

# INCO TRIANGLE

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*Man of the Hour*

(Story on Page 8)



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D. M. Dunbar, Editor

H. L. Meredith, Assistant Editor  
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## Improvements to Flying X-Ray Are Patented by Inco

A New York Times Service dispatch to the Toronto Globe and Mail, datelined Washington Oct. 19, stated:

The International Nickel Co. has received patents for improvements to its successful equipment for prospecting by air. The improvements bring about more positive and accurate signals as to the presence of ore.

The equipment is sometimes called a flying X-ray. A bird or bomb towed by cable behind a plane carries receiving apparatus that detects electromagnetic signals sent from the aircraft and reflected back from the earth. The recorded results are examined by geophysicists for irregularities that may be caused by nickel ore and that justify search by ground crews.



Ron Taylor

John Shaw

The refinements patented last week follow a decade of work by the inventors, John La Motte Shaw, an electronics engineer, and Ronald Rex Taylor, a geophysicist, in aerial prospecting methods. One improvement is the broadcasting from the plane of three electromagnetic fields instead of two. One set of impulses is used for reference, and a double-check is obtained from the others — two traces recorded on the chart instead of one.

According to the patent, the method makes possible the full coverage of an area and the detection of ore bodies that would otherwise be missed. It is said to distinguish electrically conductive ore deposits, which may include nickel, from conductive bodies of water.

The second patent covers the use of two "birds," one for broad-

casting and the other for reception, besides equipment that keeps them properly aligned along a beam of light sent out by the airplane.

Years ago the company sponsored the first commercial airborne magnetometer surveys for ore deposits in Canada. Through these surveys it discovered nickel deposits now being developed at Thompson, Man., through which, according to the company, the free world's nickel supply capacity will be increased in 1961 by 75,000,000 pounds per annum.

The patents are owned by the International Nickel Co. Inc., New York, subsidiary of the International Nickel Company of Canada, Ltd., whose head office is at Copper Cliff.

Ron Taylor is assistant to the chief geologist at Copper Cliff. John Shaw, formerly of Copper Cliff is now a technical sales engineer at the Huntington plant.

Be yourself — it's the one thing you can do better than anyone else.

—Ethel Merman

## Starting a Mine Near Copper Cliff 62 Years Ago



*Although they're only a few hundred yards apart, any resemblance between this scene and preparations now going on for the new Clarabelle open pit is purely geological. It was a small outcropping of the same orebody that these Canadian Copper Company men were starting to mine when the picture was taken in 1898. J. A. Hanna of Vancouver, to whom the Triangle is indebted for this and other valued contributions to the Company's historical archives, is the one holding the chuck wrench. He writes, "The old boss is standing in the back with his hands in his pockets. His name was Hughie Dixon, and his son is standing beside him holding up a pick. I left for Colorado the following April, 61 years ago. I returned 43 years later and there was only one man I knew. His name was William Hambley. He was a magistrate there and a very fine type of man."*

### CO-OPERATION NEEDED

A number of invitations to last month's Quarter Century Club meeting were returned due to incorrect addresses.

Any member of the Club who did not receive an invitation is requested to check with the time office at his plant to make sure his home address is correctly listed.

In future the time offices should be advised of changes of address so that the Quarter Century Club mailing list may be kept updated.

### THEY'RE OFF!

With the first event, the J. R. Gordon, scheduled to get underway October 31, Copper Cliff Curling Club was off to a flying start on another busy season's activity.

The British Consols playoff runs concurrently with the Gordon. Six other club events are on the calendar, as well as shift, ladies' and high school curling, and the usual bonspiel bookings.

Saturday night mixed curling is expected to be a big thing this season.



### Handsome Trophy

A driller at Stobie, Fred Wharton wears a wide grin as he poses with the handsome trophy he and his friend Hans Frass of Sudbury bagged on a hunting trip to Low Water Lake. They flew in. Spread of the antlers was 52 inches.

# INCO FAMILY ALBUM



Member of the warehouse staff at Stobie, Pete Laberge is pictured here with his wife and seven youngsters. Danny is the oldest at 14, and the others are Janet, 13, Billy, 12, Linda, 8, Mary Lou, 7, Diane, 6 and Michael, 2. Pete lives in the McFarlane Lake area.



This month's Port Colborne refinery are Mr. and Mrs. Fred Rivers with Fred Junior, 7, Lynda, 9, Mark, 12, and Paula, 11. Fred is an electrician in the Nickel Refinery, and both he and his wife are enthusiastic bowlers in the mixed 5-pin league at the Inco Recreation Hall.



Mr. and Mrs. Christian Lemieux of Sudbury with their interesting family. Colette teaches school at Warren and Lucille is Mrs. L. Beaudry of Sudbury; the others are Marcel, 11, Nicole, 7, Robert, 6, and Michel, 7 months. Christian works in the silver building at the Copper Refinery.



From Levack we have Andy Lennie with his attractive wife and daughters: Heather is 12, Brenda 8 and the latest edition, Bonnie, 2½. Andy is one of three well-known brothers all working for Inco.



LEFT: With photography his hobby Gerard Racicot has four charming subjects for his Rolleiflex camera. The children are Giselle, 2, Daniel, 9 months, and Suzanne, 4. Gerard works in the Copper Cliff crushing plant. RIGHT: Now of Thompson, formerly of Port Colborne, are Mr. and Mrs. Frank Sandelli and their fine family of Chris, 9, Richard, 17, Maureen, 13, Peter, 7, and Veronica, 5. The nickel refinery is Frank's bailiwick.





# Garson Mine Athletic Association Has Real Winner in Little League Baseball



**PIRATES (10-13 year-old winners):** In front are Garrett Cull, Rodney DellaVedova and Sheldon Cromwell, and in the back row are Alan Laking, Don Croteau, Steven Clarke, Rickey Kulyski, Junior Laking, and Jeffrey DellaVedova with coach Jack Laking standing in the rear.



**BRAVES (10-13 runners-up):** Front row, Larry Sedore, Terry Ralph, Brian Donnelly, Lyl Sedore (mascot), Bruce Dubblestyn, Eddy Joly. Back row, Danny Boyd, Robin Quackenbush, Ken Stark, Mike Wasylenski, Sonny MacDonald, Jim Stewart, Mickey O'Brien, and Frank Klassen, with Hugh Rorison (assistant coach) and Guy Sedore (coach) in the rear.

While the temporary cessation of the Nickel Belt Baseball League this year was a sad blow to many, indirectly it may in some ways be a boon to the game. This past summer, for example, with extra funds available, Garson launched a new venture which may one day supply more "home grown" players and provide at least part of the answer to the senior baseball blues.

Deciding to invest in the young fry of the town the money it would normally spend on a senior ball team, Garson Mine Athletic Association was most encouraged with the results. A playground baseball league was sponsored and had an excellent first year with everyone predicting a rosy future.

The Athletic Association provided the money and direction, while parents and youngsters gave time, talent and energy, and a new Little League was born. Seven teams entered and were split into two leagues according to age, 6 to 9 years and 10 to 13 years. A total

of 96 league games were played. Gus DellaVedova agreed to act as sports director and did a fine job. The loop boasted one of the few female coaches with Mrs. Liz McKinnon handling the Tigers.

Among others contributing their services were the umpires, and Gordon Cull, Joe Cull, Chi-Chi Parendina, Bob Kolari, Bob Lanktree and Garreth O'Reilly were very capable in that department.

## Tom Lindsay

For a young fellow Tom Lindsay sure packed a heap of living into the years before he joined Inco in 1933. Retired now from Stobie on disability pension Tom recalled pumping air for the diver working on the water wheel at Nairn Falls power plant as one of his first outside jobs. He was then 13 years old and later worked as floorman at the powerhouse for several years.

Born at Nairn in 1902 Tom spent some time in the lumbering busi-



**TIGERS (6-9 year-old winners):** Front row, Allan Latendre, Bob Brady, Lennie Turbutt and Jack Brown. Back row, Carlyle Merkley, Bruce Warner, Stuart McKinnon, David DellaVedova, Mickey Faye, Mack Brown, Jimmy Ralph and the proud coach Mrs. Hector (Liz) McKinnon.



**INDIANS (6-9 runners-up):** Front row, John Klassen, Gordie Campbell, Brian Lamothe, Bobbie Monk, Doug Warner. Back row, Bobbie Bedard, Rickey Thompson, Billy Campbell, Rickey Grylls, Reno Lemieux, Kevin McFarlane and sports director Gus DellaVedova in the rear. Bob Bedard coached the Indians.

ness with his father and early wore the calk boots. "I've been on plenty of river drives down the Spanish," he said. Farming was another of his early pursuits along with working at Crean Hill, Creighton rockhouse, the western harvest and helping build a power house at Film Flon.

He later worked with Fraser-Brace on building the Copper Re-

finery, and also helped on the construction of Copper Cliff's big brick chimney, installing the lightning arresters. He also squeezed in a couple of years with the departments of highways and lands and forests.

Starting with the Company at Frood in 1933 he worked on production until transferring to Stobie in 1946. He was topman, cage-tender, shaft inspector and lastly powderman at that location.

In 1937 Tom married Mrs. Louise Rouleau. Their son Roland is in Sudbury, and their daughters Rita (Mrs. Morrison) in Toronto and Lucienne (Mrs. Davlett) in Winnipeg. They have eight grandchildren.

Tom grows some beautiful dahlias in his fine home garden in New Sudbury and his "glads" are also in the exhibition class. "Next year when I'm feeling better I'll really have a show," he said, and that should be well worth seeing.



Tom and Mrs. Lindsay

## Tom Joyce

"You stay with this Company, it's the best there is," was the earnest advice veteran holstman Tom Joyce gave the Triangle representative who visited him shortly after his retirement. "They'll sure treat you good, like they did me."

Tom, who was holstman for the King and Queen during their visit underground at Frood in 1939, was a holstman almost all his years with the Company. "Yep, I'd go holsting again if I had it to do over," he grinned. "It suited me just fine."

Born in Quyon, Quebec, in 1895 Tom came to Sudbury looking for work in 1912. "There was only a handful of cars in town then," he recalled. His first job was helping build the CNR main line between Capreol and North Bay. Later he worked at bridge building on the CPR.

He returned to the district in 1917 and got a job at Garson mine but quit after a couple of years to look for something more exciting. The next six years found him prospecting on Lake Superior's north shore and Michipicoten Island. "I never made any big finds but always made grubstake," he said. During the winters he worked in the gold mines.

## Chairman and Inspection Party at Iron Ore Recovery Plant



During his recent visit to Copper Cliff the chairman of the Company, Henry S. Wingate, made an inspection of the iron ore recovery plant. In the above group, photographed at the firing end of one of the two 185-foot rotary reduction kilns in the roaster kiln building, are H. J. Muts, assistant general manager; D. Kelly, assistant to the manager of reduction plants; R. R. Saddington, manager of reduction plants; H. S. Wingate; R. H. Waddington, vice-president and general manager; T. M. Gaetz, assistant general manager.



Tom and Mrs. Joyce

Back in Sudbury in 1926 he was just in time to help sink the new Frood no. 3 shaft. After four months drilling he got a chance at holsting, the work he was to enjoy for the next 34 years. "Joe Butler put me on the sinking holst one Sunday when they were short," he recalled.

After sinking no. 3 shaft Tom went on the holst engaged in deepening no. 1 shaft, then came back and operated the cage holst at no. 3 until 1945, when he transferred to the skip holsts at Garson.

"I guess my biggest thrill was taking the King and Queen down and meeting them after — she was really wonderful," Tom told the Triangle. Another big moment for Tom was being presented to the present Queen when she visited Frood in 1959.

He was married in 1935 to Clara Raymond and they have two boys Thomas and John, both attending St. Charles College in Sudbury.

With his days free now, Tom is looking forward to getting out more come spring — "maybe do a bit of prospecting." In good health this popular holstman is enjoying a well-earned pension. He'll be missed by the boys at the mine as much as he misses them.

Everybody's a self-made man, but only the successful ones are ever willing to admit it.

—Frankly Speaking.

## Jack Pertulla

Another new Inco service pensioner is Jack Pertulla, who helped sink many Inco shafts in the nearly 32 years he spent with the Company.

"I started in no. 4 shaft at Frood," Jack recalled. "We were sinking from 2000 down." After that he helped sink no. 5 and no. 6 shafts at Frood, then transferred to Garson. After working as a timberman there for some time, he joined the sinking crew at no. 2 shaft, and when that was completed he transferred to Murray.

Again it was as a shaft driller that he helped with the sinking of Murray no. 2 shaft, after which he worked as level timberman. An injury in 1960 put him on lighter work as powderman, and later he

transferred to surface in the fuse house.

Jack left Finland in 1924, going first to the Porcupine area where he worked in several mines before coming to Frood in the fall of 1927.

He married Hilda Jacobson in 1929 and although they have no



Jack and Mrs. Pertulla

children they get great enjoyment from their summer home at Lake Penage. "I like this retirement," Jack said with a big grin. "Now I can spend all my time at camp."

## Message from Michael



"Dear Sir," wrote Michael Macho to the Triangle. "Here is a picture of a pumpkin I grew for Halloween. It weighs 30 pounds and is 47 inches around. Who said Creighton is no good for growing things?"

Yours truly, Michael Macho.  
Yeah, who said that?

## Comets Gave Good Account of Themselves in Levack Softball

Although they finished second in the regular schedule and put up a strong argument before bowing out to Hardy in the playoff semi-finals, Comets somehow didn't get their picture in last month's Triangle spread about the Levack softball league. So here they are: front row, Paul Thompson, Dick McDonald, Don Gowan, Andy Wisniewski, Ross Priddle, Danny Cuomo, Eddie Wisniewski, Matti Tuomi; back row, Frank Wis-



niewski, Montclair Lawrence, Peter Spilchen, Rudy Toffoli, Garry Peterson, Nate Farrow.



## Port Colborne Chapter of Quarter Century Club to Welcome 17 New Members

There'll be places set for about 300 in the big auditorium at the Inco Recreation Hall for the annual banquet of the Port Colborne chapter, Quarter Century Club, the evening of November 10.

Highlight of the program will be presentation of gold membership badges to 17 Nickel Refinery men who have completed 25 years of service with the Company. They will increase the Port Colborne chapter's membership roll to 324.

Following the dinner, presentations, and the address of the evening, a stage show will take over with Joe Murphy as master of ceremonies and the following outstanding attractions: Hansen Sisters, violin duo; Williams Brothers, comedy acrobats; MacKinnon Sisters, vocal team; Johnny Dash, juggler and unicyclist; the Paul Simmons trio.

During dinner Reg Steeves will play organ music.

Arrangements for the program have been made by Clarence Beach, secretary of the Port Colborne chapter.

Those who apply themselves too closely to little things often become incapable of big things.

—La Rochefoucauld.



Stewart Augustine



Henry Boyer



Louis Beema



Kenneth Brennan



George Burke



Edward Campbell



John Doan



Frank Gallinger



George Lambert



Eddie Lubich



Dick MacAllister



Walker Richardson



Jack Rickard



Robert Rivers



Frank Root



Edward Smith



James Walter



The newly convened Junior Red Cross Inter-School Council of Sudbury at their first meeting: standing, left to right, Stuart Murray (Copper Cliff), John Jackson (Sheridan Tech), Mrs. J. Aceti (lialson), Sheila Bigelow (Lockerby Composite), Carol Faught (Lockerby Composite), Ann McDonald (Nickel District), Mary Melnyk (Coniston), and Michele Laberge (Nickel District); seated are the council's officers, Denise Chlason, treasurer (Notre Dame College), Anna Pleczonko, vice-president (Sudbury High), president Bob Steadman (Copper Cliff) and Joanne Meilleur, secretary (Notre Dame College).

## Seven-School Junior Red Cross Has Worthy Objectives

To promote health, to serve others, to increase international understanding — these are the prime objectives of the Junior Red Cross, whose motto is "I serve."

The outcome of a peacetime Red Cross program the Junior Red Cross was officially established in Canada in 1922. As early as 1899 however, school children had been assisting the Red Cross. A St. Mary's, Ontario, group of students helped during the South African War and many school children helped in Red Cross work during World War I.

Since its official birth the Junior Red Cross has grown to be the world's largest youth movement, with 45,000,000 members in some 63 countries. Canada has over 1,000,000 members. All school pupils from Kindergarten to grade 13 may join. In the primary schools it is an in-school activity, while secondary schools are usually involved in more ambitious projects.

The Canadian Junior Red Cross has been most active in the program to aid sick and handicapped children. During World War II they helped provide many comforts for soldiers and prisoners-of-

war alike, and in 1943 they began sending relief to child victims of war. This program has since been expanded.

The Junior Red Cross also carries on a program to improve health conditions in schools, train youths for service, and help develop international understanding through the exchange of art, music and correspondence albums between the national Junior Red Cross sections. This latter is more popular in larger Canadian centres.

In the Sudbury district an inter-school council coordinates the efforts of all secondary school Red

Cross groups. Known as the Junior Red Cross Inter-School Council of Sudbury, it is made up of two or more student representatives from each of the member branches plus a liaison officer appointed by the senior branch.

Executive members of the council this year are Bob Steadman, president; Anna Pleczonko, vice-president; Denise Chlason, treasurer; Joanne Meilleur, secretary, and Mrs. J. Aceti, liaison officer. Past president Jack Watkins, now attending the University of Sudbury, was instrumental in drawing up a constitution for this year's council.

Present member branches are Sudbury High, Sheridan Tech., Copper Cliff High, Nickel District Collegiate, Coniston Continuation, Notre Dame College and Lockerby Composite. It is hoped that Levack and Lively will soon also develop branches and become members.

Local activities are pretty general, Mrs. Aceti told the Triangle, and include the production of health kits and health chests for needy children in foreign lands, assisting the senior Red Cross branch with paraplegics and at blood donor clinics, visiting and bringing gifts to children at the orphanage and old people at Pioneer Manor and performing various acts of help for the unfortunate. This of course is in addition to their contributions to World Refugee Year and to the Handicapped and Crippled Children's Fund. The latter operates several health projects in the province to aid children whose parents cannot finance treatment.

Health kits are individual units containing toothpaste, toothbrush, soap, face cloth, needle and thread, and some small ornament. Health chests are much larger and contain school supplies, first aid equipment and sporting equipment in addition to basic hygiene articles.

Last year the Ontario Junior Red

## Peterborough Photographer Captures Majesty of Inco Reduction Plants



The great International Nickel Company reduction works at Copper Cliff present a majestic sight in this recent aerial photograph by Ken Wyatt, Peterborough photographer. The buildings at left centre are the research and control laboratory, and the Company's executive and general offices. In the foreground are Stanley Stadium, the Copper Cliff Curling Club, and Coventry Memorial Hall, Canadian Legion.

Cross contributed \$75,000 to World Refugee Year. This was almost half the Canadian quota. Ray Jessup of the local Red Cross stated.

Money for the various projects is raised in different ways — dances, candy sales, a gasathon, etc. One school sold milk to students, another group cleaned team uniforms.

President Bob Steadman recently attended a study centre at Flint, Michigan at which Junior Red Cross representatives from many lands were present.

"Leadership training is one of the principle themes at study centres," Bob told the Triangle, "along with international projects and community services." Another aim is to promote mutual understanding and friendship among the world's young people. He found it fascinating to discuss problems of mutual interest with his counterparts from Korea, the Congo,

India and other countries.

Study centres are also held at the provincial level and are conducted along the same lines as the international gatherings. Bob attended the one held in Guelph in 1959.

The Junior Red Cross pledge sums up the aims and ideals of this world-wide movement: "We believe in service for others, for our country, our community and our school; in health of mind and body to fit us for greater service; and in better human relations throughout the world. We have joined the Junior Red Cross to help achieve its aims by working together with members everywhere in our own and other lands."

I have three precious things which I hold fast and prize. The first is gentleness; the second is frugality; the third is humility, which keeps me from putting myself before others.

—Lao Tzu

### Frank Tanko

Retired now on service pension Frank Tanko first worked at Creighton mine in 1927. "I was supposed to go to Winnipeg," he grinned, "but I jumped the train at Sudbury." A friend at Creighton steered him to Charlie Lively who gave him a job.

Frank left Yugoslavia in 1912 and worked several years in the Minnesota iron mines. Returning home in 1920 he worked rough

carpentry until 1927, then left for Canada.

At Creighton he was employed underground until 1936; then after a brief break in his service he worked on surface. For the past 15 years he has been in the salvage shop.

He was married in 1923 to Pauline Wesel; their family include Pauline who is married to Bob Jakov of Frood, Frances, wife of Creighton's Ivan Ovar, and Frank of Sudbury. They have 13 grandchildren.

Pond of gardening, Frank keeps his Eyre street home in Sudbury in top shape. Fishing in White-water lake is another hobby at which he intends spending more time now.

Before leaving Creighton the boys presented him with a well-filled wallet and a lot of good-natured ribbing, both of which Frank will long remember with pleasure.



Mr. and Mrs. Tanko



# Sudbury District's Junior Football Teams Make Impressi



**COPPER CLIFF HIGH BRAVES:** Front row, Dennis Hannah, John Martin, Derrick Wilkinson, Charles Akey, Dave Newell, Donald Stone, Bob Frattini, Brian McAndrew. Back row, Keith Poff (coach), Daryl Mathe, Peter Gaetz, Peter Ruppel, Ken Shaw, Michael Jacobson, Bill Pigott, Ross Savage, Ross King, Jim Cortese, Gordon Camilleel, Dean Carruthers, Ralph Lamacraft, Lyle Madill and Bob O'Riordan.



**ST. CHARLES JUNIOR CARDINALS:** Front row, Ray Fournier, John Lang, Tom Klerana, Mike Popowich, Jim Regan, Moe Lebreton, Tony Arena, Denis Blean, Gary Boyd, Joe Sladojevic, Roy Berlinquette, Tony Flexman. Back row, David Watson, Dick Lauson, Brian Hill, Don Caverley, Mike Shea, Joe Spegeleski, Gerry Sheehan, Angelo Mazzuchin, John Flewelling, Delki Dozzi (coach), Paul Bouillon, Willard Peterson, Fernando Zadra, Jim Wilkinson, Bob Manzuk.



**SHERIDAN TECH BLUE DEVILS:** Front row kneeling, Don Gavin, Jim Elliott, Richard Bruneau, Arvo Linnamaa, Alex Angelini, Rod Lum, Gary Young, Glen Foreman, Cliff St. Amand (manager). Second row, Jack Kosmerly, Casmer Wisniewski, Garvis Beauchin, Walter Wisniewski, Bill Riutta, Glen Bradley, Gary Eschuk, Chuck Mossey, Mike Opaleychuk, Brian Bradley, Bill Rajotte. Back row, Ellis Hazen (coach), Roger Henzel, Gary Wabegjic, Jerry Harrington (line coach), Jim Cuppage, Albert Fasan, Keith Dupret, Tim Penske, Gord Mullen, Gary Burke, Dan Budsak, Barry Kutchaw, Bill Ukrainic, Clive Smith, Raimo Arneri, Gary Pasychuk, Bob Storey.

Football fever's in the air so are football finals! district's least publicized active of leagues, the school juniors, excite interest are at a peak as Cardinals and Levack it out in the playoffs to meet mighty Sheridan Junior Blue Devils, copped first place again game will be a sudden with the winner going Soo and then the No. 1 win.

Over 200 refreshingly bucks play in this junior which this season at eight teams, but settle when Lively withdrew, the Sheridan Tech J. Devils, St. Charles Juniors, Levack High Junior Lockerby Composite, Copper Cliff High Junior Sudbury High Junior Nickel District Junior.

Games are played, Copper Cliff and what is ruefully referred to as "Bowl," Queens Athletic Sudbury.

Junior games frequent senior games in Sudbury juniors get under way, play straight time. Games are played after school Saturday afternoons.

The junior age limit September 1, and in ability and desire the portland qualification is expected to be "grades" in the words of venerable Len Yauk. A type schedule was tried which seemed to be pre-able to everyone. This each team played the during the season. Pre-league was in two groups home-and-home games.

Player material is plentiful of good calibre, and agreed. Coach Jim Gordon, Sudbury High started the over 60 players. "We 30 now," he said. Delki Charles coach, said the dress more players but is limited: "It costs \$25 and \$100 to dress one the proper protective gear."

A practise field presents what of a problem for High, Tech, St. Charles, new Lockerby Composite whom have a full-size field of their own.

Coaches appeared (Continued on Page 2)

**SUDBURY HIGH WOLVES:** Front row, Bob Cole, Velma Brian Hunter, Charles Stan Hamer, Ken Joe Scanlon, Dennis Shull row, Rudy Beaudet, Moe chuk, Dennis Macks, Al chuk, Dave Armstrong, herty, Rick Burdenuk, well, Jack Ceming, H Wayne Lalonde. Back Gorday (coach), Doug Brian Fryer, Kay Whit Marshall, Randy Kudale, Doug Singbush, B. Bob Turton, John Dun



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LEVACK HIGH JUNIOR CUBS: Front row, Ken Buckingham, Richard Cucksey, Doug Bryant, Doug Crawford, Kent MacNeill, George Bell, Sandy MacIntosh, Ray Mason, Brian Bell, Don Ryter, Ron Frohlich, Harry Tuer (coach). Back row, Laurie Thompson, Dave French, Joe Bardswich, Jean Guy Quesnel, Jim Kitzel, Mike Kay, Dave MacCoy, Jeremy Doyle, Wayne Briese, Mike Dixon, Murray Crane, Mike Bondett, Mike Callaghan, Jerry Chalk.



NICKEL DISTRICT JUNIOR COUGARS: Front row kneeling, Andy Bunkis, Hardeo Ilves, Bob Peale, Richard Szemlyk, Charlie Olive, Arnold Kennedy, Dave Thompson, Dick Bretzlaff, Doug Milne, John Burns, Gary McPhail, Chuck Beamer (assistant coach). Back row, Len Yauk (coach), John Hazen, Bruno Pharand, Dennis De Rucha, Bryan Stewart, Jerry Quesnel, Roger Faubert, Keith Morrison, Mike Loney, Gord Evans, Norm Vallee, Bob Hall, Art Thompson, Brian Walker (manager).



LOCKERBY COMPOSITE JUNIOR V'S: Kneeling in front are, Bruce Nesbitt, Alan Watkinson, Gabriel Florino, Lewis Edwardson, Jerry Michaud, Robert Scott, Bob Cook, Walter Marozuk, George McNabb, David Gillespie, Cameron Pitkethly, Joe Mirabelli, Gerald Corby, Larry Gattie, Gary Cayen, Richard Lamondin. Back row, Jerry Behnke, Russell Holmberg, Bob Leore, Jack Hynes, Jerry Jacklin, Steve MacDonald, Ray St. George, Ray Newman, Dale Loyst, Angelo Stoper, John Scopazzi, Leonard LePera, Roy Whitmore, Gary Gaudry, Reino Kesik, Franco, Signoretti, Terry Kett, Gareth Mongrain, Gilles Paquette. Right rear, John Hunter and Jack McKenzie (coaches).





In this view of an underground steel-testing station at Frood-Stobie mine, a drilling crew is conducting a regular test of drill steel. The drillers are Leo Rivest (nearest camera) and Omer Vallee. The test engineer, Fred Horner, controls the air pressures for both machines, and times and measures each run. He also sharpens and gauges the inserts. The picture on the right shows one of the underground drill repair shops which are strategically located in each of the Inco mines; the drill fitter is Al Saulnier.

## Constant Tests, Research Keep Inco Drilling Highly Efficient

The drilling done in Inco mines in one year would reach underground right through Canada from Halifax to Vancouver.

In the Company's five underground operations in the Sudbury district, more than 16,000,000 feet of airleg drilling is done annually, requiring 1,400 machines and consuming 33,000 pieces of tungsten carbide insert steel.

In addition to the airleg drilling, 2,600,000 feet of hole is bored annually for blasthole mining and undercutting for caving. This program requires 100 longhole machines and consumes approximately 8,000 tungsten carbide detachable bits, 26,000 rods, and 30,000 couplings.

Some BX diamond drilling is also done for special blasthole layouts requiring extra-long holes.

To maintain the efficiency of this massive program, steel and drills are under constant test in stations established for the purpose at one of the mines. Test procedures are designed to eliminate as far as possible all outside variables affecting performance.

Another important phase of the Inco drilling program is a system for the inspection and maintenance of rock drills. Each mine has a central repair shop on surface and several repair stations strategically located underground.

Through information obtained from test programs, and cooperation with the manufacturers in designing drilling equipment, new mining practices have been developed and put into operation at Inco. Studies have also clearly indicated opportunities for radical advances in drilling equipment, and broad developments can be foreseen in this field to the benefit of underground mining.

Underground drilling at Inco was the subject of an illustrated paper presented at the American Mining

Congress mining show at Las Vegas, Nevada, this month by J. H. Dewey, drilling research engineer.

### Testing Airleg Steel

One of the many features described in this highly interesting report was Inco's elaborate test station procedure for insert steels or bits, which has been carried on ever since the Company adopted the light-weight carbide steel and airleg drill unit some 10 years ago.

Very careful control is maintained over all factors affecting drilling. The test station is located in a uniform rock formation covering an area large enough to enable a direct comparison of test results over several years. Air pressure is held constant at 80 pounds per square inch during all drilling. Machines are maintained in efficient operating condition by regular inspections and rate-of-penetration checks. Inserts are carefully measured for dullness with special callipers, and the insert is always drilled to the same point of dullness and reground to the same degree of sharpness. All sharpening is done by a test engineer trained for this purpose.

By observing these controls a total of 10 insert steels or bits drilled to destruction is sufficient to provide reliable preliminary data on their performance.

The steel-testing station, located in an area of fine-grained moderately-jointed greenstone, is 225 feet long. It consists of five panels each 51 feet long which in turn are subdivided into three sections. For a complete test one 4-foot and one 8-foot steel are drilled to destruction in each panel.

Steels which warrant further consideration are then subjected to a controlled test in regular production drilling in a development drift, competing with an equal quantity of standard steel.

Before standardization at all the

Company's mines is contemplated for any product which thus far has shown a potential saving, a final evaluation based on a full scale production test is considered essential. In this test, partial or complete conversion at one mine is undertaken for a sufficient period of time to establish performance under regular operating conditions and to check the uniformity of quality maintained by the manufacturer in quantity supplies.

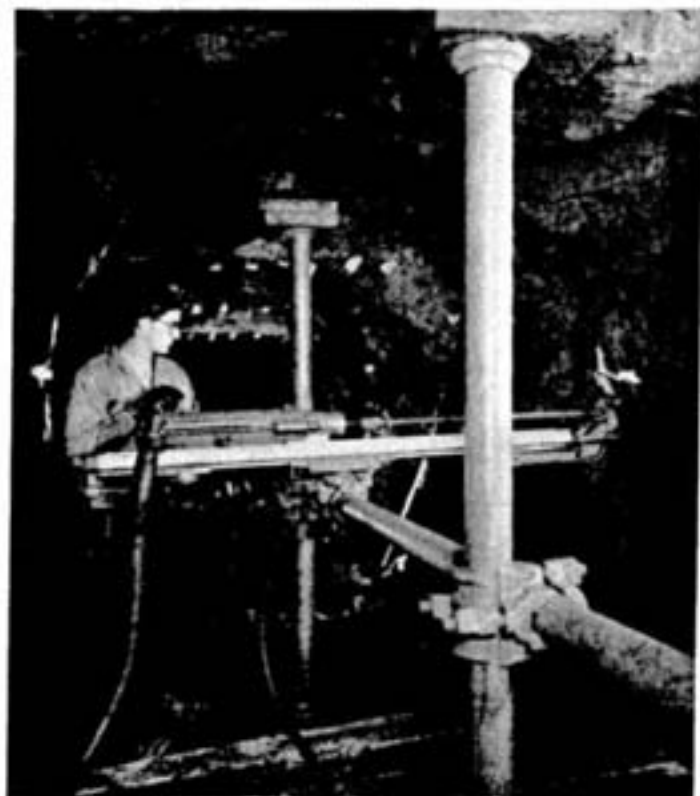
### Grinding Carbide Inserts

As experience was gained in the usage of tungsten carbide insert

steel at Inco mines, the importance of sharpening practices in effecting maximum economies soon became apparent. Careful studies were made to determine the maximum dullness to which an insert should be drilled, and also the degree to which it should be sharpened to give the best drilling results. Some of the findings were actually the reverse of what had been expected from available literature on the subject.

### Airleg Machine Tests

Airleg drills have undergone a number of modifications since they



Fred Greno is shown operating a longhole drill in a 7 x 7-foot drill crosscut. As a result of Inco drilling research these machines were redesigned by the manufacturer with several important improvements.





Measuring the wear of a tungsten carbide drill steel insert. Careful Inco research studies have determined the maximum dullness to which an insert should be drilled, and also the degree to which it should be sharpened to give optimum drilling performance.

were first brought into this country from Sweden in 1948. For instance, the original yoke-type connection which was troublesome and costly to maintain has been replaced by a direct connection to the cylinder, and on most models the feed valve has been transferred from the leg to the handle for ease of operation. All manufacturers have attempted to "speed up" their machines by enlarging the cylinder bore and making general refinements in design. To evaluate the many modifications offered from time to time by the manufacturers, and to maintain best possible drilling efficiencies, special drill testing procedures were established at Inco.

As with drill steel, new types of airleg machines are put through a series of tests for complete appraisal. First the rate of penetration and handling characteristics of the machine are tested. Then

the effect of the drill on steel life is assessed, since an increase in penetration rate is usually accompanied by a drop in steel performance. A third test determines how the new machine behaves under various mining methods and ground conditions, through use in regular production by mine drillers. The miner's reaction to the drill is also obtained at this stage. The fourth and final step is to learn the drill's maintenance characteristics, and involves placing a number of machines in regular mining for a minimum period of six months.

A program is also carried on to improve the performance of long-hole drilling equipment through tests made in the course of regular mine operations by selected production drillers. The program is supervised by a research department driller who also operates a

production machine on a test basis.

#### Drill Maintenance

Inspection and maintenance of rock drills is the responsibility of a drill repair foreman and a staff of fitters who also maintain air hoists, mechanical loaders, and associated miscellaneous equipment.

Most repairs are completed in the underground shops but when precision grinding, welding, and other special work is required, the machines are sent to surface. Repairs to longhole drills are usually performed on location to avoid delays in transporting the heavy machines. Spare airleg machines and stopers are kept available in the underground repair shops.

The point at which repairs to rock drills become uneconomical has been determined by tests and experience to be almost entirely dependent on cylinder wear.

Each machine is numbered and a daily report is issued by the shift boss on the machines operated. A complete record is kept of repairs for each drill from the date of issue until scrapped.

#### Drilling Research Results

Longhole drilling is one phase of operations that has benefitted substantially from constant research. The machines available for drilling long holes at the time of this major innovation in 1948 were underpowered, and other equipment such as extension rods, couplings and bits was of poor quality. Rapid progress was made in overcoming these original problems, however, and the practicability of the new method was soon firmly established.

At Inco, blasthole stopers are mined by drilling rings in a vertical plane from regular 7 x 7-foot pillar crosscuts. With the original design of longhole drill, the maximum length of rod that could be used in these crosscuts was 3 feet. Early studies indicated that drilling efficiencies would be considerably improved by longer rods and a mechanical means of uncoupling. As a result the manufacturer changed the design of his drill to use 4-foot rods, and the feed motor was moved from the back of the machine to an underslung position at the rear of the shell.

The new model also featured important changes in the rotation assembly by which rods could be turned in the opposite direction or rotation discontinued altogether. The reverse feature provided an efficient mechanical method for disconnecting rods, and neutral rotation enabled the removal of stuck rods which formerly would have been abandoned.

As a result of further studies at Inco of longhole drilling efficiencies, the drill manufacturer designed a new machine with a 4½-inch cylinder bore which provided 30% more power at a weight increase of 56 pounds. This made possible important changes in drilling layouts. Long up-holes, formerly impractical, as well as longer down-holes could now be drilled efficiently. This led to the elimination of sub-levels, greatly reducing stoper development costs as well as the time required to prepare new blasthole sections for mining.

#### Other Research Studies

The advisability of increasing the size of the drill hole, made

possible by the additional machine power, was also investigated. Large scale tests were conducted in a number of blasthole stopes to compare the regular 2½-inch bit with a 2¼-inch bit. It was found that the larger hole provided a less favorable powder distribution, resulting in poor fragmentation with high secondary blasting and ore removal costs which more than offset an initial saving in drilling and primary blasting.

Similarly many investigations have been undertaken toward improving airleg drilling efficiencies. Possibility of economies through further reduction in hole size has been discounted chiefly on account of the low fatigue strength of the smaller section steel, which resulted in excessive rod breakage.

In the study of airleg steel the relative merits of detachable bits and insert steel have been under investigation on several occasions. Final results have always favored the insert steel. This is contrary to the general practice in the United States, which tends toward the use of detachable bits and larger holes in the softer rocks encountered there.

Auger type drill steel, which has been tested with airleg machines for drilling in badly fractured ground, has shown definite promise. The spiral-shaped rod works the small pieces of loose rocks from the hole and seals the wall of the hole with a coating of sludge. Manufacturers have advised that new process techniques for fabrication of auger steel with alloys are under study, to offset the relatively short drilling life of plain carbon steel rods in this type of operation.

#### Drilling Trucks Developed

Rapid development of new mining areas has led to a continuing demand for accelerated drift advance. Initially the trend was toward the use of jumbos, but these required constant attention to maintenance. The final outcome was the development of a drilling truck designed for use with five airleg machines. Maintenance delays are virtually eliminated since a drill can be quickly replaced. Two machines are operated from an elevated and extended platform on the truck, and three others at drift level beneath the platform; they remain connected to common air and water outlets on the truck. Similar trucks have been designed for regular drifting operations.

Rotary percussion drilling, extensively used in Europe, proved disappointing when tested in the harder rock formations at Inco.

#### Looking Into the Future

Opportunities for improvement in underground drilling equipment and methods have been apparent from drilling studies at Inco.

Important economies can be seen from developments that would enable still further reductions in hole size. New steels would have to be developed possessing greater fatigue strength yet compatible with forging and heat-treating processes. Smaller drills striking lighter and more rapid blows which would be more suitable to the performance of the lighter steels and less fatiguing to handle would also have to be designed. Other factors helpful to this development would

(Continued on Page 15)



Most drill repairs are completed in the underground drill repair shops, but when precision grinding, welding, and other special work is required the machines are sent to the surface drill repair shop at each Inco mine. Fitters shown above are Alce Dure and Mike Chulpska, and the foreman at his desk is Mel Huffman.

## 200 Attend Pension Club Social



Mike Kotyluk receives his gold watch and congratulations from master of ceremonies Jack O'Hara, while club president Harry Costello beams approval. In the right foreground is master mechanic Walter Ibbotson.



Pensioners Mario Desanti and Bill Hannaway are shown as they express their thanks to the big gathering.



Sporting the nifty new aprons they initiated that evening, a few of the members of the working committee are seen here: Larry Belanger, Terry Rupoli, Vic Wahlberg, John Hamilton, Wes Miller and Lloyd Chaulk.

Holding its 22nd annual banquet at the Italian Hall, the Copper Cliff mechanical department's social and pension club came up with another of its highly successful gatherings with more than 200 enjoying an evening of good fellowship.

Fifteen more mechanical department men who have joined the ranks of Inco pensioners were

presented with gold watches: Mike Kotyluk, Alonso Brennan, William Hannaway, Walter Johnston, Roy Short, John Hradoway, Henry Theriault, Omer Lalande, Mario Desanti, Camille Piche, William Easton, Steve Bover, Joe Sauve, Arthur Lenihan and Roland Venne. All but two were present.

Jack Garrow, the club's founder, was confined to hospital but sent

along a donation to help the cause and a cheery greeting. The former master mechanic of reduction plants started the club back in 1938 and since that time more than 140 men have been honored at its banquets.

Chairman for the evening was the inimitable Jack O'Hara. W. J. Ripley, former master mechanic, made a humorous reply to the toast to the pensioners.

President of the social and pension club again this year is Harry Costello, with Al Harris vice-president, Gerry Bois secretary, Art Closs treasurer, and an executive committee of 16 members.

## Junior Football

(Continued from Page 8)

agreed that this has been a good season with interesting competition and several have vowed next year to take a leaf from Tech coach Ellis Hazen's book to develop stronger teams.

The secret of "Knute" Hazen's success? "Quite simple," he told the Triangle. "I never keep a second string backfield of 16-year-olds. I use 15-year-old boys. Then I have them for two seasons and start out the second year with a

strong team. They make good senior players later too."

Coaches had words of praise for the officiating of all games. Gerry Wallace, in his 18th year as a school referee, Nick Evanshen, Joe Zaitz, Bill Groom, Bob Craig, Al Armstrong and Bob McKenzie were the officials who kept order come rain or shine.

Coaches and players generally felt that students could give the junior teams more support but this encouragement seems to be reserved largely for the senior squads. Cheerleading groups kept up the old school spirit though, and fans made up for lack of numbers by highly partisan vocalizing.

In our cover picture, keynoting the Triangle's salute to Sudbury district's fine young junior football players, the "Man of the Hour" is Brian McAndrew, better known as Sandy, and the frisky young cheerleaders are, on the left, Rhea Bennett, Sue Hyland, Judy Burns and, on the right, Patty Brannigan, Nancy Clark and Sandra Hobden, all of Copper Cliff High.

U.S. Maj. Robert White recently flew an X-15 rocket plane to an altitude of more than 25 miles — or almost as high as the cost of living.

## Framed Timber for Frood Shafts



Frood carpenter foreman Charlie Silander presents Gaston with a fine watch on completing his last shift in the shop.

"I framed timber for all the shaft sinking at Frood," Gaston Rosset stated with pride.

Laughingly, his wife added, "When he drives past Frood he tells me, 'If you want to see my work, look all over.'"

Retired now on service pension Gaston is another long-time Inco employee proud of his work and his Company.

One of the oldest employees at Frood, he came to the carpenter shop in 1926 when sinking was getting under way at no. 3 shaft. "Mr. Butchart transferred me from Copper Cliff," he recalled.

Born near the Swiss border in France 65 years ago Gaston came to New York with his father in 1912. He returned to France in 1914 to serve in the army and was wounded by a hand grenade; he was captured by the Germans in 1916.

Returning to New York in 1919 and finding jobs scarce he came to Canada and worked in the bush, sawmills and the railroad until 1922. A trip back to France that year gave him time to marry Mary Louise Gay-Durand who returned to Canada with him.

A newspaper ad brought Gaston

to Copper Cliff in 1923 and shortly after joining Inco he was moved to the carpenter shop. A leader all his years at Frood he was respected as a thoroughly capable craftsman.

The Rossets' home on Pine street in Sudbury boasts a garden that brought them several awards in this year's horticultural show. "We like to travel too," Mrs. Rosset said, "and hope to do more of it now."

Although retired from active duty Gaston keeps as busy as ever. "The family keep him hustling with jobs at their homes," smiled Mrs. Rosset. Their family are Edmond at the Soo; Madeline, wife of Tom Thorpe of the Open Pit; Bob, George, and Betty (Mrs. M. Kennedy) of Sudbury, and the twins John and Henry who operate the Edelweiss restaurant in Sudbury. "They both worked for Inco before," said Gaston, "and still do in a way. They make many of the lunches for men working overtime at the plant."

If there were any possibility of things getting dull, a highly unlikely situation for this happy, hustling couple, their 16 grandchildren would soon take care of it.



## Garson's Tourney At French River

With 23 miners entered, Garson Mine Athletic Association's first golf tourney, played at the picturesque French River course, was an encouraging success despite damp weather for the first nine holes, and will be made an annual event.

On several occasions entire foursomes suddenly disappeared from the course into the dense French River wilderness in search of the little white pill, but at the end of the day all players were accounted for.

Low gross winner was Bud Hoffman who came in with an 81. Second low gross prize was won by Bruce King with an 84. In the low net bracket Mickey Stahan and Walter Condon tied at 73, the former getting the decision. Richard Leppinen and Ted Flanagan won special prizes.

Prizes were presented by mine superintendent Bruce King following a buffet supper in the clubhouse. Everyone who made the trip to French River was very enthusiastic about the day's outing.

## Joe Halovanic

"Inco has been a good company to work for," said Joe Halovanic, "I'd like to keep on working there." He started at Frood back in 1929 but retired this summer on his doctor's advice. "My arthritis was bad and I feel better at home."

Born in Croatia in 1903 Joe came to this country in 1928. He farmed and worked on the railroad in Alberta, then landed in a lumber camp on the Athabasca river for the winter. "It was really cold there," Joe recalled. "For three days it was 70° below zero so we couldn't work."

The following summer he worked around Edmonton, then headed for Sudbury that fall. Landing a job at Frood he was on surface until 1931, then went underground, working more than 17 years in stopes and pillars on 2800 level. For the past 10 years he has had lighter duties on 2400 level.



Joe and Mrs. Halovanic

Joe married Ljuba Bandula in 1926 and they have three sons and two daughters. Annie is in the general office at Copper Cliff, Mary and Mike both work in Sudbury, Bill is in Chicago, and John attends school in Illinois.

In 1938 Joe built his comfortable home in the Donovan, with a garden big enough to satisfy his hobby. With more time on his hands now though he is talking of buying a couple of acres somewhere and settling down to some serious gardening.

The blessedness of life depends more upon its interests than upon its comforts.—Macdonald.

## 42 in Annual Creighton Mine Tourney at Sudbury Golf Club



Charlie McCoy was the hottest golfer in Creighton Mine Athletic Association's 10th annual tournament, scoring 34 - 39 - 73 to take low gross honors and lead his team to victory in that division. They're shown above with the C.M.A.A. trophy, Art Carbone, Charlie McCoy, Harry Haddow, and Bill Young. Low net laurels went to the other foursome above, Lyall McGinn, Jim Cushing, Murray Cock and Fern Roberts. Ed Mayer was chairman and Bob Seawright convener of the enjoyable event. Prize-giving and socializing took place afterward at the Waters Hotel. Hidden hole winner was Percy McGuffey and "most honest" golfer Dune Yates.



## Ray Clyde Wins C.C.A.A. Tourney

"A real dandy!" That's the word from the boys who participated in the Copper Cliff Athletic Association's sixth annual golf tournament.

At the Sudbury Golf Club on September 10 a field of 48 divot diggers, largest yet, matched birdies and bogeys for 18 holes with a fine bag of booty at stake. There were also chipping and putting competitions and novelty awards.

Much of the credit for the day's success reflects on Hugh Allan, who along with Gord McLean was organizer and operator of the tournament.

Low gross honors went to Ray Clyde of the Reverbs with a five-over-par 73, which earned him the trophy plus a transistor radio. Mike Poupore finished second, one stroke down, with George Richardson third.

For low net Ron Silver junior



carded a 71 to take the Copper Cliff Athletic Association trophy while his dad, Ron senior, trailed by one stroke for second place. Gord Erskine finished third.

Pictured above are a group of the happy prize winners. In the back row left to right are Mike Poupore (low gross runner-up), Bernard Leclair (most honest golfer - 133), Scotty McDermott (oldest golfer - 39?), Lorne Gar-

ber (chipping), Derald Balson (most improved player), Hugh Allan and Bill Hughes (putting). In the front row are Ron Silver junior and senior, Copper Cliff Athletic Association president Jack Lilley (hidden hole), Gord Erskine (low net, third) and George Richmond (low gross, third). Unfortunately Ray Clyde had left to go on shift when this picture was taken.

## At Official Opening of Lively's Lovely Little Nine-Hole Course

Official opening of Lively's new golf course is shown in the accompanying picture with R. G. Dow, Inco administrative assistant, driving the first ball right down the heart of the fairway. Looking on are members of Lively Athletic Association, which sponsored the project: kneeling, Jim Dewey, president, Ralph Brown, tournament chairman, Wes McNeice, secretary; standing, Jim Oliver, vice-president, Robby Robertson, treasurer, and Charlie McCoy and Jack Hunter, co-managers of the course.

Laid out in a lovely park area along the east side of the town, the nine-hole course was built by the Athletic Association with the co-operation of the Town of Lively and a large assist from the Inco agricultural department. It has nine holes of from 105 to 150 yards for a sporty par of 27, and has been equipped with all the big-course trimmings including cups and flags, markers, benches, ball washers, etc. The greens have been carefully brought along by top dressing and seeding, and the fairways have also been given special attention, so that even in its first year the course offered excellent playing conditions.



## Here and There at Thompson



Drilling in a cut-and-fill slope on 1000 level of Inco's Thompson, Manitoba, mine. The painted lines are to guide new drillers, indicating the arch to be carried in the roof and location of drill holes. Drillers are Cliff Doman and Theodore van Zutphen.



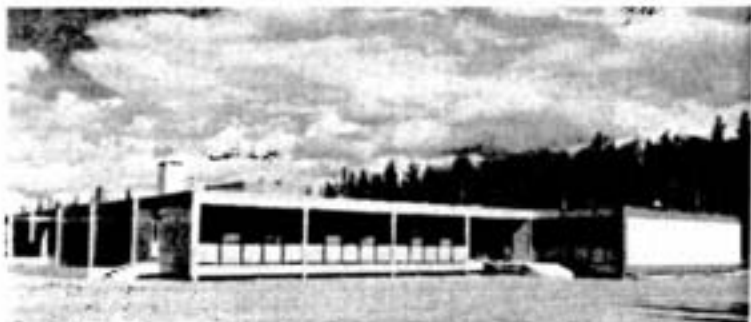
A battery locomotive and train of ore cars on 1000 level, Thompson mine. Members of the motor crew are Bill Foote, motorman, and Ferdinand Fursthaller, switchman.



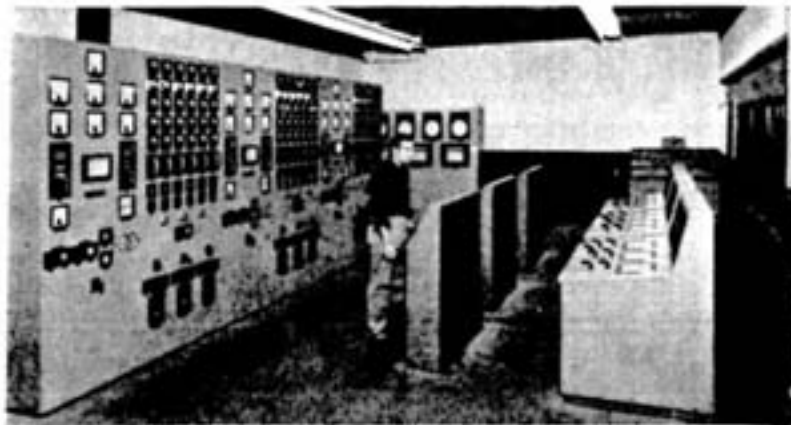
This view of the feeder floor up in the smelter shows a rotary concentrate bin on the right, the feeding mechanism and part of the conical top of the fluid bed roasters, and a calcine recovery unit. The man on the platform is Mike Bahalle.



Thompson's brand new houses are being built in many attractive modern designs. Here's a happy family in their smartly furnished home: Mr. and Mrs. Jack Rosa, daughter Jacqueline, 12, and son Brian, 8.



LEFT: The spacious, gleaming, completely equipped new Thompson hospital is of nickel-containing stainless steel curtain-wall construction, as also is the town's municipal building. It has 32 beds, is designed for expansion to 64. RIGHT: This is a view of the impressive control room for the three big electric furnaces in the smelter. The operator is Andy Lynch.





## Constant Tests, Research Keep Inco Drilling Highly Efficient

(Continued from Page 11)

be more powerful explosives, and methods for denser loading.

Another interesting possibility would be the use of such light machines and steels supported by a frame-work of drill mountings designed for the mass drilling of development rounds. The frame-work would be constructed with sufficient mountings to provide one machine for each hole to be drilled and could be arranged to a pre-determined pattern. The drills would be equipped with a multistage telescopic stopper type feed to restrict weight and bulk and provide sufficient travel for long holes to be completed with a single steel. The mountings should be simply constructed for easy replacement of a drill in the event of failure. A special device, possibly in the nature of a template, would have to be developed for collaring.

With the multiple drill unit it would be possible to drill off an entire round in little more time than now required to drill a single hole. The unit would be much easier to maintain than the power jumbos and capital cost would be much less. Similar rigs could be designed for other development work such as raising and sinking.

Directly the opposite of a multiple drill unit would be equipment for complete removal of development rounds by drilling a single large hole. Machines are already in use in Europe and on the continent for drilling holes of this nature in softer formations and extensive research is now being carried on by the manufacturers to design similar equipment for hard rock drilling.

### Could Drill Fill Holes

Underground hard-rock rotary drilling equipment, which would

drill 12 to 16-inch holes 200 feet long, would make it possible to replace stopper raises where hydraulic fill is used. The drill hole, when not being used for hydraulic fill, would provide a stopper ventilation outlet by installing an exhaust fan at the collar. Supplies and services would be provided from the level below.

A movable platform for use in cut-and-fill stoping which would enable both drilling and mucking to be carried on independently of

each other is regarded as a logical future development. The platform, power equipped for movement to and from the breast, would probably be suspended from some form of track which could be readily advanced after each blast. The platform could also be used in roof bolting and scaling high backs.

Longhole drill performance could be improved by a new mounting which would hold the machine in direct alignment with the drilling forces. With the present mounting these forces tend to push the machine out of alignment causing excessive drill maintenance and rod damage and creating heavy vibration which reduces rate of

penetration and general performance. Other improvements in longhole drilling operations would be a light drill carriage for use in small blasthole drifts to reduce move and set-up time, and increase automation to enable multiple drill handling.

### PAYING THE PIPER

Husband: No matter what it is, if a man steals he lives to regret it.

Wife: You used to steal kisses from me before we were married.

Husband: You heard what I said.

Freedom without a sense of purpose leads headlong into chaos.

—Franklin K. Patterson.

## The Roving Camera



KEN HARDWICK

Looking in on the purchasing department at Copper Cliff, the Triangle's "roving camera" caught these candid shots of some of the busy people in that important section of the Company's operations.

Ken Hardwick, who was born in Toronto, came to Inco eight years ago, starting in the warehouse at Frood and becoming a buyer at Copper Cliff about a year and a half ago. He is married and lives in the Barry-Downe subdivision of Sudbury, and his hobby is camp life on the Pickering River.

Sheila Angus, who joined the department as a stenographer last May, after two years in business



JOHN PUDDY

administration at Ryerson Institute, Toronto, is a Sudbury girl. She likes sports, especially basketball and badminton, and is looking forward to joining the Inco business girls' curling league this winter.

Another Toronto native is buyer John Puddy, shown in the accompanying picture during an interview with a sales representative. An Inco man for 13 years now, Johnny has a family of six children, lives in Lively, likes to go fishing in the Muskoka Lakes — "God's country," he says.

Marilyn Locke also came originally from Toronto, has lived in



ROY BAIN

Copper Cliff for 11 years, became a clerk in the purchasing department about 18 months ago. Her hobbies are sewing, curling, and camping at the family summer place, Loch Haven Lodge on the French River.

A Sudbury native whose father is a retired CPR ticket agent, buyer Roy Bain joined the Inco purchasing department 19 years ago. He has served for three years as commanding officer of 200 Sudbury Canadian Legion Squadron, Air Cadets, is also an enthusiastic "ham" radio operator whose call number is VE3DBW. He is married, has three children, lives in Copper Cliff.



### Potato Champ

From two bags of seed Rejean Couture and his sister Jeannine of Rayside 4-H Club reaped 53 bags of deep-growing Kennebec potatoes. Here Rejean is showing C. A. Young, Inco agriculturist, a sample of the exhibit that won him first prize in the annual potato competition for district 4-H Clubs sponsored by Sudbury Rotary Club and Inco.



SHEILA ANGUS



MARILYN LOCKE

## Staff Discussions

At a luncheon at the Copper Cliff Club the chairman, Henry S. Wingate, and the senior vice-president, Ralph D. Parker, discussed the Company's production and marketing programs with members of the staff. Among those present:



LEFT: H. S. Wingate; Walter Curlook, superintendent of research; Ian Laing, assistant plant metallurgist; R. D. Parker. RIGHT: Frank McAteer, superintendent Levack mine; Dan Kelly, assistant to the manager of reduction plants; Warren Koth, manager of copper refining division.



LEFT: Frank Zurbrigg, chief geologist; H. S. Wingate; John McCreedy, assistant to the manager of mines. RIGHT: Don Fraser, assistant manager of reduction plants; A. E. O'Brien, superintendent of safety; Graham Dick, assistant manager of copper refining division.



LEFT: Earl Stoneman, assistant manager of reduction plants; George Thorpe, chief mines engineer; Walter Ibbotson, master mechanic of reduction plants; George Jarrett, administrative assistant. RIGHT: Harold Elves, assistant to the chief geologist; R. D. Parker.

## Albert Eles

Born in a village in Hungary 65 years ago Albert Eles started work as a shoemaker. After World War I he opened his own shop but the venture failed and he set out for Canada in 1929.

Retired now from Frood on service pension a healthy, robust Albert is enjoying this new way of life. "I've plenty to do," he said with a happy smile. "Two houses here to paint and look after, and there is always something that needs attention at my boys' places."

His sons are Joe of the Levack mine mechanical department and Buddy of the Copper Refinery



Albert and Mrs. Eles

laboratory. Two daughters, June (Mrs. Rabski) and Betty (Mrs. Harris) also live in Sudbury. There are seven grandchildren. Before their marriage in 1923 Mrs. Eles was Louise Pouck.

Albert did odd jobs around Winnipeg for a few months when he first came to Canada, then at Lake Louise. Boarding a train for Sudbury one day, "just on chance," he soon found himself working on 2400 level at Frood mine.

He remained in the stopes until 1944, then went as grizzlyman on the 2000 level crusher. "In those

days we really put through a lot of muck," he said. Albert continued to work on the crusher until retirement.

A fine home garden helps keep this happy pensioner busy in summer and the produce his wife "puts down" keeps him happy in winter. Later he may take a part-time job, "not as a shoemaker though," he declared.

If we learn how to give ourselves, to forgive others, and to live with thanksgiving, we need not seek happiness — it will seek us.

—Joseph Fort Newton.