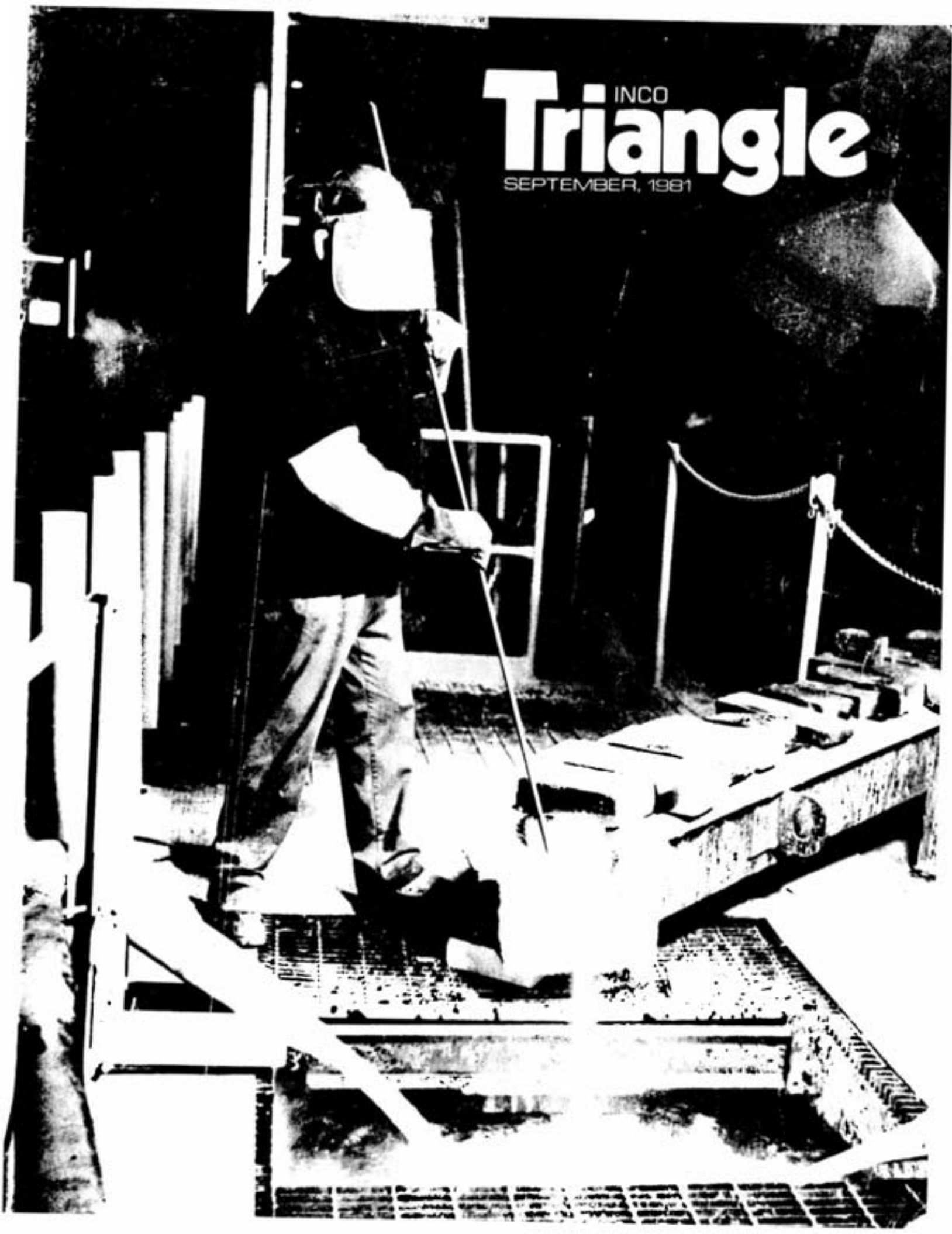


# INCO Triangle

SEPTEMBER, 1981



## In this issue

Publications  
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### The one that didn't get away

The plate shop held their first annual fish derby in July and everyone had such a good time that plans are already being made for next year's event.

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### An old fashioned picnic

Approximately 2,800 Inco pensioners from all company locations attended a different Pensioners' Days this year at the Elks Club on Windy Lake. Tours of the Levack complex were offered as were various recreational activities.

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### Not everyone was on holidays

While most Inco employees were enjoying the fine weather during the company's four-week shutdown, activity at Inco plants and mines was far from dormant. Over \$5 million worth of maintenance projects were completed throughout the Ontario division.

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### TBRC — removed, repaired, replaced

The 38-ton top blown rotary converter shell and a pair of 27-ton rings were removed from the Copper Cliff nickel refinery for repairs in the Orford building. This was one of the largest jobs tackled by the welders and fitters from central maintenance forces.

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### Our Cover

A stream of molten nickel flows from a reverberatory furnace at the Port Colborne nickel refinery. As the molten nickel contacts the water, it is broken into granules and forms one of the two new products produced at the refinery — utility nickel shot. The other product is utility nickel pig. Information on these two products and how they are made is found in the story beginning on page 16.



*The Garson mine team prepares for the provincial competition held in the Coniston arena.*

## Excitement reaches fever pitch at mine rescue competition

For five mine rescue teams representing Inco's different mining areas, the moment of truth came on May 28. Representatives of Garson mine, Creighton mine, Copper Cliff South mine, Levack mine complex and Frood-Stobie complex poured every bit of knowledge and experience acquired in training over the last several months into winning the Inco section of the annual mine rescue competition held in Coniston under the auspices of the Mining, Health and Safety branch of the Ministry of Labour. To the victors would go a Paxy carved trophy, emblematic of mine rescue supremacy at Inco and a berth in the provincial competition.

Mine rescue competitions are similar to the first aid competitions in that teams are presented with a simulated disaster. Teams are judged on how they react to the problem. Scoring is done on a demerit system where squads are given demerit points for doing any number of things

improperly. Unlike first aid competitions, which are run by company officials, mine rescue competitions fall under the jurisdiction of the Ministry of Labour whose people devise problems and coordinate the contest.

John Hallows, a mine rescue officer with the Ministry of Labour, states that the history of mine rescue dates back over half a century to 1928. It was in that year, after the great fire at Hollinger mine, that the government established the Ontario Mine Rescue Service. The first mine rescue station was opened in Timmins in 1929. A year later the first Sudbury district station was set up at Frood mine.

Mine rescue people, John points out, are first class miners who volunteer to take the mine rescue training course offered by the Ministry throughout the year. Each mine must have a certain number of mine rescue personnel on hand depending on the total number of



*Members of the mine rescue team from Creighton mine chart their progress during the district championship.*

men working in the mine. Once trained, these individuals become sort of specialized underground firefighters. John defines mine rescue thusly: "Mine rescue is a practical science of mining where men are trained to wear special apparatus to

*please turn page*

rescue the living and recover property in case of mine fire or disaster."

Inaugurated in the early 1950's, the competitions are geared to testing mine rescue personnel on how well they have learned the procedures and techniques imparted in training sessions. "Every year we put them through a competition as a stimulus for training," explains John. "We have them each year to see how good we are, to see if we're getting the message through."

This year the competition was held in Coniston. The lights were turned off and a labyrinth of burlap channels was put into place to simulate a mine environment. At various spots, signs were posted labeling a particular part of the mine or indicating the smoke conditions in the passage. The problem faced by the mine rescue squads involved rescuing five men trapped at different areas underground after a scooptram motor burst into flames while being cleaned and caused a flashfire. Judges accompanied the rescuers every step of the way noting their actions and answering questions pertaining to the problem.

Each team took to the floor after preliminary oral and equipment examinations were taken and a quick briefing of the problem was delivered. Dressed in full mine rescue gear, carrying heavy packs and lugging a stretcher laden with equipment, they launched themselves into a grueling contest that took over an hour to complete. When it was over, each team stepped outside for a quick breather, a moment to pose for photographers and a pause to review and assess their actions in the competition. Then it was off to the change rooms where they cleaned and refurbished their equipment and a day-long, anxious wait to learn which team had been named the 1981 champion.

The initial team through the maze was Garson mine. One member of the team in his first competition, a drift driller named Tom Hughes, sat in the arena lobby pensively drawing

## Garson mine wins Inco section event



**Garson mine, Inco Mine Rescue Champions**

Front, from left: Camille Belanger, captain Charles Burton, Norm Gaudette. Back, from left: briefing officer John Dagenais, Brian Valler, Jim MacLellan, Tom Hughes.



Showing the winning form that took them into the provincial mine rescue championship are members of the Garson squad.





**South mine**

Front, from left; briefing officer Ed Poirier, captain Bob Croteau, Denis Charbonneau. Back, from left; Bill Halman, Willy Galipeau, Bob Nault, Alex Gillies.



**Levack complex**

Front, from left; Bob Parker, Marcel Henri, Ben Proulx. Back, from left; captain Tom Luoma, briefing officer Pat Kay, Bill Gorham, Claude Leclair.



**Creighton complex**

Front, from left; Basil Jewers, Tony Love, Leo Seguin. Back, from left; captain Al Simpson, Garry Moulton, briefing officer Danny Hood, Randy Naponse.



**Frood-Stobie complex**

Front, from left; Gord Rae, briefing officer Gary Merkley, Ron Charbonneau. Back, from left; captain Bob Neville, Gary Smith, Gilbert Lavoie, Guy Guerrette.

on a cigarillo, winding down after an intense performance inside. "It's nerve wracking," he replied when asked what it was like to compete in a mine rescue competition. Being nervous, Tom noted, helped him concentrate on the matters at hand. "When you're nervous, you keep to yourself a little more, you're a little more careful. Each step has its order as well as its function. There's no way you do one before the other or you get demerit points."

Tom has trained in mine rescue since 1977 and he spent a year as a back-up member of the Garson team before being selected to the squad in '81. Why did he join mine rescue? "Because I work underground and I want to know everything there is to

know about underground," he elaborated, "so I can save my life and the lives of others."

Tom then moved off to the stands of the arena to silently watch the progress of the other competitors. Before leaving, he conceded that he thought his team had done well, but would not hazard a guess as to whether they had won the championship. Later that evening, at a mine rescue reception, Tom would learn that his Garson mine rescue team did indeed take top honors. The Garson crew went to the provincial competition in Coniston on June 12 and 13. Umex Thierry mines of Red Lake won the Ontario title this year. Garson mine won in 1970 while Frood-Stobie turned the trick in 1971.

#### INCO MINE RESCUE CHAMPIONS

1964 Levack  
1965 Levack  
1966 Levack  
1967 Levack  
1968 Garson  
1969 Garson  
1970 Garson  
1971 Frood-Stobie  
1972 Creighton  
1973 Creighton  
1974 Frood-Stobie  
1975 Creighton  
1976 Garson  
1977 Creighton  
1978 Garson  
1980 Creighton  
1981 Garson



Part of the plate shop armada that took to the waters of Lake Nipissing included, from left, George Dempsey, Yvon St. Onge, Ray Demore, Lucien Bradley, Conny Potvin, Gary Hancharyk and Don Richer.

## They didn't all get away At plate shop's first fish derby

The sun shone brilliantly and bumped the mercury over the 30 degree Celsius mark to give employees from the plate shop a picture perfect day for their first annual fish derby held during the first week of July.

Thirty-seven anglers took to the waters of Lake Nipissing at 8 a.m. hoping to land the big one that would bring home a top prize. The afternoon weigh-in was followed by a dinner and awards presentation at the Monetville Lodge.

The derby, organized by Don

Richer, Rick Presau, Rick Blais and Norm MacLean, proved to be a very successful event. Plans are already being made for the next derby in 1982.

Don Richer hooked a fair sized pike to win the first place trophy and an all expense paid weekend to the Monetville Lodge. A tackle box and fishing equipment went to second place finisher Art Orrantia. Numerous other prizes were distributed among the aspiring anglers from the plate shop.



Norm MacLean, right, presents overall derby winner Don Richer with trophy.

# Family Album

## Family Album Photos

If you are an Inco employee and would like your family to appear in the Family Album section of the Triangle please let us know by calling 682-5425, or send in your name to the address on the masthead.



*Dietmar Will is a timekeeper in Copper Cliff. His wife Carol, a teacher, and daughter Melissa, 3, are campers at heart. They spend most weekends at the family cottage on the shore of Lake Penage. There they take to the water to do some boating and fishing. Melissa enjoys feeding the chipmunks and raccoons around the cottage, while vegetable gardening keeps Carol busy in the summer. During the winter months, Carol attends hobby courses at night school, while Dietmar engages in his favorite pastime — hockey.*

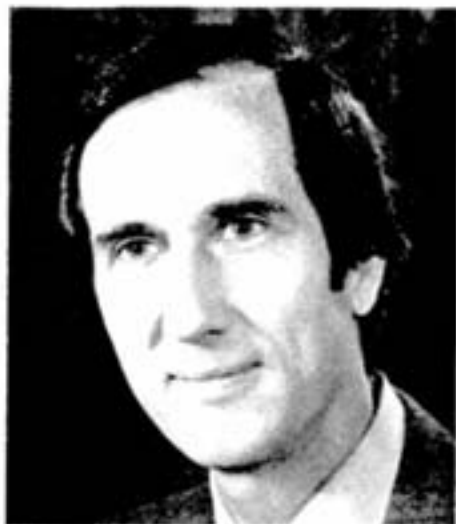


*Steve Lincz, a first class stationary engineer in the powerhouse at the Port Colborne nickel refinery, has been with Inco for 27 years. His main interests are gardening, wine making and travelling. Wife Ida works part-time as a nurse. Daughter Rosemarie is Mrs. Randy Charron of Calgary, Alberta. Son Robert, left rear, is a fourth class stationary engineer working in the oilfields near Calgary. Son Ron, is studying to be a petroleum engineer at the Southern Alberta Technical School.*



*Harvey ("Quackie") Quackenbush is a cage tender at Garson mine. His wife Suzanne, daughter Carole, 11, and son Gregory, 14, are anxious to break in their newly-purchased cottage on Bonanza Lake near Skead. Gregory is an ardent fisherman. Carole is a swimmer and in the winter participates in ringette. Harvey's sparetime in the winter is devoted to snowmobiling and icefishing. Suzanne is busy with her job in Sudbury and looking after the household.*





# NiPERA

**New organization formed to fund research on nickel and nickel compounds in the workplace. Dr. J. Stuart Warner, a Vice-President of Inco Limited is named chairman.**

In the last year Inco Limited has spearheaded an effort that has culminated in the formation of a new organization, composed of nickel producing companies from around the world, devoted to funding research on nickel and nickel compounds in the workplace. The Nickel Producers Environmental Research Association or NiPERA, consisting of 13 member companies, held its first formal meeting last September in London and set into motion the forces which would begin to investigate concerns that have arisen in recent years about the possible effects of nickel on human health.

Dr. Stuart Warner, Inco Limited Vice-President and Chairman of NiPERA, says that several nickel companies were sparked into undertaking research after the U.S. National Institute for Occupational Safety and Health published some findings on nickel and nickel compounds. When conclusions did not seem to correspond to data, ad hoc research groups were formed.

In the interest of creating a forum in which producers could exchange their experiences in researching nickel, Inco, together with Amax, launched a drive to bring companies around the globe together. According to Dr. Warner, 18 companies declared their interest and the business of creating NiPERA began.

## **Groundwork laid by Inco**

Much of the groundwork for the

organization was laid by Inco personnel. Inco people handled the incorporation of NiPERA as a not-for-profit corporation, as well as developing its by-laws and finding an appropriate name. "We were the driving force which made the concept a reality," Dr. Warner notes.

Currently 13 companies belong to NiPERA. They account for a majority of nickel production in the non-Communist world. Dr. Warner is pleased with the size of the membership and fully expects the addition of two or three more firms in the near future.

With the next full NiPERA meeting scheduled for this autumn, the tasks of selecting an executive director and implementing a program of research remain. The executive director, who will be responsible for monitoring all research undertaken by NiPERA, will be a scientist and will have access to people skilled in a variety of health-related fields, says Dr. Warner.

## **Investigations in workplace**

The organization is committed to investigating both internal (in the workplace) and external environments. In the beginning, however, NiPERA will be primarily concerned with the possible health effects of nickel and nickel compounds on people who work with them.

Most of NiPERA's research will be done by universities. All findings will

be published, something that is a contractual obligation when dealing with academic institutions on such projects. NiPERA, aware of the credibility gap that exists between industry and the public, will employ outside experts to conduct most of its studies.

NiPERA is in the process of critically reviewing existing literature on nickel, "to see what is known and what isn't known about the element." This will, Dr. Warner continues, give the group an idea of what to investigate first. Nickel's suspected link to cancer will definitely "be one of our major concerns," he adds.

## **Could fund studies**

NiPERA, because it combines the efforts, experience and financial resources of many nickel companies, can undertake to fund studies which simply would be too costly and too time consuming for a single company to pursue. Testing a single compound for its cancer-causing potential, Dr. Warner points out, may cost a million dollars.

By pooling the resources of many companies, NiPERA will be able to establish a "rational long range program" to investigate the possible health effects of nickel. This is the advantage of having such a group, Dr. Warner explains. The discoveries it may spawn will be of interest to everyone concerned with the nickel industry, whether he be a miner, smelterman or refinery worker.





Bill Bruins, chairman of the Inco Regatta, checks over the list of entries with Susan Lemay, registrar and treasurer of the Regatta. She is the wife of John Lemay, manager of central utilities.



For some, the winds were just a trifle too heavy.



Discussing the start of the regatta are, from left, Brian Wilcox, assistant starter, Susan Lemay, Judy Aavisto, official starter and wife of Indrek Aavisto, superintendent of metallurgical evaluation, Bill Bruins and Al Cameron, rescue boat operator and Inco pensioner.

The seventh annual Inco Regatta was held on Lake Ramsey on June 26 and 27 with 45 entries in four sailing qualifications.

This year's Regatta chairman, Bill Bruins, a concept design engineer at Inco, said the competitions went well despite the rise of some stiff winds on the second day which saw the cancellation of the fifth and final race.

The heavy winds caused at least one third of the crews to take an unexpected bath in Lake Ramsey in the fourth race.

The highlight of the Inco Regatta proved to be the surprise entry of Byran Avari and Munir Sadiq, of the Pakistan Yacht Club. They had come to Sudbury to compete in the World Enterprise event, in the first week of

July. The visitors finished first in the International Enterprise event proving themselves equal to the challenge presented by the heavy winds.

Several Inco employees including Peter Kamstra, Peter Souter, Ed Pattison, Peter Garrood and Charles Dobson performed well in the Regatta.

# 1981 Pensioners' Days

What a way to spend a summer day — meeting old friends and acquaintances at lunch, chatting over a cup of coffee and a donut on the shore of Windy Lake and participating in various activities such as darts, bridge and horseshoes.

Approximately 2,800 Inco pensioners (a significant increase from last year's total) enjoyed such a time during a somewhat different Inco Pensioners' Days this year. An old fashioned picnic was held June 15-19

at the Elk's Hall on Windy Lake. Also included in the event were daily bus tours of Inco's Levack operations.

Pensioners from all company locations were invited to attend the picnic on specific days. Bus service was provided in the morning from the Inco Club in Sudbury. In the afternoon the same service was available from the Elk's Hall back to Sudbury. A shuttle service was also provided for those who wished to return earlier to Sudbury.







# Major maintenance jobs performed during shutdown

With the usual hustle and bustle missing from Inco operations in the Sudbury district, observers were sure to think that shutdown was another word for hibernation. In reality, most plants and mines were hives of activity as Inco people and contractors worked on various maintenance and repair projects, both large and small, that can be done much more efficiently while the facilities are shut down.

## Garson mine

Garson mine was the site, during July, of some extensive maintenance work. Guides in the main cage shaft from surface to the 3200 foot level were replaced. Guides have generally been replaced a few at a time in the past, but this is one of the largest guide replacement projects done in recent years. Guides are the wooden tracks at the four corners of this cage compartment upon which the cage runs.

Made out of British Columbia fir, these guides are approximately 28 feet long by four inches by eight



Henry Corcoran, operating shaft boss, front, and Wayne Desjardins are ready to help move a new shaft guide into the shaft. Gerald Turcotte stands in one of the several platforms of the new conveyance that makes guide replacement much easier.



Ray Aubertine removes the bolt holding an old wooden guide in place.

inches and are bolted to the shaft timber. A multi-staged conveyance was specially constructed for this task and affixed to the bottom of the cage. From the various stages, workers were able to change eight guides per shift until over three miles of the old guides had been replaced.

It was also during the shutdown that the old Garson rockhouse was finally phased out. A new load-out facility was designed and installed in place of the aging system. The new operation is less complicated and will require less maintenance.

#### Oxygen plants

Because of the crucial function they perform in the smelting process, it is a rare thing indeed to see both oxygen plants down for complete overhauls. During the four week shutdown in production, it happened. Lines were painted, pipes replaced and equipment tuned-up. The biggest job involved overhauling a pair of huge compressor motors, one 12,000 horsepower, the other 6,000 horsepower. Both had to be removed



Looking over the blue prints for the new approach ways to the Onaping River bridge are, from left, Dave Howard, a consulting engineer, Bert Jackson, supervisor of surveys in central utilities, Karl Vainio, a construction co-ordinator in general engineering, and Wes McNeice, superintendent of operations in transportation.

by crane and transported to the winding shop. Once work on the compressors had been completed they were brought back to the oxygen plants where they were gently slipped back into place.

#### Onaping bridge

The Inco rail line that links Levack mine operations to CP Rail's Levack station received attention in July. The old timber trestle approaches to the bridge that spans the Onaping River



Standing in front of the specially constructed conveyance for replacing shaft guides are, from left, Bob Banks, foreman, Ted Callaghan, Henry Lake, Rolly Perron, Ray Aubertine, Sandy Lee.



The men who constructed the new load-out facility at Garson mine are, from left, Willy Guy Jr., Johnny Veno, Bob Poulin, John Melanson, Gino Cacciotti, Tauno Saari, engineer, Jim Pigeau, sitting, and Robert Walker, foreman.



A view of work being done on the approach ways to the Onaping River bridge.

were replaced. They had deteriorated over the years. A full base, supported by concrete retaining wall built below the bridge near the water, replaced the old timber structures to provide a better means of support.

#### **Copper Cliff smelter**

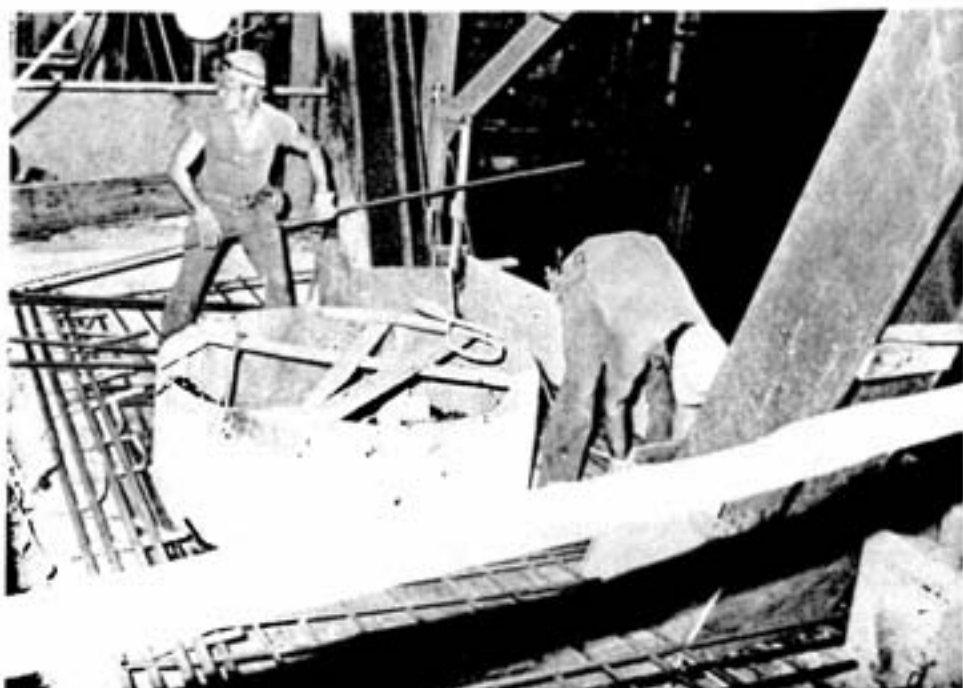
The Copper Cliff smelter, a vast storehouse of metallurgical technology, was the scene of various maintenance projects. High above the converter aisle, Inco's maintenance people replaced old crane runways with new ones. At the same time more and better lights were being installed over the converter aisle. Other work at the smelter included installing new feeders at the copper flash furnace, relining some unloading bins, repairing various flues and cleaning and repairing every electrical switchroom. The biggest job at the smelter involved replacing worn out and damaged structural steel in the back track by specialists in this kind of work, Dominion Bridge Company.

#### **IORP**

Of the maintenance work done during the shutdown, perhaps the most visible to the public was the replacement of lines carrying effluent from the Iron Ore Recovery Plant to the tailings area. Laying new lines involved excavations being made at Highway 17 West near the IORP.

#### **\$5.7 million spent**

While the vast majority of



Two V columns in place, a pair of workers lay reinforcing rods for the concrete foundation that will eventually be poured.

employees enjoyed four weeks of splendid summer weather and all the pastimes associated with it, over 300 central maintenance people as well as engineers and clerical staff stayed for the duration of the shutdown to perform and contribute to many and varied tasks, like relining the skip dump slide at the 6,600 foot level of Creighton number nine shaft or working on a conveyor at the Clarabelle mill. On a divisional basis a combined work force, both Inco and contract, of 700 were involved in maintenance projects worth about \$5.7 million.



The sparks fly from the grinding wheel during maintenance work at the smelter during the vacation shutdown.



In May some special visitors toured Inco's surface operations in Copper Cliff. Francesco Paolo Fulci, Italy's new ambassador to Canada, Pier Luigi Conti, the Italian Consul-General to Canada, and their wives were briefed on the company at the Tour Centre and then taken to the Clarabelle mill and the Copper Cliff smelter.

During his visit, Ambassador Fulci met with Wint Newman, president of Inco Metals Company, George Lund, former Chairman of the Regional Municipality of Sudbury, Maurice Lamoureux, mayor of Sudbury and other local dignitaries and company officials. Ambassador Fulci was presented with a beaver sculpted out of Sudbury ore. The ambassador's visit to Sudbury was part of a goodwill tour of Ontario.

Senior tour guide Vic Henderson talks to the distinguished visitors about Inco's metal products. Shown listening to Vic are, from left, Pier Luigi Conti, Francesco Fulci, Claris Fulci, and Lucia Conti.

## Italian ambassador visits Sudbury



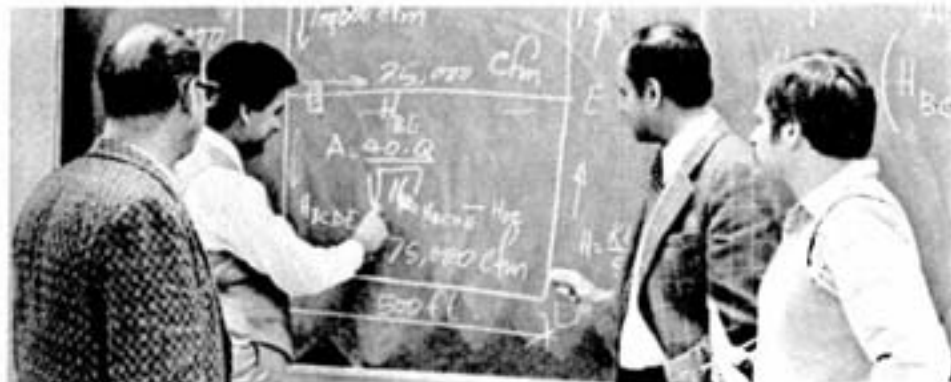
In June, 50 people throughout North America attended the third annual Mine and Industrial Ventilation Conference in Sudbury. Co-sponsored by Laurentian University and Cambrian College, the conference was designed to help people in industry solve their own ventilation problems.

The week long event involved classroom studies, lectures and laboratory instruction. Depending on their experience, individuals attending the conference took either basic or advanced courses on ventilation.

Dr. Ernest Mastromatteo was the featured guest lecturer at this year's mine and industrial ventilation gathering. Dr. Mastromatteo, Inco Limited's director of occupational health, spoke on industrial toxic substances and their threshold limit values.

Representatives of Northern Ontario mining companies formed the conference's planning committee. Sonny Mukherjee, a coordinator in the environmental control department, was a member of the 1981 planning committee as well as part of the teaching staff.

## Industrial and mine ventilation conference



Discussing an aspect of mine ventilation during a classroom session are, from left, Ed Kanziar of Phillips Uranium Company of New Mexico, Professor Okay Djamgoz of Laurentian University, Sonny Mukherjee of Inco and Louis Desjardins of Falconbridge.



Inco's Dr. Mastromatteo, left and Sonny Mukherjee chat prior to the Dr.'s address to conference delegates.

The family of nickel products made at the Port Colborne nickel refinery has recently grown and now includes a unique new material called utility nickel. Utility nickel comes in two distinct forms — "pig" and "shot" — and was developed as a new form of charge nickel, providing improved handling and melting characteristics sought by consumers.

An oil-fired reverberatory furnace is used to prepare a 160 to 175 ton charge of molten nickel which contains controlled amounts of carbon and silicon.

The melt is cast in conical moulds to make utility nickel pigs, weighing about three pounds, or is directed into a pit containing water to make smooth but irregularly shaped granules, approximately 1/4 inch by 1 inch, called utility nickel shot.

Both products were well adapted to the mechanical handling and automatic charging system being implemented by Inco's customers, especially in the steel and foundry industries. Increased use of new furnace technology by nickel consumers, such as the argon-oxygen decarburization furnaces has enhanced the use of utility charge nickel as a desirable feed.

Utility nickel's purity and shape are well suited to many customer needs. Users find that the cone-shaped utility nickel pig easily penetrates slag layers in their furnaces and is efficiently incorporated into their melts, while utility nickel shot is particularly useful in ladle additions and for precise final alloy adjustments.

Number six and seven reverberatory furnaces in Port Colborne's anode department have been designated for the production of utility nickel. The area around both furnaces was converted to facilitate this use with the installation of conveyors, casting and shotting equipment, quench pits and loading facilities.

FRP nickel oxide, nickel pellets, low sulphur coke and silicon are charged into the furnace in precise amounts and heated with low sulphur oil. The whole cycle from charging a

furnace to tapping the product takes about 64 hours for utility nickel shot and about 68 hours for utility nickel pig. In both cases this produces about 160 to 175 tons of product.

In producing utility pig, the molten metal is directed into cone-shaped moulds on an inclined casting machine. A water spray chills the pig in the moulds which, at the top of the incline, discharges pigs into a quench pit to complete the cooling operation. A pan conveyor removes the pigs at a rate which retains sufficient contained heat to dry the pigs. They then pass through a tumbling operation to remove any casting fins and then pass on to a final packaging operation.

Utility nickel shot is produced by directing the molten metal from the tapping chute into a pool of agitated water that has been preheated. The shotting action is provided by water jets directed at the molten metal stream. Water temperature, pressure of the water jets and carbon and silicon content of the metal are all important parameters. The control of these items is critical for successful utility nickel shotting.

A pan conveyor removes the shot from the quench pit. The shot is then dried, screened to meet size requirements and packaged for shipment to the customer.

The development of Inco utility nickel was a quick response to the company's sales force request for a new charge nickel product which would meet our customers changing requirements. Utility nickel was developed by combining the metallurgical and operating expertise of the development team consisting of people from the J. Roy Gordon Research Lab and personnel from the anode and process technology departments at the Port Colborne nickel refinery.

Everyone at the Port Colborne nickel refinery is proud of the addition of utility nickel to Inco's family of products and are looking forward to continued market acceptance and expansion for their new melting nickel product.

## Family of pr grows with



Utility nickel pig.



Utility nickel pig is formed when molten nickel is poured on the moving conveyor system.



Bill Kantymir, superintendent of operations at the Port examines newly formed nickel shot.

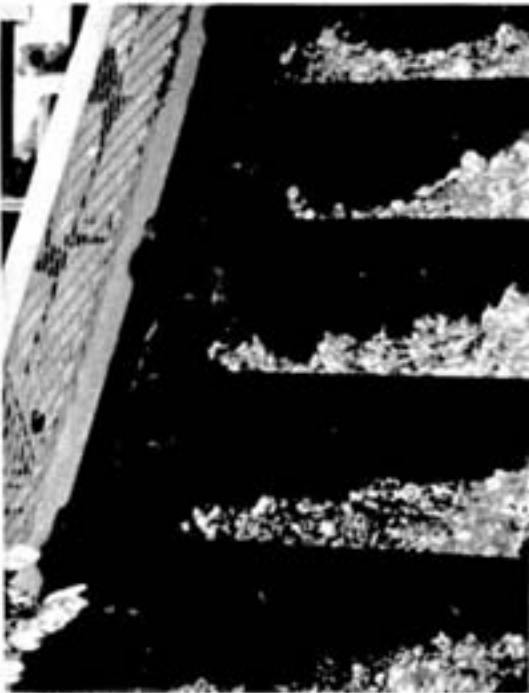
# Products made at Port Colborne addition of utility nickel



Utility nickel shot.



into moulds



Port Colborne nickel refinery



Utility nickel shot is formed when molten nickel hits a water spray and is broken into granules.



# Something for everyone at transportation family day

The sun was out as were approximately 350 employees, their families and friends for the transportation and traffic department's Open House-Family Day.

The event was held near the transportation and traffic offices at the smelter. The program of activities included guided bus tours; one to the Clarabelle mill tipple building and tailings disposal area, the other to the slag dump and superstack. Displays of mobile equipment including a locomotive, a mobile crane and a front end loader were available, as were film and sound slide presentations dealing with transportation and traffic activities over the years.

Perhaps the most interesting activity of the day and a first for the transportation department was the

tour by CP Rail liner or bud car. The train tour began outside the department offices, made its way to the Iron Ore Recovery Plant, up to the Clarabelle mill area, out to the Frood-Stobie complex area and back to the smelter. CP Rail provided on-train personnel while the transportation and traffic department supplied its own brakemen and a conductor.

The number of visitors was more than department personnel had anticipated. "This year's Open House-Family Day was a complete success," said Moe Bertrand, supervisor of transportation costs and planning and the event co-ordinator. "The weather was good and visitor response was very positive. We intend to have more and better Open House-Family Days in the future."



Refreshments, hot dogs and hamburgers were popular attractions at the Open House-Family day.

Visitors board the bud car to begin the train tour.





Picnic tables, courtesy of the agricultural department, came in handy for those who wished to rest their feet.



Visitors were able to see empty slag pots close-up.



Locomotive engineer John Miatello explains the controls on his engine to a youngster. Brief loco rides were available to the visitors' children.

# Purchasing management association strives for high standards



*Other Incoites with a Professional Purchaser's Diploma include, from left, Ron Smith, Jack Holtby and Jack Longston.*

## Professional Purchaser's Diploma (P.P.) is to purchasing people what the C.A. is to accountants

Since 1971 many businessmen and women in the Sudbury area who are associated with purchasing and materials management have been part of the local chapter of the Purchasing Management Association of Canada. Thirty-one per cent, or 26 out of the 83 person membership, are Inco employees.

Darryl Mathe, a supervisor of inventory at the Clarabelle mill, has been a member of the PMAC for nearly a decade. A former president of the local organization, Darryl is a Director of Region Five for the PMAC national office. This Region includes the districts of Ottawa, North Bay, Sudbury, Peterborough and Kingston.

One of the main objectives of the PMAC, says Darryl, "is to help its members in gaining an education that will let them keep up with what is happening in the business world." The level of sophistication in commerce has increased dramatically over the last 20 years. Darryl cites the increasing use of computers as one example of something for which people in purchasing and materials control should prepare themselves.

The PMAC's professional development program, whereby members obtain their Professional Purchaser's Diploma (P.P.) is the most important means of allowing individuals to keep abreast with the latest developments and techniques. According to Darryl the P.P. is to purchasing people what the C.A. is to accountants.

The program, developed by Michael Leendres of the School of Business at the University of Western Ontario, is considered among the best in the world. Candidates must have five years experience in purchasing before they can take the program. Certain university courses





Darryl Mathe, supervisor of inventory at Clarabelle mill, is director of Region Five for the PMAC.



At the June meeting of the Sudbury District branch of the PMAC. Paul Groves, a buyer in purchasing, seated, and Colin Tremblay, a material controller at Clarabelle mill, right, received cash awards for tying for first place in a PMAC sponsored course, the principles of transportation, offered at Cambrian College. Here they go over course content with, from left, Sidnie Lawton, senior purchasing clerk, and Sandra Benham, material controller, both from Inco's purchasing department and members of the local branch of the PMAC.

are also accredited.

Required courses include three "principles" courses, each a year in length. They are; Principles of Buying, Principles of Production and Inventory Management and Principles of Transportation. Applicants must then earn 12 credits from a list of 26 seminar courses held at various times during the year.

This is followed by a section called management studies where people take PMAC approved courses dealing with the major management areas of accounting, finance, human relations and organizational behavior, marketing, production and operations management and business policy. These courses are usually taken at Laurentian or Cambrian College.

Before facing the board of examiners for the professional purchaser's diploma, candidates must take the Advanced Purchasing Management Course, a high level course on the implications of purchasing and materials management.

People who successfully complete the P.P. program, Darryl explains, "will be well rounded by knowing all

areas of business." He adds: "It gives an individual recognition that he has gained this status in his field."

Recognition of the P.P. program is spreading rapidly throughout the business community. Darryl points to the fact that more and more major companies are asking individuals they hire either to have the diploma or be enrolled in such a program. In addition to Darryl, three other Inco employees have earned the P.P. distinction; Jack Holtby, manager of purchasing and warehousing, Jack Longston, superintendent of inventory control, and Ron Smith, a buyer in the purchasing department.

The professional and personal development an individual undertakes in this program benefits not only the person but also his employer. Companies have employees who understand and can deal with the complexities of the modern world of commerce. This asset in human resources inevitably translates into companies staying in the forefront of the newest developments in materials management and realizing efficiencies and cost savings in the process.

# A big job done by highly qualified people

Weighing 38 tons, the top blown rotary converter shell which welders and maintenance tradesmen from central maintenance forces repaired last spring constituted one of the largest jobs tackled by that department in a while.

The operation, according to George McDonald, maintenance general foreman, began last March when the TBRC was dismantled at the Copper Cliff nickel refinery. The huge shell, minus the refractory lining, was hauled from the nickel refinery on a 60-ton float to the repair site, the Orford building.

A pair of 27-ton rings belonging to the TBRC were brought to the smelter complex separately. The whole transport operation, George says, took four hours. Lugging its big burden down Highway 17, the float never exceeded speeds of five or six kilometres per hour.

The fact that the needed repairs could be done faster and much more safely at the Orford building precluded any thoughts of doing the work right at the nickel refinery. "But safety was the big factor," added George.

The bulk of the repairs to be done on the TBRC centred on and around the dogs, the mechanisms which assist in driving the converter. Besides cracks to the converter wall, the dogs themselves had suffered some damage.

Welders painstakingly repaired the cracks that had developed around and behind the dogs. In order to prevent the area adjacent to a weld from fracturing (something that happens when welding is done in the cold), the converter surface was heated to a temperature of 150 degrees Celsius before welding was

started. "Ultrasonic tests were conducted to make sure there were no cracks in the welds," continued George. "Our welders did an excellent job. The welding was completed and no flaws were discovered."

The dogs themselves were replaced with a new, improved design of dog that should better resist the stress associated with driving a TBRC. In addition to this, the dogs were relocated to a more favorable part of the converter surface.

One of the trickiest parts of the whole operation involved putting the immense rings back into position around the belly of the converter. In the Orford building the TBRC shell

was moved by crane into what used to be a matte pit. This gave additional clearance above the six metre long converter so that the rings could be put into place by the crane.

Work continued on the converter shell into July. Then the unit and its rings undertook that slow journey by float back to the nickel refinery where it was hoisted back into place.

Along with the repairs and refurbished dogs, a new operating procedure was adopted for the TBRC which will induce less wear. This may mean it will be a long time before the central maintenance force crews see this TBRC shell again. Concluded George: "With any kind of luck, I hope it will last a good number of years."



The maintenance people involved in the big job of repairing the TBRC shell were, from left, Eddie Vau, Art Richardson, Don Skeffington, Roger Levesque, Ed Whissell, Gene Bryant.



*Roger Levesque, left, and Ed Whisset, send up a shower of sparks as they grind the surface of the TBRC.*



*Standing well back, maintenance men watch the ring being lifted by the crane.*



*The convoy carrying the converter shell and its two rings winds its way along Garrow St. in Copper Cliff.*





1.



2.



3.



4.

1. A young boy eagerly tries to hit his target in the sponge throwing contest.
2. Why did I volunteer for this?
3. Baseball was a popular activity for the youngsters.
4. A one-legged race was a good test of the participants' balance.

## Copper Cliff mines association Annual picnic held at Richard Lake

### "We went through 500 hot dogs and 1,000 drinks" . . .

There seemed to be every amusement imaginable for the some 175 members of the Copper Cliff Mines Association and their families who attended the association's annual picnic on a warm and sunny June 20th at Richard Lake.

Activities included relay racing, darts, and a bean bag throwing contest to name a few. An added attraction for the children was a canoe ride on Richard Lake.

Visitors took time out during the

day's activities to enjoy some snacks and refreshments. "We went through 500 hot dogs and 1,000 soft drinks," commented Moe Jolly, a cage tender at Copper Cliff South mine and president of the Copper Cliff Mines Association. "It was a very good time and everyone seemed to enjoy themselves."

Plans are already underway, Moe added, for a bigger and better picnic next year.



*Upper right*

*The lineups were long for the bean bag throwing contest.*

*Left*

*For the first time canoe rides were available to the youngsters.*

*Right*

*Young participants received prizes for their efforts in all the games.*

# Golf, golf, . . . and more golf!

Trying to keep track of all the employee golf tournaments that take place is something like the job that the harried air traffic controllers must be experiencing, trying to land planes.

We present here, highlights of some of the departmental golf tournaments that have taken place during the summer.



John Ricketson, superintendent of Copper Cliff South mine, attempts to get his shot out of the woods as Lyall McGinn, training supervisor at South mine, offers encouragement.



We weren't sure if Shirley Hawes of the Copper Cliff nickel refinery was fishing or golfing at the plant's tournament held in Lively. Shirley tried in earnest, with help from fellow employee Gary Hooze, to retrieve her golf ball from the pond.



At the employee relations golf tourney held in Lively, employee relations reps took time out to tally up their scores. They are, from left, Brian Crowder from the smelter, Walter Chornenky from Creighton nine shaft, Harvey Nadeau from the smelter and Bill Vickman from Creighton nine shaft.



Mary Antoniazzi, left, wife of Lino, second from left, who is a maintenance foreman at the Copper Cliff nickel refinery, makes a long putt as her husband, Jackie and Don Vallier, who is a utilities supervisor at the nickel refinery, witness the shot.



Will it be a hole in one for Art Hayden, a production assistant at the nickel refinery? Just ask from left, Art's wife Cora, Irene and Joe Nicholls who both work at the nickel refinery.



# PEOPLE



Inco Limited President **Don Phillips** presented a Sudbury Science Centre hard hat to the **Hon. Reuben Baetz**, Minister of Culture and Recreation, following the province of Ontario's commitment of \$10 million to the capital and operating costs of the Sudbury Science Centre in May. In January, Mr. Phillips was in Sudbury to announce the company's commitment of \$5 million to the capital costs of the Science Centre which is scheduled to be constructed by 1983 — Sudbury's Centennial Year.



The Inco Reserve Scholarship committee met in Thompson recently to discuss renewal of awards. Committee members are, from left; **Claude Raymond**, principal, Macdonald-Cartier Secondary School in Sudbury; **Michael Lawson**, principal, R.D. Parker Collegiate in Thompson; **Barbara Douglas**, administrator of Inco's corporate contributions program; and Chairman **Donald Booth**, retired principal of Lockview Park Secondary School in Port Colborne.

At the invitation of Inco's **agricultural department**, faculty members at **Laurentian University** visited the underground greening project on the 5,600 foot level at Creighton mine's nine shaft. Assisted by a grant from the National Sciences and Engineering Council of Canada, Inco Metals and Laurentian University are working co-operatively on the research project to develop a method of using geo-thermal heat for the production of food in the mining areas of Canada's mid-north. Here, horticulturist **Dr. Doina Serbanescu**, left, who is overseeing the entire project, discusses growing conditions for English cucumber plants with faculty members second from left; **Dr. Doug Goldsack**, **Dr. Henry Best** and **Professor Wendy Gerhard**.



# PEOPLE

## Staff appointments

**Claude Bourre**, environmental control analyst, environmental control, Copper Cliff

**Marc Bradley**, timekeeper, Creighton nine shaft

**Michael Charette**, grade control technologist, mines exploration, Stobie mine

**Ashutosh Chowdhury**, senior industrial evaluator, industrial engineering, Copper Cliff

**Brian Ewing**, supervisor of services, Copper Cliff smelter

**Patrick Gallagher**, area supervisor industrial relations, employee relations, Stobie mine

**Stewart Gendron**, superintendent operations, Iron Ore Recovery Plant

**John Kenny**, supervising industrial evaluator, industrial engineering, Copper Cliff

**Claude Kerr**, energy management co-ordinator, central utilities

**Erich Kludorf**, senior specialist, central maintenance

**Normand Lajeunesse**, design engineer, engineering, Copper Cliff

**Edward Leblanc**, construction co-ordinator, engineering, Copper Cliff

**Joseph Mihelchic**, designer, engineering, Copper Cliff

**Dennis Millan**, project engineer, Copper Cliff smelter

**Robert O'Brien**, industrial relations representative, employee relations, Copper Cliff nickel refinery

**Diane Olivier**, benefits clerk, employee relations, personnel and office services

**Gerald Potvin**, mines research engineer, mines research, Copper Cliff

**H. Edward Schillemore**, project engineer, Copper Cliff smelter

**Allan Sherlock**, senior industrial evaluator, industrial engineering, copper refinery

**Cathy Tweedy**, pay office clerk, Port Colborne nickel refinery



In June the Joint Occupational Health Committee of **Inco Metals Company** and **Local 6500** of the United Steel Workers of America hosted an Occupational Health Educational Seminar for all OSHC committee members and the general public at the Sudbury Public Library auditorium. **Dr. David C.F. Muir**, director of the occupational health program of McMaster University, was on hand to lead discussions on the subject of "Respiratory Health in Nickel Mining and Refining." Dr. Muir is seen here addressing the audience in the first two sessions held that day.

**Len Van Eyk**, mines research engineer, mines research, Copper Cliff

**Terry Villeneuve**, mines research assistant, mines research, Creighton nine shaft

**Mary Warriner**, material controller, purchasing-warehousing, Copper Cliff

**Harvey Wickenden**, supervising timekeeper, division comptroller, Levack mine

# PEOPLE



The Idylwyde Golf and Country Club held **Lee Trevino Day** in July with the "Merry Mex" himself on hand to demonstrate some of his well known golfing skills to throngs of Sudburians. Following a luncheon and a clinic, Trevino played a round of golf against individuals sponsored by various companies. Noted long ball hitter from the Copper Cliff copper refinery, **Sid Segsworth**, superintendent of casting and transportation, played nine holes of golf with the amiable Trevino. Sid had the best score in this year's Inco Employees' Golf Tournament and represented Inco during the match. Here Sid drives for distance with Trevino looking on in the background.



This troupe of "munchkins" performed the ceremonial ground breaking that raised the curtain on the construction of the new Sudbury Theatre Centre. A host of dignitaries representing different levels of government and local corporation and businesses was on hand to witness the event. Inco was represented by **Ron Brown**, assistant to the president. The company has committed \$60,000 to the building project.



Inco's transportation and traffic department provided personnel to help build the game facilities for Inco Pensioners' Days held June 15-19 at the Elk's Hall on the shore of Windy Lake. Inco pensioners also gave a hand to construct the various playing courts. Here, **Bob Burke**, equipment rental co-ordinator with the transportation and traffic department, left, took a level reading on the frame of the bocce court while Inco pensioners, second from left, **Fred Spencer**, **Alex Didur** and **Mel Corkal** took turns driving a support wedge next to the frame.





Jockey Bertrand — \$1,135



Gilles Grandmaison — \$920



From left Bryan McGregor and Bert Lecuyer — \$730

A total of \$12,250 was awarded for 122 suggestions in this month's suggestion plan in the Ontario Division of Inco Metals Company.

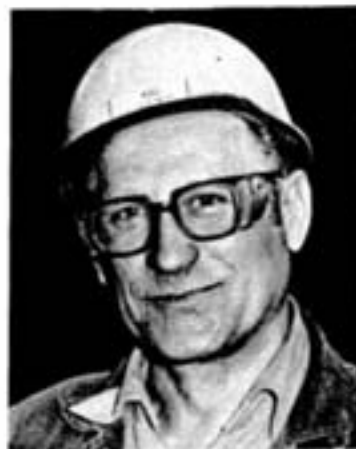
Due to space limitations, only those suggestions of \$100 or more are listed below.



Gerry Levac — \$595



Benard Stephen — \$505



Laszlo Szigeti — \$195

# suggestions pay off

## MAJOR WINNERS

- \$1,135** This month's top suggestion plan winner was **Jockey Bertrand** of the **Copper Cliff smelter**. Jockey's idea to install an oil pressure switch on the ignition of CAT 950 loaders netted him \$1,135. The switch prevented the starter from engaging which created excessive wear on machine parts. Substantial savings were made on starter replacements and other part replacements which normally required engine removal.
- \$1,110** **Andrius Rupkalvis** of the **Iron Ore Recovery Plant** came up with the idea to by-pass production fans on number one to four roaster units. The suggestion eliminated frequent fan repair and the need to rebuild the fans every few years. Manpower and maintenance costs were reduced. This is an additional award to the \$340 award he previously received.
- \$920** **Gilles Grandmaison** at **Garson mine** noticed that stinger bolts on Python Joy jumbos often loosened and fell off, causing operating delays. The suggestion prompted savings in machining the bolts and reduced down time to repair them.
- \$730** **Bert Lecuyer** of **safety and plant protection** and **Bryan McGregor** of the **Iron Ore Recovery Plant** shared \$730 for their suggestion to install universal joints rather than Thomas couplings on all the cooling towers at the I.O.R.P. The couplings frequently broke, requiring replacements. The universal joints reduced maintenance and manpower cost.

- \$640** At **Copper Cliff South mine**, **Dennis Bean** was awarded \$640 for his suggestion to use pulleys on jumbo cable rather than clips. The suggestion simplified the advancing of the cable, reducing wear and tear on it. Savings were made on manpower and material.
- \$595** **Gerry Leves** of the **smelter** noticed that transfer car cables, grooved the cable drum, preventing the cables from moving freely. To correct the problem, Gerry thought of building up the drum with weld to make it smoother for the cable to move on. As a result, the drums did not have to be changed as often. Manpower and maintenance costs as well as down time were reduced.
- \$505** At **Coleman mine**, **Bernard Stephen** submitted a suggestion to use 100 foot rolls of one inch 80 PSI plastic hosing for cleaning out plugged sandfull lines. In the past, the plastic pipe, which came in 10 foot lengths, had to be threaded and coupled. The threading would often get stripped and required replacement. The new piping didn't need couplings, was easier to handle and less expensive.
- \$270** **Norm Laurin** and **Leo Laroque** at **Coleman mine** split \$270 for their suggestion to install a fresh water line on the siphoning lines to the sump pump. This prevented the siphoning lines from plugging up after the pump had been siphoned. Manpower and labor costs were reduced.
- \$220** **Alex Hanuska** of the **Port Colborne nickel refinery** suggested the use of a bracket to hold block grease over the trunnion on the utility nickel dryer in number four building. The suggestion ensured that the trunnion and tread ring were always lubricated. The idea also eliminated damage from poor lubrication and saved labor through decreased servicing.
- \$215** **Keith Ferris** of **Creighton mine** devised a method to repair and reuse threads from the centering unit on LM56 Coppoc muckers. The threads often wore down, which required the installation of a complete new unit. Savings were made on parts and labor.
- \$195** At the **Port Colborne nickel refinery**, **Laszlo Szigeti** suggested turning the utility and tap casting machine return roller bushings 180 degrees after some 11 months of service to increase the life of the bushings. They lasted almost twice as long. Savings were made on materials and labour.
- \$175** **Isadore Raymond** at the **Copper Cliff North mine** found that water was entering the air line on the COP6 ITH machine, causing excess wear on machine parts. The water was redirected, eliminating maintenance repairs.
- \$150** **Ron Brunette** at **Frood mine** suggested to fabricate a new dash for the M&R underground locos to hold various part switches, making it easier to carry out maintenance work on them. Time was saved when troubleshooting wiring problems on the locos.
- \$150** **Mary Gibbons** and **Raymond Paquette** at the **smelter** shared \$150 for their suggestion to install anti-friction bearings on the casting crane auxiliary trolleys. Maintenance costs were reduced. The machine's operation was made safer due to less wear on the pin and trolley frame.
- \$150** At the **divisional shops**, **Vern Roy** netted \$150 for devising a method to control the solution level on the chemical cleaning tanks. The idea reduced the time required to heat the tanks and water contained in them.
- \$140** **Teodore Koleszko** at the **smelter** noticed that M (copper sulphide) in powdered form fell through the holes at the ends of bins to the floor below. To rectify the problem, Teodore came up with the idea to weld plates on the ends of the bins to keep the MC on the one floor. Spillage was eliminated and savings were made on labor.
- \$125** **Roland Spencer** of **central utilities** made the suggestion to install a screen barrier around open areas of the oxygen pipeline. This eliminated a hazard for children playing in the area and extended the life of the insulation covering the line.
- \$100** At the **divisional shops**, **Jeon Prudhomme** and **Gord Evans** split \$100 for their suggestion to install lift plates on the corners of mine pumps. The idea prevented damage to pump parts. The pump was easier and safer to handle.

# Two brother acts have 275 years of service between them

Brother acts have had their place in various avenues of life — the Hulls and Espositos in hockey, the Rockefellers in business, the Kennedys in politics, the Marxs in show business.

Inco has had its share of brother acts, but few have come close to the Meilleur brothers and the Rainville brothers. Theirs is truly a hard act to follow.

Six Meilleur brothers and six Rainville brothers are employed at Inco's Sudbury operations. Altogether they have a total of 275 years of service with the Ontario division of Inco Metals Company.

The Meilleur brothers alone have accumulated a total of 129 years of service. Herve and Lucien both have worked 31 years. Herve spent much of his time at Creighton before transferring to Clarabelle mill where he is presently working. Lucien, too, put in a good number of years at Creighton. He is currently working at the Copper Cliff mill.

Brother Ernie follows closely behind with 30 years of service. He was also employed at Creighton for many years. He later moved to the Copper Cliff mill where he continues to work today.

Marcel has 15 years of service. He, like his brothers above, spent several years at a mine, not Creighton, but Stobie. Three years ago Marcel left Stobie but he didn't leave the complex. He went next door to Frood.

Brother Raymond, with 14 years of service, has been and still is, working at the Copper Cliff smelter.

The youngest of the six brothers, Daniel, recently put in his eighth year with Inco. Most of his working years have been spent at Levack.

The Rainville brothers have tallied up a total of 146 years of service. Gerald, Marcel and George each have 29 years. The Copper Cliff mill is familiar territory to Gerald and Marcel since both have been there for most,



The Meilleur brothers are, from left; Ernie, Herve, Lucien, Daniel, Raymond and Marcel.



The Rainville brothers are, from left; Gerald, Marcel, George, Claude, Raymond and Ubald.

if not all their working years. George has worked at the smelter, Murray and Levack mines as well as Copper Cliff South mine where he is at present.

Brother Claude is a member of the Quarter Century Club. His first few months at Inco were spent at the smelter, the rest of the time he has worked as a maintenance mechanic at various surface plants in the, Copper Cliff area.

Raymond and Ubald both began

working for Inco 17 years ago. Raymond first worked at Frood and Stobie mines. He later moved to Garson mine where he has remained to this day. Ubald began at the smelter, moved to Stobie mine then Clarabelle Open pit. From there he went to Coleman and Kirkwood mines. He has since relocated to the divisional shops complex.

Congratulations fellas! Wishing you many more years of continued service.