

# INCO TRIANGLE

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*Faces of Christmas at Inco*

(Pages 8, 9, 10)



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## Inco Leads World's Nickel Industry in Meeting Challenges

A challenging course for which production, research and exploration must all be geared up to new highs, has been charted for the nickel industry by the pressure of world demand, International Nickel president Albert P. Gagnebin said in a recent statement:

In 1969 and beyond, three major trends will prevail in the nickel industry, all involving formidable challenges. First, producers will be faced with an unprecedented demand for the metal. Annual free world consumption of primary nickel has been in excess of 800,000,000 pounds every year since 1966. Consumption is expected

to remain high in 1969, and demand is expected to exceed supply, assuming continuation of the present high level of industrial activity.



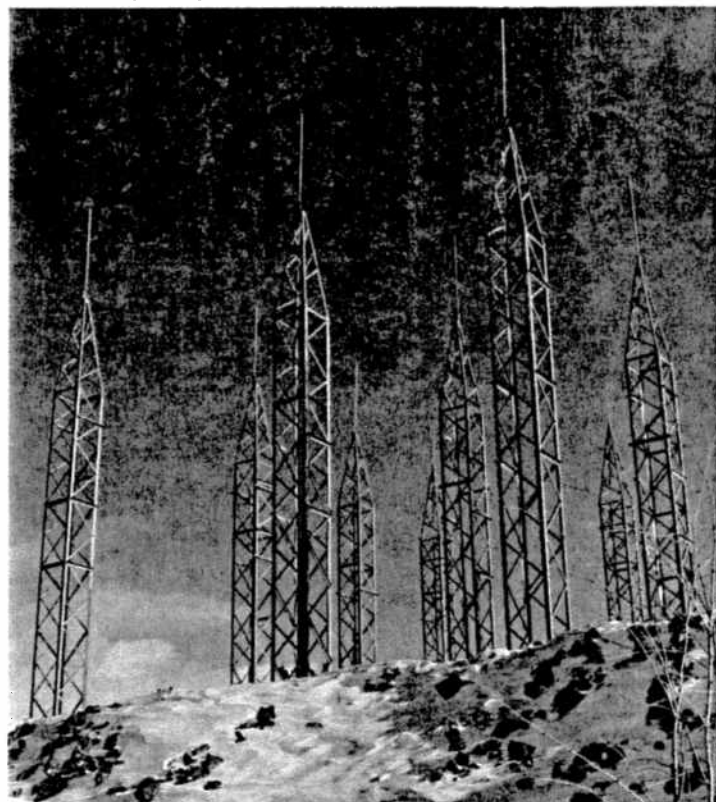
A. P. Gagnebin

This leads to the second trend—continued expansion of production capability resulting from the nickel industry's accelerating worldwide effort to meet the increasing demands of its customers. International Nickel's estimates are that by the end of 1971 the production capability of the free world nickel industry will reach about 1,100,000,000 pounds annually, which is expected to satisfy projected demand that year. In 1968, International Nickel announced that its annual nickel-production capability in Canada alone would exceed 600,000,000 pounds by the latter part of 1971. This represents an increase of more than 30 per cent above its current capability.

### Inco's Canadian Expansion

In Canada, International Nickel is engaged in a program of mine and surface facilities expansion that will have required capital expenditures of some \$500,000,000 through 1970. The Company currently has 10 operating mines in Ontario and Manitoba, and is developing nine new ones that will be coming into production in these two provinces over the next three years.

In 1968, the Company also commenced construction of an \$85,000,000 refinery at Copper Cliff, Ontario, for the production of high-purity nickel pellets and powders by means of a major new Inco-developed process. The plant,



*A satellite tracking station? An obstacle course for low-flying geese? No, these are the 55-foot towers for the new power distribution centre of No. 3 switching sub-station now being erected at the Copper Cliff South mine site. The centre will handle 69,000 volts and will serve the mine, copper refinery, Creighton mine, the iron ore plant, and the new pressure carbonyl nickel refinery. Inco power consumption in the Sudbury district is expected to double within the next five years.*

scheduled for completion in 1971, will have an annual capacity of 100,000,000 pounds of nickel in the form of pellets and 25,000,000 pounds of the metal in powder form.

Canadian sulphide ores will continue to be the main source of free-world nickel for years to come, but the ever-increasing demand for the metal has made it necessary to augment these ores with both sulphide and lateritic deposits in other countries. The existing nickel producers, and many new entries to the industry, are combing the globe for additional sources of nickel. International Nickel is investigating properties in Australia, Indonesia, Guatemala, the United States and the British Solomon Islands, and has been selected to be a partner in a new company to be formed with French interests to develop nickel deposits in New Caledonia.

### Process Research Vital

Inherent in the nickel industry's program of expansion is further emphasis on process research and huge capital expenditures. Nickel producers, like other metal producers, are becoming increasingly dependent on lower-grade deposits. In light of this, the development of advanced metallurgical techniques leading to more efficient, economical recovery of nickel from both laterite and sulphide ores has taken on added importance.

The third trend in the nickel industry is a perennial one. Nickel is a metal characterized by an extremely broad range of estab-

lished uses, but to assure long-term market growth for the metal, International Nickel and others are continuing their alloy development and product research objectives. Important nickel markets of tomorrow are anticipated in such promising new fields as nuclear power, air and water pollution control, cryogenics, air transportation, the petroleum and automotive industries, desalination and ocean engineering.

High-nickel alloys, because they meet the most stringent performance requirements, will probably be the fastest growing area of nickel consumption in the next decade, reflecting the growing use of gas turbines and other machinery in which these high-temperature, high-strength alloys play critical roles.

Nickel-base alloys and ultra-high strength steels are finding new markets in airframe components in the new generation of commercial transports. When coupled with the large quantities of stainless steels and superalloys required for the advanced engines powering these transports, the civilian aircraft market is assuming increasing significance as a consumer of nickel.

Demand for nickel stainless steel also continues to increase throughout the world, particularly for use in the petro-chemical industry, rapid-transit and railway cars, fertilizer manufacturing and distribution equipment, food handling equipment, and architectural applications.

Higher production in the pas-

senger car and consumer products industries in 1968 maintained the demand for decorative nickel plating, despite lower per-unit consumption. Nickel plating of plastics is being more widely introduced into the automotive industry and is expected to aid in counteracting competition to nickel from colored coatings and non-metallic materials.

In summary, the demand for nickel continues to grow, and so does the industry's production capability. We are still in a period of tight supply, but established nickel producers and new companies entering the industry are making large capital expenditures to alter this situation. They are expanding their existing facilities, developing new mines and building new plants and conducting an unprecedented search in many parts of the globe for new nickel deposits.

## Expanding Markets

### Aerospace

The DC-3, introduced in early 1930s, contained about 5 pounds of nickel, mostly in landing gears, propellers and gearing. Introduction of the jets in the late 1950s ushered in a new era of air transport which has seen the nickel content increase from 3,500 pounds in the Boeing 707 to about 11,000 pounds in the Boeing 747 which will begin operation in about a year. The French-British Concorde contains about 15,000 pounds of nickel. The Boeing 2707, better known as the SST, scheduled for introduction in the mid-1970s, will contain about 18,000 pounds of nickel, or more than 50 times as much as the DC-3.

### Vehicular Turbines

Major producers of truck and off-highway equipment engines are developing gas turbines which will be marketed in the early 1970s. These units will be quieter, minimize air pollution, reduce driver fatigue, and provide more power for hill-climbing and heavy loads. Nickel alloys will be used liberally throughout for such components as turbine wheels, combustion components and gears.

### Nuclear Power

The unexpected surge in nuclear plant orders of the past two years represented 40 per cent of the total new orders for power plants in the United States. The AEC now predicts that by 1980 nuclear plants might have a generating capacity of more than 150,000 MW, about 25 per cent of the total generating capacity. High-nickel alloys are essential in these nuclear power projects.

### Water Pollution Control

Federal restrictions on water pollution will require the expenditure of about \$2.9 billion through 1975 for new facilities for waste water treatment. The requirement for maintenance-free service points to increased use of nickel alloy steels, including stainless steel, in this market. It is expected that by 1975 the consumption of nickel stainless steel alone in this area will increase fourfold over the present rate. In addition, there is growing interest in incin-

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Flake subdivision in the wide open spaces of the Blezard Valley for the last seven years. A driller, Bill started with Inco at Stobie mine in 1951, and moved over to Frood in 1954. He grew up on a farm at Sturgis, Saskatchewan, started his mining career at Flin Flon, Manitoba. He met Mary, a native of Ethelbert, Manitoba, in Sudbury, where they were married in 1952. Their two daughters are Beverly, 14, and Debbie, 12.



as the hustling, non-playing president of the Thompson senior soccer league. He and his wife Christine and their family of five came to Canada and Inco in 1967 from Liverpool and are comfortably settled in a smart new home at 95 Eider Bay. The youngsters are Barry, 3, Shirley, 15, an attractive high stepper with the Thompson Drum and Bugle Corps majorettes, Hazel, 5, Ian, 17, and Susan, 10.



Crean Hill skip tender Cliff Corbiere and his wife Stella had just completed a move from Whitefish to Willisville when this family picture was taken. Both of them were born and grew up in Wikwemikong on Manitoulin Island as members of the Indian Ojibway tribe. Cliff started with Inco at the Copper Cliff smelter in 1960, turned his hand to mining at Crean Hill in 1964. Stella joined the RCAF in 1959, and was an instrument operator at the Falconbridge station before the couple were married in 1962. Their three chubby little children are Allen, 3, Harold, 4, and Rosanne, 5.

## INCO FAMILY ALBUM



Representing Copper Cliff in this month's Triangle is the family of nickel reverber binman Karl Kudlar. Born in Germany, Karl came to Canada at the age of 2, started with the Company's transportation department at Copper Cliff in 1943. He left in 1952 for the Sept-Iles iron ore development in Labrador, spent three years there, and returned to Inco and the smelter in 1955. An enthusiastic curler, the former Amy Wulff, Karl's wife, is a Copper Cliff girl. Their two livewire youngsters are Brent, 7, and Scott, 5. The Kudlas were one of the first families to build in the Waters township Mikkola subdivision, and have lived there since 1958.

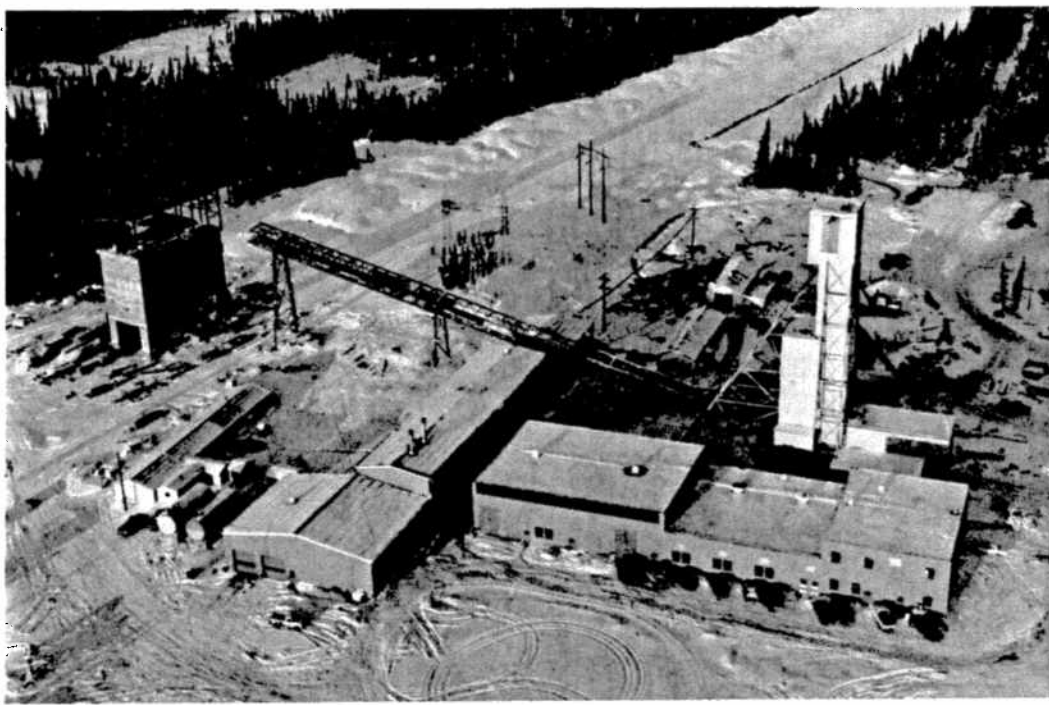


Valere Turmel and his family represent the Port Colborne nickel refinery this month. A plantfitter, Val became a member of the Inco Quarter Century Club this year. He is pretty handy at building houses and can count on lots of "business" in this favorite hobby as his family gets older. Seated with Val and his wife, Rheo, are Maurice, 23, of Niagara Falls, and Jeanne, 7. Standing are Florence (Mrs. Richard Wynn of Niagara Falls, N.Y.), Donald, 14, Louise, 18, and Helene, 12.



A Newfoundlander, John Kennedy left the East coast in 1948 for Inco and Creighton mine, where he works as a motorman. John's wife Jean hails from Warren. Surrounding the couple in their Guilleville home is their family of seven. Behind their parents are Karen, wife of Murray mine driller Leo Boudreau, Don of Sault Ste. Marie, Terry, 13, and Madeleine (Mrs. Eddie Belkosky), who also lives in the Soo. Beside her mother is Colleen, 15; Maureen, 11, and John Jr., 9, complete the picture.





One of the new mines under development in Inco's great expansion is Soab South, about 40 miles from Thompson in the Manitoba division, and connected with the reduction plants there by the Company's new railroad. As this aerial picture shows, the surface plant at Soab South is rapidly nearing completion. At the left is the 3,000-ton storage bin to which ore will be conveyed from the surge bin in the headframe, and which will be equipped for automatic loading of two railroad cars simultaneously. The mine is scheduled to go into production early in 1970.

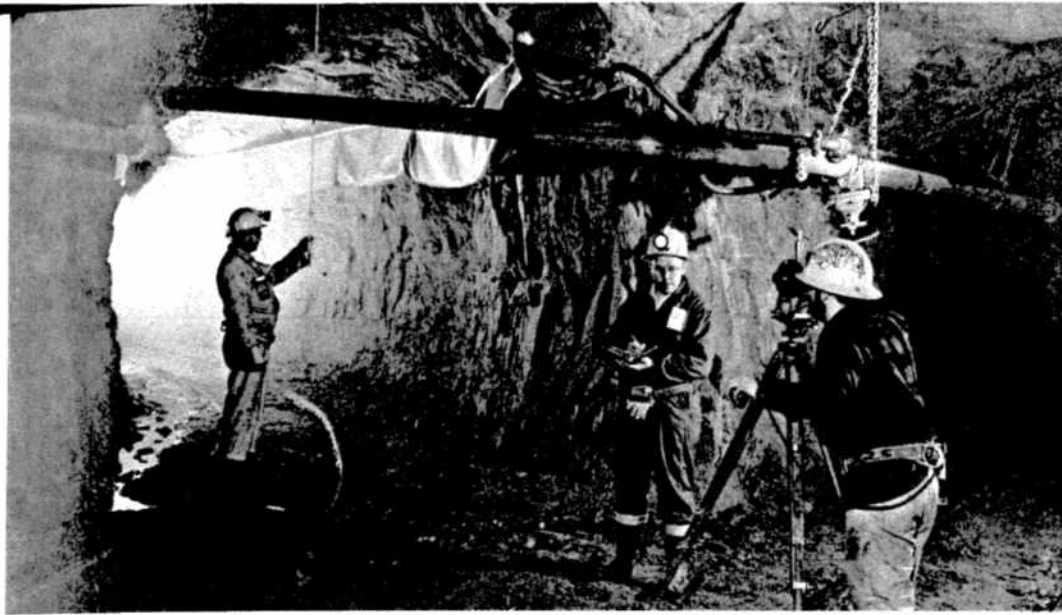


The creation of such a complex operation as a mine calls for careful long-range planning and continuous coordination between the many departments involved during the development of the project. Here mine planning engineer Gerry Marshall, chief mine planning engineer Robin McLachy, chief mine engineer Roy Bue, mines superintendent Horace Boucher and chief mechanical electrical engineer Bill Clement study a critical path network diagram depicting the myriad activities involved in the construction of the mine and facilities. The diagram is based on estimates of construction time, equipment delivery and installation time, and latest starting and finishing dates for each activity to keep the development program on schedule.

## Birth of a Mine

Until a school stope is established at Soab, new personnel for the mine will receive their initial training in Company job procedures and safety practices in established school stopes at the other Thompson district mines. This picture was taken in the 237 stope on the 2000 level at T-1 shaft with the school stope instructor shift boss Mike Herasymowich, giving drilling instruction. Standing in the class are Bernard Matsalla, Ihor Koturbash, Frank Caissie, Walter Newell, Art Mills and Ismet Hadzovic; seated are Grant Peshke, Romeo Melanson, Tony Golub and John Emery.





*Down on the 1500 level, which will be the main haulage level of the mine, chief surveyor Gar Gillis, mine engineer Bill Niemi, and instrumentman Peter Zaworon are extending the station traverse survey towards the advancing faces of the extraction drifts. A precise survey, the six angles involved are required to be plotted with extreme accuracy at this stage of development when a fraction of a degree of deviation close to the shaft could result in a displacement of several feet after the drifts have advanced to the ore body.*

## Soab South Typical Of Inco Expansion

A mine is similar to a multi-story building, the big difference, of course, being that one grows upwards while the other grows downwards. In the mine, levels take the place of floors, and there are rugged cages instead of plush elevators for getting quickly from top to bottom, but both have complex ventilation, electrical, communication, air-conditioning and plumbing systems.

A person can stand back and admire the skyscraper, but unfortunately not so the mine, where all that can be seen above surface is the familiar headframe and the service buildings, a relatively small part of the overall operation.

The birth of an Inco mine, that period between location of an orebody and bringing it into production, involves the time, talents, and technical know-how of many personnel, from the exploration geologist who reads and interprets the electrical impulses recorded during the aerial electromagnetic survey to the miner whose drill first bites into the pay-dirt.

*Continued on page 6*

*The job of constantly probing the depths of mother earth with their diamond drills to record the extent and grade of the Soab ore body falls to the Thompson geological department. Surface drillings are limited by depth, but further exploration drilling is carried on as underground development drifts are extended. Examining some of the latest drill core samples in the mine core shack are chief geologist Joe Church, Chip Duncan, and Ryan Cooke.*



*Superintendent of the new Soab mine is Harry Banasuik, known equally well in both Manitoba and Ontario divisions of the Company. He was a shift boss at Frood mine and production engineer at Copper Cliff before going to Thompson as safety superintendent in 1959.*



*A scene in the engineering department office at Soab South: this group is gathered around a longitudinal cross-section of the mine during one of their many discussions regarding stope layouts. From the left are senior layout man Geoff Storey, instrumentman John Marrington, layout technician Larry Moorman, mine layout engineer Dave Press, layout draftsman Ross Gowan, and mine engineer Bill Niemi.*

## Birth of a Mine

Continued from Page 5

Typical of the many new mines being developed during Inco's current expansion program is the Manitoba division's Soab South mine, located some 40 miles southwest of Thompson.

The mine is close to the Grass River, two miles or so from the surface showing of nickel mineralization that sparked the Company's interest in the Thompson area in 1946. Aerial geophysical surveys were made at that time and various magnetic anomalies were detected. Ten years of exploration preceded the 1956 discovery of the Thompson orebody, and it was in 1958 that diamond drill holes intersected the Soab South lode.

The decision to mine the discovery was announced in 1965, and the same year an access road from the provincial highway to the proposed shaft site was completed, and work commenced on the rock excavation for the shaft collar.

During 1966 things began to happen fast. The 120-foot permanent steel headframe and the collar house were erected, a 12-foot double-drum hoist was installed, a 230kv sub-station came on line, and a pumphouse on the Grass River began delivering water.

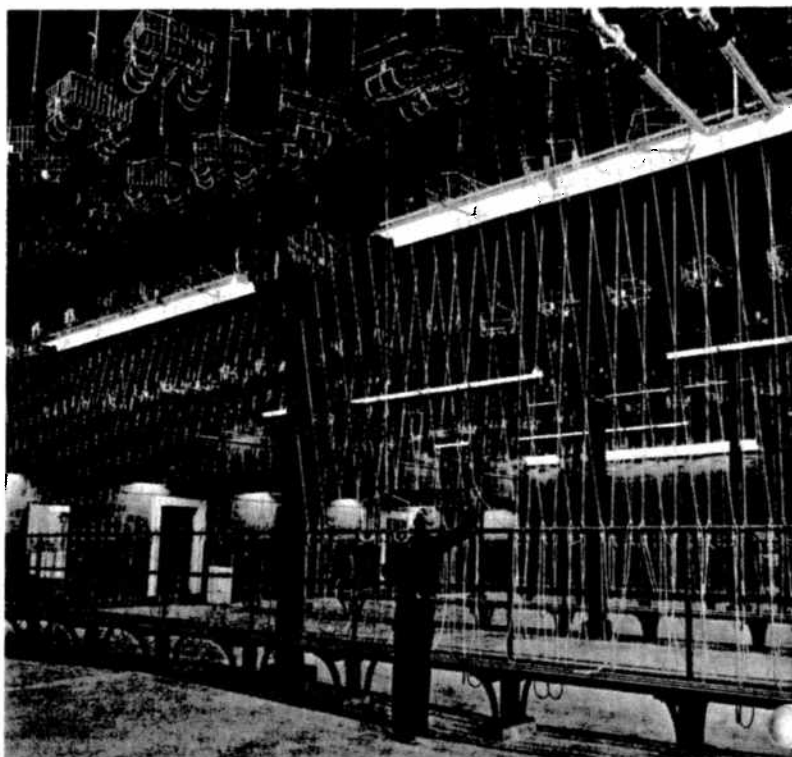
Sinking of the 8 foot 9 inch by 19 foot 6 inch shaft commenced in January of 1967, and the shaft bottom, some 2,038 feet below the collar, was reached by March of 1968.

Pre-production development in the form of lateral drifts began in May of 1968, and to date has advanced some 7,451 feet. Ore extraction drifts are being driven 11 feet by 10 feet to accommodate the large mobile machines that will be used in load-haul-dump mining.

The mine will be ventilated by two 100,000-cfm fresh air fans and two 90,000-cfm return air fans. The fresh air raise will be 16 feet by 8 feet. Propane-fired heaters will be used to warm the incoming air.

It is expected that the orebody at Soab South will be mined by the shrinkage and blasthole methods, and the ore will pass through a 42- by 48-inch underground jaw crusher before being hoisted to surface in 9-ton capacity bottom dump skip-cage combinations.

*Unused as yet, there are 400 shiny baskets ready to receive the miners' clothing and belongings in the Soab mine changehouse. An adequate supply of warm fresh air will ensure that any damp clothing will be comfortably dry in readiness for the owner's next shift. The building also contains spacious shower rooms. Manipulating one of the nylon ropes that raise and lower the baskets is dryman Issac Kilfoyle.*



Ore will be conveyed from the headframe bin to a 3,000-ton automatic ore bin capable of filling two railway cars simultaneously, and will be shipped to the smelter at Thompson.

With a planned output of 2,500 tons a day, Soab South mine is scheduled to be in production early in 1970, just a little over three years after ground was broken for the start of the project.

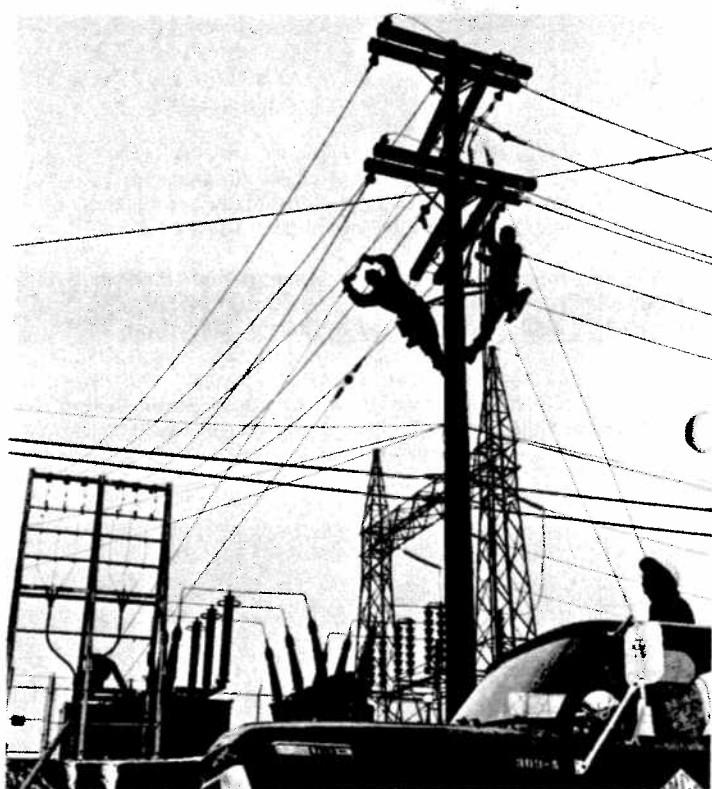
### MISERY LOVES COMPANY

Hungry, exhausted, frightened, the man in hunting clothes dropped the rifle he'd been dragging, stumbled forward, threw his arms around the man who had emerged from a patch of timber, and cried, "Boy, am I glad to see you! I've been lost in here for two days."

"Hey, take it easy," mumbled the other man. "I've been lost for two weeks."



*Scheduled for production early in 1970, the new mine will add many new employees to the Company's Manitoba division payroll, and the personnel department is already busy preparing for the additional manpower requirements. The subject is under discussion at this meeting of personnel officer Wally Latimer, superintendent of personnel Winton Newman, assistant general manager Don Munn and general manager John McCreedy.*



*Electrical power for the mine originates from two sources, Kelsey power station some 60 miles to the north, and from Grand Rapids in the south via 175 miles of 230,000-volt transmission line. After completion of the ore handling system the 15,000-kva transformer seen here will carry a connected load of 10,000 kva. Up the pole completing installation of the 4,160-volt site distribution system are linemen Roy Cousineau and John Hacquoil, and below, electrical construction supervisor Harry Lamontagne.*

### LONG WAIT

"All that silly doctor could advise my husband was to take a hot bath before retiring."

"How stupid of him. Your husband won't be retiring for years yet, will he?"

### AIN'T IT THE TRUTH?

Husband — "Maybe we can figure out what the problem is..."

Wife — "Oh I know what the problem is — it's having too much month left over at the end of the money."





## This Is Curling—Tiny Tim Style

Curling can be a pretty serious busi-

ness, involving much deep concentration and doleful head-shaking, but not at the annual costume bonspiel at Levack when the ladies kick over the traces and abandon traditional solemnity in favor of fun and foolish-

ness. Wonder what the patron saint of the game would have thought of the above giddy curling teams, winners of the costume prizes: 1, Mildred McGowan, Fay Corkal, Sylvia Gray, Toini Rodda; 2, Joan Rodd, Janet

Bionda, Brenda Piccolo, Noreen Kehler; 3, Joan Frederickson, Helen Brown, Ellen Corkal, Yvette Dupuis. The Frederickson rink won the bonspiel, but actual curling was really just incidental that day.

## 14,000 Children Welcomed Santa At Inco Parties

Amidst all the uncertainty of this trouble-plagued world one thing at least is for absolutely sure — that shining love affair between Santa and the children is still going strong.

At 10 different Christmas parties staged by the good guys of the Inco plant athletic associations, more than 14,000 youngsters enjoyed a visit with the bewhiskered old gent with the booming ho-ho-ho, and came away entranced by his magic spell.

Not only the kiddies but also their parents and all the helpers at the parties were touched by that special gentle happiness that Santa bestows upon his faithful legions.

General manager J. A. Pigott and other senior officials of the Company made the rounds of the Christmas parties, enjoying the wide-eyed wonder and excitement of the children, and exchanging Season's greetings with many of the parents.

### COPPER CLIFF

Although unfavorable weather held down attendance from out of the city, more than 3,000 kiddies

and parents had a great time at the Christmas party staged at Sudbury Arena by the Copper Cliff Athletic Association under the leadership of president Fred Burchell and committee chairman Roy Maud. A stage show emceed by the veteran impresario, Norm McGilvary, drew vociferous applause, especially the shattering selections of an electronic musical group, The Unlawful Assembly, and the very talented performance of a young singer from Espanola, Maria Kozachanko. A sing-song led by Sonja Dunn heralded the arrival of Santa Claus (Jack Latreille) who rode majestically around the arena on the ice-making machine while his loyal subjects waved and shouted their greetings in a joyous din. On leaving the party the children were presented with bags of Christmas treats. Assisting in putting on the highly successful party were CCAA executives and faithful volunteers from the plant, pay office, safety and personnel departments.

### CONISTON

The amusing antics and skits of seven colorful clowns went over big with more than 400 youngsters at the Coniston Athletic Association's jolly Christmas party at the Club Allegri. The funny men in the greasepaint and crazy clothes were Romeo Boulay, Gino Gobbo, Clarence Fox, Roy Bidal, Ricky Brignolio, Hector Barbe, and Ber-

nard Forrestel. Another very popular person was Ugo Comacchio, who was in his usual top form in leading the enthusiastic sing-song. Bedlam broke loose when Santa, ably impersonated by Tibby Caverston, arrived at last to preside over the handing out of gifts and candy. Roy Snitch, Reg MacNeil and Tom Crowley headed up the committee in charge, and were ably assisted by a loyal band of regulars.

### COPPER REFINERY

An early evening date with Santa was joyfully kept by some 700 children of copper refinery employees at the Inco Club in Sudbury. Each youngster was summoned by name over the loud-speaker and proceeded to the stage where His Nibs (the old master Jack Latreille) held court with pensioner George Furchner as his aide-de-camp. Lovely gifts, candy and crackerjack were distributed to the children, while their parents were treated to coffee and doughnuts, then all settled down to enjoy a program of movies projected by Inco Club steward Vern Tupling, himself a copper refinery employee many years ago. Athletic association executives Wayne Wilson and Bud Eles were assisted in running this smoothly-staged party by such well-known stalwarts as Bill McBain, Howard Caldwell, Jim Tosto, Jerry Rienguet, Reg Daoust, Jim Bryson, and Joe Stelmach.

### MURRAY MINE

Almost 900 youngsters got a pre-Christmas thrill at the smartly organized party given by the Murray Mine Athletic Association at the Inco Club, to which were also invited children of employees at Copper Cliff North and Clarabelle. Santa's jolly deputy for the occasion was Maurice Lavoie, who with his staff of cheery helpers presented individually wrapped gifts bearing the child's name. Candies, hot dogs, doughnuts, coffee and pop, along with a movie show, topped off the entertainment. Athletic association president Clarence Weist and secretary-treasurer Tony Basso had a great group of volunteers to help them put on the party, including Norm Creet, Stan Dobson, Gerry Geddes, Carl Clubbe, Wilfred Young, Bill Lang, Ken Fryer, Greg Roy, Cec Jacklin, Bill Fournier, Don Dublin, Gary Eadie, and Peter McCloskey.

### FROOD-STOBIE MINE

It was back in 1936 that Frood Mine Athletic Association held its first Christmas entertainment at the Polish Hall in Sudbury, with Eldred Dickie as secretary. The party moved over to the new Inco Club in 1938, and a couple of years later Eldred's little son Robert was on deck to shake hands with Santa. Last month Robert was one of the Frood-Stobie A.A. helpers, while secretary Eldred was proudly introducing his grandson

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## Christmas Dance

This was part of the happy crowd of 175 that enjoyed the annual Christmas fiesta of the safety, first aid, and hospital staffs, held at the Italian Club, Copper Cliff. "Beaver"

Cundari's Commodores delivered a smooth beat for the dancing, and the ladies of the club served one of their renowned chicken-and-spaghetti dinners at midnight. Florence Husson

and Joffre Perras headed the committee in charge of the successful affair; Joffre teamed up with Toby Armitage to lead the carol singing, with Eleanor Marzetti at the Piano.



## Faces of Ch







# ristmas at Inco



# Faces of Christmas at Inco



## 14,000 Youngsters

Continued from Page 7

Bobby to the man in the red suit. Time marches on. In a five-hour session on December 15, commencing at 11:00 a.m. a genial Santa (Dave Gilbert) visited personally with approximately 4,000 children, including those of employees at the new Frood-Stoble mill as well as those at the big two-section mine, and with his staff distributed handsome presents and bags of fruit and candy to all. Cake and tea or coffee were served to the parents, and movies rounded out the much enjoyed program. The large committee which made this mammoth undertaking the usual sparkling success was chaired by Sid Sheehan and included Mrs. Grace Dickie and her staff of ladies, who did all the gift buying, Alex Sten Jr., Gary Chicquen, Len Marion, Charlie Cranston, Garnet Milks, West Thompson, Joe St. George, Andy Rayne, Joe Witty, Bob Brown and Bob Christie.

### LEVACK MINE

Although confined to a wheelchair following a paralytic stroke, retired shift boss Eino Lampi came all the way from Whitefish to visit with old friends and enjoy the excitement at Levack Mine Athletic Association's Christmas tree gathering, of which Harvey Nadeau was chairman and Jimmy Bryant secretary-treasurer. Gifts and candy were distributed to approximately 3,000 children ranging from wide-eyed babes in arms to wise-eyed 10-year-olds. Santa's able deputy for the occasion was Sam Williams, and assisting him in presenting attractive gifts and candy to the young fry were Ken Taylor, Ron Matte, Rolly Nadon, Ron Corelli, Ron Storey, Oliver Rossi, John Bryant, Clarence Vowels, Marc Albert, Chuck McGauchey, Cal Kean, Wilf Digby, and Bun Londeau. Movies and an evening sing-song led by Barney Forest and Bill Hannon, with Mrs. Rita Zubac at the piano, were other features of a memorable day at the Levack Employees Club.

### CREIGHTON MINE

A local talent musical program was a special attraction at the



More than 1,000 children filled the Inco Recreation Club at Port Colborne to overflowing for the annual visit of You Know Who. Singing of Christmas carols, led by Larry Roach with Reg Steeves at the piano, and a fascinating show by Hugo the Magician, were enjoyed by all. The highlight, of course, was the arrival of Santa, arranged by Wes Pierce.

Creighton Mine Athletic Association's Christmas party for some 500 children at the Employees Club. Three young troubadours with guitars were Martin Maloney, Freddie Gervais and David Blackwell. An accordion solo was played by Giselle Joly, and Veronica Nichols provided guitar accompaniment for a melodious quartet of Carmen and Vivian Cozzarini, Donna Mitchell and Joanne Mitroff. In the grand finale Ermenio Cozzarini conducted a choir of boys and girls in a selection of Christmas carols. Movies were shown with Don Shannon as the projectionist. Then came the star of the entertainment, good old Santa, who at times sounded a lot like Ed Cayen, to have heart-to-heart chats with the children and bring his lists up to date on what they wanted him to bring them for Christmas. Bags of fruit and candy were packed and distributed by the committee in charge of the party, which included Earl Mumford, Munro Smith, Saul Sherbanuk, Frank Blum, Dorothy Smith, Joan Cayen, Suzanne and Dennis Tucker, Kathryn and Margaret Menard, Louise Roy, Delisca Dumencu, Kathryn Mitroff and Earl Mumford Jr.

### GARSON MINE

A happy turnout of 850 youngsters greeted Santa when he arrived at the Garson Mine Athletic Association's Christmas entertainment at the Employees Club, and they were delighted by the gifts and goodies he and his lieutenants had in store for them. Association president Tom Scanlon was in charge of the event. Glen Clarke was the jolly man with the white whiskers, Vic Stone put on the movie show, and the willing volunteers on Santa's staff included Bruce King, Bob Mitchell, Art Hirschfeld, Merl Currie, Percy and Bert Pilatzke, Harvey Bangle, Ray Joly, Lloyd Morrow, Emil Maki, Floyd Laking, and Jack McDonald.

### LIVELY

Santa's arrival at the High School auditorium at Lively, where he presided over a great gathering



Given a vociferous welcome, Santa proceeded to the stage where he chatted with the youngsters and their parents as they filed past. Each child received a bag of candy from his helpers, who included Charlie Bridges, Norm Hillier, Jan Van Dillen, Jack Burd, Bob Duke, Ross Butler, Don Horne, Elmer Somers, Roy McIntyre, Chuck Ott, John Kramer, and Stan Ceply.

of 750 children and their parents, as usual was preceded by a triumphant ceremonial tour of the town on top of the fire engine. The hearty old gent then settled down beside the big Christmas tree to hold court, receiving the whispered confidences, behavior reports, awe and affection of his young subjects. Each child was given a suitable present and a bag of fruit, candy and nuts. Members of the Lively Athletic Association, which staged the smoothly organized party, were on hand to assist Santa, including president Al Este, vice-president Gary Foy, secretary Ray Chateauvert, treasurer Mason Logan, along with Jack Cooper, Walter Lalonde, Bob Hay and Al Carriere. The role of Santa was warmly played by Pete Seguin.

### WILLISVILLE

A real community get-together was the Christmas party sponsored by the school board at Willisville for employees at Lawson Quarry and their families, as well as some 10 Crean Hill families now resid-

ing there. A delicious pot luck supper was served by the ladies of the village, to which full justice was done by the 60 adults and 50 children in attendance. Then in came Santa, nobly impersonated by Harold Golden, to pass out gifts and good cheer to all. Arrangements were in charge of the recreation committee, of which Gordon Matheson is chairman and Pete Boyer is vice-chairman, with assistance from Bill Tilston and the blessing of Crean Hill's Bob Brown.

### AT LAST!

A cyclone hit a farm house just before dawn. It lifted the roof off, then picked up the bed in which the farmer and his wife were sleeping, and set it down gently in the back yard. The wife began crying.

"Don't be scared, Mary," her husband said. "We're not hurt." "I'm not scared," she replied between sobs. "I'm just happy 'cause this is the first time in 14 years we've been out together."

## The Inco Key



D. E. Munn, assistant general manager of the Manitoba division, receives from general safety engineer G. E. Vivian the first of the safety keys and chains for distribution to division personnel. Made from nickel produced at Thompson, the keys are stamped "I'm a key man to Inco safety," a constant reminder to the owner of safety responsibility.



# Retired on Inco Pension

## STEVE SCHVARCZKOPH

During his 36 years with Inco, Steve Schvarczkoph has worked as a tapper on all nine of the Copper Cliff smelter reverberatory furnaces. "I know each one of them just like they were my friends," said the service pensioner. Steve came to



Mr. and Mrs. Schvarczkoph

Canada from Hungary in 1927, was married to Iлона Schonberger in 1931, and has a family of three daughters. Their 11 grandchildren all reside in the Sudbury district.

## GRANT LAMPMAN

A plant fitter at the Port Colborne nickel refinery since 1941, Grant Lampman has retired on special early service pension. His



Mr. and Mrs. Lampman

service with the Company dates back to June 1936.

Born on the family farm in Humberstone township, Grant was married in 1930 to Myrtle McIntyre, whose death occurred in 1960. He has two sons and two grandchildren.

He remarried in 1963, taking Stella Michner as his wife, and lives on the northern outskirts of Welland.

## BILL GAMBLE

The Frood rockhouse was the place where Bill Gamble started what was to be 37 years of service with Inco. Retired now on early



Mr. and Mrs. Gamble

service pension, Bill became the rockhouse foreman in 1957, and for the last year has been an underground mechanical foreman at Murray. Walford was his birthplace, and he wed Rosella Stevens in Sudbury in 1930. One of their family of two, Cleo is the wife of Levack transit man Ken Miron.

Seven grandchildren are already on the scene.

## LEONARD YOUNG

Calumet, Quebec, was home to Leonard Young for the first 39 years of his life. Then he moved to Port Colborne and became employed at Inco's nickel refinery in



Mr. and Mrs. Young

1942. He has been a member of the mechanical department since 1944, and was a bricklayer at the time of his recent service retirement.

His marriage to Mamie Young in 1933 has been blessed with three daughters.

Leonard plans to get back at fishing, a sport he has neglected since his early years on the Rouge River. He and his wife are looking forward to a motor trip to Alberta and the Pacific coast.

## ALLAN HARRIS

Now retired on early service pension, Allan Harris worked with the miscellaneous fitters at Copper Cliff for all of his 33 Inco years. A Torontonian, Allan was married there in 1929 to Pauline Simms, and moved to the Sudbury area to



Mr. and Mrs. Harris

work for Inco in 1935. One of their family of two daughters, Dorothy is the wife of Copper Cliff maintenance mechanic Joe Laurich. Eight grandchildren complete the family. Allan and his wife will continue to reside in Sudbury where he will devote much of his leisure time to his two hobbies, carpentry and collecting miniature liquor bottles. His present bottle count stands at a fabulous 325.

## FELIX LUKKARILA

Felix Lukkariila has retired on early service pension after 33 years with Inco. A native of Lappajarvi, Finland, he sailed for Canada in 1926, settled in Quebec for nine years, and joined Inco at Frood mine in 1935. Service at the Frood open pit followed, then Stobie, and for the last seven years he has worked as a pit miner at Clara-belle. His marriage to Siiri Wal-lenius took place in Toronto in 1931, and they have a family of



Mr. and Mrs. Lukkariila

two, with two grandchildren. Felix plans to relax with good books during the winter months and enjoy his camp near Burwash in the summer.

## GEORGE JOUKANEN

A timberman for the last 12 of his 26 years with Inco at Garson, George Joukanen has retired on service pension. Born in Parkano,



Geo. Joukanen

Finland, he came to Canada in 1927, the year following his marriage to Anna Mattila. "It was a sort of honeymoon trip," said George with a grin, "a rather long one the way things turned out." He and his wife have one son and two grandsons. The couple have no particular yen to return to the old country and will continue to live in their comfortable home on Kathleen Street in Sudbury.

## JIM LAWSON

A shift electrician at Copper Cliff since he started with Inco in 1939, Jim Lawson finished his 28 years with the Company and retired on disability pension shortly after his transfer to the Copper Refinery. Born and educated in Copper Cliff, Jim took Rose Nepssy, a Larchwood girl, for his bride in 1952 and they have a school-age



Mr. and Mrs. Lawson

family of four. A Chelmsford resident for the past 12 years, Jim plans to take training for a light office job. An adept guitar player, Jim enjoys nothing more than a jam session with a few of his musical buddies, with his wife filling in the lyrics.

## OSCAR SHANK

"I don't do very much of anything now. I'm just concentrating on relaxing," said recent disability pensioner Oscar Shank with a grin. And he's making a success of it, having gained a solid 15 pounds in weight since he left his job as conveyorman at Copper Cliff after 27 years with Inco. A native of Verner, Oscar was married there

to Annette Perron in 1935, and they have been blessed with a



Mr. and Mrs. Shank

family of four daughters and a handsome total of 12 grandchildren. Residents of Val Caron, Oscar and his wife will continue to enjoy the peace and quiet of rural living.

## ARTHUR BOUCHARD

A farm on Sudbury's McFarlane Lake was the birthplace of Arthur Bouchard, and he left the fields for the Copper Cliff reverberatory building in 1935. A maintenance mechanic since 1942, he had 32 Inco years to his credit when he retired recently



Mr. and Mrs. Bouchard

on disability pension. Arthur's marriage in 1935 to Anne Terho was blessed with a family of one daughter and two grandchildren before she died in 1966. Wedding bells rang again in 1967 when Arthur exchanged vows with Mrs. Beatrice Sauve and added two more to his family, together with eight grandchildren. Daughter Yvette is the wife of Stobie shift boss Don Hutchinson.

## EUGENE PAVAN

Coming to Canada from Morgano, northern Italy, in 1920, Eugene Pavan started for the first time with Inco at the copper refinery in 1936. After breaking his



Mr. and Mrs. Pavan

service, he returned to the Company at the Copper Cliff smelter in 1947, and was a carpenter until his retirement on service pension after 21 years. He was married in 1931 to Fidelia Zorze at Sault Ste. Marie, and they had one daughter who died in 1967 leaving them a grandchild. A carpenter by hobby as well as by trade, Eugene plans to keep busy with plane and saw in the basement of their Morrison Street home in Sudbury.

## ISSAC HIRSIMAKI

The lure of the gold mines at Kirkland Lake induced Issac Hirsimaki to leave Frood in 1934 after being with Inco for five years. He returned to the mine

in 1936, remained with the Company for nearly 33 years, and was a shaft pipeman when he retired on special early service pension. Born in Vaasanlaani, Finland, he left for Canada in 1926. He and



Mr. and Mrs. Hirsimaki

his wife, Winnie Koski when they were married in Copper Cliff in 1943, have a family of two, with four grandchildren. They are planning a trip to Finland to visit a host of relatives, after which they will settle down to shuttling between their Burton Avenue home in Sudbury and their comfortable camp on Bass Lake near Whitefish.

#### MIKE VOVK

With time on his hands as an Inco service pensioner after 33 years with the Company, Mike Vovk is hoping to visit brothers and sisters in Czechoslovakia



Mike Vovk

whom he hasn't seen since he left there for Canada in 1928. After prospecting out of Blind River he joined the Company at Frood, and for the past 30 years has been a pillar leader there. His bride of 1925, Mary Ahlko, followed Mike to Canada in 1938 and died in 1963. Their marriage was blessed with two daughters, and Mike is grandfather of four.

#### TONY ZANUTTO

Now a part-time plumbing inspector for the Town of Coniston, Tony Zanutto has entered the ranks of Inco early service pensioners after 34 years with the Company. Born in northern Italy, Tony made his move to Canada



Mr. and Mrs. Zanutto

and Fort William in 1923, and started at the Coniston smelter in 1934. He has been a plumber there since 1951. Coniston girl Fiorina Caverson exchanged vows with Tony in 1932, and the couple have three sons, with six grandchildren. Tony made a solo trip back to the old country in 1961. Another visit is in the planning stage and this time Mrs. Zanutto will accompany her husband. Tony is a past president and active executive of the Club Allegri.

#### GEORGE ZUFELT

A Frood miner since he joined Inco in 1936, George Zufelt has retired on special early service pension from his job as motorman

### Capacity Turnout Farewells Mr. and Mrs. Koth at Port Colborne



Retiring nickel refinery manager Warren Koth winces in mock dismay as copper refinery works metallurgist Joe Bischoff recounts an amusing story at his expense. Left to right are Austin Smith, assistant to the vice-president, Toronto; Mrs. Machum; J. A. Pigott, Ontario division general manager; Mr. and Mrs. Koth, Mrs. Pigott, and G. O. Machum, Ontario division assistant general manager (processing). In right foreground is A. D. Finlayson, chief engineer, Port Colborne.

Manager of both the copper and nickel refineries of Inco's Ontario division during his 39 years with the Company, Warren R. Koth retired at Port Colborne on early service pension and has taken up residence in his new home at Sarasota, Florida.

He and his wife were honored at a dinner at the Rathfon Inn, Port Colborne, where a capacity turnout testified to the high esteem in which they are held. Both Copper Cliff and Toronto were well represented among the guests. Port Colborne assistant manager James H. Walter was master of ceremonies. Among the many presentations to Mr. Koth was deep-sea fishing equipment to keep him busy in his new habitat.

The last remaining member of



Mr. and Mrs. Koth

a small original group that came from the U.S. Metals Refining Company at Cartaret, New Jersey to Copper Cliff in 1929 to start up and operate the copper refinery, Warren Koth was casting and yard superintendent. He became manager of the refinery in 1958. His transfer to Port Colborne as man-

ager of the nickel refinery took place in May, 1964.

A naturalized Canadian citizen, he was born at Bay City, Michigan in 1907, and attended Bay City Junior College. He was married to Helen McIntyre at Perry, New York, in 1930. They have two sons, Paul, is a member of the special projects department at Copper Cliff.

Keenly interested in community affairs, Warren Koth was an alderman in Sudbury for seven years and also had long service on the arena commission, the high school board, and the Memorial Hospital board. Both he and Mrs. Koth were leaders in organizing the big annual dinners of the Inco Quarter Century Club.



Mr. and Mrs. Zufelt

after 32 years with the Company. Born in Huntsville, George grew up in New Liskeard and was married to Ellen Inglis, a school-teacher at nearby Kenabeek, in 1937. They have one son. George and his wife are considering a move to Clifford, Ontario, Mrs. Zufelt's home town.

#### PAUL DUPUIS

Retirement for Paul Dupuis hasn't resulted in his withdrawal



Mr. and Mrs. Dupuis

from the working world. On disability pension after 20 years with Inco at Garson, where for the last

seven years he was an underground switchman, Paul is now a full-time school bus driver. Born in Ville Marie, Quebec, Paul was married to Beatrice McCoy in 1936 while he was working at Timmins. Of their family of five, Don is a trackman at Garson, and Loria a maintenance mechanic at the copper refinery. Eight grandchildren complete the family.

#### BILL KELLY

Born in Ireland, Bill Kelly was just six when his parents came to settle at Parkbeg, Saskatchewan. Bill, now an early service pensioner, started his 25 Inco years



Mr. and Mrs. Kelly

at Creighton mine, and for the last 12 years was a plateworker at Frood. His first wife, Marne Gunderson when they were married in 1937, died in 1960. His marriage to Mrs. Vivian Crowe in 1965 added four daughters to his family of one boy. Sandra is the wife of Copper Cliff maintenance mechanic Ray Fulin, and Gloria is married to copper refinery de-

wateringman John Cochrane. Four grandchildren round out the family.

#### WILLIE PALANDRA

A maintenance mechanic for 34 of his 35 years with Inco at the copper refinery, Willie Palandra has retired on special early service pension. Born in Croton, New York, Willie was 14 when his family moved to Turbine where his father was employed on power dam construction. He started at the refinery in 1933. Montreal was the place where he exchanged vows



Mr. and Mrs. Palandra

with Gennie Marinelli in 1933, and their family of three all have Inco connections. Nick is a buyer in the purchasing department at Copper Cliff. Theresa is the wife of Copper Cliff maintenance foreman Art Oliver, and Lena is married to Ingmar Andersen, a technician at the iron ore plant. Willie plans an easy winter, and then visits to his many cousins in the States.



## Christmas Rounds

Making a champion recovery from a heart attack, Creighton shift boss George Briggs held court when general manager J. A. Pigott led a group on traditional rounds at Copper Cliff Hospital on Christmas morning to extend greetings to the patients. From the left in the picture are Dr. J. H. L. Jones, chief surgeon Dr. B. F. Hazlewood, Dr. J. W. Sturridge, Dr. R. Grosso, hospital matron Barbara Truskoski, J. A. Pigott, hospital administrator C. Varney, nurses Eileen Tobin and Irene Corner, assistant to the general manager R. R. Saddington, and nurse Norma Darrach.

## Spread Happiness

The Christmas spirit took a practical turn in the data processing department at Copper Cliff when members of the staff contributed toward gifts to be presented to two needy Sudbury district families, each with six children. A group of the machine operators are shown with some of the gifts at a coffee break on the afternoon before Christmas, during which people from other departments joined in carol singing led by the golden tenor of George Betancourt. The data processing staff enjoyed themselves at a big Christmas dance held at the Silver Beach Inn.



## No Calorie Counting

Evelyn Fox and Terry Dairon were hostesses at a pre-Christmas coffee break in the copper refinery cafeteria. Members of the office and plant staff, some shown here, dropped in to exchange seasonal greetings, join in singing carols, and partake of tasty sandwiches and cake without bothering to count the calories. This pleasant annual affair has been an institution at the refinery for many years.



## APPOINTMENTS

The following appointments were announced, effective January 1, by J. A. Pigott, assistant vice-president and general manager of the Ontario division:

**W. V. Barker**, manager, nickel refining division, Port Colborne;

**W. W. Spence**, assistant manager, nickel refining division, Port Colborne.

W. Vern Barker became an assistant manager of the nickel refinery at Port Colborne in September, 1962. He becomes manager on the retirement of W. R. Koth.

Born at Kiseby, Saskatchewan, he attended high school there and then was enrolled for three years at San Diego State College, after which he returned to the University of Saskatchewan and graduated with his degree in chemistry in 1942. He then joined Inco at Copper Cliff as a research chemist.



W. V. Barker

In 1946-47, following war service with the RCAF, he took further studies at the University of Saskatchewan, then rejoined the Company at the Copper Cliff research laboratory.

Transferring to the nickel refinery at Port Colborne in March of 1948, he was appointed chief research chemist three months later. He became research superintendent of the nickel refining division in 1961.

In 1956 he was co-inventor, with L. S. Renzoni, of the process for direct electrorefining of nickel matte anodes by which is produced all the refined nickel at Thompson and part at Port Colborne.

He has been active in various phases of community work in Port Colborne.

He was married at Saskatoon in 1947 to Margaret Cook, also a U. of S. graduate. They have five children.

Born at Toronto, William W. Spence obtained his senior matriculation at Upper Canada College and graduated from the University of Toronto in 1949 with the degree

of bachelor of science in chemical engineering.



W. W. Spence

Joining International Nickel at Port Colborne in the spring of 1950, he became superintendent of the electrolytic refining department in 1956.

He was appointed superintendent of the nickel refinery at the new Thompson plant in 1960, and in May of 1967 became superintendent of surface plants in the Manitoba division.

He returned to Port Colborne as assistant to the manager in 1967.

Formerly an outstanding baseball and hockey player, he has coached juvenile and junior teams in the Port Colborne area. He is one of the Niagara Peninsula's top golfers.

He married Elizabeth Deline of Port Colborne and has one daughter and one son.

J. A. Pigott, general manager of the Ontario division, announced the appointment, effective January 1, of **M. E. Young** as general superintendent of mines.

Mr. Young had been superintendent of mines since May, 1967, and immediately prior to that was superintendent of safety in the Ontario division for four and a half years.



M. E. Young

During his career he was assistant superintendent for two years at Garson mine, where his father, the late F. W. Young, worked first for Mond Nickel Company and subsequently for Inco.

He was born at Sault Ste. Marie, the family moving to Garson when he was eight years old. He graduated from Sudbury High School in 1938, and from Queen's University in mining engineering in 1943. Following his army service he enrolled at Queen's for an additional year in a special course in industrial relations.

He had worked for International Nickel during summer vacations commencing in 1937, and on his return was posted to Frood mine as an efficiency engineer, after which he joined the underground operations.

He was assistant superintendent at Levack mine from 1954 to 1961, then came to Copper Cliff as assistant superintendent of safety.

His marriage to Marie Dinan took place in Sudbury in 1944. They have one son and one daughter.

He is a member of the board of regents of the University of Sudbury, a director of St. Joseph's Hospital and a member of the Sudbury Hospital Council.

H. P. Boucher, superintendent of mines, Manitoba division, announced the appointments, effective December 1, of

**R. J. Watkinson**, underground superintendent, Birchtree mine;

**J. B. Frederick**, general foreman, Thompson mine;

## Frood-Stobie Anglers Collect Loot



Frood assistant mine superintendent Gord Strasser presented prizes to Ivan Duchesne, Florian Labelle, Bill Demkiw, Laurence Eaton, and Bob Brydges.

Handsome prizes were presented to the winners in Frood-Stobie athletic association's annual fishing contest, including folding cots, sleeping bags, bait buckets, and engraved trophies.

These were the results:

**Lake Trout:** 1, Yvon Richardson, 18 lbs. 5 oz., 34 inches; 2, Ivan Duchesne, 16 lbs. 12 oz., 16 inches.

**Pickarel:** 1, Florian Labelle, 14 lbs. 5 oz., 30 inches; 2, Bill Demkiw, 10 lbs., 30 inches.

**Muskinonge:** Laurence Eaton, 20 lbs., 45 inches.

**Speckled Trout:** 1, Mike Mayhew 5 lbs. 9 oz., 22 inches; 2, Yvon Richardson, 3 lbs. 4 oz., 20½ inches.

**Largemouth Bass:** Bob Brydges, 6 lbs., 19 inches.

**Smallmouth Bass:** Vic Collin, 3 lbs. 8 oz., 18 inches.

**J. L. Harvey**, mines efficiency engineer.

Joining International Nickel at Levack mine in 1951, R. J. Watkinson became a shift boss in 1952



R. J. Watkinson

and a divisional foreman in 1960. In April, 1960, he was transferred to the Manitoba division as a divisional foreman at Thompson mine, and three years later became a general foreman.

He was born at Orrville, Ontario, where he was a farmer. He served overseas for four years with the Canadian Signal Corps in World War II.

His marriage to Loreath Nunn took place at Huntsville in 1952. They have four children.

A summer camp on Paint Lake, and hunting and fishing, are his recreations.

## Research Gives Ideas That Shape Our Lives

Where do the ideas that shape our lives come from? Today, more than ever before in history, they come from every corner of the globe, because scientific research and investigation is the concern of every government, every industry.

At International Nickel's various laboratories, work goes on every moment of every day at some point in the world. Questions are asked and answers searched out: answers



Laurence Eaton with the 20-lb. beauty that won him first prize in the muskinonge class. He caught it in Trout Lake, near Alban.



Florian Labelle (right) with his buddies Jack St. Amand and Stan Nowcin and the terrific catch of pickarel they brought home from Honey Harbor. All weighed over 10½ pounds.

on how to put ultra-high frequency sound waves to work; on how to withstand the temperature extremes of outer space, of other planets, of entry and re-entry into our atmosphere; answers on how to stop the millions of dollars in waste that corrosion causes every year; on how to equip a practical plant to convert sea water into fresh water for drinking and irrigation.

And when Inco researchers get an answer, they disseminate it to industry and government. Where do the ideas come from? We're proud to say some very important ones come from International Nickel.

## Creighton's 24th

"We are justifiably proud of all Creighton mine personnel for their achievement. Coming at this time of year we hope that it will serve as an inspiration to everyone within the Company and give impetus to an all-out safety effort in 1969."

With this statement safety superintendent C. F. Hews hailed the accomplishment of Creighton mine in exceeding one million man hours without a lost-time accident during the period between October 8 and January 2.

It was Creighton's 24th safety award performance, the last previous one being completed on June 13, 1968.

An inscribed memento will be presented to all personnel at the mine.

## Thompson Shutterbugs Active



"He's just a big lovable ham," said Mrs. Jean Hess, program chairman of the Raven Camera Club in Thompson, but her dog, Brewster the boxer, wasn't listening. He was too busy proffering his pugnacious profile for the shutter bugs, and thinking about the bright red lollipop that had been offered for his services.

Seen gathered in the basement of the Hess home on Riverside Drive during their regular monthly meeting, a group of club members taking candid of the canine, or just watching the action, are, standing, Jean Hess, Laurel Delgatty, Harold Hess, Keith Larsen, club president, Al Thornborough, and Donnie Hansen. Kneeling are Ferelith Thornborough, John Lewis, whose wife Irene is club secretary-treasurer, Ann Plummer, Pat Mann, John Thornborough, and David Johnston.

The club, which was formed early in 1967, has a membership of 15, is open to all comers, and has a membership fee of \$7.50.

Affiliated with the Photographic Society of America, the club uses the society's 30-minute taped lectures, complete with slides, for many of its winter meetings. Guest speakers are also invited to the club, and at a recent meeting Thompson mine geologist Dick Worsfold presented his commentary and colored slides taken during a recent British antarctic expedition.

The club's work went before the public last summer when a photo exhibition was on display for three days during regular hours at the fine new public library. This exhibition was limited to club members only, but another such show slated for early in 1968 will be open to all local photographers and will be judged by a member of the Manitoba Camera Club. Further information regarding subjects and size of print entries can be obtained from Mrs. Hess.

Other ambitious club projects include plans to go into the postcard business and provide scenes of downtown areas and picturesque places around the rapidly growing northern community. The group are also working on the establish-

ment of a community darkroom where talented amateurs like themselves can dabble in the developer and the hypo to their heart's content.

## Expanding Markets

Continued from page 2

erating sewage sludge which presents new opportunities for nickel in equipment employing new design concepts. Prototype units now under study are constructed almost entirely of nickel stainless steels and other nickel-containing alloys.

### Liquefied Natural Gas

Increasing demand for natural gas as a domestic and industrial fuel has caused utility companies to provide large storage facilities for peak shaving and base load operations. Since many times larger volumes of gas can be stored in the liquid state at -258°F, 9 nickel steel is generally specified on an economic basis for the tanks to provide adequate toughness at the cryogenic temperature. We expect this market to continue to grow.

### Petroleum and Petrochemical

The trend in the petroleum and petrochemical industries is toward very large, single stream processing units, which must operate at high temperatures and pressures for optimum efficiency. The material requirements for such equipment are expected to increase annual nickel consumption very materially.

### Marine Applications

Commercial and naval markets for copper-nickel have been growing at exciting rates over the past few years, and we expect these growth rates to continue. In shipbuilding, nickel-containing copper alloys have enabled commercial as well as naval vessel owners to substantially reduce their full life cycle costs.

Nickel alloys are also expected to play a major role in several important new developments in marine transportation — gas turbine propulsion for high-speed cargo ships and Hovercraft hydro-jet propulsion units, and nuclear-powered merchant vessels.

Desalination is another rapidly



## Miners Woo Poetic Muse

Hard-rock miners at Frood-Stobie communed with the muse again this year in the mine's annual safety slogan contest, and came up with some catchy rhymes in tune with the Yuletide season.

Leon Thompson, a Frood sand-filler with 20 years of service to his credit, took pen in hand and dashed off the winner, which was promptly displayed on a signboard at the mine entrance appropriately surrounded by evergreens suggesting the evergreen message of safety.

Leon is shown above second from the right, receiving the \$25.00 first prize from Eldred Dickie, secretary of the mine athletic association. On the left are safety supervisor George Hitchman and Frood assistant mine superintendent Gordon Strasser, and on the right is Milton Jowsey, Stobie assistant mine superintendent.

Ted Dandy of Stobie, who certainly knows what mine safety is all about after boosting it for almost 40 years, picked off the \$15.00 second prize with this well-turned rhyme:

"This greeting goes to all the boys

To wish you all the Season's joys.

Put Safety first in all you do, The life you save belongs to you."

Third prize of \$10.00 went to Daryl Daye, who cleverly paraphrased a famous Christmas poem as follows:

"He wore a hard hat and funny red clothes,

With safety glasses on top of his nose,

A strong safety belt his girth did impose,

With boots most impressive, having hard rubber toes,

And he exclaimed to all as he drove out of sight,

"Make the Season Merry, keep Safety in sight."

growing market where copper-nickel tubing has made today's million-gallon-per-day desalination a practical operating reality in water-short areas around the world. There is intense competition from titanium, aluminum and non-nickel-containing copper alloys, but we expect copper-nickel to continue as the basic material against which all others are evaluated.

Last year's first prize winner, Cliff Bennett, was in the money again this year, earning a \$5.00 consolation prize for:

"Christmas time has come again, hearts are full of cheer; Let's strive to live by Safety rules as we greet the bright New Year."

Other consolation prize winners were Steve Walch, Robert Furlotte, Stuart Dickson, Len Webster, Ernie Soucek, John Haggart, George Ethier, Alex Jones, and Leo Cartier.

As usual the safety slogan contest drew a heap of entries, indicating its continuing popularity as well as a deep-rooted urge that beats within many a miner's breast to break into verse when encouragement is offered. Congratulating the winners and all others who took part, area mine superintendent S. J. Sheehan said, "We feel that this annual contest not only promotes the Christmas spirit, but also contributes to good safety, and that's the name of the game at Frood-Stobie."

## New Pipeline Diverts Effluent From Creek

Work has commenced on construction of a new pipeline to pump the discharge of the Copper Cliff sewage treatment plant directly to Kelly Lake, following an announcement by International Nickel. At present the treated effluent flows directly into the Copper Cliff creek.

Any effect of this effluent with regard to fog formation along Highway 17 through Copper Cliff will thus be eliminated. The diversion of water from this source was a recommendation in the Ontario Water Resources Commission report on fog conditions in the Copper Cliff area, published in June 1968. The report also noted that a number of accidents, none of them fatal, had occurred during fog on this stretch of the highway.

This new project follows action taken by International Nickel earlier this summer when a large volume of water was diverted from the Copper Cliff Creek directly to the tailings area, also recommended in the OWRC report. Plans are underway to divert other plant effluent directly to the tailings area.