



Inco put out cash to have this odd looking specimen come to Sudbury. Find out why on Page 7.

INCO Triangle

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Workplace power balance shift threatens Inco's competitiveness

Shifting the balance of power toward unions would hurt Inco's ability to compete in the global marketplace and weaken the Sudbury economy.

That was the message delivered by Dr. Jose Blanco, vice-president of Human Resources and Administration for the Ontario Division, during public hearings into proposed changes to the Ontario Labour Relations Act at the Holiday Inn last month.

Conducted by Labor Minister Bob McKenzie and Sudbury MPP Sharon Murdock, the hearings

heard arguments for and against the controversial proposals which would make it easier for workers to join unions and give unionized workers a greater say in the workplace.

Inco needs a highly skilled and motivated workforce to compete with business elsewhere in the world, said Blanco. However, Inco does not believe the proposed amendments to the Labor Relations Act will achieve this goal. In fact, he said, Inco is concerned that certain steps in the proposal may have the opposite effect.

In years of working with the United Steelworkers of America and the Canadian Guards Association, Inco has achieved a balanced relationship that would be disrupted by the proposed legislation, said Blanco.

Shifting more power to the unions would result in "a more rapid escalation in compensation costs or interruptions in production." This would hinder Inco's ability to finance large investments over long periods of time or add to the pressure to shift production away from

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Good reputation world wide for Inco

A Dow Jones-sponsored survey measuring awareness of, and opinions about, an extensive list of major corporations has revealed that Inco's reputation is at the top or close to the top in most areas.

The annual survey, held since 1984, polled subscribers of the Wall Street Journal, Asian Wall Street Journal and Wall Street Journal Europe.

Last year Dow Jones expanded the survey's U.S. company base to include 550 firms headquartered outside the U.S., and Inco is one of those companies.

The survey asked Journal

subscribers how familiar they were with Inco, whether Inco was considered a well-managed company, whether it had a good reputation and whether they would consider the company as a good investment.

For purposes of the survey, Inco was included in the "mining, crude oil production" category which was made up of 11 firms headquartered in the U.S. and 10 with head offices elsewhere.

The results, broken out geographically by circulation areas, show that the company ranked third in familiarity in North America and

Asia, fifth in Europe.

In the well-managed category, Inco ranked 11th in North American, ninth in Asia and fifth in Europe.

Inco was 13th of 21 in North America, 11th in Asia and first in Europe when people were asked what companies they considered a good investment.

Inco ranked fourth in North America, sixth in Asia and first in Europe among companies considered to have earned a good reputation.

The expanded survey will be conducted annually.



Tent driller

Driller John Ernst leans against a pile of drill rods that will be used to drill a fill hole to the 1,200 foot level at North Mine. The steel-frame tent gives drillers more room and light. See Page 16 for more.

Retiree says good-bye with a work of art



Toni Campagnolo works on mural at the loco shop.

Put two and two together, and it's not hard to reach the conclusion that ex-locomotive painter and new pensioner Toni Campagnolo could become an accomplished artist.

Dogged determination and single-minded attention to reaching the goals he sets for himself is written all over his 32 years at Inco. Judging from the piece of art he left behind for his fellow workers, he's about to launch a new career.

Taking part in the voluntary retirement package offered by Inco, the 58-year-old locomotive shop employee created a 10 by six-foot mural on the wall of the loco shop lunchroom as a way of saying goodbye to his friends and co-workers.

"I don't really consider myself anything close to an artist," he mused, "but I always loved art."

If he follows his interest in art with as much determination as he threw himself into his trade, he's

bound to make a name for himself.

Signing on with Inco for the financial security after working at four different autobody shops, he took 10 years get assigned to his field of interest.

"By trade I'm an automobile painter. Everybody wants to be in their chosen field and I was no different.

"I was determined to do what I

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New columns this issue

Three new columns are being introduced on pages 14 and 15 in this issue of the Triangle, covering everything from Inco's environmental efforts to financial advice for our employees.

We offer advice from the financial world by tapping the resources of financial author **Richard Birch**. For 10 years a tax writer with a national accounting firm, he is the author of *The Family Financial Planning Book*, *The RRSP Book* and Seal-Bantam's paperback series on our taxing times.

Written by the people at Inco's Environmental Control and Occu-

pational Health, "ECOHlogical Alternatives" will help increase employee awareness, in simple terms, with respect to departmental initiatives. The column will introduce various subjects to the readers and will, from time to time, give updates on progress being made in that area. Emphasis will be on the benefits of cooperative efforts of all employees to ensure the success of our programs.

Yesterday's Todays is a column reminding us of our heritage. It takes a peek back in time at some of the interesting things that we at Inco were concerned with.

Balance of power is root of working relationship - Blanco

Continued from Page 1

Ontario sulphide ores toward foreign lateritic ores.

"Wages that increase disproportionately to those of its competitors, wherever they may be located, may shift competitive advantage to competitive disadvantage with all the attendant consequences," said Blanco.

"We cannot assume that our competition is not also using improved technology, training and skill enhancement techniques to lower their costs."

Blanco told the hearings that salaries and wages account for more than half the cost of production at Inco.

To date, the company has been able to exercise a measure of control over rising costs by continuous productivity improvements which reduce force requirements, he said.

"However, this strategy of cost control becomes more and more difficult as total force levels shrink."

"At the present time," he said, "major cost reductions are still required."

Because Inco cannot cover increased employment costs through increased production, it could be forced to reduce capital and technological investment, putting it at a competitive disadvantage.

"Inco has paid a high price for its constructive and positive relationship with the unions and it does not regret or second guess the correctness of that price. But we cannot afford to forget that the existence of a balance of power stands

behind the relationship.

"Inco does not advocate that employers compete on the basis of low wages, but they must have the ability to come to the bargaining table and address all the employment and competition issues, including wages, with equal power."

Blanco also told the hearings that Inco believes front-line supervisors should not be part of the bargaining unit. "While they do

not make independent decisions to terminate or hire employees, they are the people who provide the reasons why discharge should occur," he said.

Inco also opposes any legislation restricting the right of a company to operate during a strike, beyond the current provisions of the Ontario Labor Relations Act in connection with professional strike breakers.



Employee Relations manager Don Sheehan and Human Resources Vice-President Jose Blanco address the panel.

Unions want no power shift, only basic rights

The Labor Relations Act, in its current form, does nothing to enhance good labor relations in Ontario, says a union official.

Wayne Fraser, staff representative for the United Steelworkers of America, made the comment during public hearings last month into proposed changes to the Ontario Labor Relations Act.

The hearings heard arguments for and against the controversial proposals from representatives of business, industry and organized labor.

The amendments would make it easier for employees to join unions and allow unionized employees a greater say in the workplace.

"These proposed amendments are not about tilting the balance of power in favor of unions," said Fraser, "but about providing basic democratic rights such as the freedom of choice to people in the province of Ontario."

The certification process for

unions under the current Labor Relations Act is "archaic", he said. "It actually denies workers their democratic right to join a union of their choice without being subjected to the greatest of fears workers suffer, and that is loss of their job."

Fraser said employees attempting to unionize their workplace encounter roadblocks erected by management, such as anti-union

petitions, poor collective bargaining, discrimination and discipline.

This occurs, he said, "because the Labor Relations Act of Ontario, in its present form, allows it to happen."

"When businesses exercise their right to form coalitions or join the great Chamber of Commerce, they don't have to confront the abuses that workers face when trying to

organize."

Fraser said proposed amendments such as reducing the percentage required for certification from 55 per cent to 50 per cent plus one, and outlawing anti-union petitions after application for certification, are already available to workers in many other provinces.

"These amendments must be put into law so that workers in Ontario will no longer have to endure the pain and suffering that they're presently enduring when they exercise their freedom of choice to join a union," he said.

"I can see why businesses in Ontario are lobbying so hard to keep the Act the way it is. It serves their interest and not their workers. If employers in this province spent more time on providing good working conditions, proper pay and giving dignity and respect to their employees, they would not have to worry about their employees turning to unions."



Union organizer Dan Lamarche, USWA representative Wayne Fraser and Local 6600 officer Judy Gilbert support changes.

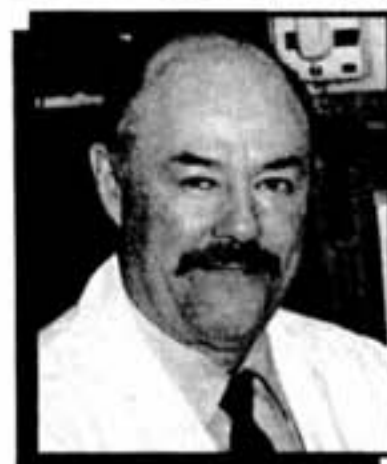
Teamwork: Is it important? Whose responsibility?



Henry Komar, conductor, Transportation: "There's a big emphasis on cooperation around here. In this job, you need everybody at all levels to work together or you can get into serious trouble. The more people work together, the easier the work."



Joe Stuckless, roaster operator, Smelter: "The best (teamwork) is what people work out on their own. If you have a little pride in what you do, you'll take responsibility for it. In my department people work together as a team."



Bob Sallows, plant protection officer, No. 1 First Aid: "You have to have it these days. Around here, teamwork and communication isn't only important, it's everything. Sometimes everything gets so hectic that it gets lost in the shuffle."



Andy Lemay, planner, Power Department: "The walls are coming down quickly. The company has to rely on the individual much more today. With fewer people to do the job, teamwork is not only important, it's vital."



Conrad Roy, instrument man, Central Utilities: "I don't think the company is as autocratic as it used to be. Cooperation and a feeling of working together are getting more prominent, but I think there's still a lot more room for improvement."



Peter Curlook, conductor, Transportation: "In this department, there's good cooperation and good communication. It's vital in this department. Everybody helps everybody, over and above what's demanded by the company."



Paul Latvala, maintenance mechanic, Mechanical Utilities: "Today there has to be teamwork to make it all run right and the best kind is the kind that you and your fellow worker work out. I think people today see the value in it."



Marilyn Harper, secretary, Power Department: "Morale means a lot and teamwork promotes morale. Teamwork has to be encouraged from the top, but the people on the job are the ones that make it work. It's a very important issue."



Dave Walmsley, storeman, Smelter Warehouse: "It's getting better than it used to be. Working together around here makes things work smoothly. It's the stuff that the guys work out amongst themselves. Everybody benefits."



Alain Arseneault, loco-car fitter apprentice, Loco Shop: "I'm an apprentice and the guys here help me a lot. They're willing to share their experience with you. You learn much more from these guys than you ever learn in school."

Survey reveals striking differences

Students compare Soviet, Inco geologists

Most people in the bush need something at which they can focus any built-up tension. When it comes to expressing it, Inco geologists have it all over their Soviet counterparts.

That's one of the more amusing findings in a "Men in Isolation" survey conducted by University of Guelph sociology student Andrea Sauerbrei.

Supervisory staff traditionally provide the handiest relief when it comes to the venting of spleens. Canadians appear to be much more blunt.

"Idiotic supervision" or "out of touch management" is how a Canadian may express his discontent, while his Siberian counterpart is a bit more respectful, diplomatic ... or timid.

"The Soviets can be just as insulting, but they do it more diplomatically," said Andrea with a smile. "The Russians refer to 'bosses who don't communicate well.'"

Asked to describe some of the worst things about working in the bush, one Soviet replied that "radio communication with our administration in the morning with angry voice damaged my mood all day."

Andrea, daughter of Inco Exploration and Technical Services Inc. director Al Sauerbrei, spent two months in Siberia delving into the collective psyche of Soviet geologists in isolated bush camps and taking notes on how they differ from their Inco counterparts.

In some areas, the differences were striking.

Around 50 per cent of Canadians experienced depression at one time or another while in the bush,

but only five per cent of Soviets reported periods of depression. At the same time, 75 per cent of Soviets reported seeing overt displays of emotion such as crying, while virtually none of the Canadians reported seeing anyone crying in the bush.

Andrea theorizes that the lack of reported depression among the Russians may be because of a lack of recognition rather than experience.

"They're not used to a lot of luxuries at the best of times and they're raised in a system that emphasizes cooperation in the group rather than the individual. I suspect that they experience as much

camps coupled with a major difference in services, supplies and quality of life.

"Canadians enjoy a much better lifestyle in the bush," said Andrea. "There's a lot of food at Inco camps, often cable television and other services that make life easier."

She describes Siberian camps as being almost sub-human by Canadian standards, with food often dwindling to scraps.

A safe environment, although a concern for both Inco and Soviet geologists, is much harder to maintain for the Siberians.

"They must work with old, outdated and worn-out equipment,"

said Andrea. "Accidents are a major concern for the Soviets, but with their equipment they really can't do a lot about it."

There are many similarities between the two groups, she said.

"It's an extremely 'macho' profession both here and in the Soviet Union. In the bush, our guys and the Soviets look and act much the same.

"Bonding among the men in both groups was similar. Intellectually they are much the same, as is their education, level of skill and expertise in the field."

There's little doubt that both groups can learn from each other, she said. "Because of the harsher conditions, the Soviets must rely on each other more than our guys. We can learn a higher degree of teamwork from their example. The Soviets seem more reliant on friendship."

She said the Soviets showed a keener interest in the survey than their Canadian counterparts and would often ask her how Inco geologists would answer questions they (Soviets) had just answered.

"The Russians seemed to be a lot more curious about Canadians than we were about them," she said. "I think they were very impressed that I was there, that a Canadian was interested in what they were like."

"Because of the harsher conditions, the Soviets must rely on each other more than our guys. We can learn a higher degree of teamwork from their example. The Soviets seem more reliant on friendship."

depression as the Canadians, but just don't recognize it.

"The Russians," said Andrea, "are much more prone to overt displays of emotion and don't hesitate to sing, talk, give speeches, laugh and cry.

That's probably one reason for the much higher frequency of physical fighting in Siberian bush camps compared to virtually none reported by their Canadian counterparts.

Siberian bush camps have a higher percentage of women, creating additional problems as well, she said.

Perhaps the biggest difference, however, is a much higher incidence of accidents in Soviet bush



Andrea Sauerbrei reviews survey data with Inco geologists Everett Makela, Mars Napoli and Tim Froude.

In the final semester of a Masters in Sociology program at the University of Guelph, Andrea's interest in the survey was sparked while she was working towards an Honours, Bachelor of Arts (Sociology) degree at Laurentian University.

Part of the fourth-year Laurentian course included a major research project. "I was working part-time at Inco Exploration as a secretary while I was going to school and I got the idea from the geologists who told me about the cabin fever sometimes experienced at bush camps."

When she moved to Guelph, she was asked to participate in a university research agreement signed two years before with the Academy of Science in Moscow.

When asked about her research experience, she was hesitant about

revealing it. "I was almost embarrassed about the men in isolation theme," she said. "It isn't really the glamorous social issue of the day."

The research was ideal for the research agreement. The Soviets had expressed an interest in the Canadian north, where conditions were similar to their own country.

She was asked to re-sample the Canadian geologists, add a Soviet component and do a comparative analysis.

After attending a Moscow conference in April last year where the project was finalized, she returned in September to the Unified Republics which once comprised the Soviet Union.

"I stayed in Tyumen, Siberia for a month, and was flown into isolated communities above the treeline to visit the geologists who were part of the Soviet survey."



A Soviet mechanic works on a truck while a geologist looks on. Antiquated equipment is a major problem.



Andrea, right, conducts a face-to-face interview with a Soviet geologist at a Siberian camp.

Port fine paper recycling reduces waste to city dump

A new recycling program at the Port Colborne Refinery is going to look more than just good on paper.

The refinery has just started a plant-wide fine paper recycling program to reduce the amount of waste going to the city's Elm Street Landfill Site, which is under an emergency operating certificate from the provincial Ministry of the Environment (MOE).

Developed under Inco's new Total Quality Improvement (TQI) philosophy, the permanent project will not only harmonize the refinery's operations with the community's urgent waste reduction objectives, but it will make plant employees more efficient and environmentally conscious at the same time.

SherwoodRecords Management of St. Catharines, has been hired to take all recyclable paper, but the material will be initially collected entirely through the efforts of more than 350 interested and excited plant employees.

The Office Services TQI team came up with the idea after internal waste audits by the Environmental Department revealed a significant use of fine paper products, which were being thrown out in the trash.

Cathy Tweedy, the team leader, says 142 blue collection pails have been placed next to existing garbage cans, by office desks and photocopiers. Custodial staff will empty the pails into 15 large lockable plastic drums strategically located throughout the property.

"The collection system has been designed so custodial staff will actually perform their waste collection more productively and easily, because of the ground floor location of the 45-gallon (202 litre) containers. Staff won't take any more time to separate the fine papers, as the collection pails are situated very close to the existing garbage cans," Cathy said.

The refinery has applied for a \$1,000, one-time capital expenditure grant from the MOE's Industrial Waste Diversion program, and Cathy estimated the project's total cost to be \$3,000 for a year. Grant money will be applied to pay for things such as collection pail purchases and internal promotional activities, she added.

SherwoodRecords was chosen for the recycling contract, said Maria Bellantino of the plant's Environmental Department, "because they were the only company that could assure us the material wouldn't end up in a landfill site somewhere. That was reassuring!" As was Sherwood's shredding service, to ensure the company's confidentiality.

Tipping fees at the local dump are set to rise dramatically in the near future, from about \$24/ton to over \$100/ton, and fine paper was considered a high volume material that could be easily diverted from the refinery's waste stream. Warnings from the province that it was considering the ban of fine paper and cardboard from landfill sites, also spurred the development of a pro-active plan between Office Services and the Environmental Department, Maria said.

When recycling rates are

recorded as the paper is trucked out, Maria predicts a large portion of paper diverted from the waste stream will be computer paper. "What's more important is that the plant will have figures to work with in actually reducing paper use. After all, the refinery will be over a barrel," in paying for the recycling service.

To that end, said Cathy, Office Services is encouraging the use of double-sided copies, where applicable.

"Our department is also sorting through company mail, weeding out unnecessary multiple copies of correspondence, and promoting circulation of various periodicals, like the Triangle, for instance," she said.

Keeping memos short, and circulating one copy of a memo with a routing slip, are other

methods being practised to cut down on the excess paper flow.

With the refinery contributing to an increasing amount of recycled paper stock on the market, prices for the 50 per cent recycled paper used in the office just might drop even further, Cathy expects. As it is, the paper costs less than paper produced from virgin material, she said.

The fine paper recycling program is just one part of a comprehensive waste reduction plan within the Port Colborne Refinery.

It was inspired by the concept of Total Quality Improvement — the same principles that can increase quality and improve productivity, can eliminate environmental problems because they are managed better in the first place.

Who knows what the Total

Employees boost quality, reduce waste

Recycling at the Port Colborne Refinery is fast becoming a regular part of doing business under the positive restructuring effort of Total Quality Improvement (TQI).

Besides the latest launching of the plant-wide fine paper recycling project, many other manufacturing by products and procedures are being refined under a comprehensive, employee-led plan to improve safety, boost quality and efficiency and enhance the environment inside and outside Inco operations.

Dave Reed and Maria Bellantino of the plant's Environmental Department, conducted some informal internal surveys, and were surprised to find, more of a recycling, environmental awareness than we had anticipated," said Dave Reed, who is also a member of the city's Elm Street Landfill Site Advisory Committee. The municipal group is working to modernize present waste management practices at the limited-life dump, and extend its lifespan by recycling, reusing and reducing. Reed was pleased to see employees already adapting the 3 R's to plant life.

Because employees are already bringing reusable containers to work, taking their pop cans, bottles and newspapers home and even packing compostable substances back in their lunchpails to put in backyard composters, the Environmental Department decided to concentrate on higher amounts of generated waste, such as wood and cardboard, before going back to tackle things like pop cans and bottles.

Many of the refinery's recycling efforts have not only reduced the impact on the environment, but softened the effect on the operating budget.

The Office Services department, responsible for setting up the fine paper recycling program, is also purchasing recyclable toner cartridges for laser printers. In the long run, says Office Services employee Cathy Tweedy, there will be a cost saving through this measure.

Waste grease from the plant, said Maria Bellantino, is now being recycled in a unique way by another local industry. Approximately one metric ton of grease is now being used to coat concrete moulds at Niagara Pre-Cast Concrete on Snider Road in Port Colborne, she said.

The grease makes it easier for concrete to slip out of the moulds. "To dispose of the material, Tricil would charge \$8,200 to take away the grease. Niagara Pre-Cast takes the grease and doesn't charge a fee."

An estimated two metric tons of batteries are now recycled every year at a lead smelter in Toronto. The refinery gets about \$150 worth of credits from this project.

"All kinds of materials, such as dust from bag houses, slag from furnace cleanouts and even yard sweepings, are returned to Sudbury to recover 'significant' metal volumes. These materials are a big chunk of our waste stream. Also, about 490 metric tons per year of scrap metal are sent to local processor Dwor Metals in Port Colborne. Because a lot of the scrap is composed of premium stainless steel, the refinery recovers roughly \$29,000 a year from this recycling effort," she said.

Some of the other recycling initiatives may not directly redeem dollars for the company, but they are just as important in reducing waste management costs for both Inco and the entire community, as the city faces millions of dollars in expenditures over the next five to ten years, in upgrading garbage processing to provincial standards and implementing its own waste-to-resource strategy.

A Soil Saver composter, purchased by the Office Services TQI team through the city's backyard composter program, has been installed outside the refinery clubhouse, where employee Fran Hobbs prepares meals for guests and staff. Coffee grounds from other departments are also being added to the composter near the clubhouse.

Cathy added that ceramic coffee



The Office Services TQI team members are (front) George DeRuyte, Cathy Tweedy, Maria Bellantino and Celine Meginnis (rear) Karl Hoover, MaryAnn Kantymir, Elaine Arnold and Bryan Ferrell.

Quality Improvement teams will come up with next?

The next time you visit an office in the refinery, the shuffle of memos

on those three duplicates of a 100-page report, may be replaced by the hums of paperless computer screens and electronic bulletin boards.

mugs are being used in all office locations. In most production areas, styrofoam cups have been replaced with paper cups and even their use is continuing to be investigated.

"There has been a major reduction in the refinery's wood waste generation, since nickel cathodes (an unfinished product material from Inco's Thompson, Manitoba refinery) are now shipped on redesigned, reusable pallets that cut down on packaging. Our Environmental Department is working on other ways to reduce pallet rejection and cut down on wood waste, including obtaining pallets and containers with deposits on them, for an incentive to recycle," Maria added.

"Charuk Woodworking of Port Colborne," said Dave, "which supplies the refinery with crates and pallets, reconditions many of its wood products, thereby saving on new, virgin materials. We hope to work further with them in recycling as much as possible. In the meantime, all wood waste that cannot be reused, is segregated at the source and taken by a waste management contractor to the Elm Street Landfill Site, where it is

chipped into mulch for landscaping purposes."

In the storehouse and warehouse areas, added Dave, styrofoam packaging is reused as much as possible.

He also said the refinery is planning some major demolition projects of unused, old buildings in the future and is making advance preparations to divert and recycle as much of the waste from these projects as possible.

One of the major influences and sources of information for the Environmental Department, said Dave, has been the Niagara Industrial Training Advisory Corporation (NITAC).

After he and Maria attended a continuing education course in waste management sponsored by the Ministry of the Environment, NITAC and the Welland County Separate School Board, Dave has been encouraging other Inco employees to attend.

"We're both on the steering committee to determine course content, and we feel the course was a practical, valuable addition to our growing knowledge of recycling and waste management," Reed said.



Sherwood Records Management employee Jim Bedford removes full barrels of recycled paper.

Inco sells what went up the stack

New acid plant turns pollution into potential profit

In contrast to some of the older surrounding brick-and-concrete structures it looks almost out of place, changing the Smelter's image from a well-aged senior citizen to something born of a launching pad. The effect is even more striking at night as the many lights reflect off the labyrinth of new metal pipes, giving the entire structure the appearance of a huge sparkling Christmas decoration.

It's more than a decoration, however.

Inco went into 1992 with a brand-new, state-of-the-art, fully operational acid plant that is a vital part of the Sulphur Dioxide Abatement Project.

"Actually, we began operations here early last October," said Pat Thompson, the operations general foreman of Sulphur Products during the phasing in of the new facility. "We delivered the first gas from the new flash furnace (a second flash furnace will go on line by the end of 1993) to the acid plant on October 8, and everything went according to plan."

Rick Howatt took over as general foreman late last year.

Although the multi-million dollar plant has the appearance of something you might expect in some futuristic science-fiction

movie, the general idea behind the plant is simplicity itself: convert sulphur to sulphuric acid. When the second flash furnace is connected to the system, all emissions from the furnace section

will be going through the acid plant where 99.5 per cent of the sulphur dioxide gas from the oxy-

"Our people came through in a big way. Not only did they take to the training and new procedures well, but they brought a lot of valuable experience and know-how that helped make the commissioning of the plant very smooth."

gen-burning flash furnaces will be converted to sulphuric acid, greatly reducing the amount that would

otherwise go up the stack.

"In 1991 we were under the maximum allowable 650,000 metric tons of sulphur dioxide released into the atmosphere," said Pat. "By 1994, that'll be reduced to less than 265,000 metric tons."

The acid plant is ready now for the 1994 requirements and is easily handling the gas produced from the first flash furnace built. The operating flash furnace replaces one of two reverberatory furnaces that sent their excess gas up the stack.

"The plant's capacity is 2,900 metric tons of acid a day," said Pat. "By December when the first of the two reverberatory furnaces was shut down and its production treated by the new flash furnace, we were producing about 1,000 tons of sulphuric acid."

While the new acid plant features the latest in technology, super-efficiency and a high degree of automation, it was the integration of the acid plant and furnace operations that posed the biggest challenge.

"This plant is state-of-the-art, one of the largest in the free world, but it uses proven technology," said Pat. "We were confident of the technology and the design. We had a few minor glitches, nothing really serious. The biggest thing was fine-tuning of the process, and that's gone very well."

"It's been pleasing to see how well the furnace and acid plant work together. It was more than just getting the equipment to operate together. It was also getting our people into new procedures, demanding good cooperation and communications."

"Some adjustments were expected in this area, but it went much

better than even the optimists expected. I think our people came through in big way. Not only did they take to the training and new procedures well, but they brought a lot of valuable experience and know-how that helped make the commissioning of the acid plant a very smooth process."

The acid that the plant produces will be sold to a wide range of industries from petroleum refiners to fertilizer manufacturers. However, the market for sulphuric acid

is not good and is not expected to improve significantly as more industries copy Inco's environmental efforts.

Luckily, success of the Inco project doesn't rely on the profitability of sulphuric acid. "The plant is seen as primarily a pollution control device," said Pat. "If we can sell it for a profit, all the better, but we measure the success or failure of this project by the reduction of sulphur dioxide emissions and not by acid sales."



Pat Thompson and new operations general foreman Rick Howatt stand in front of the new acid plant.

Art in lunchroom a pensioner's gift

Continued from Page 1
was trained to do," he said. "I served at a half a dozen places, doing work wasn't even considered a trade back then. They just figured anyone could paint." With the trend toward specialization, he found himself designated a painter. Although on the low end of the trades pay scale, he was on his way.

"It was mostly sign painting and stencilling," he said. "In fact, I'm the last stencil painter left at Inco."

But even as a sign painter, he found himself moving around from one Inco location to another. "Painting seems to be a trade that's expendable. Whenever there was cost cutting to be done, I found myself out of a job. When times got tough, they cut me first."

In the last decade or two, he said, painters became appreciated for the service they provided.

About 10 years ago he moved to the locomotive shop. Although he continued to do some sign painting, it was his job to paint locomotives... the work he was trained for.

Today he considers his paint-

ing and sketching a hobby and laughs at the suggestion it might become a second career. "I do it because I like it and time goes by fast when you're doing something you like. Once it becomes work, a lot of the fun goes out of it."

It was locomotive shop general foreman Alex Killah who suggested he do a mural in the lunchroom before he retired.

"I'd never tried anything like this before," he said, "but I figured I'd give it a try. It's something I could leave behind for the guys in the shop. It's a pleasure for me to do it. In 32 years at Inco, I've met a lot of good people, but here at the shop it's more of a family."

Initially, Toni had mixed feelings about retiring. "But now I'm glad I've made the decision. It's just about time I moved over and let a young guy do the job."

He doesn't know exactly what he'll do in his retirement, but perhaps he'll take a night school course in art or some other courses.

"Nope, not to prepare for another career," he said, "one was enough. I'm going to relax from here on in."



Smelter Foreman John Mainprize and Acid Plant operator John Kulik at the controls in the Acid Plant control room.

Joe's own TQI program began almost 30 years ago

Total Quality Improvement, described as the pursuit of continuous improvement in everything that Inco does, has been growing by leaps and bounds since it was instituted just two years ago.

TQI works. Just ask Nickel Refinery powerhouse shift engineer Joseph Champagne. He's been applying the concept to himself for the past three decades and it's kept him interested, challenged and confident.

With 31 Inco years under his belt, the 54-year-old employee has just finished the most recent stage in his own personal TQI program, earning his first class Stationary Engineer Certificate at a time when most people are counting the days to retirement.

Expanding his mind and his skills is nothing new for Joe. He began his lifelong effort at self-improvement in 1964, five years after signing on with Inco as a laborer on the electric furnace in the Orford Building, by studying for his fourth class certificate.

"To get my papers I had to go back to night school. It was a lot of studying and it used up a lot of my leisure time. But it was worth it. Coupled with on-the-job training for a certain number of months, I got my papers."

Not satisfied to sit on his hands, Joe continued at school. By 1972 he had earned his second class papers and was eyeing the biggest

hurdle of all... reaching the highest level in his trade.

"It meant I had to go back to regular school to do some basic schooling," he said. "I needed to upgrade in mathematics and physics."

He continued his education, going to school for the next decade, but decided to do so at a slower pace. "I have a family and I think it is just as important to build a strong family as it is to build a strong career. My wife supported me right from the start and that was

He doesn't think it's because of today's changing technologies and the constant need for upgrading.

"When I began at Inco education wasn't all that much of an issue. By the time it became important, I had enough seniority to ensure I'd keep my job."

Joe says that a larger paycheque was not the prime motivator, either. "Sure, it meant better pay. My first class certificate means that I could be considered for any future advancement to a higher-paying staff position, but at this stage in my career, that isn't all that important."

Joe figures it's the challenge that kept him going back to books night after night.

"I want to go as high as I can go. I love a challenge. I doubt whether the extra money that's involved would pay back all the hours I spent."

"It's a confidence builder, you know. I feel good about myself and what I can do. And going to school wasn't drudgery. I like it."

Although he didn't have a name for it, his own personal TQI program has always been part of his life.

It surfaced initially in the army when, as a young soldier, he felt the infantry wasn't giving him what he wanted.

"I wanted the Engineers, where I could get a trade, but they wouldn't give it to me."

After a three-year stint, he re-

"Today I know I'm qualified to do my job well. It's only a piece of paper, but it's important not only to show to others, but to prove to yourself that you can do it."

very important."

By 1984, with possible retirement just six years away, Joe decided to tackle his first class certificate.

"I knew it was the hardest of all," said Joe. "I went to school only once a week, but I spent at least two or three hours of study every night."

Like before, he made a conscientious effort not to let his personal career plans infringe negatively on his family. "I probably could have gone a lot faster in my studies, but I wanted to make sure I spent enough time with my wife and kids."

Why all the emphasis on personal improvement?

More than double last year's result

Inco generosity evident in food drive success

Tide's in. The trickle has turned to a flood. Next year, Edgar Burton's planning a typhoon.

This year's Christmas Canned Goods for the Needy campaign more than doubled last year's total of \$4,000 in canned goods col-

lected at 23 Inco mines, offices and plants, and Edgar's already planning the next campaign.

"We turned about \$8,500 in goods over to the Salvation Army this year," said the Plate Shop machine operator. "Once again the

people at Inco have shown they care about their community."

Starting out with just two collection boxes four years ago, the campaign this year has grown to 23 boxes at the Smelter, General Office, Divisional Shops, Smelter

Offices, Mines Research building, Copper and Nickel Refineries, Number 1 Dry, Warehouse 61, Stobie, Little Stobie, Frood, Copper Cliff North and South Mines, Crean Hill, Levack, McCreedy

in with everything from supplying transportation to campaign secretarial work.

"Not to mention my foremen Rick Blais and Jim Tomasini," said Edgar, "who tried hard to give me

"Once again the people at Inco have shown they care about their community."

West, Coleman and Creighton.

"We couldn't have done it without the cooperation and support of a lot of people," said Edgar, "particularly the worker safety representatives and others at each of the locations."

He said others like co-worker Bob Rivard, Transportation foreman Les Creswell, Maxine Pope of Divisional Shops and Joyce Donohue of the Smelter also pitched

the time I needed here and there to set this thing up."

What about next year?

"I'm planning to put out boxes at the few locations not covered so far," he said. "Next year will be bigger yet. There's already a meeting set up for June to get things organized."

He asked that anyone interested in having a collection box at their location contact him at 682-6141.

Institute award lauds dedication to mining

Dr. Peter Kaiser, Director of Laurentian University's Geomechanics Research Centre, has received the 1991 Distinguished Service Award from the Canadian Institute of Mining, Metallurgy and Petroleum.

The Institute states that Dr. Kaiser has received the award in recognition of his outstanding contributions and service to the mining

industry.

Since Dr. Kaiser's arrival at Laurentian in 1987, he has succeeded in building a first-class research team in the area of applied geomechanics.

The work of the team is respected not only locally, but also in the wider Canadian mining industry, and is rapidly gaining an international reputation.



Joseph Champagne at the powerhouse controls.



More than \$8,500 in canned goods and other non-perishable food items was collected at 23 Inco locations. Loading up a militia truck for transportation to the community are Cpl. Jerry Cser of the 2nd Irish Regiment, Edgar Burton, Ron Brosseau and Ray Roy of the Plate Shop, superintendent of personnel Scott MacDonald, Salvation Army Family Services director Ruth Lambert, George Hastings of the Salvation Army and Safety general foreman Tom Gunn.



As well as plenty of entertainment for the kids, an afternoon of country music rounded out Inco's variety show. Above, the Buckeye Boys perform.

Inco's variety show helps make festival a success

Inco was never as popular among the community's youngsters as at the Sudbury Snowflake Festival's variety show.

It took only a \$2,000 sponsorship fee to put smiles on the faces

of thousands of youngsters who laughed, clapped, danced and shouted as their favorite character Polka-Dot-Door's POLKAROO, children's entertainer "Ish" and a line-up of Sudbury's best country music performers took to the stage at Bell Grove Arena.

Between 35,000 and 40,000 people attended this year's Snowflake Festival, and executive director Donna MacLeod thinks that at one time or another throughout the weekend, a good percentage of them spent time at the Inco-sponsored variety show.

"It was packed all the time," she said. "It was a huge success. We were surprised that, even as cold as it was, we still got this kind of attendance."

"It's hard to say what the attendance was since there was no extra charge for the show, but the arena was packed full most of the time."



Keith Thomas, 3, grandson of retired Stobie miner Remi Malette, joins the fun with festival mascot Nik.



Peter Stankiewicz, 4, and entertainer "Ish" get a round of applause



Above, left, one-year-old Brandi takes a breather from all the excitement. Mom is Karen Rivers. Above, right, POLKAROO stretches to reach all the offered handshakes.



Popular children's character POLKAROO thrilled thousands of youngsters at the variety show.

Names of communities in region show unique

by Marty McAllister

If this were a word-association game and I said "Nickel City", how many of you would respond with "Sudbury!"? Not a bad answer, but it wouldn't earn full marks, either.

If, on the other hand, your grandmother or great-grandmother said: "Summer picnic!", I hope you didn't laugh; she knows! For the secret behind her chuckle, and for a generous handful of other placename tidbits, let's take an armchair tour of the territory in and around Sudbury, Ontario. Most of the places still exist on a modern map, but others have long since disappeared. Each one is worthy of a story in itself, but I've taken the liberty of expanding on just a few favorites of my own.

Azilda

A community in the township of Rayside, by which name it was known for a time, but which was later renamed to honor Azilda Belanger (nee Brisbois), one of the first settlers. In 1973, with the advent of regional government, Azilda became part of the Town of Rayside-Balfour.

Balfour

A township named after William Douglas Balfour, MPP for South Essex, Speaker of the Ontario Legislature from 1895-1897. See also "Rayside".

Blezard

A township named after Thomas Blezard, federal MP for East Peterborough in 1883. Once an area rich in white pine, the rim of the "Blezard Valley" was the site of three notable discoveries in the 1880s: the Blezard mine, the Stobie, and the Little Stobie. Today, of course, it is part of the town of Valley East.

Broder

A township due south of Sudbury, surveyed in 1886, named after Alex Broder, M.P. for Dundas from 1875 to 1883, containing parts of Long and McFarlane Lakes.

Capreol

A railroad town north of Sudbury, named after Frederick Chase Capreol, a Toronto railway promoter in the 1850s.

Cartier

A railroad town northwest of Levack, formerly known as Archer, later renamed after Sir George Etienne Cartier, one of the Fathers of Confederation.

Cascaden

Containing part of Windy Lake and Ministic Lake, this township was named after Dr. John Cascaden, MPP for Elgin West from 1879 to 1883.

Chelmsford

Located in Balfour Township, Azilda's sister community in the new town of Rayside-Balfour, Chelmsford took its name from the Chelmsford in England.

Chicago Mine

Also known as the Inez, or as the Travers, it is located north of Worthington, in Drury Township and was discovered in 1889 by

Benjamin Boyer, for James B. Miller of Sault Ste. Marie. Later in his career, in 1898, the same Ben Boyer would discover the Helen iron mine at Wawa (see "Gertrude"). The Chicago was bought by The Drury Nickel Company in 1890; R.P. Travers of Chicago was the main shareholder, but the use of the name Inez remains a mystery. A smelter was built in 1892, and the matte was transported seven miles to Worthington on an overhead tramway.

Cinottville

Former village in the northeast corner of Waters Township, on what was then Highway 17 West, just past the Copper Refinery. Got its name from its first settlers, the Cinotti family. Road relocations and industrial expansion eventually led to its disappearance in the 1960s.

Coleman

A mine in the Levack area, originally known as the Big Levack, adjacent to the Strathcona property of our neighbors, the Falconbridge Nickel company. It was discovered in 1889 by James Stobie. In April of 1960, the mine was renamed, to honor Dr. A.P. Coleman, an eminent turn-of-the-century geologist who made important contributions to the understanding of the geology of the Sudbury Basin.

Although there is no truth to the suggestion that Coleman Mine was named after Dr. Theobald Coleman, Canadian Copper's first "company doctor", his arrival in Copper Cliff in 1901 is certainly worth remembering.

Coniston

A community in Neelon Township, now part of Nickel Centre, first settled in 1902, became site of the Mond Company's new smelter in 1913. The name came from a novel that was set in the fictional town of Coniston.

Copper Cliff

A name allegedly derived from the expression "cliffs of copper", with which Rinaldo McConnell described our mineral-rich area to Samuel J. Ritchie, the Ohio promoter who founded the Canadian Copper Company. The site of numerous mining and smelting operations, Copper Cliff was first settled in 1886, became a town on April 15, 1901, and became part of the City of Sudbury in 1973.

Crean Hill

A mine discovered in 1885 by Francis Crean. It was sold to the Canadian Copper Co., but was not opened until 1905. The adjacent community by the same name rose and fell with the mine's fortunes. The nearby open pit took its name from Crean's wife, Ellen.

Creighton

A township, a mine (except that the mine's mainly in Snider Township) and a village, named after David Creighton, MPP for Grey North in the late 1800s. Production began in 1901, continuing to this day. The last buildings in the community, however, were removed in 1988. In the northern part of the township, Colonel James R. Gordon founded the Creighton Gold Mining Company in 1889. It folded in 1893. Gordon Lake bears his name.

Denison

Partitioned in 1884, the township was named after Colonel George Taylor Denison, police magistrate of Toronto from 1877 to 1923. A great deal of our area's early prospecting was done in Denison, resulting in such finds as the Victoria, Crean Hill, Vermilion, Totten and numerous others. Whitefish is its principal community.

Dill

A township and the name of an early quartz quarry used by Canadian Copper, after J.W. Dill, MPP for Bracebridge in 1886.

Dogpatch

(properly known as Rockville)

A community in Waters Township between Lively and Creighton. Affectionate nickname borrowed from the fictional home of beloved comic characters Li'l Abner and Daisy Mae.

Dowling

A township and a community now part of the Town of Onaping Falls. Named after John F. Dowling, MPP for Renfrew South.

Drury

A township west of Sudbury and an early mining company, both named after the Honorable E.C. (Charles) Drury, MPP for Simcoe County and Ontario's first Minister of Agriculture. An historic marker indicates his homestead on Highway 93 at Crown Hill, just outside Barrie.

Dryden

Home of Stinson, Wahnapiatae, two Ontario Hydro power plants (formerly owned by the Wahnapiatae Power Company), and the ghost of the old Emery Lumber Company's private railroad. This township was named after the Honorable John Dryden, MPP for Ontario South from 1879 to 1902.

Evans

Originally known as the Eyre, this was one of the first Canadian Copper Company mines, renamed after J.D. Evans, its first chief engineer. It was located near today's South Mine.

Fairbank

A township, lake, named after J.H. Fairbank, MP for East Lambton.

Falconbridge

A township, community, mine, company; formerly Timber Berth #48, renamed after William Glenholme Falconbridge, Justice of the Ontario High Court and Chief Justice of the King's Bench from 1900 to 1920. The company was formed in 1928, successfully developing claims that had eluded numerous predecessors—not the least of whom was Thomas Alva Edison.

Frood

A mine, village, open pit, and Sudbury street, named after prospector Thomas Frood. It was the Frood orebody that played a major role in the Inco/Mond merger of 1929.

Garson

Township, mine and community now part of the Town of Nickel Centre, named after William Garson, MPP for Lincoln. Note: watch for the history of Garson, currently being developed by a committee of "native sons".

Gatchell

Western residential area of Sudbury, in McKim Township. A major portion of it was built on farmland subdivided by Moses Gatchell. This writer was born in Gatchell, on Copper Street, but not at number 444. That was the fictional address of Eden Crowell in the horror novel "Eden's Eyes". Local author Sean Costello has proven that a good yarn can be told in any setting. Sudbury readers of the horror genre should double their fun with this one!

Gertrude

An inactive mine, about two miles west of Creighton, discovered in 1892 by Wm. McVittie and

George Jackson. It was bought in 1899 by The Lake Superior Power



northern heritage, and connection to mining

Company, a division of The Consolidated Lake Superior Company, the sprawling empire of Francis Hector Clergue, based in Sault Ste. Marie. Of course, there was

nouse buying a mine if you couldn't get there, so Clergue built a railroad — The Manitoulin and North Shore, later to become the Algoma Eastern. He also bought the Elsie mine, over by Murray, serving it with a spur from his new railroad. Since Clergue never married, he named his mines after his three sisters: Gertrude, Elsie and Helen. The latter is the name given to Algoma Steel's great iron mine at Wawa.

Graham

Township, location of Naughton, the old O'Donnell roastyards, and Nickel City (aha!). Named after Peter Graham, MPP for East Lambton. Long part of the United Townships of Drury, Denison and Graham, now part of the Town of Walden.

Hanmer

Residential and agricultural township north of Blezard, named after Gilbert Hanmer, a farmer from Brant County.

Kirkwood

Inactive Inco mine, named after T.M. Kirkwood, who in 1898 leased the property from McVittie and Jackson.

Lady MacDonald

Name given to Canadian Copper's #5 mine in 1886, in honour of the Prime Minister's wife on the occasion of their visit to Copper Cliff.

Levack

Township and town now part of Onaping Falls. It is also an Inco mine, named after Mary Levack, maiden name of the mother of Sir Oliver Mowatt (1820 - 1903), Ontario Premier from 1872 - 1896.

Lively

Town in Waters Township, now part of Walden, named after Charles Lively, well-known Creighton supervisor.

McCreedy West Mine

Formerly known as Levack West, re-named in 1980, in memory of late John McCreedy, former director and Vice-Chairman

of Inco Limited.

McKim

A township now part of the City of Sudbury. Site of Frood mine and Falconbridge Nickel Company's inactive McKim Mine;

named after Robert McKim, MPP for Wellington North. Many township residents will remember when McKim had its own municipal government.

Mond

Former village adjacent to the old Victoria Mine. Named after Ludwig Mond, founder of the Mond Nickel Company.

Murray

Site of the original discovery of sulphide ore along the main line of the new CPR. Named after the Murray brothers who patented the claim. Went through various ownerships before becoming a successful Inco mine (see also Nickelton).

Neelon

Heavily settled today, this was once just township #55, but was re-named after James Neelon of St. Catharines.

Nickel City

Here's the real story! When Aeneas McCharles moved from the Soo in 1889, he first settled in Whitefish. Believing that western part of the Basin would see the district's greatest growth, he registered the Nickel City subdivision in 1890, a plan complete with fifty-foot lots, streets, and parkland on "Vermillion Lake" (since there already was a Vermillion Lake, this one was renamed McCharles Lake), about two miles east of Whitefish. When he died in 1906, he willed those park portions to the United Townships of Drury, Denison and Graham, stipulating that they were never to be sold. For many years, Nickel City was a favorite summer retreat. Local news tidbits in the old Sudbury Journal often referred to an outing or a church picnic at Nickel City.

Nickelton

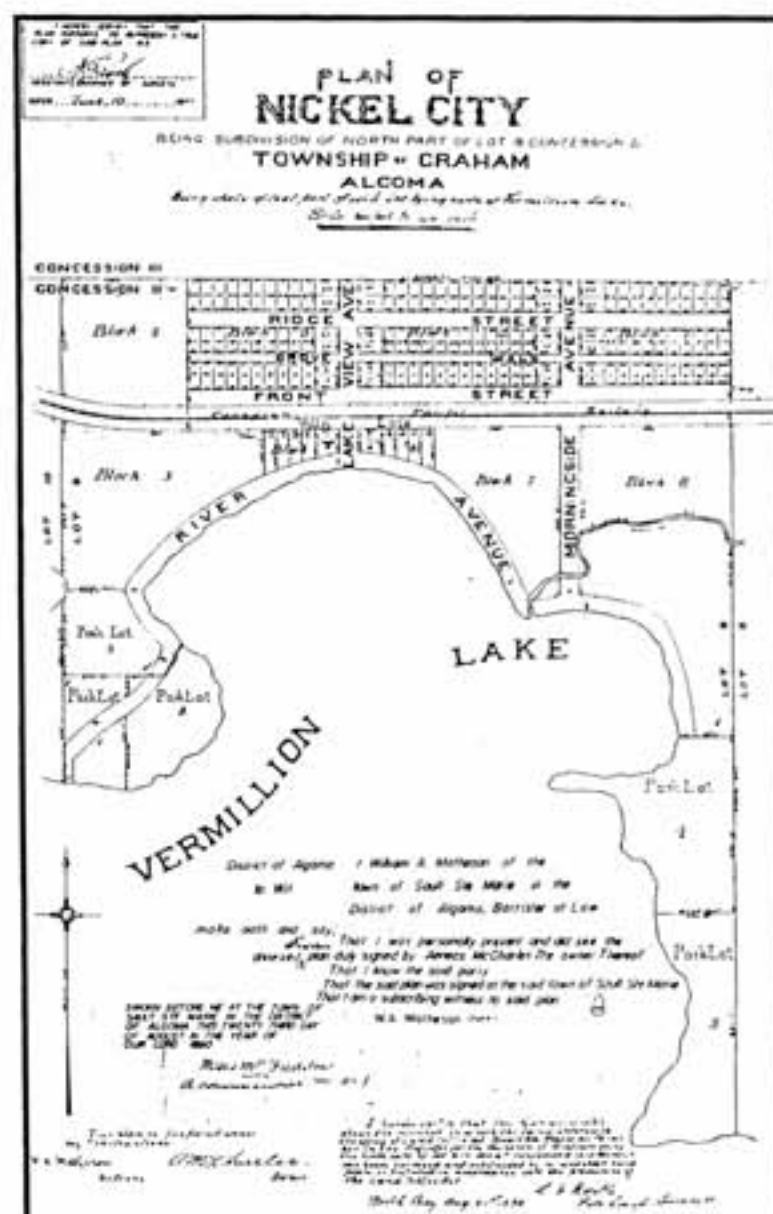
Name given to the Murray site by the British America Nickel Company, after its acquisition in 1913 from the defunct Dominion Nickel-Copper Company (not to be confused with the Dominion Mineral Company).

North Star

Discovered by Aeneas McCharles in 1898, sold in 1902 to Mond. Romantic that he was, McCharles likely chose the name because of the northerly route he had followed from the C.P.R.'s Algoma Branch to his find. His autobiography doesn't confirm this, but it's fun to speculate.

O'Donnell

Home of the biggest and last of the Sudbury area roastyards. Located in Graham Township, west of Creighton and south of the Algoma Eastern line, the yard was established in 1915, complete with a townsite, and was named after



Nickel City, the city that never was.

John O'Donnell — who retired in 1922 but who outlived the roastyard by a long shot!

James Stobie who discovered it in 1885.

Strathcona

Falconbridge mine in the Levack-Onaping area, patented in 1890 by two employees of the Hudson's Bay Company and named in honour of Lord Strathcona, for many years the governor of that company.

Sudbury

Main city of this area, named by James Worthington, CPR construction superintendent after his wife's birthplace: Sudbury, Suffolk, England.

Tam O' Shanter

Mining property in Snider Township, discovered in 1893 by Thomas Baycroft, a devoted Scot who took his mine's name from Robert Burns' poem "Tam O' Shanter".

Turbine

Former village in the lower end of Drury Township, named after that marvelous device that converts water power to mechanical energy. In June of 1904, the Huronian Power Company (an Inco subsidiary) began construction on a private spur to its new hydroelectric plant at High Falls on the Spanish River. The spur connected with the C.P.R.'s Algoma Branch, and with the Algoma Eastern. The busy junction came to be known as Turbine.

Vermilion

A river and the only successful gold mine of the area's early ventures. The mine, a short ways west of the river, was discovered in 1887 by Henry Ranger. It operated

Continued on Page 16



\$10,000 paid out six times in '91

Record year for plan's maximum award

Like most other programs, projects, procedures and efforts, Inco's Suggestion Plan is starting to feel the positive effects of the growing emphasis on teamwork, quality and cooperation.

The plan hit an all-time high with six maximum awards of \$10,000 paid out this year and an average award of \$354.93.

The quality of submissions continues its upward climb as well.

The amount of award money paid was just under \$300,000, representing the second highest annual payout since the plan began during the last World War.

"The emphasis on improving

quality as a way of increasing competitiveness is a growing motivation for people to submit their ideas," said plan supervisor Denis Lepage.

In fact, he thinks that cash awards are not always the prime motivator. "Many of the people who submit ideas are primarily trying to make their jobs a bit easier, less time-consuming and less repetitive. When they succeed, it's good for Inco and it's good for the employee."

He sees subtle changes begin-

ning to emerge in the Inco culture.

"I'm seeing more and more suggestions submitted by more than one person," said Denis. "In fact,

gated were accepted.

Denis encourages all employees to submit improvement ideas to help make the company better and

more competitive by improving produc-

tivity, quality, safety and reducing costs.

"To those who have never made one, a suggestion may sound like something very difficult," said Denis.

"Many people think they can't do something as difficult as mak-

ing a suggestion. They may be confusing suggestions with inventions or thinking of blue-ribbon suggestions they have seen written up in the Triangle."

Small improvements are just as important, according to Denis.

"Start by looking for examples of waste, inconsistency, or inadequacy that are sure to be around you. The important thing is to identify problems close to you and solve these routine problems one by one."

He said large awards have been won by the simple elimination of waste, inefficiency and inconsistency.

Salvaging rare loco parts earns suggestion plan cash

It was a good beginning for Mike Chertow's retirement.

Not only did the Locomotive Shop electrical leader take advantage of last year's retirement incentive, but he walked out the door with a \$10,000 Suggestion Plan award.

"I've been awarded five or six others," said the 38-year Inco veteran, "but this one is the biggest. It comes at just the right time, now that I'm a pensioner."

His job in the loco shop gave him the perfect opportunity to take advantage of the plan. Inco's fleet of electric locomotives is aging, and the older the locos get, the harder it is to get parts to fit them.

"Most of the parts were very inexpensive at one time. In many cases it was cheaper to discard worn or broken parts and buy new ones."

Today, it's a different story. As a leader at the shop, Mike must ensure there are enough parts to repair the locomotives when they come into the shop. "Even if the manufacturer can get them for you there are often long delays," he

said. "The rarer the parts, the more the costs go up. In some cases, manufacturers don't have the parts on their shelves, and since there's not much call for many parts they must be made from the ground up at extremely high costs."

"In the 38 years I've been here at the shop, I've seen a lot of parts thrown away. I wish we had kept them."

Mike's latest suggestion is a good example of a simple, inexpensive repair that will keep an inexpensive part going almost indefinitely.

Bushings wear out regularly on the contactor assembly, a magnetic frame mounting bracket that carries the current through the switch to regulate the speed of the locomotive. The bushings are tube-like sleeves that fit into holes in an object. An appropriately-sized rod fits into the sleeve, allowing the object to swivel on the rod. With this method, the sleeve takes the wear and not the material the object is made of.

With 30 contactors on each

locomotive, the part is critical to Inco's rail operations.

"We've been replacing well over 100 of these pieces a year," said Mike. "My idea was to re-bush the magnetic frame ourselves at a fraction of the cost of getting a new one. Cost of rebushing is less than \$50."

The contactors consist of several parts, each with bushings. The armature, just one of the parts, costs over \$400 when ordered from the manufacturer.

"Over the years I worked on the contactors over and over again, and it always seemed a shame to throw the part away. There was rarely ever anything wrong with the piece, only the bushings were worn. Now with the cost of everything skyrocketing, I figured it was time to do the repair."

He figures the loco shop will continue to innovate as time goes on. "The locomotives are getting older every year and the parts will continue to get more scarce. I figure there will be a lot more equipment being re-tooled in the future."



Mike Chertow shows rare loco parts now recycled.

The jig's up for blacksmith

Gaetan Robillard says he's the only blacksmith left at Inco. Maybe that's why he's letting Inco know he's there.

At least the Inco Suggestion Plan is aware of Gaetan. He was awarded \$4,080 for an idea that not only increased productivity but eliminated a potential hazard at the Welding Shop.

"We have to straighten out a lot of things here, long pieces and short, from angle iron, square stock to flat bars. Just about anything that can be bent is straightened out here. It comes from most mines and plants here in Sudbury."

The straightening was previously done by pounding the material with a pneumatic hammer. "There was always the danger of the piece slipping off the hammer as it was being pounded and striking somebody," he said. "It was a hazardous way of doing it."

He's had a few close calls in the past.

"I got jarred a couple of times as I was straightening things out. A couple of pieces flew off and could

easily have struck someone. I figured there must be a better way."

Gaetan noticed that the shop has a hydraulically operated bending machine.

"I figured that if we can bend things to the shape we want without pounding, then why can't we unbend them?"

Gaetan fabricated a jig and adapted it to the bending machine. "It acts basically as a hydraulic press. You heat up a bent piece, put it in the press, apply pressure and straighten it. Instead of pounding it, you apply steady, slow pressure. It just about eliminates any chance of slippage and it does the job better than the old method."

There was also a savings in manpower. It used to take two men, one at the controls of the pneumatic hammer and the other adjusting the piece as it was being hammered back into shape. His jig, operated with foot pedals, requires only one man.

"It's a lot quicker to do it this way," he said as he placed a length of wrist-thick metal into the jaws

of the jig. Heated to a glowing red first, the piece of bent rod straightened as the jaws closed on it.

"But most important," he said, "it's a heck of a lot safer. That's why I came up with the idea in the first place. I didn't want to get hurt. The money was a secondary thing."

He submitted the idea years before, he said, and had just about forgotten about it when he was notified just before Christmas that it had been approved.

He plans to use the extra cash on a log cabin he's planning to build.



Gaetan Robillard straightens a rod in the new jig.

Rubber piece saves cash, time on scoop repairs

Gabe Bisaillon got tired of welding scooptrams back together again.

The job was a pain in the neck, said the Stobie welder, so he came up with an idea that not only reduced the number of times the repair has to be made but earned him \$5,400 in gratitude from Inco.

"Often the bucket of a remotely operated scooptram is only half full of muck and the operator has to lower the bucket a second time to take another bite out of the muck pile to fill the bucket. When the bucket is lowered, it comes down faster due to the additional weight of the muck. When that happens, there's often cracks or breaks in the frame."

It was quite a common occurrence, he said. "Every 200 hours the scoop is brought in for regular maintenance and almost every time some welding has to be done to repair the frame."

Although the problem is more prevalent on remotely-operated scoops where there is less fine control by the operator, the damage is also seen on manually-op-

erated scooptrams.

Repairs on the equipment were often extensive, taking many hours of preparing and welding the broken frame.

When a rebuilt scooptram came to the Stobie shop, Gabe noticed a metal spacer at the spot where the bucket rested on the frame.

"I figured why not a rubber spacer. If you can install a metal piece, why not make it shock absorbant?"

"It worked so well that I thought I'd lose my job," joked Gabe. "Instead of repairs every 200 hours, there's no welding needed for as long as a year when the rubber piece is installed."

Installing the rubber piece is a matter of an hour's work. "We do it ourselves. We bolt a piece of conveyor belt to the frame."

The Suggestion Plan award wasn't the first for Gabe, but it was the biggest.

"I tend to look at things from time to time, particularly when the same nagging problem gets to be a pain in the neck."



Welder Gabe Bisaillon with a modified scooptram.

Suggestion wins top prize

You can't say Ron Larose is chained to the past.

"If it's been done a certain way for the last 50 years," said the Smelter nickel puncher, "people tend to overlook a better way to do it, no matter how simple."

Ron's idea to replace a four-point ganged chain with a single chain for lifting casting mould covers earned him a \$10,000 Suggestion Plan Award. Like many of the more lucrative suggestions, the idea is a simple one.

"Familiarity seems to be the biggest obstacle to new ideas," he said. "Often, the best ideas come from people who are relatively new at a plant or mine. That's because they look at things with a totally new perspective. They haven't had a chance to become familiar with anything."

The old method of lifting the mould covers involved four 10 to 12-foot lengths of chain attached to lugs on the corners of the covers. The opposite ends of the chains ran to a single ring from where it was lifted by a crane.

A single hook in the centre of the mould covers now serves the purpose.

What ended up as a maximum award began as a constant annoyance for Ron. "Each of the four chains are heavy, dirty and awkward to work with. They'd end up all bunched up and tangled on top of the cover and you'd have to stretch them out and attach each

end to the four lugs on the cover. It took two people to do the time-consuming work. At a time when manpower is short, simplifying the job would be a good way to release manpower for other duties."

Ron's idea still required one man to steady the hood. It has evolved to a totally self-bailing system that frees up both men for other work.



Ron Larose shows one of the modified mould covers.

Ken flushes out cash with idea

The job, says Ken Coon, was getting to be a pain.

Working on the high pressure reactors for making nickel carbonyl, Ken was involved in the repair or replacement of feed pumps that kept getting clogged with ammonia build-up. "We were switching pumps every other week sometimes," he said, "and I figured there must be another way to do it."

Ken earned \$8,055 from Inco's Suggestion Plan for his idea of using a water flushing system to clean out the build-up of ammonia in the instrumentation, valving and vent lines of the displacement chambers that are used to transfer crude liquid nickel to the distillation system

in the Liquid Products Storage building at the Nickel Refinery.

Ammonia is a byproduct of the process of making crude liquid carbonyl and turns into a solid in the displacement system.

Before Ken's water flushing solution, the distribution system had to be shut down and replaced by feed pumps that were expensive, hard to maintain and subject to ammonia build up as well.

"The pumps didn't last too long. They might last two or three weeks before a repair had to be made."

Ken's water flushing method takes only an hour. A back-up system takes over during the flush and there's no production loss.

Instead of weeks, intervals between repairs are now measured in months. "It worked better than expected. One time, we went 176 days without any problems."

Ken wrote up the standard operating procedures for the new flushing system as well. "It's pretty well automated so we don't need extra manpower to run it," he said. "It's integrated smoothly with the rest of the operation here."

He's earned other Suggestion cash in his 23 years at Inco, but this is his biggest win. He made sure of his theories by experimenting for about a year before submitting the idea. "It looked like it would work, but I wanted to make sure."



Ken Coon in front of the flushing system in the Liquid Products Storage building.

in touch

Bridge is Howard's bridge from work to play

Howard Schooley has certainly bridged the gap created when he retired from Inco more than a decade ago.

He plays bridge almost every day of the week. Sometimes he plays it twice a day, five days a week, when he's not teaching it to his eager students. He's a bronze life master with more than 600 points earned in world-class tournaments. The Inco retiree belongs to several local clubs playing competitive contract and duplicate bridge in the Niagara Region.

You'd think his wife Tyra would get a little tired of this contract for life?

Not when she's Howard's best partner! Tyra's even earned more master points (770) than her husband, who knew exactly what he was going to do when he retired in 1978 as director of operations in No. 4 building at the Port Colborne Refinery where he was part of the team that developed the utility nickel process.

When Bill Kantymir, his supervisor, asked him what he was going to do with his time, Howard replied, "Become a bridge life master." Howard and Tyra both broke the 500-point barrier three years later.

What kind of allure does bridge hold to keep the Schooleys entertained day and night for the past 50 years?

"Well, for one thing, we get to travel all over for competitive tournaments and make long-time friends," grins Howard. The couple have finessed and trumped their way around North America in search of the coveted, not easily won points. They both agree that playing regularly keeps them fresher and on top of their skills.

Another intriguing attraction, Howard says, are the "billions and billions of combinations" possible in every bridge game, which exceeds even chess in its number of possible mathematical probabilities.

"It keeps your brain working," confirms Tyra, who likes to relax by playing a little euchre or solitaire.

"I believe the strain of playing world competition bridge is greater than that of an operating brain surgeon. Playing bridge,

you need stamina, endurance, mathematics, logic and concentration," Howard has learned over the years.

Above all though, a sense of humor and an intense love for the game, are the

a tournament. I always stress, in the first lesson, that you should ask questions. If I don't know the answer, I'll look it up and find out."

Other ingredients in Howard's bid to

Howard also suggests the following formula, called CHARM: Count your sure tricks and find out how many more you need to make your contract. Hunt for ways of winning these:

(a) cross ruffing
(b) establishing your second-best suit

(c) finessing
(d) squeezing and end-playing.
Analyze the bidding and try to locate the missing high cards.

Remember to watch the fall of every card, especially the discards.

Make your contract.

There's no doubt Howard and his wife enjoy sitting down at the tournament table. There are only 29,960 players in the world with at least 500 master points. Howard and Tyra are two of the dedicated few, although Howard is quick to point out that for a small city, Port Colborne has produced other life masters with at least 300 points in competitive play.

Three of them also worked at the Port Colborne Refinery at one time.

There's Dave Neff, who transferred to Thompson; Ric Stratton-Crawley, who went to Sudbury, and the late Al Purdy. "It's odd and strange that we've had these life masters from Port Colborne and no bridge club established," remarks Howard, who does remember there being an Inco bridge club in 1938.

Other Port Colborne retirees who enjoy the competitive edge are Jan Vandillen and John Sullivan, Howard adds.

This enthusiastic instructor also notes that bridge is forging a cultural link with countries that once severed their ties with the game during revolutionary periods. Bridge is fast regaining popularity in various areas of the Soviet Union.

"Just recently, the Welland Bridge Club was invited to a tournament in Leningrad," Howard notes.

The thrill and challenge of bridge hasn't diminished for Howard Schooley over the years, and that's important. He's doing the best thing possible for his pupils, passing on his love for the game.



Howard Schooley: Inco pensioner, world-class bridge player, teacher and competitor.

important intangibles that have kept Howard's hand in and made him a premiere teacher of a card sport played by 40 million people (and counting) around the world. Two hundred thousand people play competitive bridge in North America. Howard began playing in 1961.

Howard's dedication to the game's promotion was recognized in 1987 with the Kate Buckner Award, originally established by the Metropolitan Toronto Bridge Club to honor Kate Buckner for her unselfish attitude and consideration of others in the ethics of the game.

Howard's heart is certainly in the right place and he has contributed greatly to others' enjoyment of bridge.

A member of the Professional Bridge Teachers' Association, he will travel to several places a week, if there is enough interest, to pass on his experience to beginners.

"I like to teach. I'm a far better teacher than I am a player," maintains Howard, who began instructing when he filled in for a sick tutor at a local club 15 years ago. "I like to read and I retain what I read. If I don't understand, I'll ask another player at

become a successful instructor are respect for his students and a rough and ready sense of humor, which are also vital qualities in the long, drawn-out grind of an all-day tournament against the top players in the world.

"You never know who you might play against in a tournament. Some top bridge players might show up at a small North American tournament to try for some points, so you have to be sharp," Howard said.

Howard gives the following instructions to all his pupils:

Bridge is a science — the study of a lifetime — in which you may exhaust yourself, but never your subject.

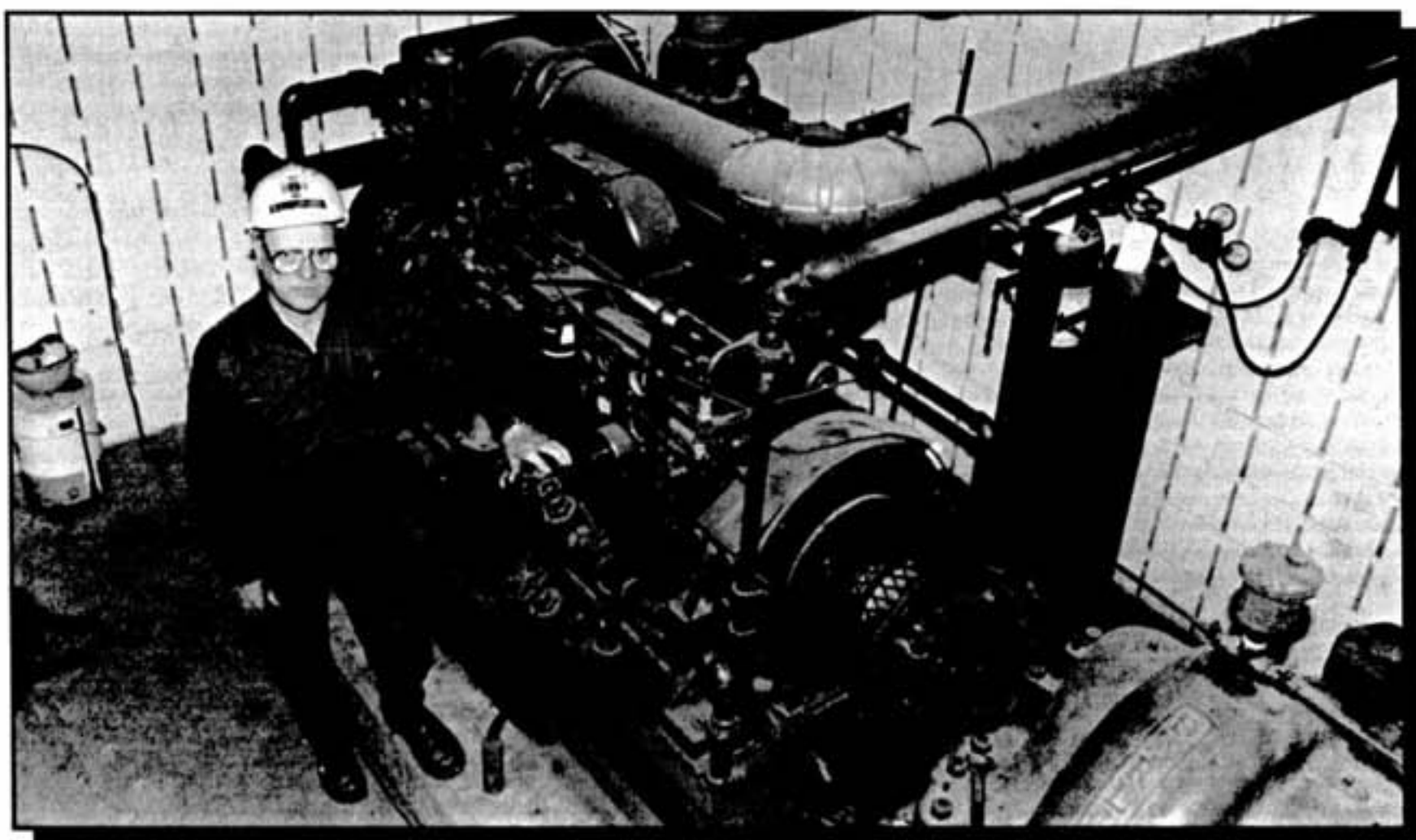
It is a contest calling for courage, skill, strategy and self-control.

It is a test of temper, a trial of honor, and a revealer of character.

It's a cure for care, an antidote for worry.

It includes companionship with friends, and opportunities for courtesy, kindness and generosity.

It promotes mental activity and is a source of interest all your life.



Bill Crabbe checks out the Port Colborne Refinery's diesel fire pump, which can handle 3,000 U.S. gallons per minute. The pump is used to protect the refinery's oil tanks, and must be ready at a moment's notice in case of fire.

Once a fireman, always a fireman . . .

Retired Inco fire chief Bill Crabbe's dedication to fire prevention is still burning bright after 40 years (and counting) of volunteer service with the Port Colborne Volunteer Fire Department.

At 63, he's the oldest person in the volunteer company, but he has an active, youthful enthusiasm when it comes to his specialty at suppressing sparks.

A machinist by trade, Bill spent the last 14 of his 42 years with Inco as the plant's fire chief, before retiring in 1985. The switch from firing up his lathe to preventing factory fires was a natural one, he says, because of his love for and commitment to fire protection.

"I enjoyed machine work, but I absolutely loved fire department work," glows Bill.

"When you're already so involved in fire department work, and the job is there, you go for it," recalls Bill, who had already taken four years of courses in industrial fire prevention at the Ontario Fire College in Gravenhurst. Then, he notes, there were 2,300 employees at the refinery and a lot of operational buildings, before both thousands of jobs and the in-house fire department were cut in the mid-80s.

"At one time, we had 50-52 people in the plant fire department. We had our own truck, too — a 1949 American LaFrance that came from Inco in Copper Cliff. Now it's an antique engine at the city's fire station in Bethel," Bill said.

Though the refinery's fire crew has been greatly reduced, there are also numerous volunteer firefighters working on shift that could respond in an instant to any emergency, Bill said. Inco is still heavily committed to reducing the risk of fire and its comprehensive safety program goes hand-in-hand with that objectives.

In fact, said former refinery manager Len Kowal, Bill's advice is invaluable

when it comes to discussing ongoing equipment needs at the plant and how to keep it at the ready.

"Bill's only too willing to help maintain a fire prevention and safety policy that's serious all the way down the line. It's tremendous."

Another partner in prevention of fire, or any emergency for that matter, is the City of Port Colborne.

"There's always been excellent communication between the city and Inco," adds Bill, "and this relationship is still strong, even though the city's department has grown in technological sophistication and size enough to handle anything within a 45 mile radius. In the past, the Inco plant whistle was used to alert firemen to a fire in the community. Not only that, but company equipment and manpower often assisted in an emergency."

"It was nothing for 15 men, when the Inco whistle blew, to be on the back of the Inco truck on the way to a fire. At the time, there weren't enough paid members of Port Colborne's department. If there was a serious fire in the city, I could talk to the plant manager and say, 'There's six firemen on shift right now. Can you spare them?'"

The answer was invariably "Yes", and Bill says Inco was really generous with the city, and refinery employees, who never lost an hour's pay when abruptly diverted from their nickel-processing duties to a potentially serious fire situation.

When fire chief, Bill says he organized practice sessions every Wednesday, in different departments, to keep his fire crews on their toes. This diligence paid off, he says, because the plant never had any serious fires during his job as "head Smokey."

This superb fire and safety consciousness to which Bill adhered and for which Inco is noted in industry, must have

rubbed off on the employees Bill left behind seven years ago, because things have been pretty quiet and smoke-free since then, Bill says.

He adds that there have been many changes at the plant since his retirement that have made the plant even more ready to respond to a fire. He also stresses that Inco falls under the Mining Act, which calls for tougher regulations and more regular inspections than the regular industrial act.

There are more fire alarms than ever before at the plant, with extra ones installed in the change house, the research/PMR section, #1 and #2 buildings. All

Another clean sweep for pensioners' curling

All indications suggest that this year's In Touch Curling Bonspiel will be just the latest in a long string of successes.

According to chief organizer Jim Bryson, about 32 teams were registered by the second week in February, mostly from the ranks of regular curlers in seniors' leagues.

Another 10 teams can be accommodated, however, and Jim urges anyone not yet registered to call 522-7855 even after the Feb. 20 deadline announced in the advertisement in the January Triangle.

"We can look after 168 people or 42 teams," said Jim. "That makes a full schedule for the March 12 and 13 event."

He said that up to two or three years ago, it wasn't unusual to have to turn away registrants who weren't off the mark early. "But in the last two years, attendance has dropped off somewhat. Perhaps with this new bunch of retirees we'll get the numbers back."

But there's no worry about getting

these panels alarm back to the powerhouse, because there's someone on duty 365 days of the year.

As well, the storehouse fire control system has been changed from dry to wet, because the dry system was getting old. Now, with the wet system, there won't be as much rust in the pipes because they are kept full of water, not damp air.

Back out in the community as a volunteer, Bill is fighting fires before they begin, by instructing volunteers in the use of fire extinguishers, lecturing on fire prevention and attending weekly volunteer meetings. He also keeps abreast of all the latest developments.

flooded with scores of new teams. "New pensions usually take a year or two to come out. They seem to have the first year pretty well planned for other things."

Today, he said, most if not all of the curlers are local. "At one time we used to get people coming back to Sudbury for the bonspiel from as far away as St. Catharines, Toronto and other places in Ontario. Today the event is 100 per cent local."

Today's pensioner is more active than ever. Although most are between the ages of 65 and 75, some are well over 80.

"And these guys can hold their own on the rink. Can they ever!" said Jim.

The event is not only held for pensioners, it's held by pensioners.

"We've got an active group of volunteers organizing this event and running it" he said.

The Copper Cliff Curling Club also provides a discount rate for the annual pensioners' event.



HERITAGE T H R E A D S

Old O'Donnell was no farm

by Marty McAllister

When he arrived in Copper Cliff last October, the Prince of Wales made a brief stop at Nickel Park. Between the Cadillac and the tour bus, he was shown a display of Inco's environmental progress. Then-and-now photographs depicted how the devastation of yesteryear had been replaced by the lush greenery of today.

There was one exception.

Two exposures — one with its all-pervasive smoke, one with none — one at full production, one abandoned and empty. Otherwise, no change. No re-greening triumph here, where the reddish swath in the wilderness suggests something ancient, terrible, perhaps even alien. Two hundred feet wide and 7,500 feet long, straight as an arrow, the giant scar might well have been scorched in place by the arrival and departure of craft from some far-off galaxy.

Sixty years after its final ore heap cooled, the site of the mighty O'Donnell roast yard is virtually in suspended animation. It seems to be waiting, ready for the next load of green ore to rumble down the siding from the Algoma Eastern line. It will wait a very long time.

Home is where the hearth is

From today's perspective, it was hell on earth. But, when its first fire was lit in February of 1916, O'Donnell was a godsend. For 28 years, the people and the vegetation of Copper Cliff and Sudbury had suffered the fumes of various roast yards, right in their backyards. By relocating to a site beyond Creighton, not far from the Vermilion River, the greatest number of people would benefit most, and trees and grass would have a fighting chance.

Truly, O'Donnell was huge. It had a planned capacity of 350,000 tons of ore at any one time, and that was when the beds were built manually. In 1919, a marvellous bridge crane was added. Sitting on the inner rail of the track that ran on either side of the beds, it had a clear span of 170 feet. Powered by a trolley line, it had a moving conveyor that allowed it to evenly distribute the ore over a 60 x 100-foot bed — until the layers of four-foot cordwood were buried under 5,000 tons of ore.

To supply the massive, hungry bridge crane, ore cars from the mines were emptied into special side-dumping cars that discharged right onto the crane's inclined conveyor. Brilliant. And very productive.

In *There Were No Strangers*, published by the Anderson Farm Museum, former Inco Fire Marshall Don Bray remembers: "Originally, there had been approximately 200 employees, but after the travelling ore bridge was built this number was reduced to 40."

(No, Don wasn't the fire marshal at O'Donnell. He was just a boy then — no, not when he was fire marshal... when he lived at O'Donnell. I know they had fires there, but that was... look I'm sorry I mentioned it.)

From the perspective of young fellows like Don and his neighbor over on Ellis Street,

Bob Bryson, O'Donnell wasn't terrible at all. They made a lot of their own fun, learned how to stay upwind and were downright sad to leave when the big new smelter brought an end to roast yards forever, in 1930.

Just before this past Christmas, I met Bob and his wife out at the shopping centre (where else?) and the conversation soon focused on his old home town. "There was a hill we used to climb and we could see them building that big red brick stack at Copper Cliff. We didn't realize that the higher it got (it topped out at 512 feet), the sooner O'Donnell would die."

Only memories now

Although the roast yard site is as stark and barren as ever, there remains nary a trace of the townsite. An old drawing shows that the homes were from 1/2 to 3/4 of a mile from the yard, so the vegetation has long since covered any clues to the buildings and streets that once were home to the Brays and Brysons — and to other familiar names too numerous to mention.

A couple of years ago, I spent a rainy evening with Ted Nicholson (now retired from Purchasing) and Gary Peck (of "The Not-So-Distant Past"), touring the O'Donnell site. It may sound like my infamous trip to Chicago Mine, but things did not go really well. The roast yard was sensational, but it was tough getting there. Maintenance of the Algoma Eastern road beds hasn't been a big item in recent years, so we had to abandon our car and walk.

Of course, I had my trusty map. An old map — showing precisely where the townsite used to be. The map must be right, because we didn't see anything that would prove it wrong. Actually, we didn't see a thing. For all our labors in seeking the lost village of O'Donnell, all we got was totally, miserably wet. Some day, when it's sunny and warm and the flies are all in Copper Cliff, I'm going to go back out there. Only this time, I'll take Bray or Bryson with me. In any given exploration party, at least one guy should know where he's going.

Abatement foretold

If I can dare to get serious for a minute, I think the O'Donnell roast yard is special and unique. It was the biggest and the last, and the most sophisticated application of what had been accepted roasting technology from time immemorial. Clearly, it was an horrific enemy of the environment, both in terms of the forests cut for its fuel and of the devastation wrought by its sulphurous fumes.

It wasn't that no one knew or cared, back then.

The Report of the Royal Ontario Nickel Commission of 1917 said: "The larger proportion (of sulphur) is driven off on roast heaps under the worst possible conditions for agriculture, as the roast heaps are low-lying and the gas, which is about two and one-fifth times as heavy as air, flows along the ground unless carried away by the wind."

In its conclusions the same report said: "Attempts are constantly being made to minimize the damage caused by the escape of sulphur. It is believed that in the not distant future smelting methods will be developed that will do away with conditions that now exist."

They were right. The future was just a little more distant than they had figured.

You know, the mighty O'Donnell is somehow sacred — a graphic reminder of how far we've come and how much we have learned.

Let's not cover it up. If we do, no one will ever believe us.

Yesterdays' todays



10 years ago

It was the biggest ventilation project ever undertaken at an Inco mining operation. "The Creighton 11 shaft ventilation project will allow Creighton Mine to effectively double the volume of air passing through the mine," explained Graham Ross, manager of the Creighton mine complex in 1982.

According to Ross, it would provide comfortable working conditions at a depth of 8,600 feet below surface, where the temperature was expected to be about 124 degrees Fahrenheit.

Dispensing with a refrigeration plant, the system drew air through a large mass of broken rock at Creighton's open pit, where ice formed in the winter and thawed in the summer, providing a natural refrigeration system.

The air intake system ran below the open pit, across number nine shaft at the 2,600 foot level, diagonally down to number eight shaft and then across to number 11 shaft. Return air was exhausted between boreholes and raises between number nine shaft and number eleven shaft, and up through number 11 shaft. Two fans at the 1900 foot level of the raise-borehole section pumped air to the surface, and three fans at the top of number 11 shaft did the same.

25 years ago

Born in Glenvale, Ontario and educated at Queen's University where he graduated with a Bachelor of Science degree in chemistry, he was the first Canadian to become president of International Nickel.

His first job was as a research metallurgist with Dr. C.W. Drury at Queen's University in Kingston, studying nickel-cobalt ores for M.J. O'Brien Limited, owners of the Deloro Smelting and Refining Company. Nine years later, in 1929, he became assistant director of metallurgy at the Ontario Research Foundation.

In 1936, he transferred to Inco, and became the first director of Inco's research laboratory in Copper Cliff.

Up until 1941, when he moved into management as assistant to the vice-president, he was responsible for numerous breakthroughs in metallurgical technology and was given achievement awards by both the Canadian Institute of Mining and Metallurgy and the American Institute of Mining, Metallurgical and Petroleum Engineers.

In June 1953 he became vice-president and general manager of Canadian operations, and in 1955 transferred to the New York office. In 1957 he became executive vice-president.

A director of Canada Life Assurance Company, The Toronto Dominion Bank, The British American Oil Company, The Steel Company of Canada, The Borden Company, The Babcock and Wilcox Company and a trustee of the Bank of New York, he retired in 1967 after 31 years of service.

His name was J. Roy Gordon, and he was elected president of International Nickel in 1960 at the first meeting of the company's directors ever held in Thompson, Manitoba.

40 years ago

It was believed to be the first time that concentrate pulps had been piped in such quantity over such a distance. It was the piping system between Creighton Mine and Copper Cliff, built completely above ground.

As part of a \$130,000,000 program to convert to all-underground mining, the aerial pumping system was capable of transporting 30,000 tons of material a day.

Twelve miles of wooden trestle, one trestle seven miles long, and 40 miles of wooden pipe went into its construction. Designed to be trouble-free in winter, five relay pumping stations, completely fire-proof and constructed of concrete, steel and cement blocks, pumped tailings from the Copper Cliff Mill and the Creighton Mill to the tailings disposal site, and also pumped concentrate pulp from the Creighton concentrator to the reduction plants at Copper Cliff.

Constructed mostly of wood, the complete system was patrolled four times every eight hours and had fire hose connections to a water line every 600 feet along its length.

ECOHlogical alternatives

(Environmental Control and Occupational Health)

No fish story

Good fishing for Levack Mine

This is no fish story!

Levack Mine personnel, in conjunction with Environmental Control and explosives sales representatives, are looking at their blasting procedures in an attempt to help you land that big one.

Inco boasts a large contingent of employees who enjoy recreational activities such as fishing. This is not the only connection between mining and the popular sport. It is important that all miners realize the potential impact that unchecked use of blasting agents can have on the aquatic environment downstream of the mine.

Blasting agents used in underground and open pit mining are commonly composed of ammonium nitrate and fuel oil. Ideally, all of the blasting agents will be detonated and consumed in the explosion, but due to various reasons this does not always occur:

*Spills - during transportation and handling of blasting agents.

*Improper loading practices - if the flow on the pneumatic loader has not been adjusted properly, blowback or improper compacting of the charge occurs. Both situations result in wasted blasting materials, either through spillage or failure to detonate. Loading the borehole to the collar is unnecessary, as the first eight to 12 inches do not take part in the explosion. Similar difficulties may be encountered if agents are loaded into wet holes.

*Geological difficulties - in this case the blasthole intersects cracks or cavities

which allow the explosive to migrate beyond the confines of the borehole and escape consumption by detonation. There is little which can be done about this situation, except to utilize cartridge explosives.

*Blasthole proximity effects - holes which are too close to each other, or which are drilled at an angle, may cause the first hole to detonate and desensitize the explosives in the adjacent hole, in which case the explosives end up in the muck pile. This is most notable in longhole blasts.

Ammonium nitrate, a type of fertilizer, dissolves on contact with water and releases ammonia. Elevated concentrations of ammonia in aquatic environments are directly toxic to fish, particularly sportfish varieties such as trout.

Although toxicity varies with specific water chemistry, studies have shown that ammonia levels as low as two milligrams per litre of water can be lethal. This amount is relative to two seconds in 11.6 days. That's not much!

Any undetonated material which is permitted to come in contact with water in the underground mine workings will dissolve, make its way into the mine dewatering system and be pumped to minewater treatment facilities at surface prior to release into the natural environment. Treatment facilities in today's mining industry are designed to remove heavy metals and suspended solids, not ammonia. If present in the minewater pumped from underground, ammonia can flow downstream with the treated effluent and cause harm to aquatic life.

While the levels of ammonia detected in Inco effluents are quite low in comparison to other Ontario mines there is room for improvement. The Levack study is an effort to eliminate the ammonia problem at its source. Minimizing the release of undetonated blasting agents would effectively control the source of ammonia and reduce potential environmental impacts.

Our Environmental Impact Policy states Inco's commitment to the concept of sustainable development. This project, with its balance of economy and ecology, is a perfect demonstration of the thought turned into action.

Good fishing.



INCOME ideas

RRSPs and retirement planning for the young

By Richard Birch

You're young. You're working at your first job. When someone mentions money, retirement planning certainly isn't the first thing that pops into your mind.

Yet, one of the most common laments from those getting close to retirement is "I should have begun planning sooner — lots sooner." And it's true. The sooner you start, the better prepared and the better off you'll be when you eventually leave the working world.

Fortunately, retirement planning when you're young is easy. There are really only three rules:

Buy a home. Maximize your RRSP (registered retirement savings plan) contributions. Pay off your mortgage.

That's all there is to it. The other two major sources of retirement income, government benefits and pension plan benefits, pretty much take care of themselves. If you don't have a pension plan, you'll have to rely on your RRSP much more heavily.

The value of a mortgage-free home

Having a mortgage-free home when you retire means having a roof over your head at minimum cost. You won't be paying rent, which goes up each year, and you'll have an asset that is worth a considerable amount.

And, of course, you need a place to live during all those years before you retire. So your planning has a very practical side to it too.

RRSPs should be your first choice for any saving. Your contribution is tax deductible. That means you get to save pre-tax dollars. As well, all income earned in the RRSP is sheltered from tax.

You can contribute up to 18 per cent of your prior year's earned income to an RRSP, minus contributions to, and benefits earned in, company pension plans and deferred profit sharing plans.

RRSPs — the money machine

Contributing early in your working career can make all the difference to your RRSP. For example, if you put \$1,000 into a plan at age 25, you'll accumulate over \$45,000 by age 65 if it earns interest at 10 per cent. If you contribute \$1,000 every year, you'll have almost \$500,000.

However, if you wait until age 45 to begin contributing that \$1,000 each year, you'll end up with just over \$60,000 in your RRSP. Those contributions in the early years make all the difference.

And this is the time to get into good RRSP habits. For example, if \$1,000 is 4 per cent of your income, why not contribute four per cent every year, instead of just \$1,000? As your income rises, so will your RRSP contributions. In this case, you'll accumulate almost \$875,000 by the time you're 65, if your income goes up by six per cent each year.

Retirement planning means taking care of the basics. And what's more basic than putting a roof over your head and saving the smart way with RRSPs.

If you have any personal financial questions for Richard, please address them to the Editor of Triangle. Richard has consented to answer some of these questions, from time to time, in special columns for Triangle. He cannot give advice on specific investments.

Royal issue appreciated

Dear Sir or Madam,

We are now entering a new year and hopefully things will start to improve. The one bright spot on the horizon is receiving the Triangle.

I have enjoyed every copy I have received, but when the copy of The Royal Visit arrived, I was thrilled.

You are all to be congratulated on a job well done. The photography, with the beautiful coloring and the write-ups captured it all. Prince Charles and Princess Diana both looked so

natural and I'm sure all of you at Inco felt the same as they mingled and greeted each and every one of you no matter where they went.

My copy of The Royal Visit I'm sending to my cousin in England and I know she and her family will be as thrilled with it as we are here.

Thank you again for sending me the Triangle. Keep up the good work.

Sincerely,

Eileen Wallace

Moms need recognition, too!

To the editor,

When the lady wrote in to you some time ago that the scholarship winners' mothers' name as well as the fathers' names (or vice versa) should be in the write up I felt it was a good idea. I know my sister was disap-

pointed when her son won it a couple of years ago and just the father's name was mentioned.

To read the past winners in the Triangle and the (Sudbury) Star you would think they're all motherless.

Cecil Bissonnette

LETTERS TO THE EDITOR

Loyal reader savors Triangle

Dear Sir or Madam,

I am finally sitting down to pen a long intended letter. I want to let you know as a long time receiver of the Inco Triangle how much I enjoy it and look forward to it each month.

I was always proud of Inco when my husband worked at Copper Cliff on the trains and then as yardmaster.

There were always so many opportunities for anyone who worked to achieve success. Such a family spirit and fun while you worked. There was no problem in relating to anyone of higher status, of ideas you had to better something in your work or if you had a problem.

Reading this past issue it was wonderful to see so much of this.

The recreation times shared by the workers is a great detriment to stress.

I think I have every Triangle almost since it began. They are a real treasure and

still in the same good quality paper as before. I really enjoyed the tailings story and was up to see it this past summer. What wonderful work you are doing to keep us in touch with everything from Inco.

Thanking you sincerely,
Mrs. Verna Cunningham

Mining research

Dear Sir or Madam,

On behalf of the Grade 5-C class at Carl A. Nesbitt I would like to thank you for the wonderful information you've sent us. This information has helped us understand the mining process and complete our research project on Sudbury. Thanking you once again for your help and cooperation.

Sincerely,
Class 5-C

Thanks from the Easter Seal kids

Dear Sir or Madam,

I would like to thank Inco on behalf of all the Easter Seal children and their parents who benefitted from the Hockey Challenge '91 tickets that Inco donated.

Through the district nurses, we were able to distribute those tickets to the most needy families. I pass on to you all of the thanks I received from them, when I handed out the tickets. Easter Seals works hard to satisfy all the needs of the children entrusted to our care and we thank Inco for making our job a little easier.

Yours truly,
Greg Smith

Congratulations

Dear Sir or Madam,

Prince Charles' visit to the Inco operation was a public relations coup!

Congratulations,
Riki Gougeon

Inco drillers set up a tent to backfill a mine

Imagine calculating the location of a dartboard, the dart thrower, the distance between them and the trajectory of the projectile. Correlate all the calculations, put on a blindfold and toss the dart.

Hitting the dart board, let alone the bull's eye, would seem like an impossibility, yet Inco drillers manage a similar feat as a matter of routine.

Rotary raise driller John Ernst is the "dart thrower," located inside a blue-and-white metal-framed tent near the tailings line overpass

treble on Godfrey Drive. The "dartboard" is a 50-foot section of North Mine stope below his feet, and the 1,200 feet of solid rock between him and the stope is where the "dart" must travel.

For drillers like John, the "dart" is a bit that grinds its way through solid rock at the rate of about 50 feet every eight hours. The bit is guided by a string of drill rods, each five-foot section of 10-inch rod weighing 650 pounds.

The hole will be used to dump slag for backfilling sections of

North Mine stope that have been mined out. Although the method is the most cost-effective for North Mine, it's a time consuming procedure that demands a bullseye every time.

"Miss? We survey it carefully top and bottom to make sure where it lines up," said North Mine planner Wayne Cassidy. "We can't be wrong."

He hopes that the same hole may be continued from level to level, eventually ending up at the 2,000-foot level.

About 400,000 tons of slag will have gone down the fill hole once the project is completed, and that's just one of three to be drilled in the area.

He said that the proximity of the slag, the location of the stopes fairly close to the surface and other factors make this method of backfilling suitable for North Mine.

For experienced drillers like John Ernst and Joe Cleaver, the job still holds a certain fascination.

"No two holes are ever the same," said John. "I've been at it for over 20 years and every time I drill we run into something different."

For example, said John, the accommodations on the North Mine job are not what drillers are used to. A rented 30 by 60-foot tent stretched over a steel frame and sealed around the bottom serves as shelter for the huge raise bore machine, compressors, heater, rod storage, water tank for dust suppression and the one-man crews who operate the machinery.

"We used to work in prefab buildings that were constructed at the site," said Joe. "The buildings were a lot smaller and it was a lot more cramped. With this rig we have a lot more room to work and it's a lot brighter inside the tent."

Drilling the initial or "pilot" hole is only the first stage in the project. Once the 11-inch hole is

drilled, it is reamed out to a five-foot diameter. The other two holes that are planned will not be enlarged.

John estimates that they could reach the stope in three weeks, depending on any unforeseen complications.

"Ground water can be the biggest problem," he said. "If you hit water, you have to pull out the drill string and grout the hole to seal the water off. Depending on the amount of water pressure, that can be a time-consuming job."

If the job didn't demand constant attention, an eight-hour shift on a raise borer could be one of the loneliest at Inco. "Before, we had to attach new drill rods manually with a hoist," said Joe. "Today, a mechanical rod handler guided from a control panel does most of the backbreaking work."

There is a drawback. "It used to be that we had two guys on a raise bore job," said John. "Today we only have one a shift so there's nobody around most of the time to talk to."

He admits, however, that with the din of the drill, compressors and other equipment, ear protection is a must. "You couldn't hear anybody anyways," he said.

The job falls under Inco's man working alone policy, and drillers must call in every two hours via a cellular telephone.



The unusual drilling site which is located along Godfrey Drive near the slurry line overpass.

Inco's finest shape up for Corporate Challenge

For the fifth year, the gauntlet has been thrown down for the community-wide Corporate Challenge competition and Inco teams are out of the blocks to troop the Inco colors.

"We are fielding four teams from Inco this year," said computer programmer Tim Egan, who with fellow programmer Tim Sarmatiuk, helped organize the event.

He said that the General Office building has managed to field two teams, the Nickel Bloomers and Thirsty Ducks from Information Systems. There is also a team from Creighton called the Creighton Blasters.

For the first time, a team from Environmental Control and Occupational Health will also take part

in the competition.

With 20 members each, the Inco teams will face more than 60 other teams from approximately 40 companies that have registered for this year's competition.

While the competition has been keen in past years, few take the Challenge as a serious athletic event. Instead, most members take the fun represented by the competition seriously.

Tim Egan dropped out of the competition for the first time in five years because of the time constraints involved in organizing. He said the Challenge is one of the best ways he knows to battle the winter blues.

"The idea is to have a lot of fun," he said. "You meet a lot of people both in and outside the busi-

ness world and you make new friends."

Holding four weekend events plus an awards night party, the Challenge runs from February to April.

The events are, to say the least, athletically untraditional. Tim describes the Aquatic Artistry event already held earlier this month at the Laurentian Pool as "doing silly things in the pool... shallow end, of course!"

The event included everything from building a human bridge to inner tube competitions.

The second event scheduled for the end of February has competitors in snow rather than water. This competition involves bobsled construction and races through obstacle courses.



Inco's Corporate Challengers competing for Aquatic Artistry.

Vegas Night follows three weeks later. The event involves supplying your own game of chance and competing for "funny money" used for gambling. The team with the biggest take wins.

A Pentathlon, with events scattered across the city is the finale.

Billiards, darts, bowling and other activities are held. The Challenge concludes with a party at the Sudbury Arena on April 25.

"Inco has always fielded teams that have done well in the past," said Tim. "This year I expect we'll do even better."

Community names reveal rich heritage

Continued from Page 9

independently for a while, but eventually became part of the Canadian Copper Company.

Victoria

A mine, originally discovered in 1886 by Henry Ranger on behalf of Rinaldo McConnell, who gave it his own name.

When it was sold to Ludwig Mond, the wealthy aristocrat renamed it the Victoria, after the still-reigning Queen. South of the mine, the Victoria smelter was built, next to which the village of Victoria Mines was built.

Wabageshik

A lake and the site of the Wabageshik power plant on the Vermilion River, built by the Lorne

Power Company, a Mond subsidiary, in 1908. The Ojibway name means clear or white sky. Although "Wab" is pretty far west, in Lorne Township, its longstanding importance to our industry earns it special mention. The same is true of Naim, where the Mond company built its second power plant in 1916.

Walden

The town was formed in 1973 with the coming of regional government, and the name is an acronym for Waters, Lively, and Denison.

Waters

A township named after John Watters (one "t" got lost), MPP for Middlesex West.

Whistle

Mine north of Capreol, in Norman Township, discovered in 1897 by Isaac Whistle. Never too serious a threat, the first developers of the Whistle were nonetheless a thorn in Canadian Copper's hide. Even then, it was a problem when a departing executive joined forces with a competitor.

Worthington

A mine, discovered in 1884 by Francis Crean. It was named after him for a time, then was renamed after James Worthington, the CPR construction superintendent. Nearby, a village of the same name developed. The mine was lost in a spectacular cave-in in October of 1927.

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