

# INCO Triangle

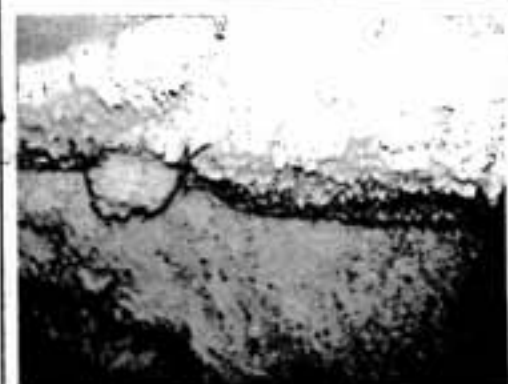
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"Defrosting" Stobie, Creighton freezers is no problem at all. See Pages 6 and 7.



Inco land, bombarded with fertilizer and seed last year, looked a lot greener during a visit this year by Ellen Heale and Manitoba Division visitor Dave Shefford.

## Aerial seeding experiment transforms Inco landscape

For Inco's "Aggies," success has come out of the blue.

"Considering the unusually dry conditions we've experienced this year, this germination and growth rate is very good," said Ellen Heale as she crouched to examine a patch of grass that seemed to be growing out of rock. "There's no question that the experiment was a success."

The Central Mills environmental coordinator was referring to the aerial revegetation program last October that involved dropping 600 one-ton loads of lime fertilizer and seed on approximately 122 acres of barren rocky outcrop northeast of Copper Cliff.

Evidence of the experiment's success can be easily seen from Godfrey Drive and Highway 144 as more and more patches of green are gradually changing the appearance of the terrain.

The success of the project has given Inco's revegetation program a way to substantially boost productivity.

"Doing that big an area the old way with all-terrain vehicles would have taken us about six months," said Ellen. "Instead, it took 26 on-site flight hours by each of two aircraft over an eight-day period to accomplish the same thing."

Accessibility in some areas is limited. In these places, all-terrain vehicles are abandoned and further

seeding must be done by hand.

"In fact," she said, "much of the terrain covered by the aerial seeding would have had to be done by hand, so it probably would have taken longer than six months to do that particular area."

She anticipates a continuation of the aerial treatment program in the future. Not only can more be done in less time, but it is cost-effective as well.

"The cost per acre of doing the work by aircraft compares very favorably with doing it on the ground," she said.

Wildlife has already given the experiment a passing grade.

"We spotted moose tracks at the site this spring," said Ellen.

## Demon Ore tames critics

To archivists and history buffs, it may have been a documentation of Canadian history and cultural heritage. But to many of the almost 1,000 people who packed the Grand Theatre it was just good entertainment.

"Informative yet entertaining" was the most common comment at the reception following the Inco Limited world premiere of *Taming the Demon Ore*, a film that spans the region's history as one of the world's renowned mining centres.

The film introduced Sudbury Cinefest '91's documentary series at the special pre-Cinefest screening. In only its third season, Northern Ontario's only film festival ranks with Toronto and Montreal as Canada's leading film festival.

"Absolutely fantastic," said



Gaston "The Demon" Binette expenditures analyst Lori Jewell. "I've only been with Inco about four years and I think it's important for employees to have some idea about how things got to be the way they are. I didn't realize mining had such a colorful history

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Ontario Division President Jim Ashcroft takes time out for a talk with what looks like a miner from a very deep mine.



# Film informative, entertaining

Continued from Page 1  
here in Sudbury.

Even more fascinating to many was the Inco archival footage that dated as far back as 1918. Many of the Sudbury natives in the audience swore they spotted grandfathers and other fondly-remembered relatives among the miners in the old footage.

Material controller Faye Wafer was among the many who enjoyed the archival clips in particular. "I loved it," she said. "I watched the film again on television. (It was

shown on the Global Television Network on Sept. 22.)

Although she found the film informative, Faye would have liked a little more detail. "I found it jumped too many points."

The Copper Refinery's superintendent of safety, training and administration George Ballantyne said the film has sparked considerable interest at the refinery. "Judging from the requests we've had for copies of the videotape of the film, it sure is going over well."

He said the archival footage provided the "flow" for the film.

George was particularly pleased that the documentary gave an unbiased and open-minded view of the history of mining here, a view that included union as well as management outlooks and reflections.

Almost as popular as the film was a red-faced, pointy-eared and long-tailed Gaston Binette who played the part of the demon at the premiere. The design clerk with General Engineering played his part to the hilt, sometimes standing still like a cardboard cutout to catch guests by surprise. More than one startled visitor jumped back in surprise when the motionless, stuffed devil with hardhat,



Inco President Mike Sopko officially welcomes movie-goers.



A display in the lobby of the theatre greeted the almost 1,000 people who attended the premiere.

horns, miner's gear and shovel they were getting a close look at turned out to be alive, well, and able to walk, talk and wink.

The film brings together historical characters such as the legendary Sam Ritchie and Thomas Edison, the inventor of the light bulb who came within 20 feet of discovering a mine in the Sudbury Basin worth millions. The film also includes the insights of a host of people, ranging from Inco Executive Vice-Chairman Walter Curlook to National Director of the United Steelworkers of America Leo Gerard.

Directed by Toronto filmmaker Alan Fox, the documentary is narrated by Andrew Gillies, a noted Canadian actor who has appeared on such television and theatre.



PM coordinator Marty McAllister, records administrator Ron Orasi and his wife Rita were among those who attended the premiere. Marty and Ron helped research the film.

## Has the no smoking policy had some effect?



**Sheila Wakalink**, occupational health nurse, Port Colborne Refinery: "The no smoking policy has been pretty well accepted here. I haven't heard of any negative feedback at all. I believe that most of our smokers would like to quit and are glad the policy came out."



**John Mior**, industrial mechanic, North Mine: "Around here people stick to the policy. I quit smoking about six months ago, but I don't think the policy has helped me quit. I'm the type that can take it or leave it. It doesn't bother me when others smoke."



**Marcel Ayotte**, planner, North Mine: "I quit six months ago. The main reason was the taxes on tobacco. I smoked for 35 years, and it was definitely easier to quit in a smoke-free environment. Before I quit, I cut down from a pack to a few cigarettes a day."



**Chris Lessard**, maintenance mechanic, Clarabelle: "I quit smoking about 10 years ago. It's nice to not see anyone smoking in the lunchroom anymore. Sometimes I get the urge to smoke when others light up, so I guess the policy has helped me that way."



**Ron Wigmore**, electrical estimator, General Engineering: "Inco implemented a policy, it's law and I abide by it. It would be a tad more convenient if we had an indoor smoking area. I haven't managed to cut down on my smoking so far."



**Ben Graffi**, operator, Port Colborne Refinery: "I'm a smoker, and I've accepted it. I respect other people's rights and I hope they do the same for me. The policy has helped me cut down on my smoking and I'm glad of that, but I haven't tried to quit."



**Janet Irving**, clerk-stenographer, North Mine: "I quit smoking eight or nine years ago. I've worked in smoke-filled environments before and it does bother me at times. Around here it's great because nobody smokes in the office."



**Keith Gullon**, electrical foreman, Clarabelle: "I'm a smoker, but I still notice a difference in the environment here. There's fewer butts around and there are no more smoke-filled lunch rooms. It was a good idea. This way, everybody's happy."



**Wes Marsaw**, draftsman, Field Exploration: "Definitely, the smoking policy has helped me cut down but I haven't quit yet. Before I used to smoke constantly at my desk but I can't anymore. It's a much better environment in there now."



**Wayne Kennedy**, safety clerk, South Mine: "I quit smoking a long time ago and I've noticed a change in the environment around here. I think the policy has helped people to at least cut down on their smoking. I know a few people who have managed to quit."



## Inco group studies rock mechanics

## Researchers between rock and hard place

No ordinary thing, rocks.

On the toe, they hurt. In the head, they numb. In your drink, they stun. Rocks can be climbed, mined, polished and shined. Rock can be played and thrown, rolled and curled. You can be between a rock and a hard place, rocked over, rock solid, on rock bottom or on a rocky road. You can rock on, rock and roll and rock the boat.

But that has nothing to do with why a group of five Inco employees has spent most of the last five years studying just about everything there is to know about rocks, their movements, stresses, behavior and faults.

Rock mechanics, Dave Landriault calls it. The study of the rock mass response to the creation of openings, and it promises more effective, safer and more economical mining.

"It's a very young science," said the rock mechanics specialist. "It's only been a discipline since the early 1960s, so we are learning new things all the time. It's not an exact science, either, but we know a lot more today than we did just a few years ago."

Dave, along with rock mechanics engineers Samantha Espley and John Galbraith and mines research technical specialist Ken Zeitz, have compiled mountains of data over the past five years

in what superintendent Doug Morrison calls a task made possible only by the group's dedication, perseverance and patient efforts.

"This group of dedicated individuals deserves a round of applause and a pat on the back," said Doug. "It's been a long project and finally the light is growing brighter at the end of the tunnel."

Dubbed the Canmet Project or 3D Boundary Element Plasticity Numerical Modelling, the study by the Rock Mechanics Group of Mines Research (in conjunction with the ITASCA Consulting Group) involved the marrying of mountains of pertinent rock mass data with computer software that will be utilized to help give an indication of stresses, pressures and

possible movements of rock mass during mining.

In somewhat more technical terms, the group describes its job as "creating a 3D Boundary Element Plasticity Numerical Modelling program which is capable of simulating bulk mining at depth, and involving the collection and analysis of rock mass data. The information is then utilized in the calibration and verification of the 3D numerical code."

"But it (numerical modelling) is only an indicator of rock mass response and it shouldn't be seen as a definitive answer on what will happen underground," warned Dave. "We still need people underground doing hands-on monitoring and testing during the life of the mine. We hope that the computer modelling will give us a good idea about where to look and what to look for, but it won't take the place of people actually monitoring and measuring how the rock mass responds."

The five-year project was conducted in three separate segments:

**Strides made in the computer segment have been substantial, to the point where more efficient computers are required to run the complex information.**

the writing of the numerical modelling program (computerization of mountains of data to a usable form); the measuring of the rock mass response to progressive mining (recording what the ground is doing as mining proceeds); and the calibration and verification of the numerical modelling program using the monitoring data (checking and adjusting the computer model against what actually happens as the ground adjusts to mining).

Strides made in the computer segment have been substantial to the point where more efficient computers are required to run the complex information.

"Present computer technology allows for the efficient calculations of small modelling scenarios," said Dave, "but faster, more affordable



Dave Landriault, Samantha Espley and John Galbraith check the computer model.

computers must still be developed before the very large, complex numerical modelling projects can be calculated within reasonable amounts of time."

Also as a result of the study, progress has been made in the science of rock mechanics. More information is available today about the measuring of stress changes within the rock mass than there was five years ago. As part of the project, the researchers had to measure the stress redistribution due to mining and compare it against what the computer was telling them (comparison with the numerical modelling).

"We managed to get reasonable agreement within the limits of the numerical modelling program," said Samantha.

"Our knowledge of rock mechanics has made some good advances here in Sudbury in terms of understanding the local rock mass and how the stresses are redistributed. Initially, we believed that the violent stress redistributions around the underground opening

(rockbursts) were simply due to the induced stresses exceeding the strength of the rock mass. But we found that this isn't so. The study has discovered that stresses are redistributed along previously existing fractures in the rock mass. When these fractures slip, a release of energy within the rock mass is caused which can result in rockbursting," she said.

"That's an important discovery," said Dave. "It gives us a new way to look at and analyze the ground."

Jointly funded by Inco and the federal and provincial governments under the mineral development agreement, the project has not only provided general information, but good, usable data on the rock mass response to mining.

Four numerical models have been created and are being used to investigate existing and potential rock mass problems at Inco mining operations.

"Two of the programs have been used extensively for the past three years," said John.

There's also a large amount of raw data gleaned from monitoring portions of the study. This information has helped Inco miners to better understand the behavior of

rock mass within the environment that they work.

Still, the Rock Mechanics Group is cautious about extolling the value of their own work.

"The last thing we want," said Dave, "is for operators to think that the numerical models provide the answers to all their problems. It gives us only a rough new tool, an indication of how the rock mass will respond, and must be verified by actual underground monitoring. The variables involved in the numerical models are simply too complex to anticipate exactly what could possibly happen. The modelling results, however, are extremely useful for indicating where to put the measuring and monitoring devices."

"The models aid in narrowing down the monitoring to the potential problems areas," said Dave, "but they certainly don't eliminate the need to monitor."

"What we hope to get out of our future research is a better idea of the appropriate ground support for our underground openings, where to do it and to what depth. When we use the information we should get better as we fine-tune our methods and find out where the limitations are."

## Some jobs here will drive you batty

Spooky place, No. 1 Dry.

Folks armed with garbage bags creeping about in darkened corners. The eerie whisper of tiny wings. The panicked squeal of something trapped from behind the ladies shower room door.

It was all kind of reminiscent of a Bela Lugosi thriller.

"It wasn't a big deal," said Utilities maintenance mechanic Paul Latvala whose job it was to single-handedly evict a bat that had taken up residence at the Dry.

"We spotted it downstairs flying around in the dry and then we followed it upstairs. It flew right into the women's shower room. I

figured I'd better get it out of there. Some people don't like bats."

Armed with a net, made out of

a plastic garbage bag and a broom handle, Paul trapped the tiny creature on the floor behind one of the



The bat, taken outside the Dry, pauses before taking flight.

toilets. He carried it outside and released it."

"I wouldn't kill it," he said. "It's not in my nature. Bats have a bad reputation for some reason, but we've got all kinds at my camp and they never bother anybody. It's not like they're going to attack you. As soon as I let it go behind the Dry it flew away."

"I don't ever remember this kind of thing happening before. It was just a fluke. We don't have mice here or any other kind of pests."

"I suppose," he concluded, "it's just one of these things we have to do to maintain the Dry."



Paul Latvala: A bat in the bag.



## Longest-serving employee retires

# Bill's 44 years prove Inco "a steady place to work"



After more than 44 years with Inco, Bill Koivu plans an active retirement, including golfing, cycling and cross-country skiing.

When opportunity knocked back in February, 1947, Bill Koivu jumped at the chance for a job with the International Nickel Company because "it looked like a steady place to work."

That assessment could not have been more accurate.

More than 44 years after he first stepped into the Copper Cliff Mill as a helper in the mechanical department, Bill is retiring with the distinction of being the company's longest-serving employee.

"It has been a good place to work, I can honestly tell you," Bill says while relaxing near the fireplace of his New Sudbury home.

Bill's tenure at Inco has included jobs in several departments, including 19 years in maintenance, a few years as an assistant underground ventilation engineer and most recently as a plant protection and first aid officer.

"It's been very challenging," says Bill, a fourth-class stationary engineer.

"I enjoyed it because I was always dealing with people. I guess that's the part of the job I enjoyed the most and that's the part I'm going to miss the most."

Reflecting on the progress at Inco over the decades, Bill cites remarkable improvements in working conditions and efficiency.

"There was a lot more manual

labor involved with the job when I first started, of course," he says.

"It's been modernized so much. The work is cleaner and safer and it's much more efficient. Modernization has taken over and that means faster and safer production."

Sudbury's evolution as a community also has been remarkable, says Bill, a Levack native who recalls riding streetcars when he first started with Inco.

"I didn't have my own car in those days, so you took the streetcar to work. You got on downtown on Elm Street and it took you to Copper Cliff. From there we walked to the mill. It was quite a hike — it was a good 15-minute walk. Nowadays they bus everybody to the change houses."

"Sudbury has grown a lot over the years, but it's still a very friendly community," says Bill. Decades ago, he lived for a few months in Toronto.

"During my brief stint in Toronto, I noticed that the friendliness we knew in Sudbury was gone," he says.

As he contemplates what retirement holds for him, Bill says he expects to be every bit as busy as he always has been.

"You can get involved in so many other things," he says. "I think it might end up like I've heard other people say — that they don't

know how they ever found time to work before."

For starters, Bill and his wife Aura are looking forward to spending more time with their children: Brian, who is the executive director of the Red Cross branch in Sudbury; daughter Brenda Liimatainen, a Revenue Canada employee living in an Ottawa suburb; and grandchildren, Matthew and David.

Other pursuits will include cross-country skiing — Bill has won several medals at various competitions over the years — golfing, bicycling and volunteer work at the Red Cross.

"Of course, I'll have to spend a lot of time improving my golf game — it needs some work," says Bill, a longtime member of the Lively Golf and Country Club.

He also plans to remain active in the Sudbury Finnish Male Choir, which has performed in several Canadian and U.S. cities. During a recent trip to Chicago, Bill was presented with the choir's 20-year pin.

As he looks back on a rewarding career, Bill muses that he "wasn't out to break any records. When you hire on, who knows how long you're going to work? But I never had to grind my teeth going to work. I enjoyed it and I guess that's why I stayed and stayed."

## Pensioner uses free time to combat drug abuse

Until a few months ago, Ernie Zivny was largely unaware of the extent of drug abuse among young people in the Sudbury area.

But a telling comment from his own children helped open Ernie's eyes to the peer pressures many kids face today. A commitment to community service convinced him to do something about it.

"I did see the children in shopping malls, on the streets and the drug deals," says Ernie. "And then my own kids told me, 'Dad, show me one place in town where there aren't any drugs.' Not knowing much about street drugs, I thought I would get directly involved."

For Ernie, an Inco pensioner, the opportunity to make a contribution came through his membership in the Whitefish District Lions Club.

"Part of the mandate of the Lions Club is drug awareness," he says. "At our club we didn't have a drug awareness chairman. So with my interest in the subject, they said you're it."

In his new-found responsibilities, Ernie's goals were to help educate area young people on the perils of drug and alcohol abuse, while allowing them to make up their own minds on the issue.

"If you simply tell a kid 'no, you can't do that,' what are they going to do? They're probably going to go out and do it," he says. "But if you can get a child to say 'no, I'm not going to do that,' when it comes from them, chances are they'll stick to it."

But getting kids interested in the first place often is no small task, Ernie realized. So he decided to pursue the drug education issue



Inco pensioner and Lions Club member Ernie Zivny pieces together a poster to promote a video contest he designed to educate young people on the perils of drug abuse.

through a medium most young people could identify with — videos.

During the winter, Ernie designed the Win Without Drugs Video Contest, a competition which is open to some 25,000 students aged nine to 17 from 100 schools in the area.

"What we're doing is asking students to create their own videos, telling us why they're saying no to drugs," he says.

"Videos are the 'in' thing with kids today. It's a good way for them to express themselves and it's

easy for them to get involved in it."

In April, contest application forms were delivered to all area schools and Ernie is hoping to receive several hundred entries by the Oct. 1 deadline.

The entry forms offer students an array of prizes available in the contest such as a color TV, compact disc player and video game system.

But more importantly, says Ernie, the forms include a list of questions the students are asked to contemplate before they begin their video productions.

Among other issues, the questions ask students to consider how they might react if approached by someone offering drugs, why some people start using drugs and what happens to a person who abuses drugs.

"If you start asking kids these questions, hopefully you can get them thinking about the right things," Ernie says. "What you want to do is make them come up with their own ideas for the videos because kids can be a fountain of new ideas."

While the situation in Sudbury

may not be as severe as in larger cities, the statistics on drug abuse among young people are still a cause for concern, he says.

"I was surprised to see the statistics from the police which show that about 25 per cent of kids admit to using drugs. That includes cigarettes, alcohol and other drugs. And about six per cent of them are using hard drugs."

"So drugs are a big problem and this is a big job. If we can educate the kids, maybe in 10 years time it will show a big difference."

But the statistics also demonstrate that "for the most part, kids today are responsible," Ernie adds. "But without education the problems can get bigger."

Organizing the video contest has been virtually a full-time job for Ernie, who has welcomed the challenge.

"It's right up my alley because I can devote as much time to it as I want," he says.

"I've enjoyed it all along. It's self-satisfaction to a large extent. If I can help save one kid from drugs, I'll be happy."

However, the contest hasn't been a solo venture, Ernie emphasizes. Members of several Lions Clubs in the district are also involved, as are a number of local sponsors, including Pepsi, CHNO Radio, The Brick and Trans Canada Credit.

As well, donors and volunteers for the project still are being sought, adds Ernie.

Donations or inquiries can be made by writing to the Whitefish District Lions Club, Box 101, Whitefish, P0M 3E0, or by calling Ernie at 523-0809.



## Solutions international in scope

## Soviet scientist sees hope in environmental teamwork

There's no case to be made for state secrets in environmental research.

"The effort to improve the environment is a world-wide concern that crosses international borders," said Eugene Tikhmenev, a Russian scientist visiting Inco. "I am hopeful that there will be more and more direct international exchange of research and other information in the environmental field."

The scientist at the All-Union Scientific Research Institute of Gold and Rare Metals in Magadan, USSR was on a visit to Inco this summer and took particular interest in Inco's land reclamation efforts in the tailings area.

"I can learn things here," he said. "There are new methods you are working with, methods that can be applied in my country. Perhaps my experience here can be of use to our collaborators."

The collaborators he's referring to are more than 400 industries and organizations that are associated with the Soviet institute. Many, he said, are involved in mining and could conceivably benefit from Inco's environmental efforts. "There is a lot of mining in my country," he said.

Mr. Tikhmenev said that while

he hadn't the time to look around as much as he'd like, it was evident to him that there is very much work going on at Inco. "Conservation efforts are obvious here, for an industrial centre."

He said that international co-operation is the best hope for the environment and said the sharing of information is the best way to win the battle. "We have experience in the field of tailings reclamation, too," he said. "I have conducted experiments with such things as anti-dust efforts and we are getting some good results."

It is this kind of information, he said, that can be applied in the Soviet Union, Canada, or anywhere else in the world.

## Just like home

In many cases, he said, the landscape and environmental problems in his country are similar to Sudbury. "We have similar land reclamation efforts going on as well."

He acknowledges that his homeland is in a period of economic difficulty, but is convinced that environmental efforts are of such a high priority that they won't suffer. "Much of the work, particularly in



Biologists Sherrene Kevan, Peter Kevan and Eugene Tikhmenev at the Inco tailings area.

the field of mining, is in the more northern areas where ecological damage takes many years to repair."

Perhaps the most promising aspect of the future of environmental protection is the growth of public awareness, no less in the Soviet Union than in anywhere else in the world.

"People are very concerned in my country," said Mr. Tikhmenev. "It's a big country and there are still some troubled areas just like anywhere, things are improving all the time."

The Soviet scientist was accompanied by University of Guelph professor Peter Kevan who invited him to Canada. The two men met at a conference in the Soviet Union in the mid 1970s.

"We have similar interests and we've kept in touch," he said. "I knew about the work Inco has been doing up here and the success they've had, particularly in the field of land reclamation. I also knew what this entire area used to look like back in the '60s and the tremendous changes that have been made. I knew that Eugene would be interested."

The Sudbury tour also included a visit to Falconbridge.

## Former 'Aggie' is no phantom to the opera



Rebecca Poff

As a summer student working in Inco's agricultural department a few years ago, Rebecca Poff remembers keeping her colleagues amused by singing while she worked.

"I used to sing all the time," Rebecca says. "People must have thought I was a little strange."

The daughter of Fay Poff, a secretary in the construction department at Inco, Rebecca is still singing, although these days her audiences are much larger and more appreciative than the following she had as an "Aggie."

Now living in Toronto, Rebecca, 27, is well on her way to building a successful career in op-

era and musical theatre.

After 10 years of studies and performances which have taken her across Canada and to Europe, Rebecca's got her latest break with the Canadian National Tour of The Phantom of the Opera. She is part of a 39-member cast which launched the tour in Ottawa in April and is in Vancouver for five months of performances. The tour will include extended stays in Montreal, Ottawa and Calgary before it wraps up in September, 1992.

For Rebecca, earning a position with the cast was a payoff for years of hard work and commitment to her craft, combined with a little bit of good fortune.

"I had just returned to Toronto from studying in England and I had a friend who convinced me that I should sing for the Phantom people," she says.

"Originally, I thought that musical theatre wasn't for me. I had been studying opera for so long that I didn't think this was what I wanted to do.

"But when I checked into it and I saw the background of some of the other people (in the cast), what they had accomplished, I was quite impressed."

Before leaving her first audition, "they sort of asked me if I was free," she recalls. "The next morning they called me and I got the job."

In the Phantom, Rebecca is a "swing," an understudy for any of the six-woman ensemble. "It's a great way to get experience and pay your dues," she said.

"You have to make certain decisions," she says, such as sacrificing personal relationships and material needs for studies and whatever jobs come up.

While many of her high school



Rebecca Poff, shown dressed for her role as Musetta from La Boheme, with colleague Russell Braun, who played Marcello.

friends have married and started families, Rebecca says she accepts that "there's nothing like that in sight for me right now because I just have things I have to do."

But she is quick to add that "it's not all so difficult."

"It's a lot of very hard work, but it's rewarding. It's exactly what I want to be doing. I'm a working performer and in that sense I'm very lucky because there are a lot of unemployed singers and actors."

When the Phantom tour ends, Rebecca hopes to work in Europe, particularly in England, Germany and France, since she has experience singing in French and German.

"There are more opportunities there," she says. "I want to see what it is like to work in different languages."

While her visits to Sudbury have been few and far between since she left home to pursue her studies and career, Rebecca hasn't forgotten where she came from.

"Throughout my studies my

parents have been absolute godsend. Without their help I just couldn't have done it. It's that simple," she says.

For her part, Fay Poff says her daughter deserves all the success she has had to date.

"Both her father and I are very proud of her," says Fay. "She has had to work very hard and long and we hope she will achieve the success she wants."

That appreciation also extends to her longtime summer employer back when she was a struggling student. "I was an Aggie for six summers at Inco and I loved it," she says. "I still have friends from that experience, it was great fun. My absolute favorite Inco person when I worked there was Jim Savage. He really was a great guy to work for."

She also hasn't forgotten the first scholarship she ever received — at a Kiwanis music festival several years ago. An Inco scholarship, no less.



In her days as an Inco "Aggie," Rebecca Poff, second from left, is shown with fellow Aggies Suzanne Gagnon, left, Heather (McMorran) Roberts and Judy Taylor, right.



# Tapping Mother Nature keeps unde

There's an appliance company that boasts a product so reliable that its repairmen are the loneliest people around.

But then they've probably never heard of Stobie's Keith Rogerson and Creighton's Jim Sharpe.

The two are Inco's air conditioning "repairmen" extraordinaire, keeping the underground environment of hundreds of miners warm in the winter and cool in the summer.

The "air conditioners" used to make miles of underground tunnelling at the two mines fit for human habitation (and to keep vital water pipes from freezing in the winter) are unlike anything found above ground. At Stobie Mine, two huge underground heat exchangers measure 200x200x80 feet. Each swallows 1,000 gallons of water a minute and supplies 650,000 cubic feet of warmed air per minute to be thrust into the underground environment. At the same time, the system produces more than 250,000 tons of ice that can be used in the summer months for cooling.

At Creighton Mine, the "heat exchanger" is even bigger, covering an area of about 1,800 feet by 1,000 feet. The thousands of tons of ice -- so much so that tons remain after even the hottest of summers -- is equivalent to 5,000 tons of refrigerant.

Repairs to Creighton and Stobie "air conditioning" systems are negligible, almost nonexistent, say ventilation supervisors Rogerson and Sharpe. Patch the odd broken pipe, check the fans and do a bit of monitoring.

Where do you get air conditioners this size . . . and this reliable?

From Mother Nature.

At Creighton, the air conditioner is little more than a rock-filled hole in the ground created by sub-level cave mining in the early '70s.

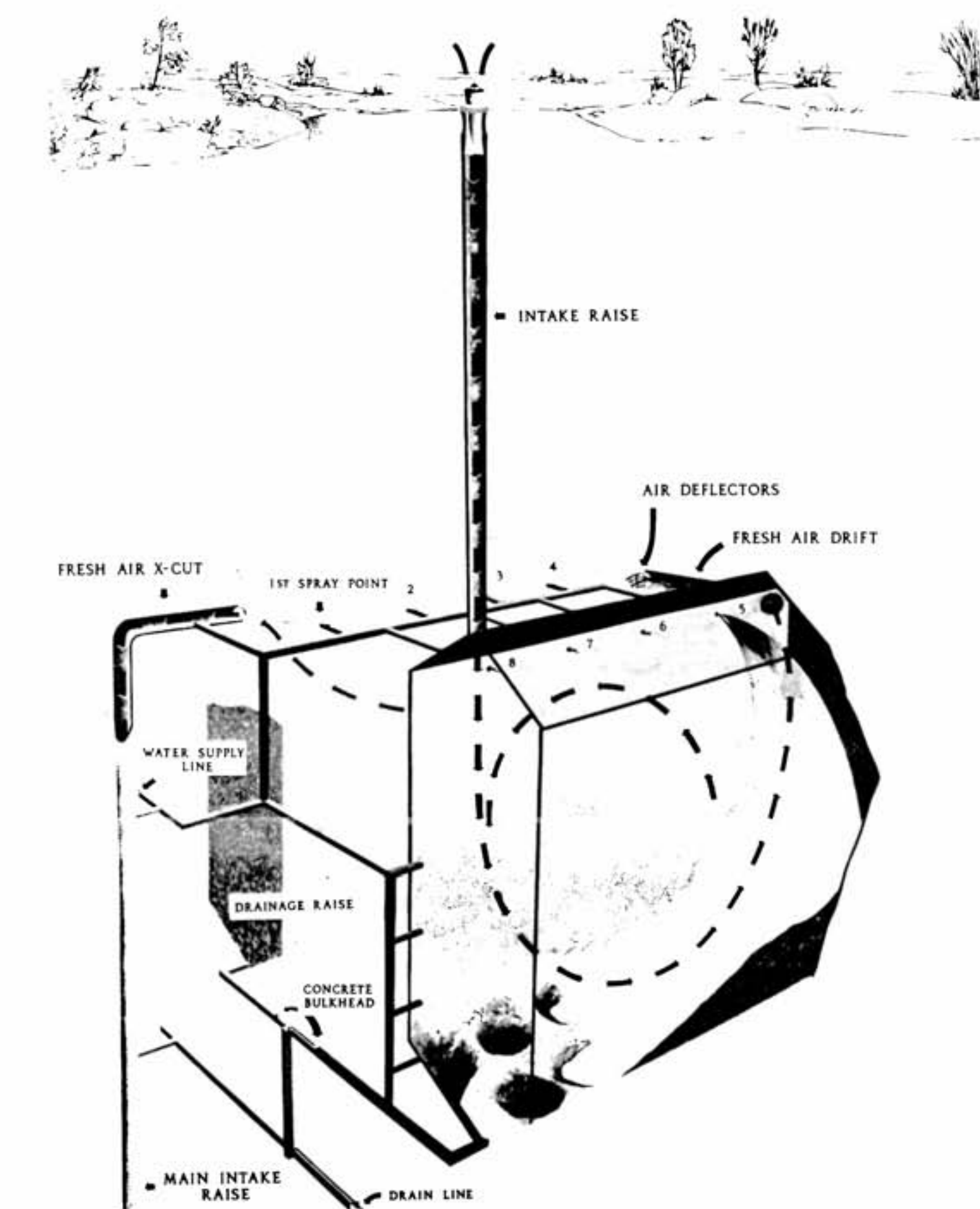
"The hole was created when we removed an ore body close to the surface," said Jim. "We didn't really set it up this way. It just happened to be there and we used it. In effect, we created the rock mass and mother nature did the rest."

Main intake fans located on 1,420, 2,600 and 5,000 level help "Mother Nature" out by drawing air down from the bottom of the broken rock mass into the mine via a system of ventilation raises. "We have to draw air down anyway for ventilation, so passing it through the rock mass gives us air conditioning at no extra charge."

"It's a natural heat exchanger," said Jim, "and it supplies about 80 per cent of the air volume of the Creighton operation."

In winter, when air is sucked through the broken rocks for its heat, ice forms under the rock mass in some of the more than 50 slusher trenches that were created during mining. In summer, the build-up of ice acts as a refrigerant as the air moves through the rock. The system is fine-tuned by regulating the amount of air drawn through individual slusher trenches.

Using the natural heat ex-



Stobie's huge underground man-made ice stopes, with a little help from Mother Nature, act as a natural air conditioner.

changer, a constant temperature of about 35 degrees Fahrenheit can be obtained year-round as the air is drawn through the broken rock. As it moves vertically to different levels of the mine, air is warmed by the surrounding rock at about one degree every 200 feet.

One of the deepest mines in the country, Creighton could not be mined without some kind of cooling system, said Jim. "Rock temperatures below 6,000 level exceed 100 degrees Fahrenheit."

Minimal maintenance and repair of the system is only a small portion of the advantage to Inco. "I wouldn't begin to try to estimate the enormous cost of doing this the conventional way."

The main purpose of Stobie Mine's system is to supply warm air in the winter. Summer cooling, according to Keith, is a bonus.

Although Stobie "air conditioning" utilizes natural processes much like Creighton, it had to be

specifically designed and built for the purpose.

A surface fan draws air down a 300 foot raise where it enters one of the two ice stopes specifically carved out of the rock for ventilation purposes. Located away from the mining operation to allow the stopes to be used for the life of the mine, each acts as a huge heat transfer unit for the 650,000 cubic feet of air per minute that passes through them.

Fresh surface air moves down the raise and passes through the first stope 300 feet below ground where mine water is sprayed into the atmosphere at the rate of 1,000 gallons per minute. In winter, the mixing of cold surface air with the warmer mine water (a constant 50 degrees year-round) causes ice to form and fall to the floor of the huge chamber. In effect, the "coldness" is removed, leaving warm air that now moves to a second ice stope by a transfer drift where the

procedure is repeated.

Once leaving the second ice stope, the warmed air is further heated by the surrounding rock as it descends down to the various levels of the mine.

The entire process heats the mine by about 50 degrees on an average winter day, said Keith. In summer, reversing the procedure cools things by about 15 degrees Fahrenheit.

The approximately 250,000 tons of ice that are produced in the stopes over winter will be enough so that by the end of the following summer, some ice will usually remain.

"But if we get a mild winter coupled with an unusually hot summer, the ice disappears. It can get uncomfortably warm underground if that happens," said Keith.

Stobie's ice stopes are the main system, although part of the mine is heated by a secondary natural gas-fired system of the type used at

most other mines.

The cash savings using nature are enormous, according to Keith.

"About the only cost is pumping the mine water up and blowing air down the mine, and we'd have to do that regardless of whether the ice stopes were there or not. Maintaining the system is a matter of changing filters and checking the plumbing. The air conditioning might as well be free."

Controlling the temperature is a matter of opening or closing the water tap. "A full blast of water (1,000 gallons per minute) will heat the air from minus 20 to plus 30 degrees Fahrenheit."

The ice stopes are the ultimate conservers of energy. In a comparison 10 years ago between the two Stobie systems, natural gas costs totalled slightly more than \$100,000 while the ice stope side of the ledger totalled \$82,000. About \$60,000 of that was pumping costs that would have to be



# rground environment comfortable



Creighton's Jim Sharpe overlooks the huge, rock-filled pit that serves as the business end of the mine's "air conditioner."



Inside Stobie's ice stopes it's cold year-round.

done regardless of the existence of the ice stopes. So the actual cost was a little over \$20,000.

"And that comparison doesn't include the initial installation of hundreds of thousands in heating equipment," said Keith.

"Used to be," he said, "that

miners spent a lot of time thawing out vital water lines in the winter. With air rushing by at a couple of thousand feet per minute, you had to wear parkas, gloves and a balaclava to keep warm. "Today, it's a shirt sleeve environment at most levels."



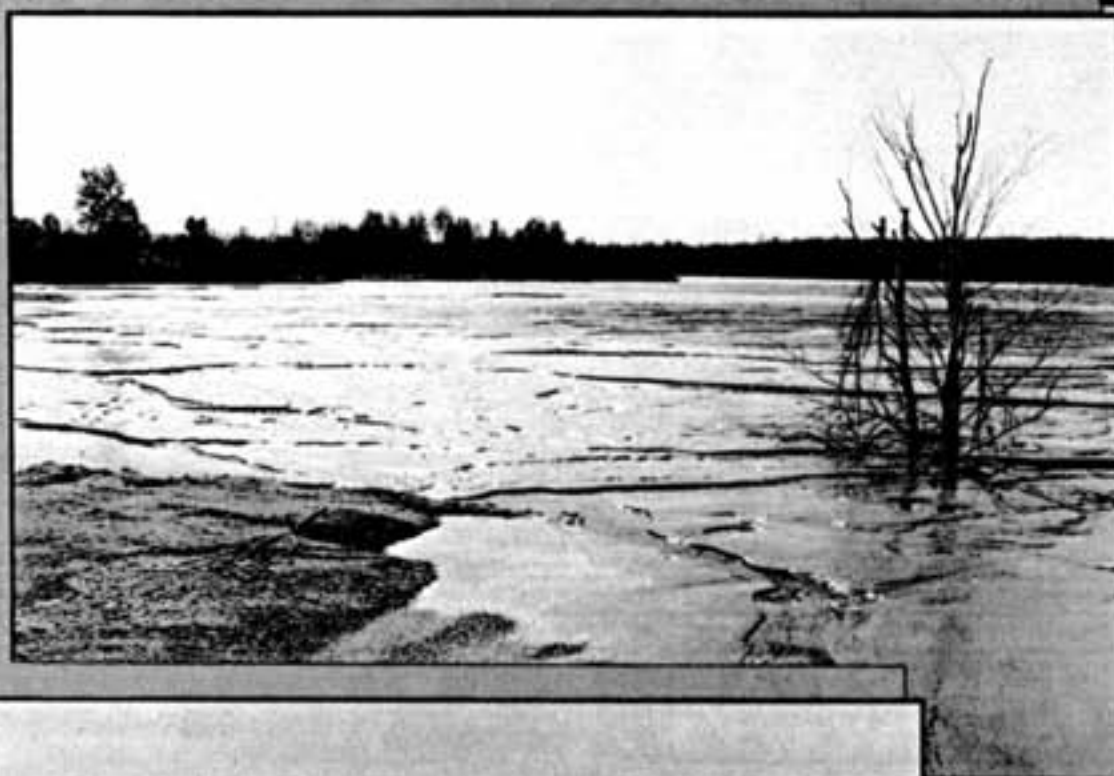
Keith Rogerson checks the ice build-up in the underground ice stopes at Stobie Mine.



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# New ted

Inco's tailings containment area sees a growing number of visiting dignitaries, politicians, environmentalists, ecologists, scientists and a widening variety of other experts every year, most giving a nod of approval at the transformation of wasteland to near-parkland.

Inco's "Aggies," however, look for a higher authority to bless their work.

"We have a resident black bear here now. We spot him somewhere in the tailings area almost every day," said Grounds Supervisor Darl Bolton, of Central Mills Reclamation which has found new and ingenious ways over the years to tease vegetation out of the millions of





# Techniques, materials aid tailings work

tons of Inco's milling waste. "The site's also become the home for lots of wolves recently. In fact, we've spotted a mother and her two pups here recently."

Returning wildlife is the kind of encouragement that motivates the company's land reclamation veterans not only to keep up with the hectic program of land preparation, fertilizing and seeding, but to devise new and better ways to do it.

While wildlife seems pleased with the reclamation efforts, Inco's neighbors sometimes feel the side effect of working with the millions of tons of finely-ground concentrate . . . dust.

"Dust control has always been

a major part of the entire reclamation program," said Darl.

Hesitant to use chemical applicants as a dust suppressant, "Aggies" have experimented with different materials and procedures to eliminate or at least to reduce the problem.

A promising development has been the use of straw as a ground cover and initial experiments have shown excellent results not only for dust control but also for a host of side benefits.

"Not only does it keep the dust down, but it also adds organic matter to the soil, traps moisture and provides shade for the new seedlings," said Darl.

Although the experiment began last year with inadequate equipment, the difference where the straw mulch method was used was dramatic and not only with a reduction in dust problems. Also recorded was an observable improvement in new growth.

Later during the project last year, the department purchased a specialized piece of equipment that shreds bales of straw and blows the mulch onto the ground like a lawnmower ejects cut grass. Once on the ground, the straw was crimped into the ground with a tractor-towed straw crimper.

So positive were the results that a second bale chopper was pur-

chased this year. With both machines going at full tilt this year, the reclamation work has shown a noticeable increase in productivity.

Always looking ahead, the department is now planning experiments with wood mulch for more active tailings areas. The mulch, a mainly-bark waste product of the forest industry with few other uses, has all the advantages of straw but is also heavier and thus less likely to

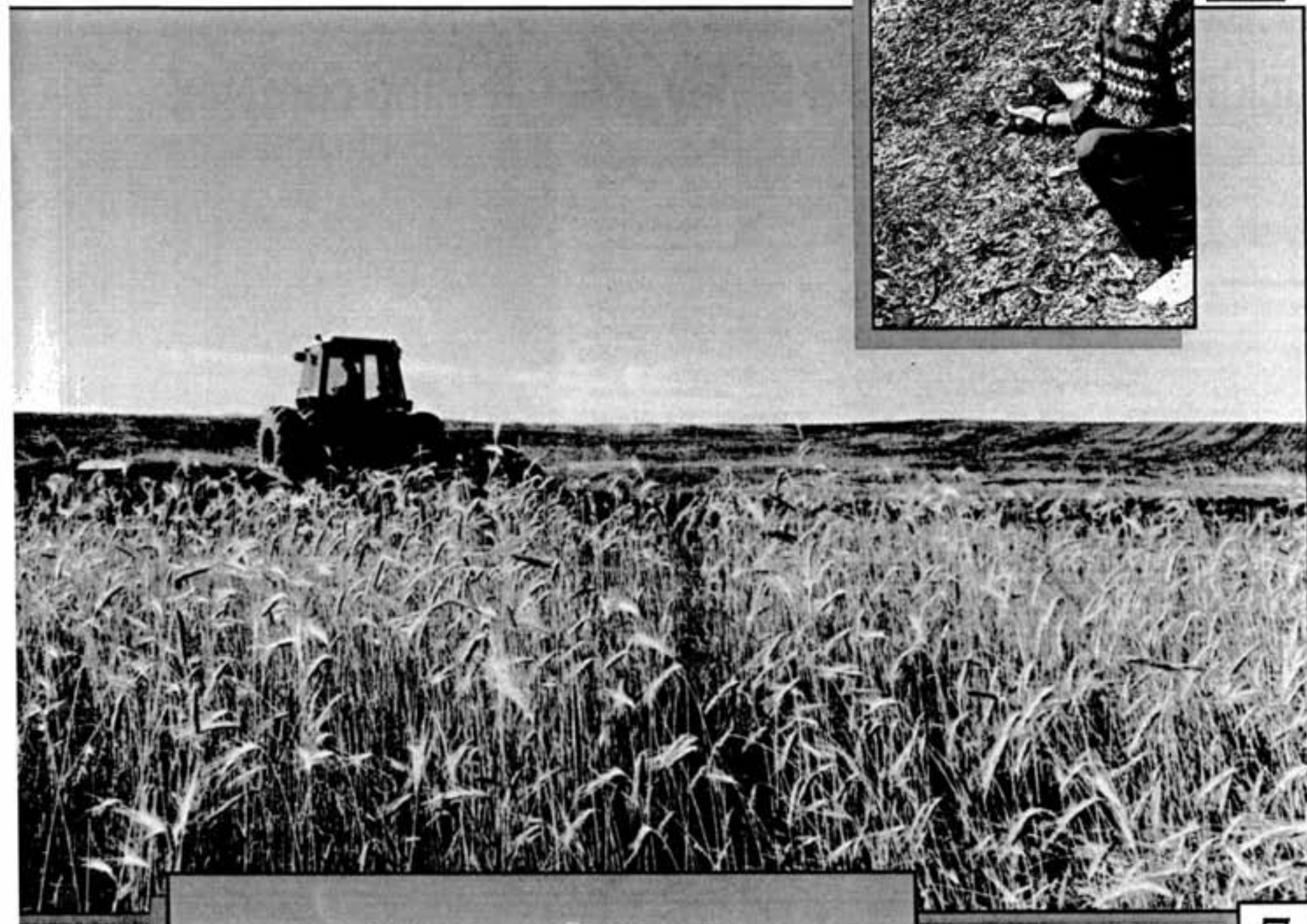
be blown away.

"It's a perfect solution," said Darl. "We take a waste product from the lumber industry and use it to enhance the environment of a mining company."

With all the advances being made in technique and materials, Darl is enthusiastic about the future. "I figure, in five years or so, I bet we'll see an even bigger change around here."



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- 1 Tailings slurry is piped to tailings ponds.
- 2 Tailings solidify, settle, dry.
- 3 After dumping ceases, material is treated, fertilized and seeded.
- 4 Straw is loaded into machinery.
- 5 Straw is chopped up, spread to help growth and keep dust down.
- 6 Straw is crimped into the ground.
- 7 Success of the program can be seen in the tall rye planted last year.
- 8 Darl Bolton examines wood waste material for ground cover experiments.





North Mine heavy equipment operator Harry Holman, displaying a good sense of humor, takes a bead on the ball, swings and hollers a warning ... but why?

## Mucking or putting, it's a family affair at mine complex

The Frood-Stobie-Garson Complex and Copper Cliff Mines employees association held its annual golf tournaments recently. By all accounts both events saw keen competition with a premium on fun.

"We had almost 150 golfers out," said operating shaft boss Ray Valentino, an organizer of the tournament for the complex association. "We have a long tradition of enthusiastic participation here."

With about 500 active mem-

bers, the association has a busy schedule of events ranging from golf tournaments, curling bonspiels, and Christmas parties to special events for pensioners.

"The good participation is an indication of the atmosphere around here," said Ray. "Everybody gets involved, including supervisory staff. It's more like a family atmosphere."

Held at the Cedar Green Golf Course, the tournament was followed by a dinner where prizes

were awarded. Stobie engineer Doug Bonden was awarded the prize for the top scorer.

With the tournament over, association volunteers are already in the early stages of preparing for the next event, a December 14 Christmas dinner and a skating party for youngsters on the following day.

At the Copper Cliff Mines Association tournament held at the Pine Grove Golf Club, 108 golfers teed off under sunny skies.

"The weather was just super," said Craig Bradley, an electrician at South Mine and president of the Copper Cliff Mines Association.

"We're lucky that way. For the last five years the weather has been beautiful for our tournament."

The Copper Cliff Mines Association boasts 600 members from North Mine, South Mine and Mines Research. The association has a long history of special events and tremendous participation, said Craig. "This golf tournament has been held on an annual basis for at least 20 years now," he said.

"Everybody had a great time again this year. We tried something different and finished off the day with a meal at the Caruso Club. That went over terrific."

Gerry Funk of Mines Research recorded the low round of the day with a 75.



North Mine electricians Dennis Laframboise and Bob Gareau search the bush for a wayward ball.



Stobie Mine planner John Pincivero demonstrates the fine art of swinging.



Stobie shaftmen Bob Augustine, Roger Belair and Jim MacLellan: Where's the checkered flag?



# Crean Hill machinist 'horns in' on \$10,000

It's machinist Allan Makela's job to help keep mine equipment running smoothly, so why does his Crean Hill shop look more like a brass band repair depot?

"We call it The Horn around here," said Al as he ran his fingers along the rim of what looked like the business end of a tuba. He put the grey metal "horn" down and reached for a second flared-cone device, this one made of what looked like a thick, smooth plastic. "We're trying all different ways to make this work better," he said.

Al's "horn" doesn't play music of the oompah-pah variety. Instead, it plays the sweet songs of success. Songs of increased production, less grimy, difficult, repetitive repairs and reduced replacement costs.

And Al? He's whistling all the way to the bank to the tune of

\$10,000 in Suggestion Plan bucks.

The device is designed to guide power cable evenly on or off a rotating drum housed on the mine's electrically-powered scooptrams much like fishing line is wound evenly along the drum of the fishing reel. The funnel-like horn and housing travels back and forth along a winding rod parallel to the drum, depositing or feeding out the cable as the scooptram moves backwards or forwards.

With no moving parts, the simple, inexpensive cable guide is a far cry from the old cable feeder with its delicate set-up of scores of rollers, bearings, rods and housings.

"They seized up constantly with all the muck, dirt, grease and grime that gets on the cable," said Al. "We had people assigned to repairing and maintaining them almost

constantly. It was a dirty, hard job. Today the job is gone."

Downtime means losses in production as well. "These machines are required to run all the time, so if one is down, it's noticed right away in the overall operation of the mine."

Besides the steep initial costs of the old units, costs of all those bearings, rollers and other replacement parts is extremely high, he said. And when the old units chewed up the power cable, splices in the cable wouldn't feed through the rollers and bearings.

Replacing the cable, said Al, costs more than \$20,000.

There's no such problem with the horn. The cable slides through the horn like a strand of spaghetti through wet lips. In fact, the first prototype was removed only recently after more than a year's trouble-free use. To avoid uneven wear of the plastic-like covering on the face of the rim of the funnel, the horn can be rotated in a few seconds with only a minor adjustment. Likewise, replacing a horn with a new one takes a matter of minutes. Unlike the old heavy, cumbersome units that required two or three men for installation, the horn weighs only a few pounds.

A "repair" of the horn is simply a matter of resurfacing the metal with a special material. The metal base, said Al, should last as long as the scooptram. The resurfacing, done by a Mississauga firm, should last even longer than the prototype. "We plan to have it put on a lot thicker this time and it should last for years."

Even with initial fabrication costs, the bill for the horn is under half the \$5,000 cost of the old unit. The prototype horn was fabricated in the Divisional Shops plate shop, then coated with the special material. The coating costs should be much less expensive than for the prototype model since costs included the construction of a cast.

Al admits the horn idea came after many frustrating attempts to adjust, modify and redesign the old roller-and-bearing system.

"We tried just about everything



Wilf Little and Al Makela: Working together to solve problems.

conceivable, new materials, new parts, but in the end it was just too expensive, intricate work. There were just too many pieces to go wrong.

"There's a point when you've tried everything and nothing works. A basic design fault becomes apparent. At that point the only thing you can do is go to an entirely new concept. You step back and go in an entirely new direction."

The new direction, he thinks, came from noticing ships' anchors and sounding equipment being fed through similar devices.

Manufacturers have already shown interest in the new design and Al expects the price to drop even further when the items are available off the shelf.

Al figures the frustrating search for a solution to the Crean Hill problem would not have been possible without the support of many others at the mine, in particular maintenance foreman Wilf Little who was enthusiastic about Al's work from the start.

"To solve these nagging problems we all have to work together," said Al.



Cable is fed through Al Makela's "horn."

## Copper Refinery welders tops in their trade



Copper Refinery maintenance superintendent Tom Callaghan, Al Higgins and Davey Reynolds with the plaque that proves refinery welders are among the best in the business.

The Copper Cliff Copper Refinery boasts a workforce of some of the most skilled tradesmen around. That point made clear when Canadian Welding Bureau Chairman Dave Reynolds visited the refinery recently.

The visit officially announced the registration of the plant with the bureau, and a plaque announcing the registry was presented to the welders at a small ceremony.

The event marked the first time a mining company group has received that level of certification and indications are that many other Inco operations will soon seek the same level of qualification.

"Since the plaque was presented," said Central Utilities Specialist general foreman Al Higgins, "Inco Construction has also received the certification. I expect that many others will do the same."

With the new level of qualification, the refinery is now allowed to do its own preparations, repairs and testing on pressure systems with only a yearly audit from the Ministry of Consumer and Commercial Relations.

Previously, all high pressure repairs and installations had to be inspected and tested by the ministry.

As outlined in a feature in the June 1991 issue of the Inco Triangle, Copper Refinery supervisory staff, engineers and welders took part in an 18-month project that prepared them to do repairs on high pressure systems as well as earn welding bureau registration.

The intensive project included everything from education programs and training sessions, codifying procedures to preparing quality assurance manuals.





# In your yard...



## Lythrum salicaria

By Ellen L. Heale, P.Ag.

...or you may know of it by its common name - purple loosestrife. Although this perennial, aquatic plant is currently receiving a lot of media attention, its spread throughout North America and the threat it poses in terms of loss of valuable wildlife habitats is not a recent development. The plant was accidentally introduced to North America from Europe in the 1800s. In the last 60 years it has spread rapidly from flood plains along the St. Lawrence River, throughout the entire Great Lakes area into southern Manitoba and westward to southern British Columbia. Crosses between a European species *Lythrum virgatum* and a native North American winged *Lythrum alatum* provided varieties for use as perennials in prairie home gardens. Tall spikes of pink to reddish flowers are attractive in a naturalized border or as cut flowers. Plants will tolerate dry soil and do well in either full sun or partial shade. Beekeepers also introduced them as a plant for honey. However, purple loosestrife *Lythrum salicaria* is a weed of primary concern.

Stems of purple loosestrife are stiff and distinctly 4-sided. (Square stems also identify members of the Mint family. However, purple loosestrife lacks the familiar minty odor.) Stems are tall, ranging from 60 to 120 cm. Plants are usually multi-stemmed (up to 50) and die back each year. Leaves are usually opposite one another on the stem or they may occasionally be whorled (3 or more) around the stem. Leaves are 3 to 10 cm long with smooth edges, broad near the base, tapering towards the tip and are attached directly to the stems. Purple loosestrife

has a woody taproot with numerous side shoots, forming a dense mat of roots.

Plants bloom from June through until early September. Numerous, densely clustered reddish-purple flowers are found along terminal spikes. Each flower is 7 to 10 mm long and has from 5 to 7 petals. Seed pods are small. However, one plant may produce over 2 million seeds in one year. Purple loosestrife reproduces by seed carried by wind, water, waterfowl, wildlife, on boats or all-terrain vehicles. Pieces of stem or broken plants can also root and reproduce vegetatively.

Purple loosestrife is found in river floodplains, along stream banks and lakeshores, in marshes, bogs, wet meadows and along roadsides. From an article written by Peter Walsh of the Pest Diagnostic and Advisory Clinic, University of Guelph - "Purple Loosestrife establishes best in disturbed areas where local vegetation is stressed or non-existent. It can survive rising water levels, lower light levels, changes in nitrogen and phosphorus levels and trampling or cutting. On undisturbed sites it is slow to invade because of competition from local vegetation. Purple loosestrife is also capable of summer dormancy, not sending up shoots for a season, but sprouting the following season." In a recent study along the New York State Thruway it was found that ditch and culvert drainage patterns increased the ability of purple loosestrife to establish in new wetland sites.

Once established purple loosestrife is a threat due to its invasive and aggressive nature. An Ontario Ministry of Natural Resources Factsheet states that "according to a study for the Ontario Heritage Foundation, purple loosestrife has invaded half the wetlands in southern Ontario and north to a line running from Sault Ste. Marie to Kirkland Lake. In the United States, the most recent study estimates that 1,900 square kilometres of wetland habitat are lost annually to purple loosestrife."

Native plant species and other aquatic vegetation cannot compete for space, water, light and nutrients and are eventually choked out. In addition to displacing native vegetation, purple loosestrife is a threat to pasture and hay meadows. Valuable fish and wildlife habitats are also destroyed. Purple loosestrife roots trap sediments and cause shallow wetlands to dry out. Purple loosestrife is not a source of food. As surrounding vegetation is consumed more space is available for the invading loosestrife. It does not provide a suitable nesting habitat or shelter.

Once established purple loosestrife is very difficult to get rid of. Preventing its establishment is the most effective method of control. Disturbance of stressed wetland areas must be avoided. Management to reduce the spread of purple loosestrife must minimize the removal of existing vegetation, drastically altering water levels, removing soil, etc. In areas where there are only a few, young plants, pulling them out by hand is an effective method of control. Remove all of the plant (including roots) from the site to prevent its re-establishment. Cutting purple loosestrife in the late summer will reduce seed production, but cutting will not eliminate this weed. Stems must be cut repeatedly to provide control. Burning or flooding are not effective. Draining wetlands to re-establish desirable plant species may only increase the density of purple loosestrife. Currently there are no herbicides registered in Canada to control purple loosestrife growing in water or wetland areas. Biological control, using beetles which feed on purple loosestrife, is currently being investigated.

To assist in proper identification, purple loosestrife is often confused with fireweed. Fireweed is also a perennial with violet-pink flowers on long spikes. Fireweed flowers from summer until fall and spreads by seed. Stems are 50 to 180 cm long. However, fireweed leaves are narrow, edges are toothed (not smooth), are arranged alternately (not opposite) along round (not square) stems. Also the fireweed flower has 4 petals.

### You can help!

One important step in the effective control of purple loosestrife is knowing where existing populations are located. Amateur naturalists, anglers, hunters and interested campers and cottagers can assist in identifying potential areas of concern. Five organizations have joined to form Partners in Wetland Conservation - Agriculture Canada, the Canadian Wildlife Federation, the Canadian Wildlife Service, Ducks Unlimited Canada and the Ontario Federation of Anglers and Hunters. They have published an information pamphlet that includes the Purple Loosestrife Report Form included in this column. This type of information will assist in controlling purple loosestrife once effective and economical methods are available.

## Inco's into diamonds

Inco and Lazare Kaplan International Inc. will be moving to final negotiations with the government of the Republic of Ghana later this year following the country's signing of a Heads of Agreement with the two firms for a diamond mining, recovery and marketing joint venture.

The agreement calls for the privatization of the government-owned Ghana Consolidated Diamond operations in West Africa. The companies are proceeding with a technical and financial feasibility study.

Inco will be the project operator in the venture, responsible for mining and processing. Lazare Kaplan is a leading international diamond polishing and trading company with the largest diamond cutting facility in North America. The company will be responsible for diamond marketing and sales.

The Ghana Consolidated Diamond Akwatia-Birim River diamond mining concession is located about 70 miles north-west of Accra, the capital of Ghana. Mining began on the property in the 1920s and reached a peak of 2.5 million carats per year in the 1960s.

Current production varies from 100,000 to 200,000 carats annually. United Nations sponsored exploration has revealed in excess of 11 million carats in proven and probable reserves to support possible production of up to one million carats per year.

## Ontario Division a model for Manitoba process

A full-time team has been designated at Thompson to design and implement an improved selection and training process for the people expected to replace those retiring in the near future.

Existing Ontario Division programs may help them do it.

As many as 100 front line supervisors in maintenance, mines, mill, smelter and refinery may have to be selected in the division over the next five years and their selection and training is seen in the Manitoba Division as an excellent opportunity to improve the process.

A survey of selection processes that included the Manitoba and Ontario Divisions, other mining companies and industries such as Manitoba Hydro was begun earlier this year.

"We like what we saw in several areas, especially in the Ontario Division," said Mines Technology manager Barry Hadfield.

To adapt the processes to Thompson's needs, front line supervisors are asked to analyze their jobs, give tasks priorities and formulate what kinds of training should be given.

Barry said the Manitoba Division may well end up with a tailored-to-Manitoba version of the Ontario Division's program that includes 40 working days of classroom instruction and 80 working days in-plant or functional training.

### Purple Loosestrife Report Form

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ Province: ( )  
Postal code: \_\_\_\_\_ Telephone: \_\_\_\_\_

#### Location of purple loosestrife site

County or rural municipality: \_\_\_\_\_  
Township: \_\_\_\_\_  
Nearest road intersection: \_\_\_\_\_  
Nearest town: \_\_\_\_\_  
Distance from nearest town: \_\_\_\_\_  
Direction from nearest town: \_\_\_\_\_

#### Survey dates

Date site was surveyed: \_\_\_\_\_ day \_\_\_\_\_ month \_\_\_\_\_ year  
Was the site previously surveyed by you? ☐ yes ☐ no  
If yes, please specify exact date: \_\_\_\_\_ day \_\_\_\_\_ month \_\_\_\_\_ year

#### Type of area (check one)

- ☐ marsh or wetland ☐ canal  
☐ pond or lake ☐ meadow or pasture  
☐ stream or river ☐ roadside  
☐ ditch ☐ other (specify) \_\_\_\_\_

#### Number of plants (check one)

- ☐ fewer than 20 ☐ 100-999  
☐ 20-99 ☐ more than 1,000

Provide an estimated measurement of the area you surveyed in which loosestrife was growing  
\_\_\_\_\_

Please fill out one form for each patch of purple loosestrife. Mail to:

Canadian Wildlife Federation  
2740 Queensview Drive  
Ottawa, Ontario K2B 1A2  
FAX: (613) 721-2902



# Good turnout, keen competition for refinery, CIMM tournaments

The annual Nickel Refinery and Canadian Institute of Mining and Metallurgy golf tournaments again attracted a full complement of club-swinging contestants.

Hosted by the Nickel Refinery Recreation Association, the refinery event saw almost 100

people turn out at the Pine Grove golf club for a shotgun start at 7:30 in the morning.

Nickel rotating converter operator Dale Peloquin was top golfer at the event.

Association president Paul Huffels, a maintenance trainer at the refinery and one of the organizers of the tournament,

said this year's attendance was the best in recent memory. Other organizers were maintenance mechanic Roger Emond and plate worker Norm McLean.

At the Canadian Institute of Mining and Metallurgy's annual tournament at the Lively Golf and Country Club about 80 Inco golfers joined the approximately 300 who took to the greens.

Tournament organizer and Inco pensioner Les Parr of Blackwood Hodge Equipment Ltd. said the annual event is still going strong after a quarter century. The tournament was divided into two mini-tournaments, one in the morning and one in the afternoon.

A steak dinner at the golf club followed each session.



CCNR Electrical foreman Jim Barclay shows what two-fisted dexterity is all about.



"Beaver" Leclair of Inco Construction leads the rainy parade and Nickel Refinery maintenance foremen Stan Ojanpera and Lindsay Fournier follow at the refinery's golf tournament.



Refinery maintenance mechanics Ray Forcier, Wally Fortin, Stan Murray and Roger Emond.



Frood Mine superintendent Jim Thomson, Frood and Creighton general foremen Al Epps and Fred Stanford, and Veikko Jarvi of the Ground Control Company at the CIMM tournament.



Electrical trainer Tom Tario gets a bead on the ball while friend Terry Bortnak gives him shelter.





# HERITAGE

## THREADS

### The Legend of Thomas Flannagan

by Marty McAllister

This column is a pinch-hitter. The original material, for reasons that don't matter at all, suddenly got shelved until October. So, because presstime is just around the corner, this one had to be done in two days flat.

"No problem!" I told John Gast on Friday, hating myself for being so cooperative. Artists are supposed to throw tantrums.

Was he kidding? Did he think he was back at the Hamilton Spectator, where he could stand on one foot and do a "just the facts, ma'am" news story in half an hour? These are in-depth heritage stories, requiring extensive research and extraordinary creative effort. Every word, every sentence has to be just right — and he's asking me to produce at twice the peak performance of John Steinbeck.

John (Gast, not Steinbeck) will have no one to blame but himself if this turns out to be a lesser work of art than *The Grapes of Wrath*.

#### Odie to the rescue again

I had been counting on Odie, as sort of a Saturday morning sounding-board, but he was too distraught over the fact that his year-old competition had stayed the night and was now on manoeuvres in the kitchen. Normally one with the patience of Job, he scrambled out of the trajectory of a Fisher-Price piano and headed for the opposite end of the room. Thinking this a fine game, his nemesis followed in gleeful pursuit. From under the table, Odie's baleful stare suggested some very uncomplimentary things about human offspring. But, he forgave and forgot, as soon as she started dropping depth charges of toast from her high chair.

It was during Saturday morning, Act II, while the beautiful princess slept, that I finally got the inspiration for my column.

It wouldn't exactly be a kid's story, but should appeal to the kid in all of us. Of course, it would have to deal with the history of the mining industry. It couldn't be fiction, because everything I write is true, almost all the time. And, it would need a real, larger-than-life Sudbury hero. Someone whose feats have been told again and again — each repetition of the story accumulating just enough exaggeration to qualify as myth. Sort of a cross between Davy Crockett, Tom Davies and Big Joe Mufferaw.

#### How about Thomas Flannagan?

He was the C.P.R. blacksmith, of course, who in 1883 first noticed the sulphide showing near what became Murray Mine. He actually didn't do much with his find, it seems — or else he was just out-manoeuvred by John Loughran, John Abbott and the Murray brothers. In any case, it was the latter group who patented the claims the following spring. But we can't have a whole gang of heroes. Too complicated. Too

much competition among themselves. Besides, there's a certain romance about an old-time blacksmith. Conjures up all kinds of images of fiery coals, black anvils and brute strength.

Too bad Dib MacArthur never lived around here. Now there was a blacksmith born to become a legend, at least in his own mind. I knew him when I was a kid, in the countryside near Barrie, Ontario. Even then, there weren't many horses being shod anymore, so Dib had to supplement his income by growing strawberries in the field beyond his dilapidated old shop. He would hire us kids to pick for him and then would scare the bejeepers out of us by telling us there were mountain lions in the berry patch. Nice lad, Dib.

But I've digressed. Must be the weather. Anyway, I do think that our very own Thomas Flannagan has a lot of potential as our local legend — but we'll have to embellish the story a bit.

#### Move over, Paul Bunyan

It'll have to be something less banal than: "Gosh, Mr. Van Horne, there's something they can do when the railroad's finished!"

Too commercial. Needs more sensationalism. Maybe a song — something like,

"Born on a beaver dam near Kemptville town, Picked up a hammer that he never put down, Built his own shop from his pappy's tree, And shod him a horse, when he was only three."

Still needs a little work. It's hard not to picture him wearing a coonskin cap riding off to the Alamo. We could always have a Thomas Flannagan Jingle Contest, though. Kids are good at those things and Karen DeBenedet always gives out such neat prizes.

One technique that some fiction writers use in developing character outlines is to have their imaginary heroes and villains fill out a job application. I'm serious. It apparently works like a charm. So, we could make up a description for the position of Sudbury Basin Pioneer Legend/Hero. Since we're basing it on a real individual, it should be easy to identify those characteristics that need — uh — amplification.

It's a mind-boggling challenge, but once it's done, the possibilities will be endless.

#### Onward and upward

Since we're on this honesty kick, I have to confess that the germ of this idea was actually sown during my recent heritage speaking tour. Okay, so there was only one stop on the tour. At any rate, I playfully suggested to my tolerant audience that Science North should start selling Thomas Flannagan dolls. As of yet, I've had no call from Jim Marchbank, but he's probably just waiting until the timing's right. Doing market research... that kind of stuff.

But the idea's gaining momentum.

### United Way benefits from cooperation

Closer union/management co-ordination promises an even better Inco Employees' United Way campaign this year.

"Union members have always been enthusiastic supporters of the annual campaign," said 1991 campaign coordinator Gerry Cullain, "but with even closer co-ordination of the campaign this year between the company and Local 6500, we should get even better results."

The union will appoint a liaison representative to work at the top levels of campaign organization.

"We've always worked together in these kinds of efforts in the past," said Gerry. "After all, it is the interests of the community to which we all belong. Any additional cooperation and support can only help."

"Every year we try to do better than the year before," he said. "Yet we have fewer and fewer people to canvass. But every year we manage to collect more money. That means individuals have to give more or more people get involved. The fact that we've managed to break records every year says something about our people."

Scheduled to be held in the month of November this year, the campaign will try to better last year's intake of \$230,000.

### New ore bodies discovered

For the folks at Inco Exploration and Technical Services, looking for tomorrow's ore can be a tedious job.

With their recent discovery of two new high-grade copper-nickel deposits enriched in the precious metals platinum, palladium and gold, Inco Exploration has reason to celebrate.

One deposit, known as Victor, is situated 25 kilometres from Sudbury on the northeast rim of the Sudbury Basin; the other, 35 kilometres northwest of Sudbury in the Levack area, is some 3,000 feet from Inco's McCreedy East Mine.

A feature on the group's trials and triumphs will be included in the October issue of *The Triangle*.

## Ducks Unlimited honors hunter instructor

An award to Stobie operating shaft boss Armand Belanger by Ducks Unlimited's Sudbury Committee shows clearly that hunters and environmentalists are often on the same side.

Armand was presented with a carving of a duck for his relentless, dedicated work to hunter safety and hunter instruction over the past 22 years.

Sudbury Committee president-elect Dave McGill said Armand has had great influence in promoting ethical, safe and conscientious hunting, as well as respect for the environment and wildlife. He said the interests of environmentalists and hunters converge in more areas than they differ.

"A lot of our members are hunters," said Mr. McGill. "We all have to work together in our conserva-

tion efforts."

Armand said he was unaware that he would be the recipient of an award when he was casually given a ticket for the organization's annual dinner at the Caruso Club.

"I got the tickets as a thank-you for a safety talk I gave earlier," he said.

"When they started talking about presenting an award to somebody who had made a great contribution to the community, I had no idea who it was they were talking about."

It was Frood-Stobie-Garson Manager Graham Ross, a hunter himself, who was on hand at the dinner to present Armand with the award.

Armand said he spends much of his spare time instructing hunters. "It's a hobby for me," he said,

An avid hunter, he's passionate about changing the popular misconception of the hunter as a trigger-happy, bloodthirsty maniac.

"The vast majority of hunters are responsible, ethical people who are as concerned about wildlife and the environment as anyone else."

The "slob hunter" is a rarity these days, according to Armand.

"But that doesn't help," he said. "Even one is enough to give hunting a bad name."

He said that hunting has become one of the safest sports there is, at least in part to the greater emphasis on safety and education.

"People get hurt more playing golf than hunting," he said.

Armand said Inco has been flexible and understanding in his efforts over the years and has helped a great deal.



Armand Belanger is presented with a carving from Graham Ross while Ducks Unlimited Sudbury Committee Chairman Paul Viilgren looks on.



# Student's thesis finds modified work is . . . work

**M**ake-work projects, meaningless, useless work that makes people feel useless rather than valuable.

That's what Laurentian University graduating student Bridget Bertrand was afraid she'd find in an examination of Inco's Modified Work program that became the subject of a research essay to finished her four-year Honors Bachelor of Arts degree in Sociology.

"When I started the research I assumed that the work being done in the program was just a way of getting these people out of sight and out of mind, leaving people with nothing to do but string paper clips together," said the 22-year-old Sudbury native. "But I was surprised to find that the jobs being done by modified workers are valuable, important, necessary and rewarding. That's good for the company and the people involved."

Ms. Bertrand's impressive five-page essay, complete with charts, statistics and even photographs, investigated the rate of lost-time accidents and the rate of modified work, hypothesizing that an increase in modified work would decrease the lost-time accident rate.

"And that's what the data shows," said Ms. Bertrand. "The findings suggest that there is an inverse relationship between the rate of modified work and lost-time accidents. An increase in

modified work results in a decrease in lost-time accidents."

Both the employer and employee benefit, she discovered, because modified work provides the injured worker with a job which then provides Inco with more production and service.

Her research included Inco job descriptions, safety procedures, early intervention programs such as vocational, social, physical and psychological rehabilitation and early intervention seminars. She interviewed not only Inco administrators and policy makers, but people involved in the program. "Because the work performed is productive, the workers have pride in themselves and in their work despite their disabilities," she concluded.

Ms. Bertrand even saw advantages where many see despair. "Because of an injury, a person's hidden talents can be found through training which not only enhances the ability of the individual but also becomes an asset for the employer. In other words, talents are discovered because of the disability and become beneficial to both parties."

She described the cooperation by company representatives and employees as "terrific."

"Once I got into this thing I began to realize that the company was really serious about this pro-

gram," she said. "There was no hesitancy on anybody's part to give me the information I needed. I remember calling Mr. Dinell (senior claims administrator of safety and training Gerry Dinell) almost every second day to ask him to clear up this or that piece of information."

"The people at the modified work centre were open and ready to talk," she said.

Ms. Bertrand probably won't be going to industry when she finally finishes her education, however. She'll go to Sheridan College this fall to take a course in Developmental Disabilities with the eventual aim of opening her own group home for the mentally handicapped.

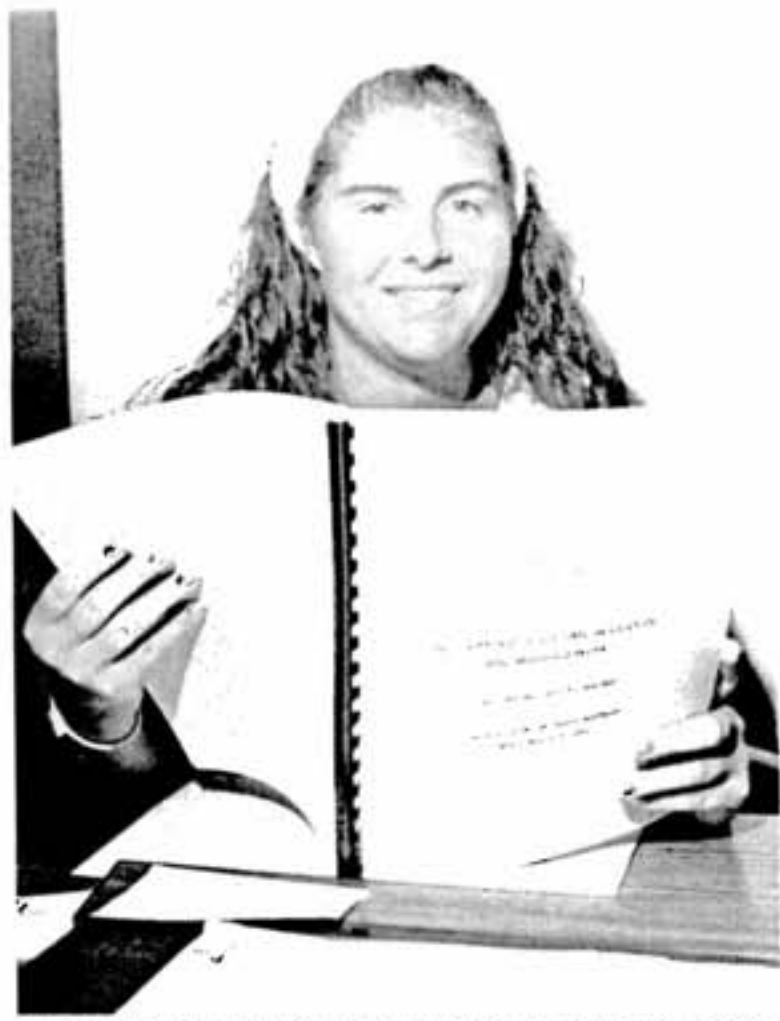
She's worked past summers in group homes for the handicapped and said the work is more than a job for her. "It's something I love to do. It's more than a job, it will be my life. I've been told that I won't make a lot of money, but for me that's not the most important thing."

Although Ms. Bertrand probably won't be seeking work at Inco, her family has made considerable contributions to Inco. While her father Courtland Bertrand worked only four months at the Frood Open Pit in 1942, her grandfather Denis Pappin retired from Inco in 1964 with 33 years under his belt.

Uncles Doug Pappin, Leno

Crema and the late Raymond Dupuis retired from the company with a collective 89 years with Inco.

An aunt, Elaine Dupuis, worked as a registered nurse at the Copper Cliff Hospital from 1951 to 1967.



Bridget Bertrand examines data compiled in her investigation.

## Lab computerized tracking provides instant information

**Q**uicker, easier, safer, and more accurate are just some of the words applicable to a new computerized data tracking system that's put occupational health environmental monitoring programs at the cutting

edge of new technology.

Under the Laboratory Information Management System (LIMS), the Occupational Exposure Monitoring Program has made Inco's laboratory information available at

the press of a computer key. The Smelter program samples are the first to be handled by the system.

"It's a major productivity improvement," said Norm Kulmala, a senior industrial evaluator at Central Process Technology. "The system collects sample data as the sample moves through the procedures at the lab and stores the results for instant recall."

Not only will the system eliminate piles of papers and documents, it will also provide instant information about the stage a designated procedure is at. With the new system on line, the sample data is automatically fed from the laboratory computer to the mainframe database.

### Adaptation

While the computer hardware and software came as a commercial package, the product had to be fine-tuned to Inco's needs.

"There's no doubt that this system is going to make us substantially more effective," said Norm. "It's going to greatly reduce the paper chase around here and it will substantially improve management's ability to access a wide range of information at the press of a key. It's going to allow us to focus much more effectively on the trouble spots in the system."

"It ensures the integrity of the work done here," said Ontario Division chief chemist John Bozic. "The system tracks samples as they move through the laboratory, recording and storing information as it is obtained by the analyst."



John Bozic (standing) and environmental analyst Bruce Urquhart at the controls of the new monitoring equipment.



The fish didn't have a chance with this Construction crew

## Construction's gone fishing!

Onlookers might have expected a new dam or bridge going up when almost 100 Inco Construction employees invaded the Vermilion River recently.

But there was something fishy about this crew.

The usual hammers and wrenches were traded in for fishing poles and nets as the second annual Inco Construction Employees' Fishing Derby got under way at the Bilmur Campgrounds.

"The weather was perfect," said electrician-turned fisherman Bernie Arseneau. "It couldn't have been better. We had a good turnout again this year and I can just about ensure that this thing is going to become a tradition."

Even the fish cooperated, he said. "Lots of people caught fish. It was a live release derby and all the fish caught were released."

The event included a barbecue as well as prizes in pike and

pickerel categories.

"It's a social event that's enjoyed by everybody. It brings out the group spirit," said Bernie.



Electrician Bernie Arseneau's son Shawn, 3, fished for frogs.

"You work with these people all year and this is a chance to socialize a bit."





Dennis Purvis with what remains of the fan.

### Fan catches fire

## Near disaster prompts warning

As a member of the action team at the Central Process Technology building, Dennis Purvis is well aware of what even a stray spark can do. That's why he still shudders a bit at the sight of the charred, scorched and molten plastic frame of an oscillating fan that once sat on his son's dresser.

"I brought it in to work to warn people about what can happen," said the Process Technology custodian. "There's more than a few people around here who have told me they have similar fans at home. Some, like chief chemist John Bozic, have pulled the plug."

Dennis got the scare of his life recently when the fan, located on a dresser in his 13-year-old son's room, burst into flames.

"Luckily, it happened at 5:30 in the evening," he said. "The door is usually closed at night, so if this would have happened at 2 a.m. and everybody was asleep it could have been a tragedy."

He said the family was alerted by a loud thud in the room. "The fan had begun to melt, causing the metal fan housing to fall to the floor. The room was full of smoke and the fan was in flames. The smell was very strong."

There is a smoke detector in the room, he said, but a draft from a nearby window had kept the smoke away from the warning device.

After dousing the flames, Dennis brought the fan to work to

see if the cause of the fire could be determined. Examinations suggest that a wire, located too close to the spinning shaft of the blade, may have caused the fan to burn.

"I've been on the action team here for about 10 years, so through my training I'm very aware of what a fire can do," he said. "I'm careful about the appliances I buy and always make sure they have the Canadian Standards Association approval. The fan has a CSA sticker on it."

"These things are supposed to be designed so this kind of thing

doesn't happen," he said. "I plan to notify the place where I purchased the fan and maybe they can alert the manufacturer. I'd hate to see this happen to somebody else, perhaps with more serious consequences."

He said the family was lucky to escape with only minor smoke damage and a section of burned floor.

"It could have been a lot worse. I still shudder when I think about it."

Made in China, the fan shows a Canarm Ltd. sticker, Model D-9.



### Going Places

With all the competition these days, seeking a musical career demands a lot of talent, confidence, dogged determination and even some luck thrown in to meet the right people and get the budding artist's foot in the door. Loma Lyns, daughter of Smelter matte process operator and North Mine shaft foreman Eveline and Glenn Plaunt, seems to have all the right ingredients for success. The talented country signer poses with the legendary Rompin Ronnie Hawkins at the Variety Club's "Big Country" awards luncheon at the Harbour Castle in Toronto. Loma was featured in the July/August, 1990 Triangle.

## INCO

### Reserved Scholarship Competition for Children of Canadian Employees and Pensioners 1992 Awards

Up to twenty 4-year university admission scholarships will be awarded in the 1992 competition. The awards are valued at \$10,000 each (\$2,500 annually). Up to five \$1,000 finalist scholarships may also be awarded.

#### ELIGIBILITY

Children of Canadian employees, pensioners, expatriates from Canadian locations and of deceased employees are eligible to enter the competition. Candidates must have a strong academic record and be enrolled in a secondary school program of studies required for university admission. Award winners are expected to enter university in 1992.

#### SELECTION

An independent committee of high school principals will select award winners on the basis of the complete academic record, SAT scores and information supplied by the applicant and the high school. Award winners will be announced in mid-August, 1992.

#### APPLICATION

Application forms will be available from September 2, 1991 at local schools, your place of work, and at:  
Office of the Administrator  
Inco Limited Scholarship Program  
Box 44, Royal Trust Tower  
Toronto-Dominion Centre  
Toronto, Ontario M5K 1N4  
(416) 361-7844  
THE APPLICATION DEADLINE IS APRIL 10, 1992

#### SAT TEST DEADLINE

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

#### REGISTRATION DEADLINES

September 23, 1991  
October 28, 1991  
December 16, 1991

#### TEST DATES

November 2, 1991  
December 7, 1991  
January 25, 1992

SAT Test material is available at the applicant's school

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