

INCO TRIANGLE



MARCH 1972

Annual report highlights

- Inco mined 28,200,000 wet tons of ore in 1971, compared with 28,300,000 tons in 1970.
- 1971 free-world nickel consumption is estimated at 825 million pounds, down 15 per cent from 1970's record level of 975 million pounds.
- Total inventories at year-end were \$465,448,000, an increase of nearly \$180 million compared to the previous year. Most of this increase was in finished and in-process nickel.
- On December 31, 1971, Inco had proven ore reserves in Canada of 387 million dry tons, containing 12.6 billion pounds of nickel and eight billion pounds of copper.
- During the year Inco borrowed \$287,088,000 to meet its cash needs, principally for capital expenditures and to pay for the buildup of inventories.
- 1971 capital expenditures, originally estimated at \$300 million, were reduced starting in mid-year to \$244,234,000. This was \$28 million below expenditures in 1970, but was still the second highest in the company's history.
- \$32,904,000 was spent on exploration for nickel and other minerals in 1971, compared with \$31,889,000 in 1970. Some 64 per cent of these expenditures were made in Canada, about the same as in 1970.
- Significant lateritic deposits were confirmed in Indonesia, southern New Caledonia, Guatemala, and Australia. Financial and feasibility studies on all these projects are continuing.
- A sulphide nickel deposit in Western Australia and a low-grade sulphide copper-nickel deposit in northeastern Minnesota are also being investigated.
- When the January cutback is fully effective, there will be 15 mines in full or partial production and three on a standby basis. A nineteenth mine, Shebandowan, will be in production before the end of the year.
- In 1973, Inco's Canadian facilities will have an ore-handling capacity of 150,000 wet tons a day, and a primary nickel production capacity of about 600 million pounds annually.
- A new melting unit, known as a vertical shaft furnace, was installed at the Copper Cliff copper refinery in 1971.
- Limited production of S-Nickel Rounds began in 1971. This is a new Inco-developed form of electrolytic nickel for the plating industry. Full production will begin during late 1972 at Port Colborne.
- Strikes by contractors' workers, as well as difficulties encountered by the contractor in the fabrication of major components, delayed completion of the Copper Cliff Nickel Refinery, now expected to go on-stream in 1973.
- The company continued in 1971 to increase recycling of process water in its program to improve water quality in the Sudbury district. Recycled water now accounts for 75 per cent of the 130 million gallons used daily.
- On December 31, 1971, there were 92,217 shareholders, compared with 84,320 on December 31, 1970. Sixty-one per cent had addresses in Canada, 37 per cent in the U.S. and two per cent elsewhere. U.S. residents hold 49 per cent of the shares, Canadians 38 per cent, and residents of other countries 13 per cent. In 1970, Canadians held 31 per cent of shares outstanding.
- At the end of 1971, Inco and its subsidiaries employed 36,089, of whom 26,840 were in Canada. There were 37,313 employees at the end of 1970.

Nickel scrap, economic slowdown behind poor year says chairman

The pronounced drop in Inco's sales of primary nickel and rolling mill products was the major factor affecting the company during the past year, notes Henry S. Wingate, Inco's chairman, in his last message to shareholders contained in the 1971 annual report. He retires April 19 after over 40 years with the company.

Mr. Wingate said: "The sharp drop in earnings and sales was triggered by the economic slowdown in industries utilizing nickel-containing materials, especially the steel industry. The weak demand was evident in the company's two major markets, the United States and Europe, and also in Japan.

"Sales in 1971 were also adversely affected by the availability of attractively priced nickel scrap, an inevitable phenomenon in a period of declining demand for our customers' products," he added. In addition, Inco lost sales to competitors, particularly small producers and merchants who sold nickel at reduced prices.

An upturn in nickel sales is anticipated during 1972, Mr. Wingate said, "although we do not expect the high level of demand we experienced in 1970." Since the new year, orders for rolling mill products have picked up, the price of nickel-containing scrap has increased, and there has been a firming of the price of nickel offered by nickel merchants.

"We expect to see an upturn in the U.S. economy, our largest market, to be followed, after a lag by an upturn in the economies of other countries," Mr. Wingate said. This will increase the demand for nickel which is expected to reach a level of consumption of 900 million pounds during 1972. (This is only 75

Continued on Page 8

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This month's covers



The story of the longest ore pass drilled by a raise bore starts on page 10. Smiling soloist Cathy Connors was featured in the Little Miss Blue number at the Leveck Figure Skating Club's annual show. More on pages 6 & 7. John Cebatorius is smiling because he's leaning on a silver ingot — see why on page 5. Our back cover will probably bring a shiver to Sudbury district residents as they relive the storm of March 1.

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Triangle photographs available

Prints of most photographs appearing in the Inco Triangle may be ordered direct from: Rene Dionne, 170 Boland Ave., Sudbury. Or call: 674-0474. Cost: \$2 each.

Financial Results

	1971	1970
Primary nickel	\$383,217,000	\$ 577,970,000
Rolling mill products	181,963,000	229,402,000
Refined copper	171,594,000	200,554,000
Precious metals	31,088,000	27,602,000
All other	21,367,000	20,320,000
Net sales	\$789,229,000	\$1,055,848,000
Costs, expenses and income taxes ...	705,626,000	858,376,000
Net earnings	94,242,000	208,591,000
Per common share	\$1.26	\$2.80
Dividends paid	96,862,000	104,230,000
Per common share	\$1.30	\$1.40

Deliveries of Metals

	1971	1970
Nickel (pounds)	342,450,000	518,870,000
Copper (pounds)	340,300,000	348,100,000
Platinum-group metals and gold (troy ounces)	437,400	387,700
Silver (troy ounces)	1,743,000	1,051,000
Cobalt (pounds)	1,980,000	1,980,000
Iron ore (long tons)	796,000	670,000



Family Album

Larry Cumini came to Canada from Italy in 1950 and started a year later at the Copper Cliff Smelter. He works as a fitter helper on the copper converters. His wife, Jeannette, is the daughter of Joe Beaulieu, a maintenance mechanic 1st class at Stobie. The Cuminis reside in Sudbury. Their two children are Susan, 10, and Ricky, 7.



A driller on the 1400 level of Stobie Mine, Raimo Hard started with Inco in 1959. He was born in Finland and came to Canada in 1951. His wife, Patricia, grew up on Manitoulin Island and works on the island at Pioneer Manor as a registered nursing assistant. Their two children are Helen, 7, and Paul, 3. The Hards live in Sudbury.



Maurice and Terry Marlon of Lively won't agree that youngsters come cheaper by the dozen. They should know — that's the number of offspring they have. Standing are Bobby, 13, Jamie, 9, Mike, Louise, (Mrs. Bob Leblanc), Greg, and Sandra, (Mrs. Ron McKenzie). Seated are Lynda (Mrs. Eric Snyder), Terry, Maurice Jr., 7, Theresa, 6, Maurice Sr., and Maureen, 16. In front are Donna, 11, and Debbie, 10. A lamproom attendant at Creighton No. 5, Maurice joined Inco in 1946.



Both Leroy Desantis and his wife Eleanor grew up in Crystal Beach where they still make their home. Leroy joined the Port Colborne Nickel Refinery in 1954 and is now a head pressman. Their three daughters are Barbara, 9, Margaret, 11, and Rose Mary, 10. Tom, the cat on Eleanor's lap, is one of four cats, three guinea pigs and two rabbits that the family enjoys as pets. Leroy enjoys stockcar races and fishing but his spare time is currently taken up redecorating his living room.

WALKABOUT

The men who produce precious metal



The first step of the Copper Refinery's precious metal extraction process takes place in the silver building when tankhouse slimes—containing insoluble contents of anode metal—are reacted with sulphuric acid to remove copper and nickel.

At the reactor control panel, slimes treatment operator Leo Charlebois was photographed while making observations of leaching tank temperatures.

A native of Barrie, Leo grew up in Lindsay, and for eight years prior to his move to Inco, was an orderly at Belleville General Hospital.

He and his wife Janet—she hails from Timmins—have six sons and a daughter.

With a yen for working on things mechanical, Leo undertakes all his own auto repairs. "It was a case of learning-by-doing," he said.



After leaching, the silver rich slimes at about 20 per cent moisture are fed into the silver building's gas fired Doré furnace together with fluxing material and are smelted into impure silver bullion at temperatures up to 2,400 degrees F.

The furnace operates on a two-to-three week cycle, during which a 20,000-pound molten bath is accumulated. The impure silver is cast into 19-inch by 9-inch Doré plates half an inch thick and weighing close to 15 pounds.

Backgrounded by the furnace, Doré furnaceman Joe Spencer is seen cutting fire brick while building the breast for the skim bay door.

Joe began his Inco career when he started to work in the silver building in 1947. He was born in Port Severn.

He and his wife Blanche—whom he met in Cornwall when he was serving with the Royal Hamilton Light Infantry during the war years—have a family of two. Also a Copper Refinery employee, son Roger works in the casting building.



The next step in the process takes place in the silver building parting plant, where, as the name implies, silver parts company with gold and other precious metals. Doré plates become horizontal anodes in low voltage electrolytic cells and crystals of pure silver are deposited on stainless steel cathode plates. Filter cloths positioned beneath the impure silver anodes retain insoluble metals—gold and other precious metals—once more in the form of slimes.

In our picture, parting plant man Claude Bouffard is transferring silver crystals from the electrolytic cells to a washing truck.

Single and age 26, Claude was born in Sudbury, and came to International Nickel in 1968. He started work at the Copper Cliff Smelter and transferred to the Copper Refinery in 1969. He is the son of Copper Refinery tankhouse accountant Henry Bouffard.

Claude's off-the-job activities include dabbling in electronics, and he's the proud owner of no less than six tape recording machines. "Cassettes, 8-track, and reel-to-reel," he said, "I've got all kinds." His tape library contains mostly mood music.



Working behind a display of precious metals and other rare products, relief operator John Cebatorius is stamping a stack of 1,000-ounce pure silver ingots with the internationally-recognized trade mark "ORC". The mark was carried over when the Ontario Refinery Company became a wholly owned Inco subsidiary.

From left to right, the products are: pure osmium, platinum concentrate, palladium concentrate, fine silver shot, cast tellurium, pulverised selenium, silver crystals, nickel residue, nickel sulphate crystals, tellurium powder, and rhodium concentrate. Front and centre is a 400-ounce gold ingot.

A Lithuanian, John was born and grew up on a farm near S. Kalvarija, worked in Germany during the last world war, and crossed the channel to England in 1945. He switched from coal mining in South Wales to nickel mining at Inco's Creighton Mine in 1952, and moved to surface and the Copper Refinery in 1956.

The girl from the neighboring farm, Maria, came to Canada to marry John in 1960. They have two children.



Collected from the parting room filter cloths, insoluble residues are delivered to the precious metals room in the silver building, where they are dissolved in a blend of nitric and sulphuric acids. Chemicals are then added, and crude gold sands are precipitated.

The gold sands are smelted and cast into 70-ounce anodes and then refined by electrolysis. Deposited pure gold is smelted in a gas fired crucible furnace, and at a temperature of about 2,000 degrees F. is poured into cast iron molds. Resulting ingots weigh approximately 400 ounces.

Photographed while casting a gold ingot are gold room men Frank Cook (with tongs) and Art Bouillon.

Born on the Shesheganing Indian reservation on Manitoulin Island, Frank's Inco service dates back to 1941. He's worked in the precious metals department since 1951. He and his wife Anna have a family of two and live in Waters township.

Art is a native of Blind River, and he came to Inco in 1937. Parents of two and grandparents of nine, he and his wife Margaret live in Sudbury.



Topping up a 100-pound drum of refined powdered selenium prior to shipment to market, operator Nick Choepie was photographed in the weighing room of the selenium and tellurium building.

Primarily used for a wide range of photosensitive applications and for electrical rectification, selenium is also used as a coloring agent in glass manufacture and as a hair dressing ingredient.

Nick was born on a farm near Dauphin, Manitoba, and worked as a gold miner before coming to Inco and the Copper Cliff Smelter in 1941. He transferred to the Copper Refinery in 1942 and gained experience in most production departments before he settled for the selenium and tellurium building in 1945.

He and his wife Minnie are proud parents of a son and two daughters and live in Sudbury.

Never happier than when he's roaming in the outdoors, Nick's summer activities include many hours of blueberry picking.



Flappers Joan Andrews, Theresa Cumo and Giselle Crepeau danced a spirited charleston to "Five Foot Two . . .". Below the littlest angels were: Sandra Scully, Leslie Sabourin, Kristina Kleniewski, Cathy Molr, Brenda Orton and Tammy Connors; back row: Robert Dawe, Rose Brisson, Nicole Geogon, Cathy Priddle, Christine Campbell, Shelly Frolick, Kim Day, and Stephen Vowels. They skated to "My Blue Heaven".

Levack's ice revue is smashing success

Over 140 young skaters took part this month in one of the most colorful programs yet staged by the Levack Figure Skating Club. "Fantasy in Blue" was the theme for the two-performance show which attracted over 900 to watch the 20 enjoyable numbers.

Dancing to old favorites such as "Blue on Blue", "My Blue Heaven", "Blue Velvet", and "Blueberry Hill", the skaters, aged four to 17, waltzed, polka-ed, charlestoned, jived, and cut all sorts of fancy figures on the ice.

Scene-stealers were the youngest groups such as the cute "blue birds" and littlest angels featured in our photos, whose wobbly legs could barely keep them going. More intricate figures were performed by the senior groups such as the swinging hula dancers in the "Blue Hawaiian" number, the "Blue Velvet" group, and "September Blue".

Highlighted as soloists were Cathy Connors in "Little Miss

Blue", Jane Elizabeth Forget, Jamie Johnston, Kim Jalsich, and Karen Niemela. Kim finished first in the juvenile ladies category in the Sudbury and District Intra-Club Competitions held in Copper Cliff, and Jamie came first in the pre-juvenile men's category at the same event. In addition, Debbie Vagnini and Mary Cascallen from the Copper Cliff club gave dazzling displays as soloists. A specially-invited soloist was Lorraine Treveaven-of North Bay, an up-and-coming senior star. The club professional Alan McPherson also gave a spectacular exhibition.

Carnival convener was Margaret Coyle, and other members of her committee were: Joyce Forget, club president; Pat Dell'Anna, past president; Leona Dawe, secretary; Don Goodman, treasurer; Sheila Goodman, ice convener; Joanne Moore, registration convener; Claudette Brisson, badge convener; Marion McInnis, phone convener; Victor Malleau, advertisement con-





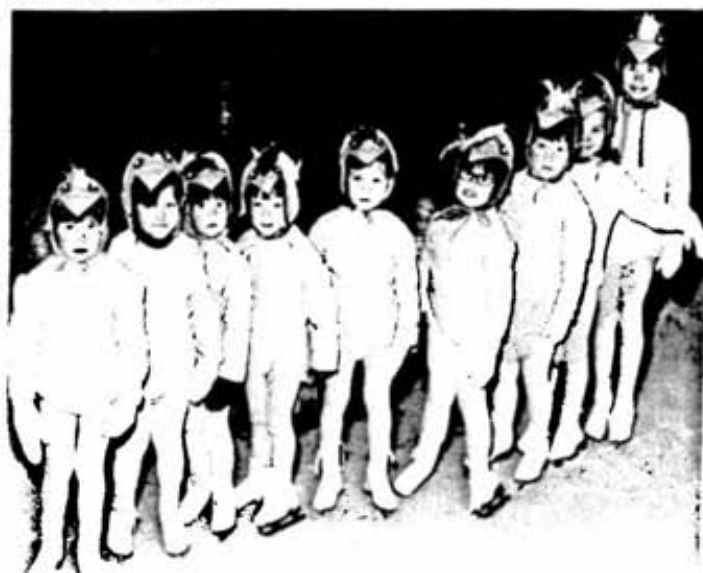
Horses and hay flew as these cute farmhands skated to "Blue Tail Fly": George Priddle, Eric Walberg, Christopher Higgison, John Goodman, Brian Fox, Rick Moggy and Tim Dell'Anna.

vener; Monique Kay, costume supervisor; and Rose Jalsich, costume convener.

Also desrving credit are the behind-the-scenes workers such as ice-captains and coaches who helped organize the show, the hardworking costume makers, the "den mothers" who kept track of

individual cast members, and those who produced the lighting, music, props, makeup, etc. And last but not least, those unsung heroines, the skaters' mothers, who drove them to the rink, watched innumerable rehearsals, and provided the encouragement for their children to participate.

Two shaky pegs barely kept these "Bluebirds on my Windowsill" flying: Lisa Sabourin, Estelle Lauzon, Jennifer Goodman, Cindy Donaldson, Connie Fox, Coryanne Rouleau, Dawn May Watkinson, Debbie Benoit, and Debbie Mainville.



Dancing to "Blue Velvet" was this pretty chorus-line: Kelly Hitchman, Cynthia McInnis, Nicole Gosselin, Laurie Germain, Diana Vowels, Susan McIlmoyle, Mary Katherine Malleau, and Margo Schijns. Below, these charmsters had "Red Roses for a Pretty Lady" as their theme: Diane Mainville, Diane Charlebois, Kim Andrews, Cathy MacLean, Dana Kelly, Cathy Storey, Sandy Wyper and Liette Laberge.





Oliver Barriault and Armand Belanger with some of the silverware they collected this winter.

Inco man is province's top sportsman in 1971

Thirty-one-year-old Little Stobie miner Armand Belanger is Ontario's sportsman of the year. He was presented with the Carling Conservation Trophy and an expensive multi-band portable radio at a ceremony at the Ontario Federation of Anglers and Hunters annual convention in Thunder Bay.

Secretary-treasurer of the Val Caron Trailsmen Rod and Gun Club, Armand has been a club member and an active conservationist for only three years.

Besides his all-Ontario award, Armand won the Morse Conservation Trophy as top sportsman in the Federation's Zone 2. \$300 cash and high-power binoculars also came with the award. For 1972, he is secretary of this zone which includes Kapuskasing, Sudbury, Sault Ste. Marie and North Bay clubs. Armand also received an award from his own club as sportsman of the year.

All three awards praised Armand's volunteer work. He has given more Lands & Forests gun instruction courses to two hunters than any other individual in the Sudbury district. Armand estimates he's taught over 200 of the classes which are mandatory for new hunters before they can qualify for an Ontario hunting license.

Pollution is another of Armand's major concerns and he's led the Trailsmen Club's efforts to clean up local beaches, in-

cluding providing and painting trash barrels.

Among his other volunteer efforts are numerous conservation talks to Boy Scout groups, and fire warden duties during the summer months for the districts of Street, Dryden and Awrey. He also arranged a tour of the Noelville Zoo for six busloads of Girl Guides and Cubs.

Club wins award

The Mary Pickford Trophy for the Ontario Federation of Anglers and Hunters' best club was won by the Trailsmen. Oliver Barriault (Levack Mine welder 1st class) said it was the first time that a club had won both the Federation's premier awards.

Formed during Centennial year, the group has 40 senior members and 25 juniors (ages 13 to 18).

Club activities during the past year have included providing winter feed for deer in the Burwash area, providing 32 picnic tables for Blezard Township, and forming its junior club.

The club encourages individual conservation projects amongst Boy Scout Troops throughout the Valley area and presented several individual Scouts with "Trailsmen Conservation Awards" last year.

Club members also donated time and talent to build animal cages and mark nature trails at the Noelville Zoo. This year, the club plans to take a busload of

retarded children to visit the popular local zoo.

The club is working through the Ontario Federation of Anglers and Hunters to get Manitoulin Island closed to hunting. Members are also concerned with having the wolf bounty lifted and the animal classed as big game. Unless this step is taken, Oliver said, the wolf is in grave danger of becoming extinct.

Nickel scrap

Continued from Page 2

million pounds above the estimated nickel consumption in 1971).

"What is more difficult to forecast," Mr. Wingate cautioned, "is how soon and to what extent this will be translated into sales of our own nickel." The answers, he said, lie in how quickly the world's economies recover, and how rapidly the supply lines of customers have to be filled, as well as how successfully the company can regain sales from competitors.

A limited number of copies of the company's 1971 annual report are available for interested

employees and pensioners. Copies can be obtained by writing the public affairs department in Copper Cliff.

Appointments

Copper Cliff

W. Curlook, assistant general manager, administration;

J. A. W. Woodley, director of administration;

J. R. Beaver, assistant division comptroller;

T. J. Newburn, group supervisor, corporate accounting;

G. J. Hamann, supervisor, cash control and banking, accounting department;

R. H. Heale, supervisor, government relations;

K. R. Smith, supervisor, accounts payable;

F. S. Ressel, supervisor, payrolls;

L. V. Tiplady, supervisor, data control, accounting department.

Port Colborne

D. E. Hanham, superintendent of precious metals department to the additional position of chief chemist in the process technology department.

Con Jarrett's rink wins Frood-Stobie 'speil



Angelo Lorenzin, Stobie maintenance mechanic 2nd class, didn't quite make it into the winners' circle, but still showed some style as he let this rock go.

Con Jarrett's rink of Ed Skene, Rod McDonald and Gary Prior took first event honors at the annual bonspiel of the Frood-Stobie Athletic Association. Last year, Con's rink came second. Held at the Copper Cliff curling club, 36 rinks, including rinks for the first time from Little Stobie, participated in the two-day meet.

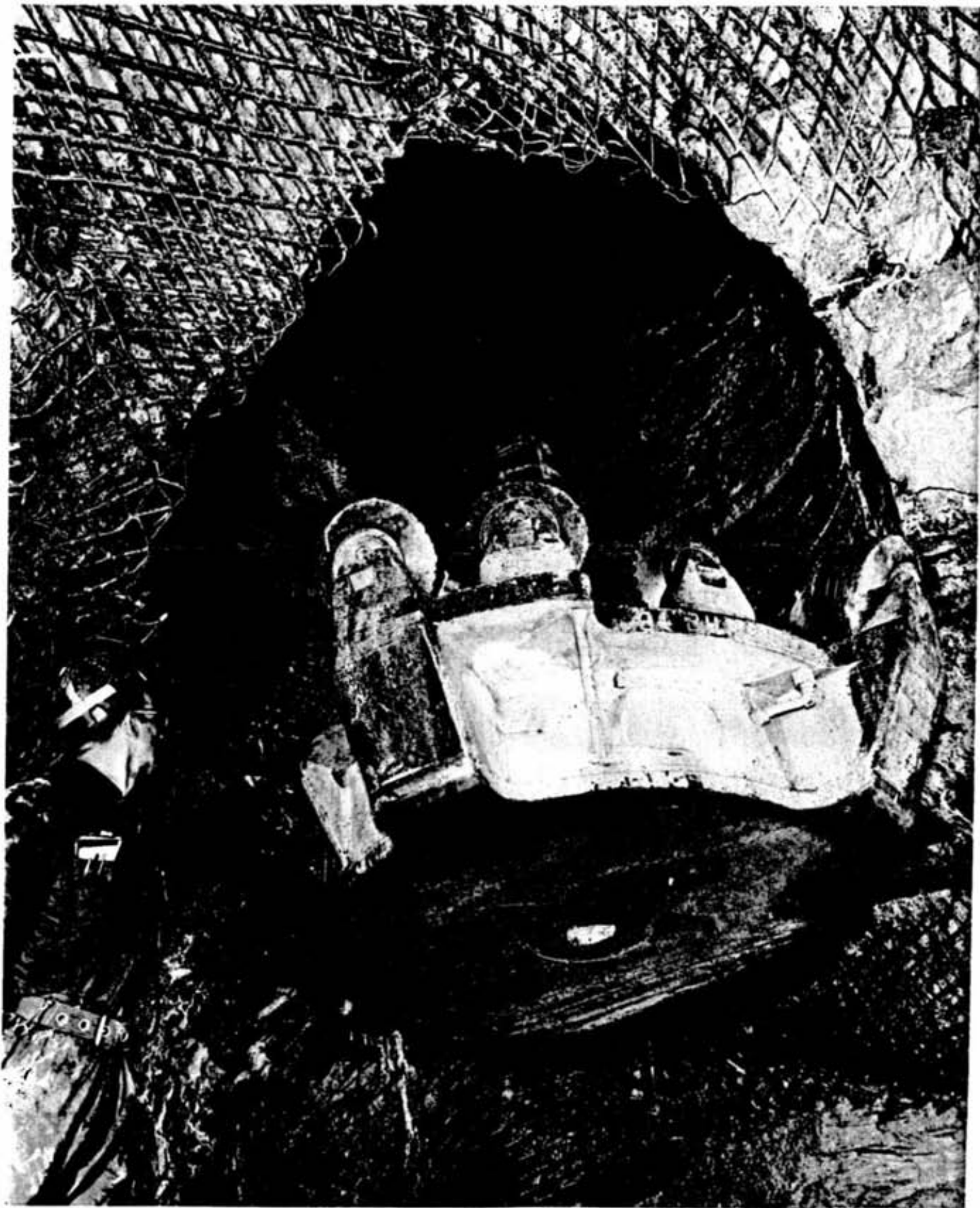
Ted Flanagan presented the winning rink with electric fry pans, pewter mugs and individual trophies.

Winners of the second event were skip Fred Birchall with Bruce Brydges, Rene Blais and Donny O'Brien. John Murray pre-

sented them with pen and pencil sets and a set of glasses. Third event was won by skip Gord Milne with Ton Young, Lionel Rochon and Doug Malley. They were awarded pen and pencil sets and mugs by Sam Pataran.

Five rinks, skipped by W. Skwarek, K. Rogerson, J. Murray, D. Storey, and G. Morin, won travel alarm clocks, lighters, ash trays and thermos jugs as hidden prizes.

Dick Williams was again the drawmaster, and Eldred Dickie chaired a committee of Bill Collins, Nick Haggerty, Matt Heindl, Fred O'Hagen and Bill Prince.



Raise bore boss Lloyd Hartley inspects the giant seven-foot reaming head. It weighs six tons. Lowered for photographic purposes, the head actually bored the entire 523-foot raise without being removed.

Raise boring the easy way

Consider the problem of driving an ore pass, ventilation raise, or manway, several hundred feet deep through the solid Precambrian rock encountered in the Sudbury area. Until recently, the conventional way was to drill, blast and muck, a method which could present safety hazards for the miners who worked in confined areas under freshly blasted faces. Then too, it took time: as long as three months to drive 200 feet.

The solution was the raise bore machine. Starting with an experimental three-foot raise bore drill in July 1964, the Ontario Division's mines drilling department graduated in late 1968 to the larger machines capable of driving five- and six-foot raises.

Last month, one of these giant machines completed a seven-foot diameter ore pass, the largest bored at an Inco mine, at Copper Cliff North Mine. The latest hole is believed to be the longest pass in the world drilled to this diameter in high compressive-strength rock (capable of withstanding 50,000-plus pounds per square inch). From start to finish, the 530-foot deep raise took less than two months. The time for shorter 200-foot raises has now been reduced to two weeks through the use of the specialized machines.

How it works

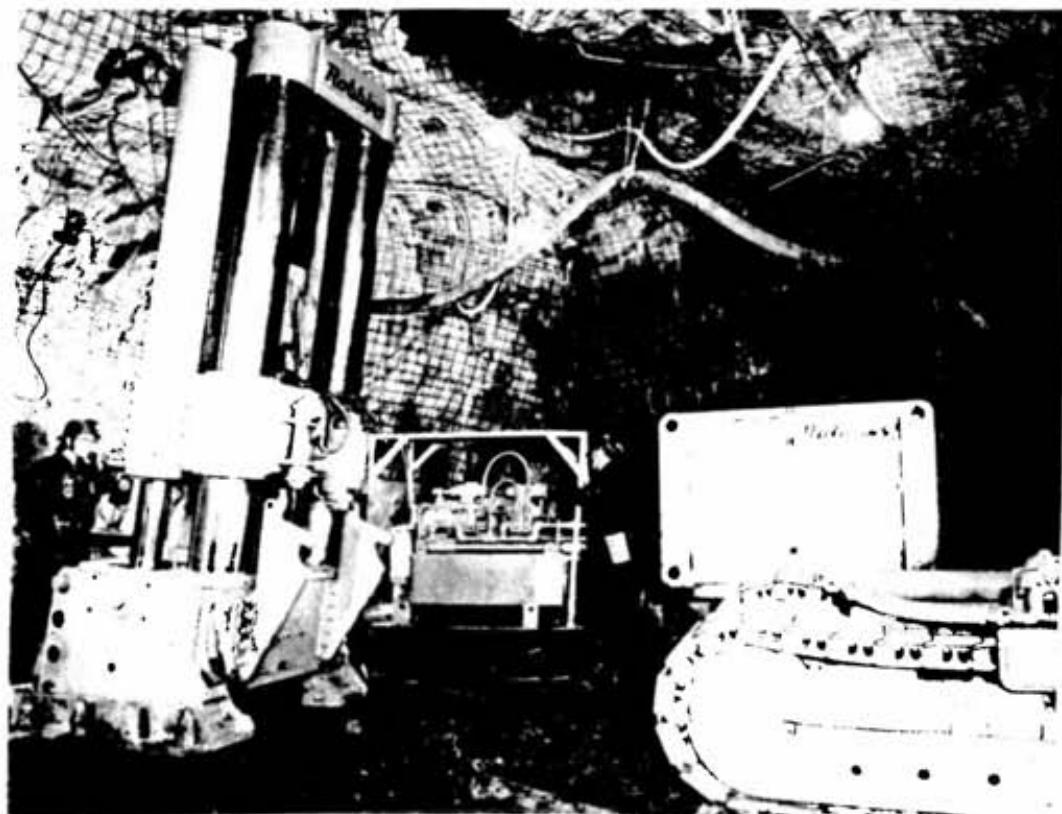
Set up in a station 18-feet high by 10-feet long and wide, the Robbins 61R raise bore is mounted on a concrete pad. The operator and his helper are surrounded by the bolted metal screen which is standard underground protection.

The machine is aligned, at any angle between 50 and 90 degrees, and then collars a hole about 18 inches deep. The raise bore's alignment is rechecked and adjusted if necessary before the 11-inch wide pilot hole is drilled to the full depth of the projected raise.

Turning at 72 rpm, the three-cone rotary pilot bit is made of alloyed steel studded with tungsten carbide "buttons". When

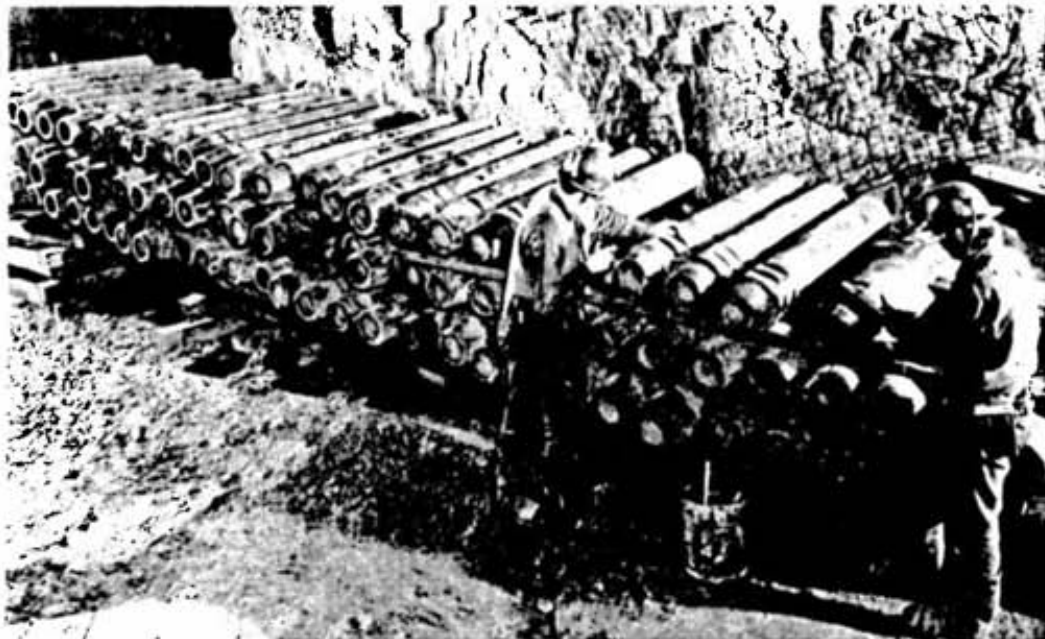


Looking up the partially completed ore pass, the shaft is the 10-inch drill rod to which the reaming head is attached. The smooth-walled circular hole is preferred when the raise is to be used for ventilation. Air resistance is much lower than in a conventionally drilled and blasted rectangular hole.



This view of the raise boring station on the 500 level of Copper Cliff North Mine shows the 29,000-pound Robbins 61R raise bore, the hydraulic power unit which supplies the thrust to the reaming head, the electrical power unit which starts the raise bore's motor, and the crawler tractor used to position the machine. The six-inch pipe in the foreground is feeding pilot hole cuttings, combined in a compressed air/water mixture, away from the drill site. The feed from the hole to the pipe is through a collar, known as a "Bloolie" collar, about two feet deep and 12-inches diameter.

On-site at Copper Cliff North, raise bore operator Gerry Poitras and helper Roger Perrault use a special detergent to clean some of the 10-inch sectionalized drill pipe they'll use in the raise bore.



pressure is applied, the buttons rotate causing the rock to "spall" or explode.

The pilot bit is replaced at the bottom of the raise by an enormous reaming head. This is drawn slowly upward at 10 rpm to back-ream the pilot hole to the full raise diameter. The rock is chipped away by the high pressure generated by its 14 rotary cutters. To complete the large pass at North Mine, the revolving cutters travelled a total of 6.5 million feet. The reamer makes a crunching noise as it churns its way up through the extremely hard rock at 12-15 inches per hour.

The rotating drill pipe, to which the reaming head is attached, is composed of five-foot steel sections, 10-inches in diameter. Each section weighs 700 pounds. A half-ton hoist is used to add or remove the pipe sections.

The reamer head is drawn up to within seven feet of the concrete pad on which the raise bore sits. The miners then take over and drill and blast the remaining collar in the conventional manner. This is the only use of blasting in completing the raise.

A 150-hp motor, mounted between the two chrome steel main guide cylinders in the upper structure, drives the raise borer.



At the Frood diamond drill warehouse, maintenance mechanic Mike Pillarella cleans and dresses the threads of the drill rods. The rods are recovered from the raise or pass being bored, are returned to the warehouse for refurbishing and are reused when required again.



This old-style five-foot reaming head was called a "Christmas tree" because of its shape and its 12 cutters which resembled ornaments. Compare with the flat seven-foot head on page 9.

The power output is stepped down to 550 volts by a 225 KVA transformer.

As delivered, the machines produced 380,000 pounds of thrust to drive the old style "Christmas tree" heads up to six feet in diameter. Key to the ability to drill the seven-foot raises is a series of Inco-developed modifications to the borer, which now produces a pull of about 500,000 pounds.

A 40-hp air-operated crawler tractor moves the raise borer from one location to another and positions it on-site. The reaming head is brought in by heavy mobile equipment and is positioned by chain blocks.

Ten raise borers are assigned to Ontario Division mines. Creighton area, Levack-Coleman, and Garson each have two, Copper Cliff North and Stobie have one apiece, there is usually one undergoing overhaul, and one small 41R four-foot machine is currently in storage. Over 90,000 feet of raises have been driven to date, of which 25,000 feet were completed during 1971.

The raise borer is another example of the "mechanized revolution" taking place in Inco mines. The most up-to-date equipment available is making mining a safer and easier job for the employee and a more economical proposition for the company.



Thirty members of the Copper Cliff Highland Cadet Corps took part in "Operation Polar Bear", an exercise aimed at familiarizing the cadets with Arctic survival gear. Conducted at Windy Lake, the cadets' white nylon Arctic smocks went over regular winter combat clothing to keep them warm, and special lightweight aluminum snowshoes helped them travel across the snow. Commanding the exercise were Captain Alec Gray and Lieutenants Ted Lumley and Don McCroome. Here Pipe Major Dave Linney escorts Cadet-sergeants Rob Orfankus, John Sturtridge and John Pilszek on a patrol through snow-covered underbrush.



Michael L. Bolton

Members of the company of Sudbury Theatre Centre and Studio Lab Theatre Foundation are shown peering into Clarabelle Open Pit. Tom Zaitz, planning engineer, third from left explains to Ernest J. Schwarz, artistic director, one of many questions asked. Martin Wiener, stage manager listens to Stan Dobson, superintendent of the Clarabelle pit (hidden) while actors Trick Brymer, Norman S. Quinlan and Bev Hancox, look over the open pit. The professional theatre company presents informal evenings of theatre free to the public every Friday until April 7. Theatre workshops are being given in many schools and the musical play "The Threepenny Opera" is being presented at the Fraser Auditorium of Laurentian University April 12-16.



Sudbury Star

Donna Arsenault and Ann Cebasek, both Marymount College students, won the Inco typing trophy at the annual speed typing contest held at Confederation High School in Val Caron. Presenting the girls with their individual trophies and team plaque is Joe Pintur, commercial director at Confederation. The girls' combined speed of 108 words per minute was the fastest of any of the teams entered by seven local schools.

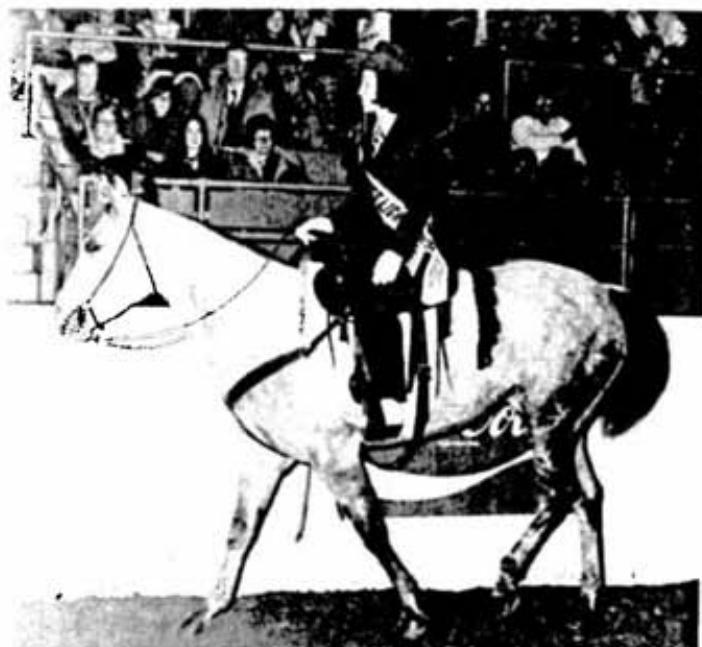
Faces & Places



"Give to Easter Seals — See what your dollars can do" — that's the slogan for the 1972 Easter Seal Campaign, handled each year by the province's Rotary Clubs. The Sudbury club hopes to raise \$16,000 for such professional services as medical diagnosis; physical, occupational and speech therapy; nursing service; special education; recreation; psychological, social and other rehabilitation services required by crippled children. Fifty-four members of the Sudbury club turned out for a "stuffing bee" to fill 34,000 envelopes with an Easter Seal message, a sheet of 28 stamps and a return envelope for contributions to the campaign. They'll be mailed to local addresses soon. Above, with this year's "Timmy" Vincent McAndrew, are Alf Thornborough (Process Technology, central lab.), Sandra Donnelly, Yvonne Nykilchuk, Louise Moylan, and Lori Robinson.



Gus Bergs, Clarabelle Mill shift boss, proudly displays a 12-pound beauty he caught on an ice-fishing trip to Onaping River. Gus donated the monster fish to Clarabelle superintendent Ken Kay because, he says, his wife always complains when he returns — "oh no, not another one". John Cibuskis, Murray Mine maintenance, Gus's fishing partner, says that plaintive cry is heard often at the Bergs' home because Gus is usually successful on his fishing trips.



Fred Dreddy

Wendy Diebel, 17, was one of five riders from the Nickel District Light Horse Association who competed in the Quarterama in Toronto on March 4. Held at the Exhibition grounds, over 1,000 riders from all over North America participated. Wendy rode "Judy Sheik", a five-year old quarter horse owned by Rosaire Langevin of Clarabelle Open Pit. She also represented the Nickel District in the Quarterama Queen contest. Wendy is the daughter of Harold Diebel, supervisor of operations in the data processing department.

Faces & Places



Roger Cooke

"All I said was that you hardly ever see dem shovels underground no more because evertin's automatic now, see," said Marcel A. Mucker, CKNC-TV's popular man-on-the-street. "But den dey took me on dis trip through Froot Mine, y'know, and put me to work!" Marcel, alias Gil Mayer of CKNC's sales staff, was a member of a recent press tour through Froot. "But I enjoyed hell out of the trip, mister man," he said, "and dat's what I think about dat dere, me, anyway."



Levack Bantams hockey team went all the way this year to win both the Northern Ontario "A" division Silver Stick championship and the North American "A" division Silver Stick crown. Both trophies are in the foreground, the North American trophy being the larger. Team members are back row: Doug Paranteau, assistant coach, Ward Caldblick, Charles Hamilton, team captain, Jacques Leblanc, Gary Moore, Karl Bubalo, Hank Doublestein, manager, Dan Cuomo, trainer; middle row: Mark Mooney, Brian Doublestein, Myles Forget, Gary Leblanc, Mike Doyle, Tony Cuomo, Bruce Unwin, Ray Parker, coach; kneeling: Wayne Farnsworth, Denis Lachance, and Dan Coady. The team defeated Toronto West Rouge 10-1 in opening round in Port Huron, shut out Lambeth 2-0 in the semi-final, and blanked Midland 4-0 in the North American final.



Results of Coniston's monthly safety contest are tabulated at the end of each year. Einer Strom's shift turned out to have been the safest people during 1971. Recently, the 180 members of his shift were presented with handsome engraved wallets for their safety efforts. Representing the shift's personnel were, back row: Leo Boyer (converters foreman), Gerry Duguay, Jimmy Smith, Helfried Hoseas, Einer Strom (general foreman), Jack O'Brien, Fred Bertram, Dan Wandziak; kneeling: Ernie Demontigny, Eddie Frappier (charge floor foreman), Guido Benidetti, Jack Bryce (relieving general foreman).



Port Colborne Nickel Refinery was recently honored by the Ontario Council of the St. John Ambulance for the efforts and enthusiasm of employees in the company's first aid program. John Potter, the first aid organization's regional manager, is shown presenting a special commemorative certificate to Joe Rossi, safety supervisor. Representing the rest of the plant are (standing): Mike Mascitelli, Gaetan Rodrique, Arnold Pichette, Jack Minor, Orvil Martin, Brian Ewing, and (seated) Miss May Grace, George Smith, Mrs. Darlene Foster, and Constable G. Paul.

May 1 deadline for Inco scholarships

Barely six weeks remain for interested high school students to apply for one of Inco's reserved scholarships. Children of Inco employees who are enrolled in a program of studies required for university entrance, and who will graduate with a secondary school diploma this year, are eligible. Up to 19 scholarships for study in Canadian universities will be awarded.

Application deadline is May 1.

It is hoped the names of the winners can be announced by June 1. The selection and announcement of winners was pushed forward two months to help students plan for the fall semester.

A four-member committee will meet May 20 in Toronto to review all the applications. Composed of educators from plant towns, this year's chairman is D. J. Booth, principal of Lockview Park Secondary School in Port Colborne. Committee members are D. J. Shaw, principal of Levack District High School; Paul Chauvin, principal of Macdonald-Cartier High School in Sudbury; and Mrs. Audrey Martin, assistant to the principal of R. D. Parker Collegiate in Thompson.

As applications are received at Inco's educational aid section's offices in Toronto, copies of each are forwarded to committee members for their perusal prior to the meeting.

The scholarship committee sets its own terms of reference for selection, with no interference or suggestion from the company. Selection is made largely on the basis of scholastic standing, but personal qualifications and extra-curricular activities are also considered.

Total value of the scholarships, which have a possible tenure of up to four years, is up to \$6,000. The awards annually provide for tuition and associated fees and a grant of \$500 to the student. A total of 153 children of Inco employees have received the awards since the plan was begun in 1956.

Every effort is made to balance the number of awards with the number of employees in Inco plant areas. In that way, Forrest Allen, Inco's administrator of education programs, said "we really have three scholarship competitions but only one committee". Of the 19 awards, up to 13 may be made in the Sudbury district, up to three in Port Colborne and Toronto, and up to three in Thompson.

Last year, there were 75 applications from the Sudbury area, 13 from Port Colborne and eight from Thompson. Application forms, instructions and conditions governing the awards can be obtained from local high schools.



Proud of their mines' safety records is this crowd representing Frood, Stobie, and Little Stobie. Back row: John Murray (Stobie superintendent), Frank Tessier (holding banner), Len Metcalfe, Morris Seguin, Frank Meleskie, Moe Bodson, Matt Waram, Sam Pataran (Little Stobie superintendent), Stan Snider (Frood-Stobie safety supervisor); middle row: Bob Harkins, Ben Beland, Bill Collis (area superintendent), Norm Miles (maintenance superintendent), Paul Garrière, Ted Flanagan (Frood superintendent); front row: John Romanow, Joe Luptak, Bill Reynolds, Rosario Labelle, Sam Shaw, Don Lavoie, Harry Bean, Serge Gurian.



Copper Cliff's smelter and mills took top honors as safest surface plants. Representing all departments are, back row: Leo Beaumont, John Noonan (converters superintendent), E. "Shiner" Corelli, Jack Lilley (smelter manager), Art Richardson, Maurice Beauchamp (safety superintendent, processing plants), Steve Kusan, Jim Wharton; middle row: George Mitchell (Copper Cliff Mill superintendent), Ken Johnston (transportation superintendent), Peter Semla, Stan Merda, Harold Waller (smelter safety supervisor); front row: Eugene Kitty, Bill Myroniuk, Bill Buchanan (FBR maintenance supervisor) Leo Boulay, Joe Donohoe, George Brake.

Frood-Stobie mine and Copper Cliff smelter/mill are 1972 safest plants

Frood-Stobie complex and the Copper Cliff Smelter and Mill are this year's safest plants in the Ontario division. They were presented with the unique trophies carved in wood by Creighton's Charles Paxy for the annual safety competition.

Frood-Stobie, which finished fifth in 1970, included Little Stobie for the first time. Creighton came a close second again, followed by Garson, Levack, Copper Cliff North, Crean Hill, and Kirkwood. Sign of a significant safety effort was Garson's third place finish in 1971 — in 1970, the mine came last in the competition.

Not far behind the reduction works, Port Colborne Nickel Refinery came second among the surface plants. Last year's winners, the Iron Ore Recovery Plant came third and the Copper Refinery fourth.

Vice president and general manager John McCreedy offered his sincere congratulations to both winners, and urged all mines and processing plants to work even harder for safety during 1972.

Awarding of the championships is determined by the relative standing for the year of each

mine or plant in three categories: lost-time-injury frequency per million man hours, all-accident frequency per million man hours, and all-accident severity per million man hours.

Rally drivers' school starts next month

Sudbury Sports and Light Car Club is sponsoring an auto rally school next month. Lectures will be held at the Sheraton-Caswell Motor Inn on Wednesday, April 12 and 19, starting at 8 p.m.

Enthusiasts interested in rallying will learn the basics of navigation, timing, map reading, car preparation and driving techniques. A graduation rally is planned for Sunday, April 23.

Cost of the course is \$5 for individuals or \$8 for couples. More information can be obtained from Don McKinnon, 566-8589.

Regular SSLCC membership costs \$10 a year, and associate membership \$5. Meetings are held at the Caswell every second Wednesday. Both categories of members receive the club's magazine Checkpoint. President of the club is Don McKinnon.

RETIREMENTS

PAULO FRAGOMENI

Paulo Fragomeni was born in southern Italy where he worked a fruit farm for a number of years. With grapes being one of the main crops, Paulo became an expert winemaker and still



has the knack. In 1949, he and his wife emigrated to Canada with their children.

His first job in Canada was at the sinter plant but later he transferred to the FBR building's shipping room where he worked as a loader.

Paulo married Rose Lacopo in Italy in 1933 and they have seven children. Paulo's hobby is raising rabbits and consequently his three grandchildren love to visit him. He still has a green thumb which can be seen from the results of his vegetable garden.

Paulo and his wife hope to return to Italy and also travel to California to visit relatives.

EDOUARD PIETTE

Ed Piette joined Inco in 1942 in the nickel reverber department at the Copper Cliff Smelter. In 1943 he enlisted with the Canadian Armed Forces. After the



War he returned to the Orford Building and then transferred to the sinter plant, leaving shortly before it closed. His next move was to the FBR building.

Marguerite Belec became Ed's wife in 1945 and they were married in her home town, Sturgeon Falls. The Piettes have four children. Their son, Joe, works at Levack Mine and their daughter, Pauline, is married to Jack Belanger who is also at Levack.

LAURIER MONCION

Although Larry was born in Bonneville, Ontario, he grew up in Blezard Valley and this is where he is going to stay. He



began to help out on his father's farm at the early age of two years. His marriage in 1939 to the former Line Houle, also of Blezard Valley, prompted him to leave farming and in the same year he joined Inco at Frood Mine.

Most of Larry's 30 years with the company were spent as a cage tender at Stobie's No. 7 shaft. For the last five years of his service he was a trammer boss.

The couple's family consists of four children and 10 grandchildren.

NELLIE SHAMES

Nellie Shames is a well-known figure, especially to the sick. She has just completed a 34-year



career as a registered nurse at the Copper Cliff Hospital. On retirement she was supervisor of outpatients.

Many people are also familiar with Nell through her volunteer work with the Red Cross. She has been involved with the organization for 19 years and is now employed on a part-time basis with the Red Cross Blood Transfusion Clinic and "enjoys the work tremendously".

Nell was born in Espanola and trained at St. Michael's Hospital in Toronto.

AL NUGENT

When Al Nugent arrived in Canada in 1948 from his birthplace of Lithuania, he worked in Val d'Or for East Sullivan Mining.



In 1951 he came to Sudbury and worked at the Copper Cliff Smelter as a puncher. In the same year he transferred to Frood Mine and was a drift

driller there for most of the 20 years he worked for the company.

He took a Sudbury girl, Jill McDonald, to be his wife in 1959. They have three children.

Al hopes to be able to get back to his woodworking hobby soon and to spend some time at his cottage on Fairbanks Lake.

PRIMO CERANTOLA

Primo Cerantola started to rack up his nearly 40 years of service when he started at the Coniston



Smelter in 1930. He was first hired by Mond in 1923 but quit twice. He transferred to the general office in Coniston in 1965 and was the janitor there until his retirement.

Italy was Primo's birthplace and he came to Canada in 1910. His wife, the former Fidel Lalonde, was born in Coniston and married Primo in 1938 at Sudbury. They have one daughter and one grandchild.

ADOLF DEPATIE

Born in Otter in the District of Sudbury, Adolf started with the company in 1935 at the Copper Cliff crushing plant. In 1945 he decided to try his hand at truck-



ing but after a two year stint he returned to the company at the concentrator. In 1949 he transferred to the Copper Cliff Mill and worked at the thickener station until retirement.

In 1941 he married Lucienne Janveau in Sudbury. They have six children and three grandchildren.

A trip to western Canada is one of the first items on the agenda for Adolf and his wife.

ARCHIE MCINTYRE

Archie McIntyre was born in England, not far from London, in 1910, but came to Trenton, Ontario with his parents in 1914. In 1919, the family moved to Port Colborne where Archie's father had found work at the new nickel refinery which had just begun operations.

Archie joined Inco in 1925 as messenger boy. In 1928, he transferred to the electrical department as an apprentice and in 1937 became an electrician.



In 1952, Archie married Dorothy McCaffery, a Port Colborne girl, whom he had met through one of his workmates, George Strong, her brother-in-law.

Archie figures that his wife has saved up enough odd jobs around the house to keep him busy for awhile. He enjoys watching hockey on TV but is strictly impartial, as long as Toronto Maple Leafs win.

At retirement, Archie was the oldest employee in terms of service, at the Port Colborne Nickel Refinery.

PETER MILLER

Pete was born in Blanche, Quebec, where he met his wife-to-



be, Myrtle Belter. In the late 1920s he worked as a shaftsman in the mines in Quebec, but in 1935 he left their employ to come and work at the Creighton No. 5 shaft. In 1937 he returned to Blanche to be married and brought his wife back to the Sudbury area. Pete helped sink a shaft at Skead, and also at Levack, Stobie, Garson and Murray Mines. In 1949 he returned to Levack and was a shift boss at the time of his retirement.

Their family consists of three girls and one son. Ann is married to Ronald O'Shell, a linesman in the Copper Cliff electrical department and Linda is married to Bob Sweet who also works for the company.

The Millers have a cottage on Windy Lake and they will divide their time between it and their home in Levack. Travelling across Canada and a trip to Europe are planned in the future.

ADELARD GLADU

As a young lad of 11 years, "Shorty" as he was later to become known, set out to work in the lumber camps. But after 26 years in the outdoors he decided to move on and was employed with Heath & Sherwood, a dia-

mond drill contractor, from 1941 until 1945.

After a number of starts with Inco beginning in 1945, Shorty decided in 1948 that he would



stay working on the fettling floor at the Copper Cliff smelter.

Shorty was married in Sudbury in 1948 to the former Aline Rheault. They have nine children and one of their daughters, Yvette, is married to Clem Bigras who works at Garson Mine. The Gladus have four grandchildren.

RENE CLEMENT

Rene Clement was known as "Clem" to all the fellows in the Copper Cliff mechanical car repair shop. He worked there for almost all of his 28 years with the company. He joined Inco in 1942 and worked underground at Garson for one month before transferring to Copper Cliff. Prior to coming to Inco he did some farming and worked for the CIL Company in Nobel, Ontario.



Rene was married in 1941 in Coniston and the Clements have four children and six grandchildren.

He is planning to move out of the area soon and also hopes to do some travelling.

OLIVER ROBILLARD

With three sons and two sons-in-law employed at Inco mines, you can imagine what an important topic of conversation is



at the Robillard get-togethers. Oliver's sons Jeremy and Claud both work at Coleman and Fern is employed at Froid-Stobie. Daughter Aline is married to Johnny Hogan of the IORP and Lucy's husband, Denis Renault, is at Levack.

"Roby" joined the company in 1938 at Froid Mine and in 1939 drove a truck at the Froid Open Pit. After transferring to

Levack in 1945, he became a first class mechanic.

Roby was married in Sudbury to Alma Marier in 1932 and they have seven children and 20 grandchildren.

GEORGE CHARLEBOIS

George Charlebois spent most of his 28 years at the Iron Ore Recovery Plant where he was a first class mechanic in the crushing plant. Prior to joining the company he worked for a short time for Fraser-Brace Construction and with Delongchamp Cartage.

When he married Helen MacMurray in 1957 he adopted a whopping family of 15 children.



Mrs. Charlebois was born in Scotland but came to Canada as a young girl and grew up in Verner.

They hope to be moving to the Toronto area shortly so that they can spend more time with a number of their children who are located there.

GORDON BARBER

Maintenance foreman at the Clarabelle Open Pit, Gordon Barber started with the company in 1939 at the Froid Open Pit.



In 1952 he transferred to Creighton and from there he moved to Froid, Crean Hill, and Murray. In 1968 he made his final transfer to the Clarabelle Open Pit. Before coming to Inco, Gordon was a mechanic at McLeod Motors for a couple of years.

Edith Cuthbertson of Shawville, Quebec, became Gordon's wife in 1938 and they have three children and three grandchildren.

The Barbers enjoy spending as many of their leisure hours as possible at their cottage on Black Lake.

ARNE J. MAKI

Arne's father, Jack Maki, worked in the converter building for many years and this may have

prompted him to follow his dad's footsteps. In 1926 at age 16 he started in the converter building at the smelter. The majority of his 43 years with the company



were spent as a locomotive engineer, although in 1970 he transferred to the machine shop in Copper Cliff.

In 1939 he was married to Sylvia Maja and they have one son, Richard who works at Stobie in the engineering department. Three grandchildren round out the Maki family.

The couple plan to remain in Copper Cliff and spend their summers at their cottage on Long Lake.

HARRY McARTHUR

"Red" met his wife, the former Jessie Miller, in Timmins when he worked for one of the gold mines there for seven years. In 1934 he joined the company at Froid Mine and they not only



gained a new employee but a fine baseball player for their team, the Froid Miners. Before coming to Inco he played for the Newmarket Redmen who were the Memorial Cup Junior Champions in 1932-33.

In 1936 Red quit but returned in 1943 and was laid off a short time later. In 1947 he was rehired at Garson Mine where he worked on the train crews until the time of his retirement.

Red and his wife were married in 1940 and they have three children and five grandchildren.

JACK ROGERS

Born in Portsmouth, England, Jack Rogers moved in 1913 with his parents to Fonthill, Ontario



where his Dad started a confectionery and grocery store.

Jack joined Inco in 1928 on the insistence of his brother, Ed,

who was a sub-foreman in the calcining department. Starting in the leaching department, he transferred to the mechanical department in 1933 as a cooper and later joined the ironworker section. After serving his apprenticeship as helper and welder, he became an ironworker, the classification he retained until retirement.

Molly Monk, a Port Colborne girl, became his wife in 1931 and they have two daughters. Six grandchildren complete the family.

RAY EVANS

Although Ray Evans and his wife have lived in Sudbury for many years they are very excited about moving to their new home in Massey.

Ray was hired in 1947 at the crushing plant where he worked as a tripperman up until retirement with the exception of the last month. At that time he transferred to Froid-Stobie Mill.



In 1952 he married the former Gladys Langdon, who was born in the Mond Village which was located near their cottage on Little Fairbanks Lake.

Ray hopes to get plenty of raspberries growing in his new garden at Massey and also to build a hot house for tomatoes.

MARTIN CALLAGHAN

Marty's working career started long before joining the Mond Nickel Company's Froid Mine in 1928. He worked in the Gowganda silver mines; tried his hand



farming in the west; then moved to Thetford Mines in Quebec. In 1930 he quit Inco but rejoined in 1933 at Froid Mine. Late in the '30s he transferred to Levack and was a shift boss there.

Ireland-born Nancy O'Neil became Marty's wife in 1942 in Sudbury. They have three children.

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RETIREMENTS

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Travelling is a must with the Callaghan's as one of their daughters lives in Germany and another lives in Iowa. They also have plans to visit Hawaii some time in the future.

THOMAS MURPHY

Shift boss, Thomas Murphy, joined the company in 1936 at the Copper Cliff Smelter but in 1939 he transferred to Creighton underground where he worked for the next 32 years.

"Murph" was second prize winner last year in the gardening contest at Creighton but says with the extra time he will have this year he hopes to come first. In the 1930s, Murph was well



known in the sports circles as being a great pitcher when he played for the Copper Cliff senior ball club. The October 1939 issue of the Triangle said: "Murph's iron-man feat was one of the finest mound performances in Nickel Belt baseball history".

He was married to Peggy O'Neil in 1939 in Copper Cliff and they have four children and eight grandchildren.

JOHN LIDSTONE

Grinding boss, "Duke" Lidstone, who originally hailed from Blind



River, started with the company in 1941 at the Copper Cliff Mill. Previous to that he drove a truck and also worked for the Sudbury bus system. He can remember driving one of the city's first new buses in the 1930s.

Jean Vondette and Duke were married in 1938 in Sudbury. The couple have two children and two grandchildren. Their son, Kirk, is employed at the Clabell Mill.

The Lidstones plan to stay in Sudbury and when the weather warms up Duke is planning a few fishing trips.

ROGER MONTEPELLIER

The year 1942 was a memorable one for Roger Montpellier. That year he married the former Rita Gervais in Chelmsford, and start-



ed at the Copper Cliff Smelter. In 1944 he transferred to Levack Mine where he spent the remaining 27 years of his service and at retirement was diesel loaderman.

The Montpelliers plan to remain in Chelmsford where they were both born and raised. Roger worked on a farm there prior to joining the company. The Montpelliers have four children and five grandchildren.

Roger and his wife have just returned from Florida, well tanned, after a six-week vacation.

LEO ROUELLE

"Chaps" as he is known, spent the majority of his 30 years with the company at Garson Mine. In 1940 he started at the Coniston Smelter, transferring in 1942 to Creighton and in the same year



he moved to Garson Mine where he was a diesel loaderman at the time of his retirement.

Chaps was instrumental in setting up some of the hockey leagues in Coniston and he is still associated with them as an assistant coach.

In 1947 he married the former Marie Ange Lecour in Coniston and they have made their home there ever since. They have four children and one of their sons, Roger, is an apprentice electrician at Frood-Stobie. Their daughter Diane is married to Paul Levesque, a mechanic in Copper Cliff.

"How to prospect" course visits Sudbury in April

The Ontario Department of Mines and Northern Affairs annual series of mineral exploration courses will visit Sudbury next month. Classes will be held April 3-8 at either Laurentian University or Cambrian College facilities and will be conducted by E. B. Freeman or E. C. Blunden, geological lecturers employed by the department. Guest speakers will be featured for most sessions. Interested rockhounds should watch the Sudbury Star for a final announcement of location and lecturers.

All classes are expected to be held evenings from 7 p.m. until 10 p.m. The course includes

elementary geology, prospecting techniques, rock and mineral identification, claimstakeing and assessment work regulations and information sources. Most classes will feature mining films and mineral samples will be distributed free of charge.

The mineral exploration courses are held at varying locations throughout the province each season so that the maximum number of people may attend.

The course is designed for active prospectors or those who simply wish to learn the popular hobby of rock-hounding. The classes are open to all; there are no registration fees.

Thompson shaft 2200 ft. deeper

After four years of preparation, the Number 1 shaft at the Thompson Mine has been opened up to a depth of 4,430 feet. This is the deepest continuous mine shaft in Manitoba.

The shaft sinking portion of the \$13 million program started in January 1967, and took two years to sink 2,200 feet, from the 2,200 foot horizon. The ancillary development portion has continued since then. Recently, the ropes on the cage hoist were changed and the cage, which carries men and supplies, was lowered for the first time to its new lowest depth of 4,340 feet.

With the capability now of hoisting from 4,340 feet, additional heavy equipment necessary in the shaft's on-going development can be lowered. Included in the equipment is a Mars pump, a relatively new Japanese-made pump used to dispose of a slurry of ore and rock particles and water which collects in the mine. The mine already has a Mars pump on the 2,000 foot level. The new one will be installed at the 4,080 foot level. Also to be installed in the new lower levels will be three 800 gallon per minute "clear water" pumps which will pump drainage water to the present clear water pump installation at the 1,640-foot level for transfer to surface. A 42-inch by 60-inch jaw crusher with a capacity of 470 tons per hour will also be put into place in the new lower level of the mine.

The shaft was deepened as

part of the programmed mining of the Thompson ore body. The portion of the Thompson Mine below 2,400 feet will have levels at 400-foot intervals rather than the former 200-foot levels. Shaft stations have been constructed at these levels and drifting into the ore body has been taking place since the shaft sinking was completed in early 1969. An exploration drift has been driven at the 4,000-foot level and exploration drilling is scheduled to start from that level in late 1972.

The Thompson T-1 Shaft is a five compartment shaft with one compartment for the cage (to transport men and equipment), one for the counterweight, two for the skips (which transport ore), and one for the manway.

'Inco Presents' TV specials

"Inco Presents", a series of 12 hour-long television specials, will start next month on CKSO-TV channel 5. Tentatively scheduled to debut March 22, the color programs will be aired Wednesday evenings 7 p.m. to 8 p.m. once a month. There will be no commercial breaks so viewers can enjoy the programs uninterrupted.

Specials to be seen include the birth of the airplane; the story of the Vienna Boys Choir; the golden age of autos; the history of Westminster Abbey; the glamour of the railroad; Lord Snowdon's film on growing old; and the unseen world of nature.

Contract talks start next month

A new approach to contract negotiations was announced jointly last month by The International Nickel Company of Canada, Limited and Locals 6500 and 6200 of the United Steelworkers of America who represent the hourly-paid employees in the company's Ontario operations. The current contract expires July 9 this year.

The bargaining committees representing the company and the union will open the negotiations April 4. They have agreed to set for themselves an "expiry date" of June 2 to reach agreement on all non-economic issues. Utilizing this approach, bargaining on economic matters can begin June 5, allowing more opportunity for discussion of economic issues.

Last month's announcement followed a series of meetings held over the last two years to resolve company-union differences on a continuing basis as they arose, instead of exchanging views only at times provided by the collective bargaining agreement.

David W. Barr is new director

David W. Barr, president and a director of Moore Corporation, Limited, Toronto, has been elected a director of The International Nickel Company of Canada, Limited. His election fills the vacancy on International Nickel's board caused by the death of R. Samuel McLaughlin, chairman of General Motors of Canada Limited, on January 6. Mr. McLaughlin, who had been an International Nickel director since 1933, was also a director of Moore Corporation, Limited from December 1942 to April 1971.

Born in Scotland in 1910, Mr. Barr was educated at Airdrie Academy, Lanarkshire, Scotland, and at the University of Buffalo. His association with Moore Corporation, Limited began in 1929. From 1937 through 1961, he served as comptroller and general sales manager of various subsidiaries, and in 1962, he was appointed vice president of Moore Business Forms, Inc. He was named executive vice president of Moore Corporation, Limited in 1966 and president in 1968.

Creighton water plant ready for early 1973

The International Nickel Company of Canada, Limited has announced that a contract for a water treatment plant will be awarded to Rust Associates Ltd. of Montreal. The new plant is to be part of Inco's multi-million dollar program for purification, distribution and storage of water. It will improve and control water quality in the water system already serving the communities of Creighton, Lively, Murray and Copper Cliff as well as Inco mine and surface plants in those areas. To be located in Creighton, the new plant is scheduled for completion early in 1973.

In 1961, International Nickel installed the existing water system. Since then it has been expanded to include the above municipalities as well as the company's Iron Ore Recovery Plant, Copper Refinery, Copper Cliff Smelter, Copper Cliff Nickel Refinery, Clarabelle Mill and mining operations at Creighton, Copper Cliff and Murray. Last year, the largest steel water storage tank in Canada was added to the system. Located in Copper Cliff, the vessel is 48 feet high, 240 feet in diameter and has a capacity of 16 million gallons of water.

The new treatment plant will receive water from the Vermilion River, about six miles west of Creighton. The purification process embodies clarification facilities, sand filters and chlorination and chemical addition equipment. The process to be employed in the plant is unique in Ontario. It will produce water well above normal potable water standards. Highly automated, the plant will continuously sample water entering the process and automatically respond with the required treatment. The 15,000 gallons-per-minute that leave the process will also be automatically sampled to ensure quality standards have been met. All operations will be monitored by a control centre in the plant that will be manned 24 hours-a-day.

The Toronto consulting firm of James F. MacLaren Limited was retained by Inco to make recommendations for the plant. The Ontario Water Resources Commission has also been associated with the design at all stages. The plant has been contracted on a "turn key" basis, Rust Associates Ltd. being responsible for all engineering and construction.



Port Colborne oldtimers keep alleys busy

Port Colborne's Oldtimers' Bowling Club is a 10 pin bowling league organized in November 1962 with 16 members. The original committee consisting of Earl Lambert, Vic Lynden and Manny Wolfe is still in charge. The club has now expanded to 26 members. Fifteen of the club members are Inco pensioners, 12 with over 40 years' Inco service.

Games are played each Tuesday afternoon from October to April at the Midtown lanes

where automatic pinsetters are available. The Inco Recreation Club would be their home base but pin boys are not available in the afternoons.

The players are divided into four teams, with captains for each selected from the four players with the highest average score the previous year.

A 100% handicap system is in use, with scratch at 170. This means a player with an average score of 100 will have a 70 pin handicap. In this way, all players have an equal value on total team score. Prizes are awarded each week for individual single and three game totals.

Just a second

*It takes one minute to write a safety rule.
It takes one hour to hold a safety meeting.
It takes one week to plan a safety program.
It takes one month to put it into operation.
It takes one year to win a safety prize.
It takes one lifetime to make a safety worker.
It takes one second to destroy it all with one accident.*

©IL Contact

March enters . . .



. . . like a lion



Icicles drip from the smelter roof.



A silver archway in shops alley.



An ice stalactite hangs from the tailings line.