

Childhood interest

His interest in trainsbegan as a youngster, and he has never lost it. "I liked watching trains as a kid, then went into model trains, then to photography. It's kind of a natural progression.

"I travel around and take pictures of trains every holiday for the past 10 years," he said. "My wife went along with me once, but after she had to wait for hours on end while I took pictures, she decided not to go along again.

"Now she tells me to go and have a good time. She knows I only chase trains so she doesn't mind."

Ian grew up in England where "train watching" is a popular activity. "Something like bird watching," he explains. "You look out for different species of trains, just like bird-watchers."

He's been taking pictures of trains for eight years. He went to Europe this year to add to his collection.

Peter is the most experienced of the group. He's spent most of his vacations in the last 15 years chasing trains, and he can't imagine taking any other kind of vacation. A bachelor, Peter doesn't have to worry about the home front while he's off on his favorite activity.

"Women don't understand. It's hard to explain the love for trains," he said.

Peter tried to join the railway when he was a young man but wearing glasses kept him off the locomotives. His hobby is the next-best thing, he figures.

The three often travel together, sharing accommodations, transportation and other expenses as well as good company.

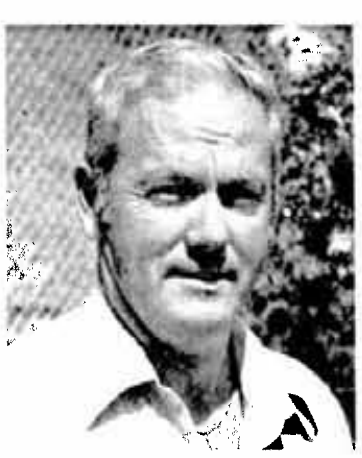
"That's one of the nice things about this hobby," said Doug. "The friends you meet."

Doug Boyd, Ian Platt and Peter Jobe: Kids in candy store.

At Levack/McCreedy:

Do you feel isolated, away from the "action"?

Harold Scott, train conductor, Levack: "I like it here. I've been here since 1951, with Canadian Pacific for 15 years and after that with Inco. I took the Inco job in order to stay in this area, and I plan to stay here when I retire."



Rod Simard, skip tender, Levack: "You've got to make a living somewhere, and I prefer it out here. I've been here my entire life and I go into the city as little as possible. I like to visit, but I wouldn't want to live there. It's not for me."

Richard Tessier, Cambrian summer student: "First off I'd like to get a job, period. But if they offered me a job out here, I wouldn't mind at all. I'd prefer working out here than near the city. I like to hunt and fish."

Gord Rattu, production miner, McCreedy: "I wouldn't consider changing if I had the choice. I go to Sudbury once a month, and then only when I have to. I usually try to save all the things I have to do so I only have to go in once. "

Ron Goudreau, support miner, McCreedy: "I don't like the smells of the city. When I started with Inco 24 years ago, they asked me to go to the smelter. I asked them to bring me out here instead and I've been here ever since."

Lorne Luttrell, track boss, Levack: "I'm not envious of people living in the city. I like the country around here, and it's quiet. Not that you don't work hard out here. You work just as hard. It's a closely knit community here, with a slower pace of life."

Barry MacDonald, warehouse storeman, Levack: "I wouldn't move from here if I could. Besides, Sudbury isn't that far away. You have the best of both worlds out here. I worked at Copper Cliff for seven years, but I couldn't wait to get back here."

Albert Seguin, welder, McCreedy West: "I adjust anywhere. It doesn't bother me at all to work out here. Things aren't so crowded here, and I don't like crowds. I live in Chelmsford, so it isn't too far into Sudbury and not too far to work."

Bill Frohlick, support miner, McCreedy: "I've had my taste of the city. Like all young people, I wanted to get away and I went to Toronto and Niagara Falls. I learned what it was like and decided to come back here. I'm perfectly content here."

Andy Cote, garage mechanic, McCreedy: "I've worked out here most of my life so I'm not sure if there is a difference between here and in Sudbury. I live in Azilda, so there's a bit of a drive, but the winters aren't even as bad as they used to be."

Walter Morrison (centre) and Rolly Portelance (right) pace themselves early in the run along Highway 144 near Levack.

Mental toughness is the key

The craziness of those ultramarathon runners

Rolly Portelance's getaway weekend in the wilderness isn't for everyone.

But then Rolly is a unique individual.

The 47-year-old driller at Levack Mine likes pushing his body to the limits of endurance in races up to 100 miles long.

Such are the joys of the ultramarathon runner.

Recently this summer, on a cool and cloudy Saturday, Rolly and 14 of his ultramarathon colleagues took to the road at 7 a.m. competing in the High Falls 100 km Wilderness Run. On this day, Rolly shouldered the double duties of competitor and race director. Months of organizing were behind him and 100 km of highway lay ahead.

Temperatures were cool, skies were overcast and heavy rains pelted the runners at intervals.

"Ideal running conditions," said Rolly.

"The rain didn't hurt us at all. Often in rain you tend to blister, but this rain helped us. It kept us cool and refreshed."

Joining Rolly in the field of 14 was Walter Morrison, 52, a maintenance mechanic at Levack Mine. The remaining runners, nine male and three female, hailed from various points across Ontario, with one from Quebec and another from Michigan.

Retired Levack Mine manager John Smith was official starter for the race.

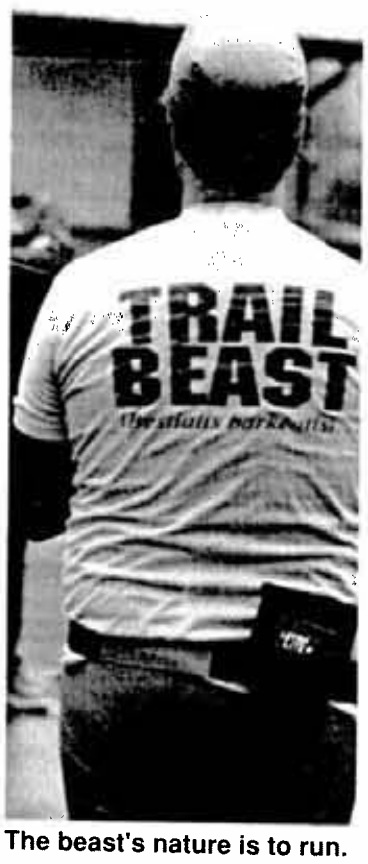
Of particular interest was the friendly rivalry between Rolly and his running mate, Walter. Two weeks earlier, Walter had defeated Rolly for the first time during an ultramarathon race in Whitby.

A 12-year veteran of the running wars, Rolly was anxious to avenge the loss to a man he once considered his pupil.

"Walter only began running about three years ago," said Rolly. "But he's improved by leaps and bounds. He's a very dedicated individual. A few years ago I was telling him what to do, but now I don't give him any advice because he's a threat to me. He proved that by beating me in Whitby."

On this day, the two stayed close for the first 70 km, before Walter slowed and Rolly pulled away for a third place finish.

His time of nine hours, 37 minutes and eight seconds was just under 24 minutes off the winning pace set by Bob Manson of Thunder Bay. Walter finished fourth in a time of 10:11:31.



The beast's nature is to run.

The final competitor, Celine Bertrand of Azilda, crossed the finish line 14 hours, 44 minutes and 45 seconds after the race had begun.

"Within a week I'll forget that I ran this race," said Rolly afterwards. "This was not a hard race. A 50 km trail race beats the body up a lot more than a 100 km run on pavement."

Rolly's rise to the ultramarathon ranks was a swift one. Normally, competitors progress through the marathon stage first, building up endurance and technique. Rolly ran just one marathon race before tackling the greater distances.

"An ultramarathon race is anything 50 km or over," he said. "A marathon is a standard measure of 26 miles, 385 yards.

"A runner in my discipline has to patient with himself. Mental toughness is the most important asset an ultramarathoner can possess. When you think you're down and out, as you sometimes will during a race, you need a strong mind to pull yourself back into the competition."

As summer rolled on, the ultramarathon action refused to slow down. Rolly and Walter faced a September schedule that would make the most ardent running buff cringe in horror.

On Sept. 2, they entered a 40 km run at Halfway Lake, 80 km outside of Sudbury. The next day they boarded a plane for California to begin training for a 100 mile mountain race Sept. 24. The trip home stopped in Hamilton for an 80 km run.

"If you're a sprinter or a racer you're probably no good at this sport," said Rolly.

"An ultramarathoner plays with a delicate balance because you deplete much of your body's reserves during a race. If you have to slow down to a walk, you do it, otherwise you probably won't finish."

Retired Levack Manager John Smith (centre) waits to start the run while Rolly Portelance (right) gets things going.

Walter Morrison (at rear) and Rolly Portelance make last minute preparations.

Permanently, Partly Disabled meet challenges

Shifting gears:Inco's disabled carve new niche

Permanently Partly Disabled employee Phillip Dockery (standing) and Brian Smith check the electronics on monitoring equipment used to keep tabs on emissions.

At his desk in Inco's Environmental Control office, Jim Patrie remembers the pain.

That's the one thing the Permanently, Partly Disabled (PPDs) have all shared, and for many, it's more than a memory. Another thing they have in common, though, is determination. They went through the long periods of repair, therapy, and convalescence — and became fed up.

Thanks to various benefit and compensation plans, the financial burden was minimized, but that did nothing to stall the drain on their self-esteem. They knew they might never go back to their former jobs, and didn't want to just vegetate, so something had to be done.

Indeed, things are being done. Throughout the Ontario Division, exciting chapters are being written about the challenging and worthwhile new careers being mastered by employees who had been classified as Permanently, Partly Disabled. This is one of those chapters.

The Manager of Environmental Control, Larry Banbury, bubbles with enthusiasm when he talks about the people in his crew who came to him in need of a fresh start. "It had nothing to do with charity," Larry insists. "We had work that needed doing, and these people needed worthwhile activity."

Courage to start over

Following a 1985 accident that damaged the tendons in his right shoulder, it was three years before Jim Patrie was well enough to tackle full-time work. But, it would have to be something completely new, and it wasn't easy for a grown man with a family to face being a greenhorn all over again. Nevertheless, starting in February of 1989, that's exactly what he did, learning to use a computer for the production of WHMIS labels at Environmental Control.

"It took a lot of patience to learn about computers," Jim said, "but I took some courses at Cambrian, and now I feel pretty comfortable. As far as the WHMIS labels are concerned, I deal every day with information on hazardous chemicals that people don't normally think much about. It's interesting work, and it's a lot better than sitting at home."

Hanging tough

In 1982, Florian Bourget was a shaft inspector at Frood — until he injured two discs in his lower back. Afterward, Flo faced the future head-on. Through Cambrian College, he sank his teeth into a four-year evening class effort that led to his certificate in Chemical Toxicology. By the time he finished, he had shown Environmental Control enough interest and expertise that they put him on permanent staff in October, 1989.

Now highly-regarded for his work on the technical side of the WHMIS program's Material Safety Data Sheets, Florian admits that the combination of recuperation, light-duty work, and post-secondary studies put quite strain on him. "It took a lot of self-discipline to do all that and still allow some time for my family."

When asked if the effort was worth it, Flo replied quickly: "You bet."

The right chemistry

Don Richer just grins modestly at the suggestion that he's become something of an in-house expert. "By the time I hurt my back over at Divisional Shops, I had already started taking courses at Cambrian College. I had always liked chemistry, so I decided to follow through. Inco and the Compensation Board agreed that I should finish school, so, when Cambrian came out with a Waste Management program, that became my specialty."

An environmental analyst in the Natural Environment group, Richer doesn't dwell on his back pain. Instead, he noted: "I guess I turned a serious misfortune into both an opportunity and an incentive. It took a lot of determination, and some people said it was a waste of time. There were no guarantees, but this department gave me a chance to prove myself."

Doing work he enjoys and is respected for, Richer looks forward to learning and doing more new things.

It took a flat tire to slow down the Sulphur Dioxide-monitoring crew enough to catch up to a couple of them in the parking lot.

Brian Smith was a shaft inspector and driller before badly injuring his knees in 1978. After five major operations, and a variety of light-duty assignments, he became one of the early players in Environmental Control's PPD story.

Mission Emission

Banbury puts it in context: "We have to monitor emissions continuously for several months at a time. The mobile units were originally operated by summer students, but they couldn't stay with us long enough to cover the required time period, or to continue growing in experience. I'm very satisfied with the present arrangement."

"It's an important job," says Smith. "Sometimes we work long hours, especially when it's sunny, but we know we're making a contribution to a cleaner environment. We're expected to monitor stack emissions accurately and report to the meteorological room operator. Then, if necessary, he issues orders to operations."

The job means a lot to Smith. "They say 'an idle mind is no mind'. Doing worthwhile work has a lot to do with the well-being of yourself and your family. And, off the job, my injuries haven't slowed me down. For example, I'm a civilian instructor with the Walden Irish cadet corps — and I think they're going to be champs again this year."

Phillip Dockery doesn't talk much about the injuries to his knees and back; he saves his enthusiasm for his job and his family — and for "Carribean Plus", their little restaurant on Paris St.

Agreeing with Smith about their contribution to a better environment, Dockery adds: "Our job is prevention. We go where we're likely to find the highest concentrations of SO2, and act before government orders are exceeded. Yes, sometimes the hours can be long, and even lonely, but we have to work until conditions improve. We look into public complaints, and most people are pleased when we respond and let them see that Inco is doing the best it possibly can."

Back inside the office, former garage mechanic Franz Sabel talks matter-of-factly about the 1988 injury to his knees, as if to get that part of the conversation out of the way first.

A 1979 honors graduate in psychology and philosophy from Laurentian University, Sabel had already intended to improve himself. Suddenly, he had no choice. Drawing on the computer knowledge he had developed over the years, he has become a designer of WHMIS labels and Intermediate Product Supplier labels — and has become the in-house computer resource person at Environmental Control.

Sabel feels very strongly about not giving in to the temptation to stay at home: "The inactive injured person deteriorates. You seem to progress from boredom to helplessness to self-pity. I really want to encourage people to come back to work."

The respect and appreciation that Franz has for his colleagues runs very close to the surface: "All my supervisors and co-workers have been very receptive and supportive, and, if I had my way, they should name Larry Banbury 'Manager of the Year'. This is a small department, but it has about 10 injured workers who are enjoying working hard — and who feel good about themselves again — because they were given a chance."

NICKEL NEWS

Inco's cruisin'

Planning a cruise? Why not, we helped build the boat.

The atrium of the 13-deck cruise ship Star Princess gleams with stainless steel, suggesting an aura of grandeur reminiscent of the days of opulent ocean-going liners.

The grand stairway's twin staircases sweep upward, their polished stainless steel balustrades sparkling.

Suspended from the ceiling is a kinetic sculpture made of nickel-containing stainless steel as well.

Mining for asepsis

Achieving asepsis, the prevention of contamination by potentially dangerous bacteria, is a never ending pursuit of hospitals. Extensive research for the ideal material with which to manufacture hygienic surgical basins has led a Brazilian manufacturer to come up with a knee-activated sink of stainless steel.

Fueled with nickel

Auto makers are in a race to find the perfect alternate fuel, a race that may lead to methanol.

Trouble is, while methanol produces less hydrocarbon emissions than gasoline, it ejects more unburned fuel and aldehydes. Air quality benefits depend on carefully controlling these emissions, and GM Chevrolet Lumina sedans will be going through trials in California over the next two years. None of the alternative fuel automobiles' electronic wizardry would result in success without their nickel-containing stainless steel fuel systems to handle the corrosive methanol.

Nickel Landmark

A pyramid-topped building, the gleaming focus of a 24-building new business centre in London, England, will have a skin of stainless steel.

According to American architect Cesar Pelli, the stainless steel cladding will contribute to communicate a feeling of "connection with the 21st Century."

Inco annual report wins Financial World award

Inco's 1989 Annual Report has been awarded the second place Bronze Award in Financial World magazine's 50th Annual Report Competition.

The competition is the oldest and most prestigious of its kind. Its efforts to improve the quality of financial writing and reporting emphasizes the goal of maintaining high standards with the purpose of preparing annual reports for the future.

The competition each year examines a group of more than 1,000 entries and singles out the best annual reports, statistical yearbooks, interim reports, corporate newsletters and post-meeting reports for the competition.

New technology demands new kind of miner

Cambrian students point way to mining's future

Yesterday's mining equipment: a pick, a shovel and a strong back.

Today's mining equipment: brains.

Hugh Ferguson is too young to remember when miners went underground with candles stuck in their hatbands, but he knows from experience how rapidly mining is changing its face.

"I started with Inco in 1961," said the general foreman of the division's Mines Training department. "I know that we are well on our way to replacing most of the equipment that I worked with when I started. The future? You should see some of the high-tech stuff the people at Mines Research have on the drawing boards."

While he acknowledges that brawn and a strong back are low on the list of priorities, he insists today's miner works as hard as he ever did. "He works with his head—he works smarter and he gets a heck of a lot more done than just a few years ago."

In fact, it's smart miners working razor's edge mining equipment that has kept the company a leader in its field. That's why Hugh takes such a keen interest in the more than 50 Cambrian mining course students getting on-the-job training here.

"We have an aging work force at Inco," he said. "These people will have to fill the vacancies. Courses like the one Inco initiated at Cambrian will help fill the holes."

The students, the first bunch in the Inco/Cambrian Mining and Mineral Processing Industry Certificate program, spent 16 weeks in a Cambrian classroom before going on a 16-week paid work term at Inco during the summer. The 48-week course will finish with another 16 weeks in the classroom.

Most of the students are in their early 20s, he said, and a vast majority—he guesses about 75 per cent, are local "kids" with parents, relatives or friends who are working or have worked for Inco.

"When I started the amount of training wasn't nearly as extensive as today," said Hugh. "Basically, you knew how to drill a hole. The rest was on-the-job training. When these people start they'll be qualified drillers and will be able to drill load, blast, bolt and screen and other needed skills. Just as important, they'll be trained in all aspects of safety. The program we run here is well beyond the requirements of government regulations."

Understandably, getting a foot in the door for the attractive mining jobs isn't as easy as it used to be when brawn figured over brains.

"Today we aren't interested in anyone with less than a Grade 12 education," he said. "Mining today means handling computers and sophisticated equipment worth millions. Any mistake could be very costly."

And with future technological changes virtually guaranteed, tomorrow's miners will have to be willing and able to adapt to the expected rapid changes.

One example of Inco's determination to provide as wide a range of experience as possible can be seen in the allocation and rotation of the students in almost every major operation in the division.

"It's important that they know what we do here," he said. "These people will be the foremen and supervisors in the next 15 or 20 years. I figure our investment in these kids will pay off in the future. I think it will prove invaluable in the future."

The Inco summer job is no make-work project, and the students do as much hands-on work as possible. "And it involves constant assessment as they work," said Hugh. "Their performance here goes toward their final course marks."

Just how popular the course is can be seen by the enthusiastic response recorded by Cambrian College. Hundreds applied for the approximately 70 openings.

Hugh figures other mining companies will follow suit when word gets around about the quality of the people coming out of the Cambrian course and he hopes Inco can continue supporting the program. "If we don't need all these people today, we are certain to need them in the future," he said.

While Inco can't guarantee course graduates a job, mining as a career is probably as good a bet as can be expected. "We are going to have a lot of people retiring in the future," he said, "and many of these people will have to be replaced."

Stobie Ventilation Supervisor Keith Rogerson sets the lesson in motion.

Student Michael Laurin brings an extinguisher to bear.

In a puff of smoke, the fire is out and Cambrian students will move on to the next lesson.

Mining course a Canadian first

Don Nadorozny figures he has the perfect method of keeping teenagers in school.

Colloquially, it's known as the Inco-Cambrian Program. Officially, it's called the Mining and Mineral Processing Certificate Program, a 48-week course featuring 16 weeks of paid employment for the student.

"If there was ever an incentive to stay in high school this is it, because applicants must have their Grade 12 diploma," said Don, superintendent of training with the Ontario Division. "Where else can you learn the skills needed to gain employment and be guaranteed 16 weeks of work?"

Students in the program study to become familiar with the processes and terminology of mining and mineral processing, said Don.

"The first 16 weeks are spent in the classroom studying mining and mineral issues including safety. The next 16 weeks are a work term where students work and are paid an applicable hourly rate.

"Not only does this provide valuable experience, it allows them to be sure that this is the industry and environment they wish to work in. It also gives us, as employers, an opportunity to assess students as potential future full-time employees."

The final 16 weeks are a continuation of classroom studies.

The Mining and Mineral Processing Certificate Program was conceived by Inco to address a shortage in the available number of skilled workers.

"Traditionally, Inco has always had a resource somewhere to go to get employees for hiring," said Don. "But those resources where we once drew employees have diminished or no longer exist.

"The problem is compounded by the increase in the technological aspects of the industry and the increase in hiring standards. New employees must be educated, they must be able to pass aptitude tests and they must be able to be trained.

"You can't go anywhere without a Grade 12 (diploma) today. Miners don't take a pick underground anymore, they take a radio-controlled unit or a computer. That's the way the industry is going."

Inco approached Cambrian College last year with the idea of establishing a training program that would serve the interests of both the students and the industry.

The response was overwhelming.

More than 700 inquiries and applications were received before 70 students were selected to begin the course in January.

"Before classes started, the students went on a tour of our operations so there were no misconceptions," said Don.

The curriculum was designed jointly by Inco and Cambrian personnel and students were selected by Cambrian based on college criteria. The college launched the program on its own initiative with commitment from the provincial government for funding coming later.

"The Mining and Mineral Processing Certificate Program is designed to provide entry level employment for students," said Don. "It does not, in any way, guarantee employment upon graduation, nor does it guarantee graduating students will choose to work for Inco."

The ability of graduating students to find work depends greatly on the economic conditions of the time. With that in mind, Don remains cautiously optimistic.

"Hopefully, we'll have no market interference with the success of this program. This course is for the betterment of the mining industry not only in Sudbury, but in Ontario and perhaps Canada."

Hats off to Inco offspring

Sons, daughters of Inco employees

Inco's independent scholarship selection committee has selected 20 winners from 89 applications received. Fifteen scholarships were awarded to children of Sudbury area employees, three to children of Manitoba Division employees and two to children of employees from southern Ontario and ex-patriates.

The value of the scholarships was increased in 1989 by approximately 11 per cent to $2,500 a year, the first increase since 1980.

The scholarships are tenable for up to four years. Three one-time finalist award (runners up) winners were also selected this year, one from each area. These $1,000 awards are intended to compensate an applicant who has achieved a level of academic excellence which merits a full scholarship, but who is excluded from winning because the standard of applications is very high which was the case again this year.

Sohail Ahmad

Son of Waheed Ahmad, project manager of P.T. Inco in Jakarta, Indonesia, Sohail is a graduate of Jakarta International School. Attending the University of Waterloo in Kitchener, he is enrolled in a Cooperative Computer Engineering program.

Max Blanco

Son of Ontario Division Vice-President of Human Resources and Administration Jose Blanco, Max is a graduate of Lockerby Composite School. He is studying Engineering at Queen's University and hopes eventually to earn a Doctorate in Aeronautical Engineering, an ambitious educational outline that he expects will take him six or seven years to complete. His career goal is to do research or design in industry.

Patrick K. Bohan

Son of Smelter converter operator Lawrence E. Bohan, Patrick is a graduate of St. Charles College in Garson. He's attending King's College at the University of Western Ontario, taking economics, Business, Politics, Sociology and Computer Science. Patrick will focus on administrative and commerical studies. He wants to eventually enter law school.

Lane Cochrane

Son of Lawrence Cochrane, senior research advisor in Mines Exploration, Lane is a graduate of Lo-Ellen Park Secondary School. Enrolled in an economics program at the University of Ottawa, he is working between classes as a Page in the House of Commons. He hopes to graduate with an Honors Degree in economics and eventually earn a Masters Degree in Business Administration.

Andrew Dowdall

Andrew is the son of Crean Hill Geological Technologist Borden Dowdall. A graduate of Lively District Secondary School, Andrew is attending Waterloo University where he is taking Calculus, Algebra, Computer Science, Physics and Business. He is striving for his Masters degree in Mathematics, a goal he thinks will take him six or seven years to reach. He wants to become a computer consultant or go into business for himself. Andew would like to relocate in southern Ontario or the United States after he completes his education.

Andrea Kirkham

Daughter of Levack miner William Kirkham, Andrea is a graduate of Chelmsford Valley District Composite School. She is taking Biology at the University of Guelph as a step toward the Bachelor of Science degree she wants. She figures it'll take her six years to complete her education. Her career goal is to graduate from veterinary medicine. She wants to work in Northern Ontario after she graduates.

Jennifer Lynn Mackowiak

Daughter of Exploration and Technical Services section leader Hubert Mackowiak, Jennifer Lynn is a graduate of Lo-Ellen Park Secondary School and is attending Carleton University. She's striving for a B.A. Honors in Psychology and Sociology-Anthropology with a concentration in Criminology and Criminal Justice, a process she expects to take four years. Jennifer wants to work in pathology with a major police force.

Denis O'Donnell

Denis, son of North Mine Ground Control Specialist D.P. O'Donnell, is a graduate of Lo-Ellen Park Secondary School. He is attending the University of Toronto where he hopes to earn a degree in Pharmacy, an accomplishment that he expects will take him four years. Denis hopes to become a community pharmacist in Northern Ontario.

Scott L. Penton

Scott, son of Clarabelle Maintenance Mechanic Laurence Penton, is a graduate of Lively District Secondary School. He's taking Systems Design Engineering at the University of Waterloo. After the five or six years he plans to stay in school, Scott wants to work in the aerospace field as a consultant. He'd like to locate in Ottawa or Montreal.

Greg Puro

Son of Copper Cliff Mills Superintendent Marty Puro, Greg is a graduate of Lively District Secondary School. He's attending the University of Waterloo where he will be taking Physics, Chemistry, Calculus, Algebra, as well as two general Engineering courses. He expects to be in school about five years. Greg wants to pursue a career with an engineering consulting firm in the Sudbury area.

Domenico Ricciuto

A graduate of Lasalle Secondary School, Domenico is the son of Frood-Stobie miner Giuseppi Ricciuto. Domenico is attending the University of Toronto where he is taking Calculus, Biology, Chemistry, Pharmacy, Economics and Anthropology. He hopes to graduate after four years with a Bachelor of Science in Pharmacy. He wants eventually to own and run his own pharmacy in the Sudbury area.

James Howard Seigel

James is the son of Creighton Mine foreman James Nelson Seigel. James is a graduate of Lockerby Composite School and is attending Queen's University. He is taking engineering courses that he hopes will result in a degree in Engineering Physics. He expects to earn his undergraduate degree in four years, and plans to become an engineer with a big firm, possibly Inco. He wants go to work at Creighton . . . or Kamloops.

Steven Sherrington

Steven is the son of Coleman Mine maintenance foreman Daniel Sherrington and a graduate of Levack District High School. Steven is attending the University of Guelph, taking courses in Biology, Chemistry, Calculus, Human Behavior, and Animal Kingdom. He wants to earn a Bachelor of Science degree in Human Kinetics, an ambitious endeavor that he expects will take him eight years. His career goal is to become a family doctor in a Northern Ontario practice.

earn company scholarships

April A. Sparham

April is the daughter of Stobie Mine shift stationary engineer Douglas Wayne Sparham. A graduate of Capreol High School, April is attending the University of Waterloo where she is taking co-op science, majoring in Biology. She hopes to complete here B.A. in Science in just under four years, and wants to go into genetic research or teaching after completing her education. April wants to stay in Ontario after she finishes school.

Bonnie Jean Talbot

Daughter of Levack Plant Protection Officer Thomas W. Talbot, Bonnie Jean is a graduate of Levack District High School and is going to Trent University where she is taking English, French courses, and Cultural and Native Studies. She wants her B.A. in English Literature and expects to spend another four years in school to earn it. Bonnie wants to eventually read English literature at Oxford and become an English and Drama professor at the University of British Columbia or Victoria. She wants to live and work in British Columbia after completing her education.

Drew Thompson

Drew, son of Levack Mine geologist Brian Thompson, is a graduate of St. Charles College. He is attending Queens University where he is taking courses in Physics, Chemistry, Biology, Calculus and Psychology. He plants to go into medicine after his second year. He hopes to graduate from medicine in seven years to specialize in optometry or opthalmology. He plans to return to Sudbury to pursue his career.

Jeff Zelding

Son of Nelson Zelding, a senior analyst at Sheridan Park, Jeff is a graduate of Bramalea Secondary School. He is attending the University of Waterloo in Kitchener where he is studying Computer Science with a teaching option.

INCO

Reserved Scholarship Competition for Children of Canadian Employees and Pensioners 1991 Awards

	Up to twenty 4-year university admission scholarships will be awarded in the 1991 competition. The awards are valued at $10,000 each ($2,500 annually). Up to five $1,000 finalist scholarships may also be awarded.
ELIGIBILITY	Children of Canadian employees, pensioners, expatriates from Canadian locations and of deceased employees are eligible to enter the competition. Candidates must have a strong academic record and be enrolled in a secondary school program of studies required for university admission. Award winners are expected to enter university in 1991.
SELECTION	An independent commitee of high school principals will select award winners on the basis of the complete academic record, SAT scores and information supplied by the applicant and the high school. Award winners will be announced in mid-August.
APPLICATION	The application deadline is April 5, 1991. Application forms and SAT Test material will be available from September 2, 1990 at the applicant's school, or from: Administrator, Scholarship Program Inco Limited Box 44, Royal Trust Tower Toronto-Dominion Centre Toronto, Ontario M5K 1N4 (416) 361-7844
SAT TEST	APPLICANTS MUST WRITE THE SCHOLASTIC APTITUDE TEST ADMINISTERED BY UNIVERSITIES AND SCHOOLS ACROSS CANADA. PLEASE NOTE REGISTRATION DEADLINES AND TEST DATES: TEST DATES IN OTHER COUNTRIES MAY VARY. **REGISTRATION DEADLINES** — **TEST DATES** September 24, 1990 — November 3, 1990 October 22, 1990 — December 1, 1990 December 17, 1990 — January 26, 1991

APPLICATION DEADLINE: APRIL 5, 1991

$1,000 for runners-up awards

Mauri Benjamin Liimatainen

Son of Otto Liimatainen, retired Creighton Mine stationary engineer, Mauri is a graduate of Lockerby Composite Secondary School and a runner-up in the Inco Scholarship competition. He is enrolled in a Cooperative Civil Engineering program at the University of Waterloo in Kitchener and would like to become a professional engineer.

Geoffery M. Pataran

Son of Port Colborne Cobalt Refining supervisor Mark Pataran, Geoffery graduated from E.L. Crossley Secondary School in Fonthill. He is attending Queen's University in Kingston.

Cal Hihnala, Roger Grenier and Allen Verelli: well-dressed (copper) welders.

Welder Allen Verelli makes a weld on shielded copper.

Inco welders go to the limit of their profession, prove they are among the best in the country

It may be the psychedelic effect of the eerie green glow that permeates the place, or the figures in sparkling silver space suits and breathing apparatus that appear to be performing surgery with torches on a sheet-covered body.

If you're not convinced something weird is going on at Inco's welding shop these days just wait until The Rocket kicks in, throwing 400,000 British Thermal Units of massive flame with a deafening roar.

"Good for morale" is how Welding Shop supervisor Bernie Piche describes the transformations at the Shops Alley facility. "A real challenge. There's nothing like something new to keep these guys enthusiastic about their job."

It may be "interesting" for the experienced tradesmen at the shop, but for most unwary visitors these days, the shop might seem to be the staging area for an alien assault on Planet Earth.

The strange happenings began shortly after Divisional Shops successfully bid on a Sulphur Dioxide Abatement program tender to fabricate copper jackets for the new furnace, some of them weighing two tons.(See story, Page 10).

For a few weeks, a team of seven of the shop's 17 welders periodically disappeared to do some extra training. A fume extractor was purchased and installed, "space" suits ordered and "The Rocket" was set up.

"Things looked like a science fiction movie set around here sometimes," said Bernie. "It was kind of an eerie place to work at times."

Confront challenge

He explained that while the folks at the welding shop are "some of the best around in their field," welding the huge pieces of copper was a totally new experience for most of them.

"It's entirely different from anything we've done here before," he said. "It demands special procedures and equipment."

The problem is, he said, copper dissipates heat almost as fast as you apply it. "It's like trying to weld water."

Gas Metal-Arc Welding was the answer. It was not a new process, but very complicated, time-consuming and critical. Not only that, but the procedure presented its own safety hazards.

Simply put, the method involves the pre-heating of the huge copper pieces in a furnace to around 1,400 degrees, or just about 500 degrees below the melting point. The piece is then quickly removed from the furnace and welded before it has a chance to cool.

"It's simple," said Bernie. "The metal is hot already. Any more heat that's applied can't dissipate as fast."

Special equipment such as rotary devices and jigs had to be installed to move the copper jacket pieces in and out of the furnace and rotate them into a flat position to allow welding.

Although pre-heated, the rapid dissipation of heat was still considerable and some of the pieces demanded as many as 11 separate welds.

"At first, we had to repeat the pre-heating and welding, sometimes as many as five times on a single piece," said Bernie. "While making one weld, the piece would cool off and had to go back in the furnace before the next weld could be made."

Problem solving

To eliminate at least part of the problem, the folks at the shop employed heat shields to reduce heat loss.

"You know how a patient is covered with a sheet before the operation?" said Bernie, smiling like a surgeon who just saved a life. "It's like that. The patient is exposed only in the spot where the operation is done. We did the same thing with the copper pieces. We used heat shields that exposed only the area where the piece was to be welded."

It worked.

"The heat shields reduced the cooling dramatically," said Bernie. "Most pieces had to go into the furnace only once."

To reduce heat loss even more, the shop installed a special 400,000 BTU heating torch, affectionately called "The Rocket" and "Flamethrower" by the shop's welders.

Bernie said The Rocket was used to "blast the piece" and get it back to to welding temperature without having to put it back into the furnace. "You should hear it," he said. "It looks and sounds like the exhaust of the space shuttle."

If the torch looked like a rocket, the welders working around it looked like spacemen.

"We purchased special high-heat suits for the job and used special Rachael Airstream Welding helmets," said Bernie. "The helmets are fed air from a belt-mounted filter pump pack. But the work was so hot that we had the visor of one of the five special helmets melt."

Heat wasn't the only problem. Fumes from copper welding can create health problems, so a fume extractor had to be installed at the shop.

Being prepared

One of the reasons the job has gone so well is the extensive preparation carried out at the shop. Bernie set up and ran a training program with emphasis on safety as well as copper welding characteristics.

"We practiced on various pieces, then tested them," he said.

Bernie said the tests showed excellent results. "It was a confidence builder for the guys around here. Tension tests on the pieces went perfectly."

The job was begun at the end of May, and by September, over 90 per cent of the scheduled 718 welds had been completed.

"So far, we're right on target as far as our costs and time scheduling is concerned," said Bernie.

With the welding job nearing completion, he expected no cost overruns.

"And we did it with not a single lost time accident," he said, "even though it was something that was new for our people. Our guys did the job like professionals."

That's probably what Bernie feels the strongest about these days. "We won the job in competition with the outside," he said. "There were two or three other outside welding shops that put in a bid to do this job as well. We won it and we did it. I'd say we have some of the best welders in Canada right here in this shop."

Welder Steve Reynolds and shop supervisor Bernie Piche plan welds on copper pieces.

Board of Directors Visit A Success

A lot has changed at the Ontario Division in six years and occasionally we're called upon to present our progress before an audience.

Such was the case in mid-September when the Inco Board of Directors held its first formal board meeting in Sudbury since 1984. As with any infrequent visitor, there was a lot of catching up to do.

These are exciting times for the Ontario Division, with the sulphur dioxide abatement project, the Sudbury Neutrino Observatory and aerial seeding of stressed lands opening bold, new chapters in the company's rich history.

Following an evening dinner reception with community and business leaders at Science North, and the formal meeting the next morning, board members enjoyed a guided tour of surface operations in Sudbury.

SO2 project interest

Of particular interest to the board was the progress of our $500-million sulphur dioxide abatement project, so the Clarabelle Mill seemed a logical place to start.

Clarabelle is the focus of an impressive mills rationalization program that will see all milling activity consolidated at one site. New milling technology that will increase rejection of pyrrhotite, the sulphur-bearing portion of the ore, is essential to the SO2 abatement target.

The directors were shown the entire operation, including the SAG (semi-autogenous grinding) mill and the new, large volume flotation cells.

"My impression is that they were very impressed with what they saw and by the scope and amount of work already done" said Central Mills manager Mick Throssell. "Judging by the quality and quantity of questions they asked our guides, they were all very interested in the changes here."

Leaving Clarabelle, the directors boarded a bus for a drive around tour of the Oxygen Plant and eventually arrived at the Copper Cliff Smelter.

Peter Ryan, manager of the Smelter Complex, said the visitors saw three stages of smelter history - "the old, the current and the new".

With massive renovations creating a beehive of construction activity at the smelter, directors witnessed a 1927 structure housing 1980s operations giving way to 1990s technology, said Ryan.

"They saw existing reverberatory furnaces and they saw the new flash furnace being built," he said.

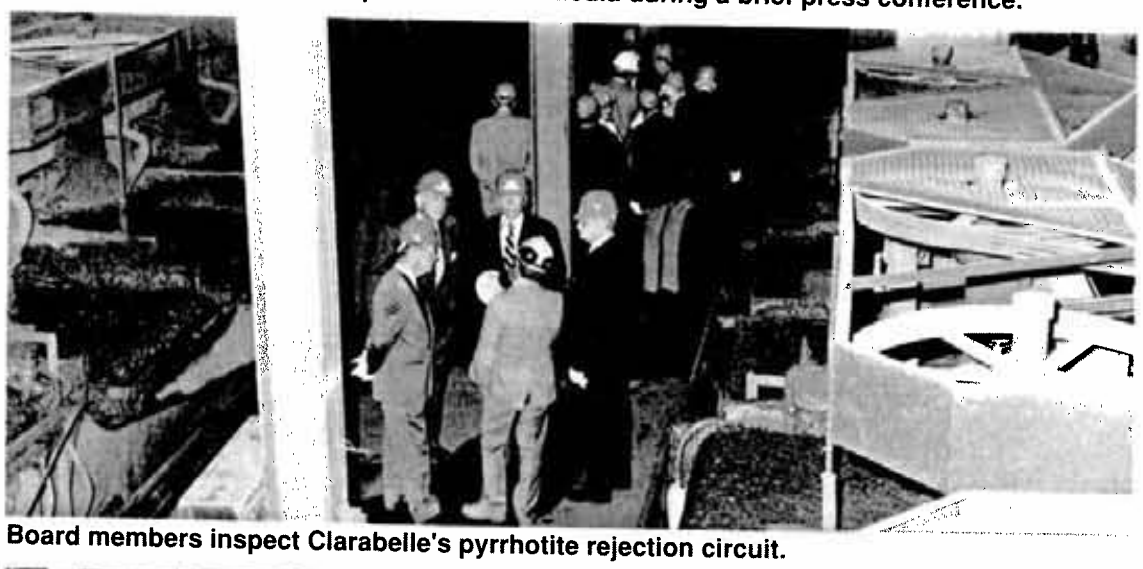
Competitive edge kept

"I think they were impressed that we're going to stay competitive while reducing current sulphur emissions by more than half and that we're doing all of this while still producing nickel.

"Board member Chuck Baird, who has been to the smelter more than once, commented on how open and friendly the smelter is now while a dozen years ago it all seemed serious business and hardnosed."

Following their tour of the smelter, board members drove around the new Acid Plant before going to the Copper Cliff Club for lunch with Ontario Division managers.

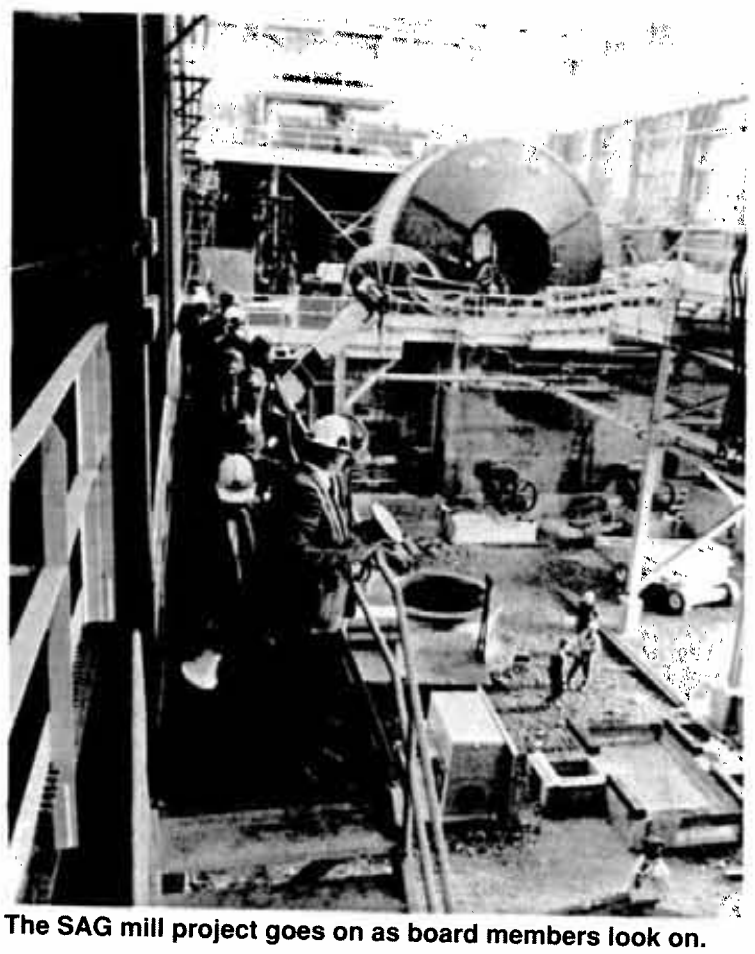
Chairman, President and Chief Executive Officer Don Phillips and Ontario Division President Bill Clement field questions from media during a brief press conference.



Board members inspect Clarabelle's pyrrhotite rejection circuit.

Audit committee member Robert Richardson discusses internal audit matters with Internal Audit manager Mike Heapey.

A reverb furnace workman seems undaunted under the gaze of board members.



The SAG mill project goes on as board members look on.

Surface Plants Safety Superintendent Sid Segsworth waits with umbrella to keep board member dry.

Their first stop on the tour after lunch was the Copper Cliff tailings area, where Throssell, Marty Puro and Ellen Heale gave presentations on tailings expansion and reclamation projects.

"I think it's a very positive part of what we do," said Heale, environmental co-ordinator. "Inco has been recognized worldwide for the pioneering efforts we've made in tailings reclamation.

"Since the last board visit to Sudbury there have been some tremendous advances in the visibility of the revegetation program. Things are greener, lusher and more advanced. Even the Canada Geese (who live in the tailings area) were on hand to greet the visitors.

"The company has been involved in tailings reclamation since the mid-1950s and this occasion gave us an opportunity to promote a very positive activity."

Leaving the tailings and the geese behind, board members stopped at the Copper Cliff Copper Refinery next where the primary purpose of the visit was to witness new mechanized equipment in action.

In 1986, the board approved a $15 million Capital Appropriation Request for new materials handling equipment in the electrorefining tankhouse, said Dale Krueger, superintendent of Process Technology. This was their first chance to see the results.

"When we received the new equipment we retrofitted our 60-year-old facility and brought it up to 1990 standards," said Krueger. "Refineries everywhere are doing the same and our refinery serves as a model to others.

Insight evident

"The board members who visited us had obviously done their homework. They were asking some very enlightened and detailed questions and had a sound knowledge of what we do here - our operations and our product."

Leaving the copper refinery, board members travelled further west up Highway 17 to the Copper Cliff Nickel Refinery, where things "went extremely well," according to manager Allan Bale.

"I think that the visitors were favorably impressed with our overall standards of housekeeping," he said. "Of particular interest was the nickel moulds plant we're commissioning now. This is a new venture in which pure nickel moulds are made directly from carbonyl gas.

"The board members were very taken with the manufacturing end of this new venture and asked a lot of overpowering questions on manpower and energy issues.

"When the tour was over there were lots of handshakes with the guides," said Bale. "That's usually a sign that things went well."

Board members finished their tour at Continuous Mining Systems, a wholly-owned Inco subsidiary, where they saw the computerized design and development of equipment and the production of mining machinery.

Subcontractor picks Inco's own to do precision work

Inco's Divisional Shops wins major

When Sulphur Dioxide Abatement project prime contractor Davey McKee put out a worldwide call for tenders to do the precision machining on 400 tons of copper jacket for a new smelter furnace, the winning bid could have been delivered during coffee break.

It came from Inco's own Divisional Shops.

"It's one of those times when everybody ends up happy," said John Prudhomme, foreman of the biggest job yet for the Divisional Shops Complex. "The contractor gets his job done at the best price, Inco saves some money on its own half-billion-dollar pollution control project, and our employees are happy because jobs stay right here at home.

"Even the local community benefits," he said. "More than $500,000 in wages stays right here in this community."

The job of machining almost 1,000 huge copper jacket pieces, some of them weighing as much as two tons, tested the flexibility, ingenuity, scheduling skills and cooperation of the approximately 100 tradesmen at the shop. The estimated 9,000 man-hours of work on the project had to be done without sacrificing the regularly-scheduled mines and plants service work that the shop is set up to do.

"It's going to demand a lot of careful scheduling," said John. "But I think it'll prove again that we have some of the best tradesmen in the world right here. Our guys are challenged by these things, they like the challenge. We held information sessions with everyone in the shop before the job began and we got some excellent ideas and suggestions from the people here that have already saved us time and expense.

"I have absolutely no doubt that we can do it," said John. "It's just a little bigger job than we usually do around here, that's all."

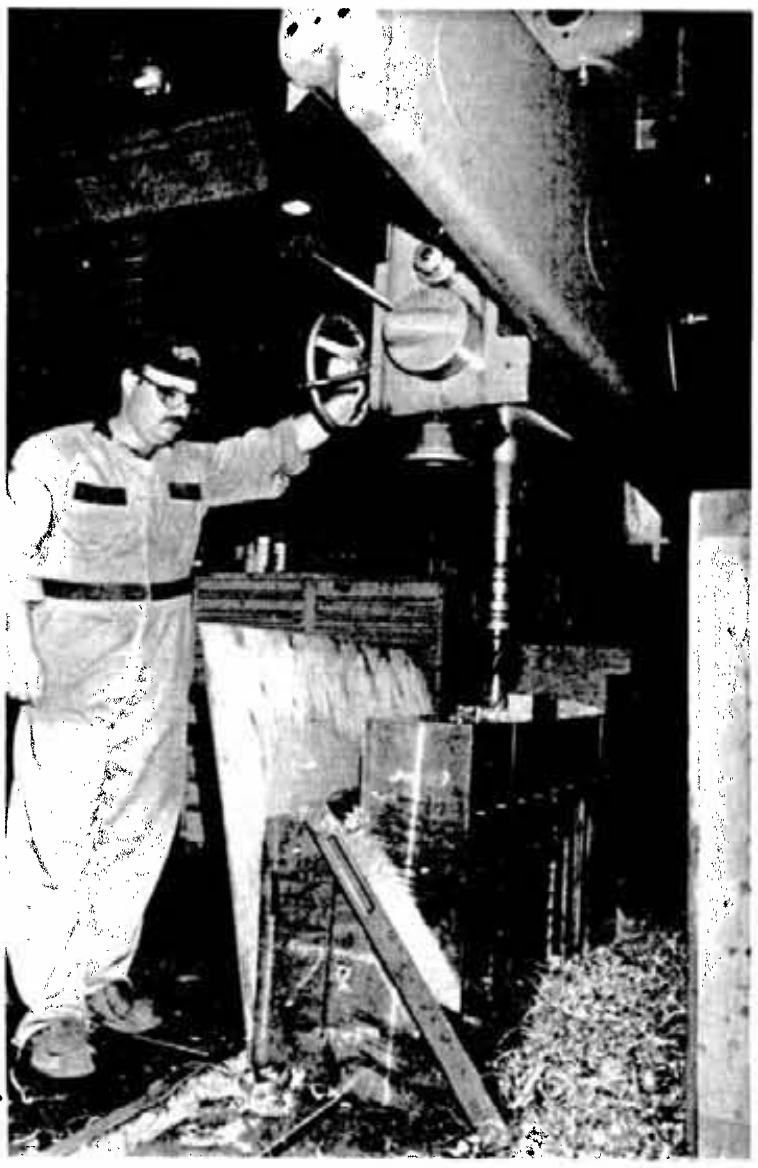
He said the work on the copper pieces involves specifications that are about as critical and intricate as work done in any machine shop. "Even the planning for the job was a job in itself," he said. "Maintenance Planning Foreman Ed Kotyluk managed to pull it all together, including planning, ordering materials and preparing the winning bid."

The copper jacket pieces form a critical part of the furnace by dispersing some of the 2,200 degrees Fahrenheit of heat away from the firebrick that encases the furnace. The heat is dispersed with water that is pumped through channels precision-drilled into the copper pieces by Div Shop tradesmen.

Divisional Shops began pre-

Maintenance mechanic Roger Pelletier and machinist Marc Lalonde prepare pieces for machining.

Machinist Terry Sasseville mills a section of copper piece to precision measurements.



Machine operator Dan Savarie drills hole in copper slab.

Maintenance mechanic Louis Fantasia as seen through machined hole in copper jacket.

contract for abatement project

paring their bid late last year and submitted it to contractor Davey McKee. In early 1990 they were notified that their bid was successful.

"We knew we had competition from around the world," said shops coordinator Bruce Warren, "but we figured we were competitive."

In fact, says Bruce, squaring off with outside competition is one of the best ways to show that the shop is run cost effectively. "If you can compete successfully on the open market, that means that your regular, day-to-day work is cost effective as well."

There are minor advantages, he said, such as the proximity of the copper refinery where tons of waste shavings and chips from the machining process are shipped.

"They'll give us credit for the chips," he said, "and that's credited against our costs. We've sent about 50 tons of chips to the copper refinery so far, and there will be a lot more before the scheduled completion of the project."

He credits inter-plant cooperation as another reason for the Divisional Shops' competitiveness.

It's not the first time the shops have taken on major outside work. The shops won a bid to do similar work when copper jackets were needed for PT Inco's Indonesian furnace work in 1984.

"But the job was relatively simple compared to what we are doing now," said Bruce. "There's much more machining involved in this job."

In a continuing effort to stay competitive, the shop has kept abreast of new procedures and equipment. One example is a state-of-the-art $300,000 C-Axis lathe (January Triangle story, Page 10) pressed into service at the shop late last year.

"It was a major factor in our ability to take on the job," said John Prudhomme. "So far we've made just under 3,000 pieces on the lathe and saved at least two weeks compared to what it would have taken without the lathe. On a job like this, two weeks is a major savings."

Welding is done at Inco's welding shop in a special process that involves heating the huge copper pieces to about 1,400 degrees and then welding them. Special heat-protective suits are worn while welding is done on the glowing pieces of copper (See story, Page 8).

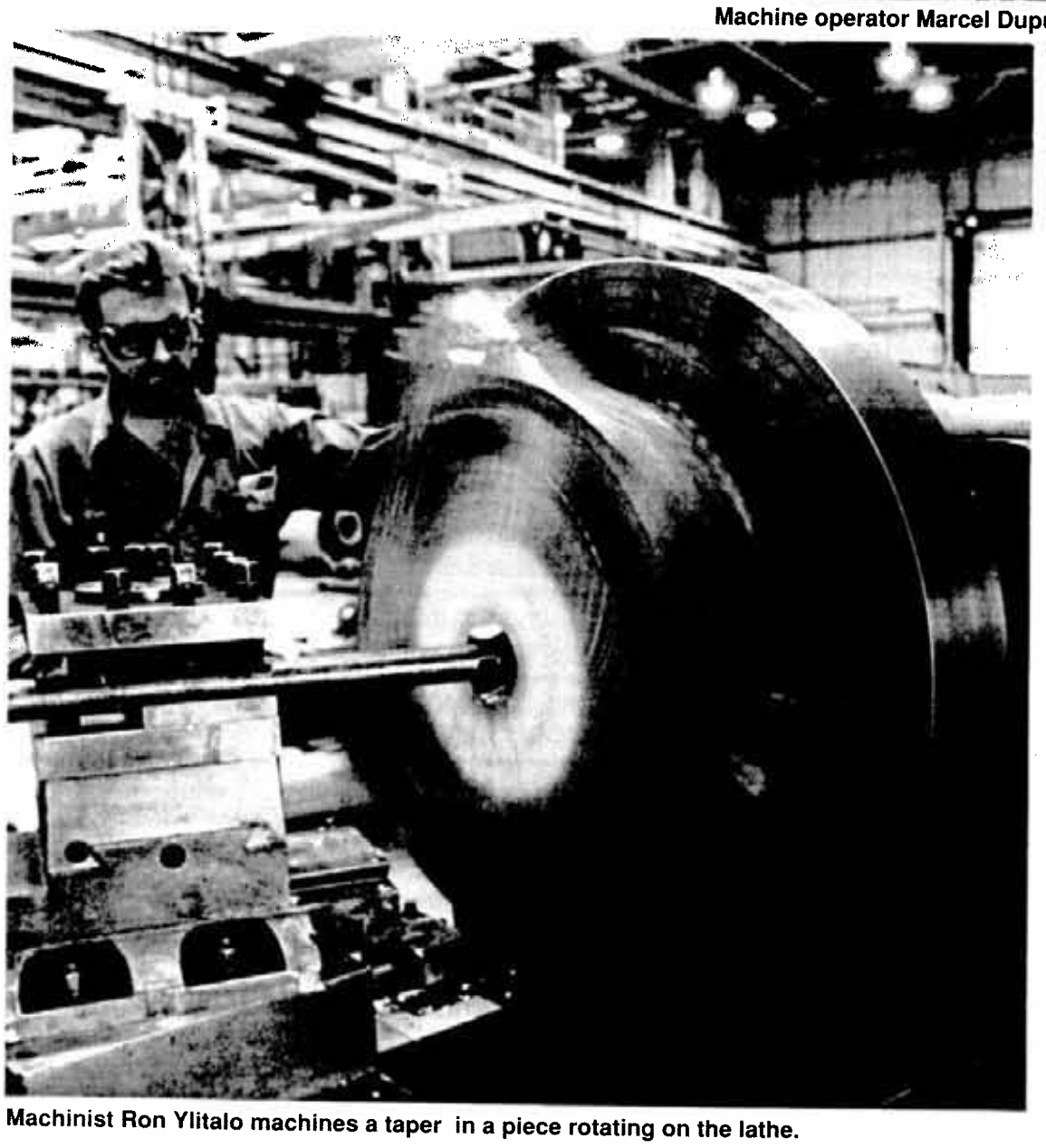
Some of the credit for the spark that drives the folks at Div Shops, according to John, goes to superintendent Tom Prior. "He's not the kind of guy that sits back and lets it happen. He's always promoted this kind of competition."

Is there a well-deserved break when the job is done?

Not on your life. A bid on similar work for an Indonesian furnace rebuild is "in the works" now, and the folks at Div Shops are confident they can field the lowest bid on a second furnace to be built in Sudbury.

"With the experience gained through the work we've done already, we should be even more cost effective," said John. "Somehow, we've always pulled together here with every challenging job."

Machine operator Marcel Dupuis cuts an expansion joint with a horizontal saw.



Machinist Ron Ylitalo machines a taper in a piece rotating on the lathe.

Project foreman John Prudhomme displays some of the pieces tooled at Divisional Shops.

In your yard...

Trouble with tomatoes

Many insect problems, diseases and cultural practices will damage tomato plants and reduce yield. Seedling tomato plants often have numerous, small holes chewed in the leaves. This damage is caused by flea beetles. Whiteflies and aphids suck juice from plant tissues causing leaves to curl and small, shiny spots on fruit. These insects also secrete a sticky sap that encourages fungus - causing a sooty, black deposit on leaves and fruit. Creamy yellowish cloudy spots on ripe fruit, and spongy tissue beneath spots results from the feeding of green to gray, shield-shaped stinkbugs. It is important to clean up refuse piles or weedy areas in the garden where stinkbugs overwinter.

In late summer, with warm daytime temperatures, cool nights and high humidities, two soil fungus diseases predominate in the garden. These are verticillium wilt and fusarium wilt. Symptoms appear on the oldest tomato leaves first and rapidly progress upwards on younger leaves to cover the entire plant. Leaves turn yellow with brown patches along leaf margins, eventually the entire plant develops a wilted, dead appearance and inside the main stem, tissues are discolored. Immediately remove and destroy diseased plants (do not compost diseased tissue) and plant disease-resistant varieties.

Tomato blossoms may fall off for a variety of reasons. Do not plant seedling plants too early, night temperatures below 13°C cause blossom drop. Also at temperatures less than 10°C plants will develop purplish-colored stems and leaf veins, plant growth will be stunted and yields will be reduced. Day time temperatures above 32°C, excessive nitrogen fertilizer or too much shade will also cause tomato flowers to fall off before fruit set.

Green or ripe tomato fruits may develop a brownish-black sunken scar on the bottom end. This is called blossom-end rot and involves calcium levels and water balance in the plant. It is more common on sandier soils. To prevent blossom-end rot it is very important to maintain an even soil moisture.

Moisture stress such as a rainfall after a dry period will result in fruit cracking (in circles) around the stem. Excess moisture may cause blotchy ripening of fruit.

Tomatoes with an off-shape, roughness or scars may be related to the cultivar or variety, increasing cool temperatures or excessive nitrogen fertilizer. Cat-facing of tomato fruit, extreme malformation and scarring, results from cool weather during fruit set.

Solving problems

Depending on the variety, cracks may radiate out from the stem on ripe fruit. This results from heat stress, temperatures above 32°C. If tomato plants are severely pruned and fruit are exposed to the sun, light brown, leathery patches will develop on exposed tomatoes due to sunscald.

In addition to identifying the problem, control measures should be followed to alleviate future damage and loss. Choose tomato varieties that are recommended as well adapted to growing conditions in your area. Disease resistant varieties will be labelled VFN - resistant to the soil-borne fungus diseases verticillium and fusarium and nematodes.

Plant tomatoes in a sunny location in fertile, well-drained soil. An individual staked tomato plant requires 0.2 square meters of space. Carefully trim plants to a single stem and pinch off all suckers when they are small. Diseases may be transmitted from plant to plant if a knife or shears are used for pruning and not properly disinfected.

Check your garden often to identify insect or disease problems. If necessary immediately remove and destroy diseased plants (including roots). Do not water tomato plants late in the day or overnight - allow the leaves to dry thoroughly before cool night temperatures. Tomatoes require approximately 60 days from fruit set to maturity. To improve yield, remove any flower clusters that form after the end of July or fruit will not mature before the first frost.

Finally, rotate your crops in the garden. Plant tomatoes in the same spot only once every 2 or 3 years and do not plant them in areas where potatoes, peppers, eggplant or cucumbers were formerly planted. This will reduce the incidence of soil-borne fungus diseases.

Planting Garlic

Garlic is a member of the onion family, plants grow tall with long, flat leaves. In Ontario, garlic is grown as an annual plant. Garlic is planted in the fall and bulbs are mature the following August. Dormant cloves must be exposed to cool temperatures (between O and 10°C) for 1 to 2 months to initiate bulb set. With fall planting, garlic receives the necessary cold treatment through the winter.

A whole garlic bulb is made of up to 10 bulblets, segments or cloves. To propagate garlic, individual cloves are planted. Large cloves have a larger food reserve and will yield a larger bulb at the time of harvest. To prepare bulbs for planting cut off tops and gently break the cloves apart. Do not remove the papery skin from the individual cloves. All of the cloves may be planted except the long, slender ones in the centre of the bulb-use them for cooking. Plant cloves with the pointed end up, 8 to 15 cm apart (46 to 60 cm between rows) at a depth of 2.5 to 5 cm.

Garlic will grow in a wide variety of soils. Organic matter such as well-rotted manure or compost should be added to heavy clay or very sandy soils. Organic matter holds moisture and will allow bulbs to expand in clay soils. Fertilizer should be based on soil analyses and recommendations. Garlic, like onions, requires nitrogen. Mix half of the fertilizer in with the soil when garlic cloves are planted. Apply the remainder the following spring. Plant garlic in full sun.

Garlic cloves store best at temperatures of 0°C and humidities between 60 and 70%. Warmer temperatures or higher humidities will cause cloves to sprout or mildew.

Aerial greening gets underway

Continued from Page 1

fertilized and seeded 125 barren, rocky and windswept acres of Inco property.

Until the advent of this innovative, new way of revegetation, the barren sweeps were considered virtually inaccessible via conventional regreening methods such as using all-terrain vehicles. But the aerial technique and the daring men in their flying machines gives impetus to a fledgling $250,000 revegetation program.

The program is a reclamation expert's dream come true and, if it's successful, could give a new scope to Inco's reclamation strategy for the future.

"It's really exciting to take part in a large-scale reclamation with innovative technology," says Ellen Heale, the company's environmental co-ordinator who's piloting the revegetation move with Marty Puro, superintendent of the Copper Cliff Mill, reclamation and water management. "I don't want to say you get instant results but you certainly can see instant progress."

Added Marty as an Ag-Cat rumbled down the runway in a cloud of dust: "It (this aerial seeding) has never been done on this scale, in this fashion on stressed land before. When you have thousands of acres to reclaim and you're only nibbling at it before, then this is really exciting."

In announcing the pilot project to Sudbury news media, Ontario Division president Bill Clement said it will complement Inco's current efforts to reclaim barren outcrops on its Sudbury area lands. The company has also reforested more than 1,800 acres in its tailings area over the past 31 years.

Mr. Clement said the impact of re-greening has already proven significant in improving the quality of life around Sudbury and in boosting the image of the region. Reclamation and re-greening not only revitalizes the area but also reduces further soil erosion, helps improve water quality and creates better habitat for wildlife, he added.

Inco awarded the experimental seeding project to Agric Air Inc., a Canadian aviation firm with international experience in forestry and agricultural protection.

Pilots Rouleau and Dubois are partners with Stephen Nicholson in the company that has fought locusts in the Middle East, fertilized sugar bushes in Quebec and battled the spruce budworm in Northern Ontario.

On the brilliant, flying days of October, all three are at work at Inco, plotting each fly pass with 1,000 kilograms of lime on the craggy aeries behind Clarabelle.

"Our biggest challenge technically is to get a uniform application," says Nicholson, the non-pilot in the partnership. "For us, it's not difficult. It's our whole life, flying. And this is a nice job. It's a safe working environment. We're not working in an urban area."

For Rouleau and Dubois, the troubleshooting enterprise is a multi-million dollar business that lets them do what they know how to do best. Fly.

Different hole in the ground for Crean Hill miners

Almost 50 enthusiasts from Crean Hill Mine turned out to take a whack at a different kind of hole in the ground for a change.

It was the Crean Hill Mine Golf Tournament and perfect weather added to the good times.

Organized by Crean Hill engineers Dave Cornthwaite and Barry Bell, the event saw some accomplished golfers as well as people just out for a good time.

Low gross winner at the event was Mines Exploration geologist Chris Davis, and low net winner was Maintenance Department drill fitter Roy Conley.

At the far left, drift driller Tom Dolan appears to be taking the same care for the upcoming shot as he would on any underground job. On the immediate left, In-The-Hole driller Jack Simons takes a good swing that sends the ball. . . and some sand down the course.

Medical Surveillance Supervisor Pam Holmberg and Dr. Alnoor Abdulla: Getting to the heart of the matter.

Study a benefit to Inco

Heart health counts to specialist

Inco's Occupational Medicine Department will be looking closely at work being carried out in a community-wide Heart Health Wellness project.

Inco Supervisor of Medical Surveillance Pamela Holmberg is one of the founding members of the project and one of almost 30 volunteer coalition members who have come together to plan the launch of the project.

Assisting with the delivery of Heart Health to the community, she said the project's findings could provide valuable information for the company's own in-house programs.

Pam brings years of experience as an occupational health nurse to the group and serves as Inco's official representative on the coalition.

"Whatever comes out of this in the way of recommendations, programs and guidelines could be implemented by Inco programs through our own Occupational Medicine Department," she said. "The Occupational Medicine Department is very supportive of health promotions and Heart Health Wellness is working toward this end through employee education."

Last November, the Ministry of Health awarded the Region of Sudbury $1.25 million to promote heart healthy lifestyles to the members of the community for the next five years. Since then, a great deal of planning has gone into the launch of the project. The coalition is led by Dr. Alnoor Abdulla, a well known and highly regarded heart specialist in the region.

Heart Health will attempt to provide information and education to individuals who want to reduce their risk of health complications due to heart disease.

About 50 per cent of all heart problems can be avoided by a change in lifestyle, said Pamela, pointing to several simple changes that greatly reduce the chances of heart disease.

She said not smoking, increasing the consumption of fruits and vegetables, reducing the consumption of fat, and regular basic exercise such as brisk walking are simple ways to reduce the danger of heart disease.

She hopes that Inco employees, as well as the general public, will take advantage of the official launching of the project on Friday and Saturday, October 26 and 27 at the New Sudbury Shopping Centre.

As well as dispensing valuable information on heart health, the special event will involve giveaways and an opportunity to win a $900 stationary bicycle that can help keep the winner fit through the winter months.

Marcel puts a lid on it

'Nutty' idea earns $10,000 Suggestion Plan cash

Marcel Bray put a lid on his nutty idea, and if that wasn't one of the easiest ways to win $10,000 in Suggestion Plan cash we don't know what is.

"It was simple," said Marcel, a Little Stobie miner. "I've often thought about the problem, and I've been bolting for over a year now."

In the past, areas in which it was necessary to install rebar bolts were first bolted with regular mechanical bolts in order to get the screen tight to the back or walls. Rebar bolts were then introduced between the mechanical bolts as per requirements. This was an actual waste of mechanical bolts and the area looked like a pin cushion.

Several methods were tried to make a one pass rebar bolting operation acceptable, but resulted in very little success, or at best very low in efficiency.

The nut was spun to the end of the thread in order to spin the rebar, and when the rebar could not be pushed further, there was nothing left for the nut to run up and tighten the screen.

Double nuts were tried which worked to some degree, but then had to be hammered and wrenched in order to get one nut back off and the other nut to spin up. Obviously this was quite inefficient and the people involved just didn't do it.

Marcel's solution was to use dome nuts, in effect putting a "lid" on the nut that would break away after a certain amount of pressure was reached.

"The dome breaks off, and it can be tightened," he said.

A supplier was found and the nuts were purchased and tested. "It went perfectly right away," said Marcel. "I couldn't believe how well it worked right off the bat. There was plenty of thread left so you could tighten the screen right against the back.

The nut is cast with a dome or (cap) which retains the nut on the end of the rebar thread. The rebar is then able to be pushed and spun by usual means (stoper or jackleg), with the nut remaining at the end of the thread.

Once into position, the bolt is held for 30 to 60 seconds until the resin sets. Torque is again applied, but the bolt not being able to turn anymore, builds up torque on the nut and the dome (cap) part of the nut breaks off. The nut is then free to run up the threaded part of the bolt, pushing the washer and screen tight to the back.

Although slightly more expensive than regular nuts, the dome nut made it possible to overcome the mentioned problems, with as neat a job as with regular mechanical bolts. The efficiency of the one pass rebar bolting is also excellent.

The largest saving was not the mechanical bolts and associated material, but in the labor cost required to install the bolts.

Newcomers get tips on plan

Inco's new employees are getting an introduction to the company's Suggestion Plan during the one-week orinetation program.

"We added the Suggestion Plan to the introduction program last year," said Suggestion Plan Supervisor Denis Lepage. "We expect to get more and better quality suggestions and ideas as the new employees get familiar with the advantages of the plan."

At the same time, all new supervisors will receive, as part of their supervisory training, the fundamentals of processing Suggestion Plan submissions.

Speeding things up

It is expected that the additional training and insight into the plan will help eliminate delays and backlogs that have meant extended waits for processing and approval.

Along with this new training program and a new logo adopted by the plan, it is expected that increased awareness will boost participation by employees.

"Generally, ideas are better than they've ever been," said Denis, "and awards paid last year were the highest ever paid in the company's history.

"Award payments have been increasing annually for some time." he said. "It looks like it will continue to increase for some time."

Suggestions processed totalled 1,158 in the last quarter, and 2,031 for the first half, of which 383 (33 per cent) and 634 (31 per cent), respectively, were adopted.

The average award for the quarter was $236 and $261 for the first half.

Measurable savings totalled $662,010 for the second quarter and $990,480 for the first half of the year.

INCO
Ontario Division

SUGGESTION PLAN

Received	700
Processed	1158
Adopted	383
Awards Paid	$90,405.
Highest Award	$10,000.
Average	$236.04
First Year Savings	$662,010.
Awards Based On First Year Savings	$65,585.
In Process	1591

2nd Quarter 1990

Marcel Bray with his $10,000 idea: Simple and lucrative.

HERITAGE THREADS

The smelter of smelters

Most of you will already know that Ambrose Monell was our company's first president. When he left in 1917 to become a U.S. army colonel, he was succeeded by W.A. Bostwick, and Robert C. Stanley became first vice president. Not long after, around war's end, Bostwick's health began to fail.

Stanley became the engine of progress, even in the face of declining post-war markets. It was he who recommended the dismantling of the old Bayonne works, leaving all nickel refining to the new Port Colborne plant, and the construction of the $3,000,000 sheet and rod mill at Huntington, West Virginia. Work on the latter began in March of 1921. By fall, conditions had worsened to the point where the Sudbury operations had to be closed. Proof of stubborn faith in the future, however, the Huntington project continued.

Stanley takes over

Bostwick died on February 4, 1922. In March, Stanley became President, and Charles Hayden became chairman of the board. In May, the refineries re-opened, and the Copper Cliff smelter fired up furnaces 1 and 3 on September 1. The rebirth had begun.

If Stanley was the engine of progress, the new board chairman ensured they would drive on a full tank. A wealthy investment banker in his own right, Charles Hayden brought major financial prestige to the company. Perhaps the most famous of his many gifts to the public is New York City's Hayden Planetarium — which I was thrilled to visit 30 years ago.

Expansion is Inco's "Charleston"

As the Roaring Twenties got into high gear, so did growth at Inco and Mond. In 1923, the emphasis was on finding peacetime uses for nickel. Inco and Mond weathered the storm; as you've learned already, British American did not. By 1926, the surviving companies were at work on their respective portions of the Frood orebody.

But this was to be a smelter story, wasn't it?

Between 1926 and 1931, Inco spent more than $50 million expanding its Sudbury operations, over $20 million of it on the smelter alone. And what a smelter they built! Can you imagine doing all that for $20 million bucks — in this age when we can down a million like a salamander having lunch?

Up she goes

Work on the 8,000-ton colossus began in July of 1928. One of the first jobs for Fraser-Brace was to get rid of the old cooling pond that sat right where they wanted to put the new converter and furnace building. Draining the pond wasn't much of a trick, and a drag line made short work of the three-to-four feet of slime on the bottom. But then there was the clay, in varying depths and textures. What to do, so the big building wouldn't sink or slowly shift, like some great red glacier? They excavated trenches where the most heavily-loaded columns would rest, and filled them with slag. Next, the entire area of the cooling pond was filled up to the yard level with 166,000 tons of molten slag. Given the old smelter's capacity of about 2,000 tons per day, the pouring was a drawn-out process.

When the neighbourhood had cooled down enough, concrete walls were poured around the bases for the reverb furnaces. The walls were then lined with 16 inches of hollow tile, so the concrete wouldn't burn, and the bases too were filled with molten slag, in progressive layers about 18 inches thick — each allowed to cool completely before the next was poured. The final furnace elevation was 12 feet above the converter floor. In a business that handles as much weight as we do, you want to use gravity wherever you can; it's cheap, convenient, and reliable.

On April 22, 1929, J.L. Agnew laid the first brick of the new stack (capped in 1972 and subsequently dismantled). By August 15, the outer shell was complete: 512 feet high, 65 feet bottom inside diameter, 45 feet at the top, 15,000 tons of bricks. It was a great day to celebrate and trips to the top offered brave dignitaries a wondrous view of the district.

The buildings, flues and furnaces required 35,000 tons of structural steel, 61,000 cubic yards of concrete, over seven million bricks, and a million and a quarter hollow tiles. New floor space was over a million square feet, on all levels.

We think of pressure-treated wood as a pretty new-fangled thing, but all wood used where furnaces were installed in 1929 was impregnated with a zinc chloride solution under pressure, making it unable to support combustion.

"Be ready by August!"

Stanley set the deadline, and Agnew stayed in personal contact to make sure it was met- they wanted production from the new plants not later than August 1, 1930. The following notes in an old unsigned log book captured the final approach to the deadline: May 20, 1930 — Matte charged into No. 8 converter New Plant today. This is the first converter in use. No. 1 Reverberatory is now being heated and charges will be made in few days. "June 1, 1930 — ... First copper shipment from P.C. handled at Refinery. "First battery of Roasters and No. 1 Reverb furnace started operations June 9th at 10 a.m. "June 16, 1930 — Bottom fell out of new Reverb furnace. "July 29, 1930 — All converters in old building cast this day for the closing of this building. New smelter converters now operating (underline is mine).

A lot remained to be done — it's still being done — but the smelter of smelters was ready on time. In the spring of 1932, satisfied that a new age had truly begun and that the trucks and electric locomotives were here to stay, "they closed the barn and sold the horses."

Triangle printed on recycled paper

Continued from Page 1

own contribution. "Collectively, we can make a difference," he said.

Just how much can be accomplished by individual effort can be seen by the efforts of Construction Department secretary Fay Poff. The 16-year Inco veteran led her own in-office campaign to abolish styrofoam cups and wrote to the Triangle about Inco stocking the item.

Today, styrofoam cups no longer sit on warehouse shelves.

Triangle isn't the only Inco publication to go green. A new 24-page Ontario Division brochure describing the impact of quality improvements on our operations was also printed on recycled stock.

Launched to coincide with the recent Inco Board of Directors' annual meeting here in Sudbury, the booklet will soon be distributed to all Inco employees. In Touch, Inco's special publication for the company's 11,000 Sudbury-based pensioners, will also be printed on recycled paper.

According to Klaus Haring, assistant general manager of Journal Printing, Inco has become the company's biggest customer for recycled paper in Northern Ontario.

"We're getting more and more demand for recycled paper these days although, overall, the percentage of recycled paper to regular stock is still quite low," he said. "I'm sure that the Inco decision will prompt more people to switch to recycled paper."

Mr. Haring said the Inco Triangle uses approximately 10 tons of paper for every three issues. To manufacture that much in the normal production, paper used for the Triangle requires more than 21,000 pounds of moisture-free wood. He said that the 50 per cent recycled paper is the norm, since 100 per cent recycled paper is difficult to handle.

For the customer, a higher price for recycled stock is the only significant drawback. For the printer, using recycled stock requires extra care.

"With recycled paper, we have to be extra careful to make sure the grain of the paper is running in the right direction," Mr. Haring said, adding that recycled paper also demands special attention in the printing and binding processes.

"We're really quite excited to finally make the move to recycled paper," said Jerry. "And the quality of the Triangle for our readers should not diminish. That's the bonus in making this significant change."

LETTERS TO THE EDITOR

Thanks for Inco's green thumb

Dear Sir:

The Sudbury Horticultural Society would like to express its appreciation for providing a pleasing greenery display and the Inco Cup as well as funding, so monetary prizes could be awarded as well as expenses met in our annual August Exhibition.

As Mr. Alex Gray (Inco Gardener) has already informed you, the Horst Berndt property on 27 Dale Street won the cup for 1990, $10 and the bud vase as top entrants in the Inco Garden Competition. While Mrs. Berndt has been ill for the past few years, this energetic couple still maintains a top quality garden. The Berndts are famous for their collection of dahlias - they are perhaps the largest and most colorful in Sudbury. Mrs. Berndt usually wins the photographic trophy with her pictures of the property.

Again, we offer our sincere thanks for your contribution and Mr. Gray's talents and time in judging and supplying the display.

Sincerely,

(Mrs.) Ruth Jefkins, Secretary
Sudbury Horticultural Society

Inco leadership

Hi:

I am very pleased to receive the Triangle, and it is great to see how Inco leads in its field. Now my association with Inco is in Thompson.

Continued success with the Triangle, and please change my address to 614-294 Portage Avenue, Winnipeg, MB.

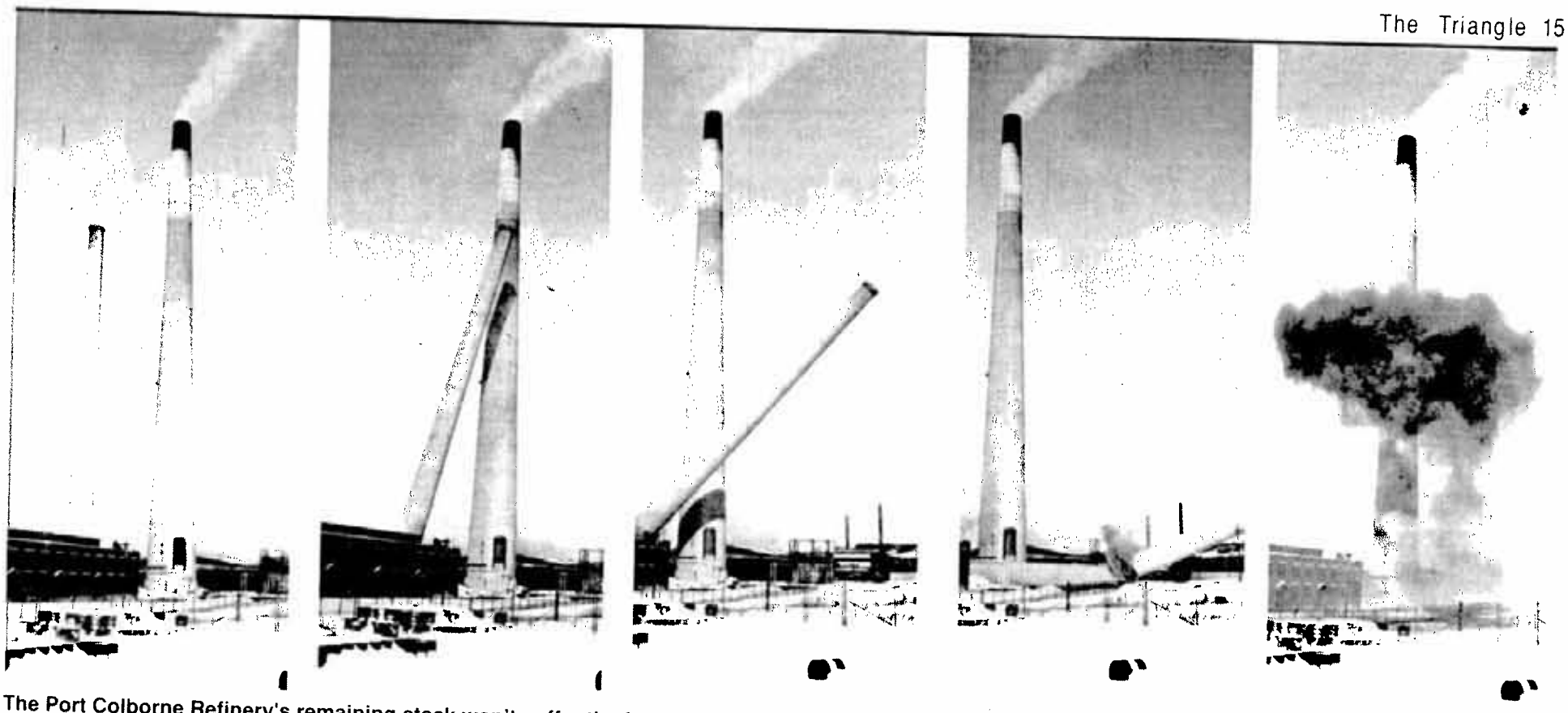
Sincerely,

A.W. Mallett,
President,
Pro-fundDistributers Ltd.

Studying security in Manitoba

A special team has been set up in the Manitoba Division to examine and make recommendations about upgrading the Division's security and protection services.

The Process Improvement Team is focused on protecting employees and anyone else who comes to the division, either on a regular basis or as an infrequent visitor. Plans are underway to seek input from emplyees on various security matters.



The Port Colborne Refinery's remaining stack won't suffer the fate of this 2,700 ton stack taken down February 5, 1966.

Port stack stands tall on Port Colborne horizon

It'd take a pretty big stack of dollar bills to take it down. An estimated 1,425,000 of them in last year's figures, say the engineers.

So the last big chimney at the Port Colborne Refinery will stay up for now because it's cheaper to leave it that way.

And the same chimney company which built it 54 years ago—Custodis Chimney Company — has a yearly inspection and maintenance contract to ensure the almost 6,000 ton structure stands tall without a fall.

Local residents and sailors won't mind if the stack stays around for a little while longer though, because since 1936 it's become a local historic landmark and navigational beacon along the shores of Lake Erie.

Dick Corkum, a retired refinery worker who sailed 11 years for Upper Lakes Shipping before he joined Inco, says the stack, which is almost 500 feet (152 m) high, can be seen for at least 15 miles (24 km) out on Lake Erie.

"It's the first thing you see over the curve of the earth. A good landmark," he said.

Another local sailor, Scott Belyea, says that many sailors use the stack as a navigation aid.

"Especially those who are regularly transiting the canal. . .say 60 times a season. At the three mile buoy, the captain or the first mate usually uses the stack to line his ship up with the two-mile buoy and from there, the Lake Erie entrance to the Welland Canal."

The stack is impressive when seen from land, too. The entire city of Port Colbome uses it as a landmark and it is used as a reference point all over the Niagara Region, says Keith Overend, a local representative of LACAC, the Local Architectural Conservation Accession Committee.

Landmark

"I live just a few blocks from the refinery. Whenever friends come to visit for the first time, I tell them to head for the stack and the rest is easy."

Overend says the stack is part of the area's industrial heritage and has the potential of being designated as a historic structure, although he realizes nothing lasts forever. Particularly when gravity and the elements are working against it.

"Much of the history of Inco is represented in the stack. It must have been quite the engineering feat in its day," he said.

Jim Berthelme, general manager of Custodis Chimney Co., in Toronto, says the stack "was considered to be a very tall chimney in 1936. Two hundred to 250 was considered to be tall at the time. There aren't too many of the large variety being built now."

The stack, which has had 50 feet of brick removed from its top over the years, was built using jump-form technology, with concrete forms being built every seven feet. Newer slip-form methods are now used where the concrete is continuously poured, Berthelme said.

"We usually send a nucleus of about three trained people to a site and hire the rest locally. I estimate it took about 12 men to build the Port Colborne stack in five months. Nine men were hired from the area to attend our 'chimney university.' During these Depression years, there was a certain romance about building something tall like a chimney. There would have been no problem finding the men," he observed.

One of those men was steeplejack Jake Smith. His daughter, Lois Clark, recalls him helping to build and paint the inside of the stack.

"Afterwards, he was hired by Inco and worked in the furnace area until 1941, when he was 59 years old," she remembers.

It's been many years since anything went up the stack besides daring steeplejacks. June 30, 1973 marked the day it was removed from nickel refinery production. It was used for incinerating garbage and precious metal refining until 1986.

The stack may have passed its useful age for production purposes, but it still serves as a silent sentinel and a reminder of the busy, bustling days when nickel was refined in Port Colborne.

All Mines Golf

The Copper Cliff Mines Association's Golf Tournament saw some unusual action this year as about 80 miners from South and North mines tried their hand at a little golf at the Pine Grove Golf Club. At left, Raise Bore operator Wally Kelm takes an unusual approach to putting, while, above, a determined Raise Bore Operator Nick Pacione seems to have recovered something that got lost somewhere near the last green.

Million hour mark reached at Central Process Tech

The folks at Central Process Technology: Worth a million.

It's kind of a cliche that goes back to B-movies about the mad scientist in his laboratory, mixing a new chemical concoction to grow a set of fangs.

The lab inevitably blows up.

There aren't any mad scientists that we know of at Central Process Technology, but the hazards are real. That's why the over 60 people at the Inco facility are pleased with their record of a million man-hours without a lost time accident.

"There are many potential hazardous areas within the laboratory and sample house areas," said Loss Control Coordinator Don Smith. "The crews have to be very aware and practise good work habits when working with and around technical equipment. They handle acids, cyanides, potentially explosive, highly flammable, corrosive, toxic and other hazardous chemicals."

He said the department consists of various work groups, primarily within the disciplines of analytical chemistry, process and industrial engineering. In addition, a crew of 10 and one staffer work at the Sample House near the Superstack. Along with the unit's personnel, janitorial and maintenance crews work daily in the building and must also be commended for their safe work habits.

Reaching the million mark, he said, was achieved because of the general attitude toward safety and an active safety and health committee and Failsafe team which provide strong leadership.

Another reason is cooperation within the group in reporting incidents and assisting in rectifying safety problems immediately. Don said that internal manuals including a safety manual have also been an important part of the accomplishment.

"We have an excellent action team response during emergencies, good assistance, participation and awareness by all during evacuation drills and we actively practice the Internal Responsibility System."

Inco gets $1.6M for nickel R&D

Inco will receive a $1.6 million non-repayable contribution from the Strategic Technologies Program to support a $7.3 million venture involving the development of a highly sophisticated system to make pure nickel moulds of complex-shaped objects.

The company is teaming up with Mirotech Inc. to design and demonstrate a process known as nickel carbonyl vapour deposition which reproduces a near duplicate of the original object when a nickel gas compound decomposes into metallic nickel.

Mirotech will specify design, parts and operating procedures for the chambers used in the process. Inco plans to assemble three prototypes of varying size and complexity at the Nickel Refinery.

If the project is successful, the NVD-based moulds would be applied in injection moulding of formed plastics.

Flu shot a good investment

The Sudbury and District Health Unit is recommending immunization with a flu vaccine, particularly for people in high risk categories such as those suffering from chronic medical conditions and people over 65.

According to a public service message released by the unit, many people die of influenza (commonly called the flu) every year. Those at risk include people with heart, lung or kidney disease or diabetes.

Statistics show that every year, up to one third of the population may contract the illness. Early immunization is an effective way to get protection, and the health unit advises early immunization, in October or November, in order to build up immunity before the flu strikes.

Medical experts suggest that influenza will continue to claim lives unnecessarily unless efforts to increase public awareness about the benefits of flue vaccine are increased.

Flu vaccine provides a safe and effective method of protecting those at greatest risk, according to the health unit announcement.

High risk individuals are urged to contact their doctor to get the free flu shot now and be safe for the winter.

Challenge set for United Way campaign

Inco employees belong in the Big League and Senior Industrial Evaluator Bob Todd wants them to take their proper place.

"In our annual campaigns we purposely do not put forward any firm targets," said the United Way Campaign enthusiast and past organizer of Inco's in-house campaign. "We discovered that the growth was sufficient without artificially-set goal numbers.

"However," he asks, "is a quarter-million too much to ask for? Maybe this amount is a bit rich for the upcomming 1990 campaign, but how about 1991, or '92, or '93? This level would put us in the big league with the other industrial giants such as Stelco at $900,000, Dofasco at $800,000, and Algoma at $500,000 per year."

As it is, he said, Inco employees hit the "astronomical" record of $223,000 last year for the Sudbury District United Way campaign. He said the figure represents an eight per cent increase over the previous year.

"As a matter of fact," he said, "the growth in the amount raised for the last several years has been between five to eight per cent.

"Regardless of the numbers," he said, "Inco employees, pensioners and our corporate contribution provide well over 40 per cent of the Sudbury District fund every year."

He said there are more than 20 volunteer organizations in this area which are directly dependent on the success of our employee canvass.

He said that the Inco campaign will be held in mid-October. "The staff-hourly committee people in the plants will be presenting the United Way story and providing employees with an opportunity to contribute through payroll deductions or cash donations."

At left is a summary of last year's campaign results. The performance of the campaign at each plant is illustrated with "% YES" and the "Average Donation" size.

Plant	Canvassed	% Yes	Average Donation	Total Donation
Stobie	578	40	$47	$12,389
Little Stobie	163	44	$39	$2,920
Frood	346	33	$53	$7,742
Garson	37	70	$47	$1,415
Levack	455	71	$49	$14,328
McCreedy	176	60	$50	$5,823
Creighton	689	51	$50	$18,378
Crean Hill	167	61	$43	$4,529
South Mine	308	47	$45	$7,519
North Mine	227	75	$39	$6,651
Mines Research (Clinic)	47	80	$67	$2,983
C.C. Mill	231	46	$53	$6,323
Clarabelle	166	54	$53	$5,203
Frood-Stobie Mill	123	44	$70	$3882
Transportation	269	47	$45	$6,062
C.C. Ni. Refinery	507	45	$48	$11,113
Smelter	1013	54	$47	$26,652
C.C. Cu. Refinery	522	53	$49	$13,732
Cent. Pro. Tech.	46	63	$40	$1,161
Divisional Sh ops	295	57	$41	$7,353
Power & Const. *(excludes Const. Hourly)*	93	62	$55	$3,111
Central Utilities	109	43	$37	$2,466
Safety *(Incomplete)* *(Hourly only)*	66	61	$54	$2,120
Environ. Control	22	64	$30	$423
Occ. Medicine	19	84	$20	$315
General Office				
Comp Services	90	48	$45	$1,965
Comptroller	83	40	$45	$1,498
Scotia Tower	24	54	$59	$774
Purch. & Whse.	39	80	$92	$2,850
Misc.	11	90	$75	$825
Mines Eng. & Expl.	27	81	$63	$1,368
Exec. Offices	12	75	$226	$2,035
Engineering	122	45	$56	$3,129
Field Exploration	90	70	$57	$3,625

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