

# INCO TRIANGLE

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*Young Man in a Hurry*

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## Pensioners Write Interesting Notes About Themselves

Writing to acknowledge receipt of the Company's Christmas cheque of \$25.00, many Inco pensioners added interesting notes about themselves and how they are getting along.

Art Stubbins of Port Colborne wrote that he will be 82 next June and his wife is 75, and they are "both going O.K." He said the Christmas cheque comes in very handy when you have 12 grandchildren to buy gifts for. "Things such as that make a man feel good to have been associated with a Company like Inco."

Norman Cameron, who came from Port Colborne to Copper Cliff and was a crane operator in the Orford building when he retired in 1961, wrote from Port McNicoll to say "it's nice to be remembered by a big firm like Inco."

"We live here in this small town, away from old friends," Norman's letter went on, "but find folks very friendly and kind. I guess people are good, no matter where one goes."

"The Inco Triangle is so very much appreciated each month, just like a letter from home."

Doug Thom and his wife usually are able to drop in here once or twice a year for a game of bridge, and last year Rube Cook and his wife made us a visit, which not only included some bridge but also a couple of trips to some fine trout streams that are near here. Needless to say, Rube didn't come home empty-handed.

"I sure wish Inco every success, and were I a younger man I'd be all for being a crane operator at Thompson."

Mrs. Clara McLeod, whose late husband Roderick was mechanical foreman at Murray mine when he retired in 1951, wrote from Haney, B.C., to say thanks to the Company for the gift cheque and also for the Triangle. "Receiving that makes one feel as if one still belongs."

"Such wonderful mining towns there are now," Mrs. McLeod noted. "I was the first president of the Ladies' Auxiliary to the Men's Welfare Association in the days when we had water stand pipes and coal oil lamps."

From Mrs. Florence Clarke of Kingston came this thought: "Again I want to express my gratitude for the Christmas 'bonus,' which warms the heart because it says that a big impersonal company cares personally for its many pensioners. Also it seems almost like a gift from my departed partner, on whose behalf it comes to me."



## Fun in the Snow

### John Boucher

Born on a farm near Aylmer, Quebec, just over 50 years ago, John Boucher came to the Sudbury district in 1935. Retired now from the converter department at Copper Cliff on disability pension, John is taking things easy. With the constant and able help of his wife he is slowly regaining his health.



John and Mrs. Boucher

"I know that if I were in Sudbury I should also have a Christmas call from an Inco representative. It used to be such a pleasure to Mr. Collins, as well as to those whom he visited, and I am sure it is a pleasant assignment to Mr. Cullen, whose wife writes me about it, sending news gathered by him of old friends and acquaintances."

Evan Jones, who retired in 1948, was mechanical general foreman at the Copper Cliff mill. He wrote to thank the Inco management for its kind wishes and Christmas cheque, and also for the regular monthly Triangle "from which I get much interesting and valuable information."

"Regarding myself," Mr. Jones wrote, "I am happy to state that my health is tops. My son Evan and daughter Mary and family are all well and we had a very pleasant Christmas party together." Evan lives in Lachine, P.Q.

Another ex-mill man from whom the Triangle heard recently, by the way, was Walter Stephen, who was assistant mill superintendent when he retired on disability pension in September, 1945 after 24 years of service. He wrote to have

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In 1935 when he started with the Company he was in the mechanical department, but soon moved to the converters where he worked until retirement. John was a skimmer for many years.

Leaving the farm in 1928 he worked for Ford at Detroit a couple of years, then spent five depression years at various jobs in and around Ottawa before coming to Copper Cliff.

He married Stella Cunningham in 1928 and they have lived in Copper Cliff since 1943. "We're both from the 'Valley,'" said Mrs. Boucher. "He's from the Quebec side and I'm from Ontario." And that seems to have added up to a pretty satisfactory arrangement.

### CHROMIUM PLATING

Chromium plating was first used commercially in 1924 by the Bureau of Printing and Engraving, Washington, D.C., on plates for printing money and stamps. Its use was an enormous stimulant to the nickel plating industry since the chromium surface required a much thicker layer of nickel under it to provide corrosion-resistance and to facilitate bonding.

## Startling Sight Greet Observer at Levack's Annual Ladies' Bonspiel



The traditional parade around the ice to open the annual ladies' bonspiel at Levack Curling Club was a sight to behold again this year, with Indians, Hobos, Witches, Harem Beauties, etc., etc., in the bewildering array. In the above pictures the Witches are Doris Forest, Fay Corkal, Jean Koski and Pat Camelon; next to them are the Harem Beauties, Alice Lejambre, Betty Kauppinen, Velma Londeau and Bea McDonagh, and on the right are the Mountain Climbers, Helen Drohan, Theresa MacNeil, Dolores Mallette and Marion Robb.

## Pensioners Write

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his address label changed to Seattle 18 (5036 - 44th Ave. South), and said, "We sure enjoy getting the Triangle as it is our source of news of the old crowd. Just about 34 years ago the 50-ton pilot mill went into 'production.' Hard to believe that the Company now has four big mills for concentrating its ore. More power to the lowly millmen."

"Incidentally my copy of the Triangle does triple duty, first with us, then with Nancy here in Seattle, then on to Jim in Michigan."

John Weir, until May of 1958 a valued member of the reverberatory furnace department at Copper Cliff, and now retired in Toronto, sent greetings and a copy of "Philosophy for the New Year." While the Triangle usually has to pass up poetry on account of space limitations, it feels many of its readers will appreciate this particular piece, sent with Johnny Weir's blessing:

It's resolution time once more,  
But 'stead of writing down a score

Of sins that I will try to shun  
I'm concentrating just on one.  
Throughout this New Year I shall see

How calm and cheerful I can be;  
Whatever comes I'll take in stride —

It won't get underneath my hide.  
If neighbor wants to start a fight  
I'll smile and let him think he's right;

When Jane Miranda yells at me  
I will not sass her back, By Gee.  
Bad weather won't cause me to curse.

I'll just remember we've had worse.

The thing most folks don't realize  
Is just how silly and unwise  
It is to let their spleens run wild  
And get their nervous systems riled.

A man's life span is much too short.

It don't make sense to fume and snort.

About each problem that appears,  
And get all tangled up in fears,  
I doubt that we have much to say

About what happens anyway.  
An increase in my temperature  
Won't change things any, that's for sure.  
So I might just as well calm down  
And grin at life instead of frown;  
That way I'm much more apt to be  
Still here when this year ends,  
By Gee!

## Ernest Poirier

Foreman at the Coniston sinter plant for over nine years, Ernest Poirier, retired now on early service pension, had worked over 38 years at that same location. He first worked at Coniston in 1914 shortly after the new plant started up, but left in 1917 to join the army. Returning in 1921 he started in the sinter plant and except for a year at Copper Cliff in 1932, worked there until retirement.

Born in the state of New Hampshire in 1897, Ernie was raised in Quebec by an uncle, having lost both parents at an early age. Starting to work with an east coast railroad he came to Coniston via Ottawa and a number of lumbering firms. Before returning to Coniston in 1921 after the war he was a government timber estimator for one year. "We slept all winter in tents," he recalled, "but I was young then and didn't mind the cold."

He was married to Laura Walker at Victoria Mine in 1921 and they



Ernie and Mrs. Poirier

have two sons, Bill at Coniston and Leo in the Copper Cliff engineering department, and three daughters,



Winners of the costume contest were the Indians, shown here with their peace pipes and one papoose. Gladys Piccolo, Pearl Moir, Alice Davidson, and Betty Taylor. Standing behind them are the thirsty Babies, Joan Rodd, Helen Corkal, Noella Winn and Helen Brown. Innocent as they appear here, the Babies soon threw away their bottles and got down to business, winning the first event of the 'spiel. Victorious rink in the second event was R. Mornan, B. Lemme, V. Bell and M. Ketyk, and in the third event P. Anderson, P. Hatch, L. Conroy, and R. Kelly. Lots of fun was had by all.

Theresa (Mrs. W. Dennison), Aunette (Mrs. F. Cases), both of Sudbury, and Claudia at home. They have five grandchildren.

Long time residents of Coniston the Poiriers have acquired a home on William street to which they intend moving shortly. Ernie expects to keep pretty busy there for awhile fixing up the house and grounds. Not too busy though, he hastens to add, to go fishing.

## QUICK QUIZ

1. How many islands are there at Sept. Iles, Quebec?
2. Who has been Canada's youngest prime minister?

3. Was the horse native to Canada?

4. In the past 10 years inflation has decreased the purchasing power of the Canadian dollar by how much?

5. How many ship passages were made through the Welland Canal in 1959?

ANSWERS: 3. Horses were not native to North America; they were brought here by the Spaniards in the 1500's. 4. Although the name means Seven Islands, actually there are only six: explorer Jacques Cartier mistook a headland for the seventh island. 5. 36, about 30 per cent. 2. The Rt. Hon. Arthur Meighen, who was 46 when he first assumed office, in 1920. 5, 2,451, of which 1,994 were made by ocean ships.

High heels were invented by a woman who had been kissed on the forehead. —Christopher Morley.



## The Action Is Fast and Furious in Copper Cliff Shift League Hockey



Copper Cliff Athletic Association has a hustling five-team shift hockey league going at Stanley Stadium again this season, with Harry Rider looking after the administrative details. The clubs and their managers are: Reverbs, Romeo Hamilton; Electrical, Jack Mikkola; Mechanical, Super Bertuzzi; Converters, Karl Brennan; Roasters, Jim Keeley. Pictures show some of the action in a hot match between the league-leading Reverbs and Electrical. On the left, goalie Ron Matte and Ross Webber are combining to smother a drive on the Electrical nets; the Reverbs players behind them are Bob McConnell and Earl Campbell. In the second picture Reverbs goalie Phelan Frawley clears a shot from Hannan who is being taken out of the play by Trudeau.

### Bill Mapes

"My first job was at the old Worthington mine back in 1923," Bill Mapes recalled, "and I worked there the day she went down. We were on afternoon shift and came up that night around 10:30. She let go early in the morning." Retired now on disability pension, Bill was for many years a Froid-Stobie and Open Pit regular.

Born at Whitefish, "next to Gemmel's farm" in 1904, he joined Inco at Creighton in 1928. "R. D. Parker had just come there as superintendent," he said.

In 1930 he transferred to Froid No. 4 shaft, working for the late Martin Horne. He was there when the Mond and Inco workings were first joined up, breaking through on 2800 level. Bill worked on that level and 2400 for many years, mostly on motor crews.

Bill moved over to the Open Pit in 1942 with the mechanics, then in 1959 went to Stobie. Recalling his Open Pit days he said: "That was the best place I ever worked and Jim Miles was a great boss, one of the best."

He was married in 1936 to Jean Barr at Renfrew and their family are Wilma, 19, who recently became a member of the Copper



Bill and Mrs. Mapes



Here Matte makes a sparkling save at the expense of Electrical's Bob McConnell as Gene Bryan comes charging in to relieve the pressure. Players in the background are Ray Taylor and Gerry Leblanc of Electrical and Ray Gouin of Reverbs. The referee is Don Marynuk.

Cliff mines office staff, Frank, 16, and Marsha 6. A comfortable home in Sudbury with a fine garden are among Bill's prized possessions. "I hope that by summer I'll be able to do a bit in the garden," he said.

A hunter and fisherman from "way back, he still hopes to go out with the boys. "I'd make a poor doc now though," he grinned. LaCloche Island is his hunting haunt and Bill can't recall not getting his deer there.

First rate medical care plus plenty of determination on his part are slowly getting him mobile again, and combined with his bright and cheerful outlook they make recovery from his paralysis seem a certainty.

### Nick Gulicue

Nick Gulicue's beaming smile will be missed in the Froid timber yard, where he worked almost a quarter of a century. With his heart giving out warning signals however he wisely took a disability pension.

Born in Austria at the beginning of the century Nick started to work on the farm when just a lad and never did get going to school. In 1930 he came to Canada, spent 24 hours in Winnipeg, then came to

join his brother in Sudbury.

The next four years Nick spent working at farm, bush and construction work, then in 1934 he hired on at Froid. He spent a year at Creighton no. 5 shaft, then returned to the Froid yard and stayed. "Harry Towns was a good man to work for," Nick said, "and I liked working there."

Nick was married in 1925 but his wife and their only daughter remained in the old country where they died during the last war. Nick has never been back and has no desire to go now.

Taking things easy and getting his legs back into shape is Nick's chief concern at the moment and he hopes by summer to have done just that.





**GARSON:** Here are Mr. and Mrs. Ted Lafleur with their four happy kiddies, Carmen, 7, Monica, 6, Ronald, 5, and Lise, 3. A driller at Garson mine, Ted is an ardent ice fisherman.



**COPPER CLIFF MILL:** This is John Goegan of the Copper Cliff mill with his wife and their grown-up family. Ginet, the eldest, is to be married this spring. Norina is still at school, and Gino lives at home. John previously worked for Inco at Port Colborne back in the late '20s.



**PT. COLBORNE:** Wayne Schooley, a weigher in the anode furnace department and a member of the Anodes bowling team, is shown with his wife and their three: Kim, 4, Chris, 2, and Penny Lynn, 5 months.

**IRON ORE PLANT:** Mr. and Mrs. Jack Ruddy with their two bright young ones, Carol, 3, and Billy, 3 months. They live in Coniston where Jack was born and raised.



**FROOD:** With five daughters already on the scene, you can imagine the excitement in the Dan McKerral home on the Capreol Road when son Edward came along. Edward is 2 and the girls are Carol, 18, Margaret, 13, Sandra, 12, Debbie, 10, and Jane, 6. Dan works in the Frood rockhouse.



**LAWSON QUARRY:** Mr. and Mrs. Lloyd Callahan with sons Douglas, 10 months, and Robbie, 3½. A mechanic at the Quarry, Lloyd's pastimes are hunting, fishing, and water skiing.

**CREIGHTON:** This is Creighton mine's Albert DeLuca with his wife and family. John is 8, Robert 5, and Karen Lee almost 3. Albert is from New Brunswick and fond of fishing.





A convivial occasion was the dinner party given by a group of his friends at the Nickel Range Hotel for Bob MacIntosh to celebrate his retirement after almost 25 years of Inco service. Some of those present are shown above: seated, Jeff Hervey, Ted Foster, Bob MacIntosh, Ike Klassen, Joe Bischoff, Mac Forsythe, Gord McLean, Jim Grassby; standing, Al Eldridge, Bob Neal, Dr. Guy Mahaffy, Graham Byers, Vince Lalonde, Wib Job, Syl Meria, Jack Lilley, Joe Harrison, Jim Lee, Alvin Nickle, Henry Wiggesshoff, John Quance, Jack French, Tony Pearce, Ted Harber. Presentation of a set of luggage was made to the guest of honor by Bob Saddington.

## Putting Nickel to Work for Inco Has Been Bob MacIntosh's Job

"It's been about as interesting and rewarding work as a fellow could have," was the way diminutive Bob MacIntosh summed up his many years' association with nickel applications in the nickel industry. "Of course it had its frustrating days, but I got a real kick out of it."

Retired early this year at Copper Cliff on service pension, Bob lost no time in heading for Jamaica and the sun. "I know what birds do in summer," he grinned, "so I thought I'd check up on their winter activities for a change."

Back in 1938 Bob was at the Copper Refinery and he recalled it was R. H. Waddington, then refinery superintendent, who suggested he investigate potential nickel applications at the plant. "During the war years the project was shelved," Bob told the Triangle, "but in 1947 we really got going." By then he had moved over to Copper Cliff where he has been attached to the process improvements department.

"Now we are using Monel, Inconel, nickel-containing stainless steel, nickel alloys and ductile cast iron in scores of different applications throughout the plants," Bob continued. "Some already proven and accepted, others still on trial." An average of 25 tests are going on simultaneously all the time, according to Bob, and it often takes years to prove them superior in actual use.

Stainless steel mine pumps and pump columns are one of the largest applications of nickel at the mines with valves and shaft equipment also regarded as important. A special alloy cast steel liner in ore chutes, skips and bins has greatly reduced wear and tear Bob said.

"Those nickel alloy grate bars at the sinter plant and at the Iron Ore plant are very successful," he said. "We were using cast iron before but these are ten times as good. Took nearly three years testing under actual conditions before we got what we wanted, though." Cast

steel rabble blades in the roasters, and cast steel fettling pipes on the reverbs, have a much longer life and greater temperature resistance than either cast iron or steel pipe too, said Bob, citing other spots where nickel is on the job for Inco.

Bob then mentioned just a few of the many other nickel applications he had followed up such as the steel cast caps on the big smoke stacks, flux chutes at the converters, conveyor belt fasteners, Marcy mill liners and grinding balls, and at the Copper Refinery crane rack hooks, cathode wash boxes, sump pumps, silver crystal trucks, nitric acid storage tanks, bolts, impeller blades, and many more.

"That ductile cast iron is the thing," continued this nickel salesman. "We're using it for roaster pinions now and it stands up at least three times as long as the regular cast steel." Bob further pointed out the original cost is less and no repairs or rebuilding are done. "When they are worn out, throw them away." Cast steel pinions were often rebuilt at considerable cost. This particular application was proved up in less than a year — "and we're testing ductile pinions on other things now too, including Marcy mills," Bob added.

Another recent stainless application is on tripper chutes. They were previously lined with zinc and the feed often stuck on the chute, but with the smooth, wear-resistant stainless steel they are now dressed in, they work slick as a whistle and last longer.

Born in Glengarry in 1895 Bob was educated for the most part south of the border. His father taught at New York's Columbia University and later Bob attended Columbia School of Mines. He came to Ottawa in 1914, joined the Royal Canadian Engineers and spent the next four years in France and Belgium.

After the war he worked a short time for the government, then re-

turned to the States for the next 10 years, working on construction projects with some mining thrown in. In 1930 he came north to Kirkland Lake and then in 1935 joined Inco at the Copper Refinery.

Fishing speckles and building a boat are two things high on next

summer's priority list for Bob MacIntosh. An established camp on Lake Penage for summer and fall, winters in the south, and lots of time to indulge his hobbies and visit with his friends, — well, that tallies up to a pretty nice retirement picture as Bob sees it.

## John Gennings Started at Port Colborne



Saying farewell to John and Mrs. Gennings on his retirement are some of his workmates from the electric furnaces: Howard Tang, Norm Kneeshaw, Jack Tritts, Bill Rogers, Frank Trudeau, Percy Oddy and Hector Tagliabracce. John was presented with a wallet of money as a token of his friends' esteem.

Another familiar face from the old Orford building gang at Copper Cliff has joined the ever-growing ranks of happy Inco pensioners. John Gennings, retired on disability pension, had almost 37 years of credited service.

Starting with the Company at Port Colborne back in 1922, he was a member of the first crew that came to Copper Cliff in 1931 to prepare for the transfer of the Orford process here. For the past 12 years he was a shift boss on the electric furnaces.

A smelterman all his working days, John started with the Metals Chemical Company in Welland in 1914. He came to Canada from England in 1909. A red letter event in his life was being hired by the late "Pop" Freeman at Inco. "Best thing ever happened to me," John said.

Another "best thing" happened to John the following year when

Frances Oates became his wife. Their son Robert works on the converters at Copper Cliff and their daughter Kathleen's husband John Jarus works the separation building. In addition to five grandsons the Gennings' dog Ricki comes in for a lot of attention too.

Lake Ramsey campers for the past 15 years, the Gennings have almost completed a brand new home close to their summer residence. John, an ardent do-it-yourselfer, has done most of the work, starting three years ago with 1960 as his target for completion.

Their home, family, travel and good friends round out a very pleasant life for this fine couple.

## Chief Nickel Markets

The United States and Europe are the principal markets for nickel, taking about 90 per cent of the free world's total supply.





In addition to co-sponsoring the annual children's ski school, the alert and active Sudbury Recreation Committee has installed a very popular rope tow at one of the slopes in Bell Park.



Ellis Hazen, a leader in Canadian junior skiing, with Henry Moser.

Below: This was the scene at the starting-finishing line of the cross-country event in the Ontario interscholastic and junior four-way championships held at Levack. The course was laid out by Al Cullis.



Nickelteen Ski Club now has 115 members. One of them, Lynn Cullis, is the "Young Man in a Hurry" whipping through a slalom gate in our cover picture. Another, Don Dunbar, is shown above as he takes off from the jump at Levack.

## Nickel Belt Developing As One of Canada's Best Ski Spots

Ten years ago Ellis Hazen, a Sudbury Tech teacher with a boundless zest for young people, noted that the growth of skiing in Sudbury was retarded because the young skiers weren't getting away to outside meets to profit by the example and experience of well-coached competition.

In his quietly purposeful way Ellis soon had the Nickelteen Ski Club going. Any secondary school kid in the district was eligible to join. The goal of the club was to get into competition of some kind every week-end, either at home or away, and also to develop a core of qualified instructors within the membership.

This month the success of the Hazen formula was once again plain for all to see. Nickelteen

Ski Club for the 10th year in a row won the Ontario junior four-way team trophy, and captured three of the six places on the squad that will represent the province at the Canadian junior championships at Thetford Mines. And in the second annual children's ski school, held at 20 different locations in the Sudbury district during the week of February 15th, some 50 accomplished young skiers from Nickelteen proudly served as instructors.

Co-sponsored by the Sudbury Recreation Committee and the Sudbury Daily Star, the children's ski school again drew an enrolment of more than 500, giving another great boost to the clean-cut sport for which Sudbury has become well-known right across Canada.

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At one of the 20 locations where the children's ski school was held during the week of February 15, some of Nickelteen's future stars are shown getting a snowplow lesson from instructor Brock Smith.





Inda Gibson, Danny Hayden, Coniston.



Janis Simms, Copper Cliff.



A public school choir from



Mary Hrobelsky receives the Inco scholarship from R. G. Dow.

Some of the young contestants awaiting their turns to perform.

## British Adjudicators Laud Calibre of Sudbury Festival

February 8 to 13 was Music Week again in Sudbury.

A total of 5,000 contestants, taking part in the 15th annual district festival demonstrated that music's roots go deep in the life of the community.

The two British adjudicators, David Griffiths and Roy Hickman, expressed delight and amazement with the high calibre of musicianship they encountered. "There's some of the contestants so talented that they could, if they want to, go on to earn fame and fortune," said Mr. Hickman. "Others, of course, will enjoy their music mostly just for themselves, but this is all to the good for they are developing their own talent, which is in itself important."

To the people who put on the festival, the Kiwanis Club and the Sudbury branch of the Ontario Registered Music Teachers' Association, Mr. Hickman said, "This is a tremendous job of work, and one of which you should be justly proud, for the effects of it will live long after us all."

Building for the future, more than \$1,000 worth of scholarships and prizes was distributed to the

winners to aid and encourage them in further music studies.

Top prize of the festival, the \$250 Inco scholarship, was won by a 17-year-old violinist, Mary Hrobelsky. She was given a great ovation as she came forward at the Festival Hi-Lites concert to receive the award from Richard Dow, who represented the Company at the presentations.

The highest mark ever awarded at the Sudbury music festival, 97, was given Mary for what the adjudicators termed "an absolutely brilliant performance." At previous festivals the gifted young violinist won several Kiwanis scholarships and also the Inco scholarship in 1958. She will continue her studies with Emil First, after which she hopes to enrol at the Toronto Conservatory of Music. Her father, Roman Hrobelsky, is a conveyorman on the electric furnaces at Copper Cliff. She is in Grade 13 at Sudbury High School.

Another outstanding festival performer was Peter Kusinskis, son of the Copper Refinery's Alec Kusinskis. Only 13 years old, Peter made a sensational showing in the piano accordion competitions. He

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The rhythm band from Creig





Lively awaits the signal to start.



Brenda Wharton, Copper Cliff.



Byron Grant, Lockerby.



Above, the adjudicators. Below, among the spectators. Eighton mine public school made a fine showing.



Perhaps a future Inco scholarship winner, Irene Rybsky, Sudbury.

Three girls from Falconbridge public school admire their trophy.





ABOVE: Doug Adolph, motor generator unit at his feet, aligns the vertical transmitting coil of the "E.M." apparatus, while Henry Levac uses the receiving coil of the "E.M." apparatus to determine if a conductive body is effecting the signal from the transmitter. LEFT: Henry Levac operates a Sharpe magnetometer. RIGHT: Bob McGregor reads a Worden gravimeter.

## Geophysical Teams Carry On Explorations the Year 'round

The accompanying wintery scenes are a reminder that exploration is carried out on a year-round basis by members of Inco's geophysical exploration teams.

Geophysical instruments of one kind or another have been used as exploration tools in the search for nickeliferous sulphide bodies by the Company and its predecessors since the turn of the century. During World War II, however, the successful development of a sensitive airborne magnetometer opened up a new phase in geophysical exploration. In 1947, Inco became the first company to contract for the use of this instrument on commercial surveys for minerals. Another first was recorded when in 1960, as the result of the joint efforts of Inco and McPhar, the development work on an effective airborne electromagnetic system was successfully completed.

These airborne methods rapidly screen areas which have been selected as having geological conditions favourable to ore deposition. The magnetic and conductive responses obtained indicate anomalous places which warrant a closer look on the ground. The ground geophysical party then accurately locates and assesses the importance of these anomalies. The three types of equipment pictured may be all used in this ground follow-up but the magnetometer and "E.M." gear are considered the primary tools.

The magnetometer (picture 3) measures abnormalities in the earth's magnetic field. Since the pyrrhotite associated with nickel ore is magnetic, the anomalies outlined by the magnetometer may indicate nickel ore.

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## Johnny Hradowy Expert on Valves

John Hradowy has retired from the machine shop at Copper Cliff with close to 38 years of credited service. A machinist for 30 years, he worked previously in the smelter.

His first job with the Company was helping clean up the old roast yard on the hill at Copper Cliff. That was away back in 1916. From there he went to the quartz crusher, left in 1919, then returned in 1920 and stayed.

He worked in the converter building for many years, and then Jack Garrow picked him for the machine shop in 1929. For many years he has specialized in repairing and rebuilding valves, work he enjoyed doing and at which he became an expert.

Born in an Austrian village in 1894, John came to Canada with an uncle in 1910. Working summers as a water boy on the railroad he attended night school at Edmonton in winter. He came to Copper Cliff in 1916, "the best move I ever made."

He was married to Mary Boyuk in 1919 and they have one daughter Nellie living in Toronto. John built his own home in Gatchell many years ago and his garden there is a summer standout with fruit trees his specialty.

Painting his house, building his own power tools, snow shovelling and plenty of walking help keep this young-looking pensioner in top shape.

People who get ahead in the world are those who make hay whether the sun shines or not.



There was a big turnout from the Copper Cliff mechanical department at the retirement banquet given in the Legion Hall for Johnny Hradowy. Some of the boys posed for the Triangle camera: seated, Sid Stone, John W. Garrow, John Hradowy, Art Closs (master of ceremonies), and Jim Metcalfe; second row, Fred Woods, Adolard Sauve, Allan Butler, Noel Shrigley, Harold Keast, George Kirk, Pat Bombardieri, Walter Marcolini; back row, Bill Blue, Walter Flowers, Enrico Zanetti, Bob Meskile, Dick Dopson, Victor Riutta, Cecil Tremblay and George Price. Several presentations were made to popular little Johnny, including a beautifully machined vise.

## Geophysical Teams

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The ground electromagnetic gear or E.M. (pictures 1 and 2) is used to locate electrical conductors. The apparatus consists of a motor-generator and transmitting coil (picture 1) and a receiving unit (picture 2). Normally the receiving coil when in a horizontal plane receives no signal from the vertical transmitting coil. However, if a conductor such as a nickel ore body is nearby the receiving coil detects a signal when in the hori-

zontal position and the geophysical operator proceeds to trace out this indication. An important function of the electromagnetic gear is to distinguish between magnetic anomalies caused by magnetite which is non-conductive and is of no interest, and those caused by conductive sulphides which might be nickel-bearing.

The gravimeter (picture 4) measures minor changes in the earth's gravitational field caused by differences in the specific gravities of the materials that make up the earth's crust and may be used to

help determine the quantity of sulphides associated with a conductive zone.

If bed rock is well exposed a brief geological examination may result in a satisfactory explanation of the interesting anomalies or conductors. However, if this is not conclusive or if the bed rock is obscured by overburden, as is often the case, a diamond drill is used to carry the investigation to completion.

A measure of the effectiveness of these methods is shown by the fact that over 90% of the anomalies selected as drill targets are found to be due to bodies of sulphide. Though the majority of these are not commercially important, this is not the fault of the system but reflects the cleverness with which Nature has hidden her valuable deposits. The discovery of the Thompson mine was a direct result of the systematic application of the procedures that have been described and is a dramatic example of how patient and persistent efforts may be rewarded.

## Nickel Belt

(Continued from Page 7)

through the achievements of Nickelturn.

Development of the Onaping ski layout at Levack by Henry Moser has also been a big factor in encouraging the growth of skiing among Sudbury district young fry. The popular Austrian pro has built a handsome chalet, added a second tow for the children, and continued with his program of improvements to the layout's practice slope and the Engineer's, Sudbury, Clearwater and Onaping runs.

With a financial boost now and then from business firms, parents and friends, excellent coverage by the press, CKSO television, and the radio stations, and the enthusiastic co-operation of a faithful corps of willing senior supporters of skiing, Ellis Hazen's hunch has paid off in a big way.

## Reception Lobby of Inco's General Offices at Copper Cliff



A pleasant place in which to await an appointment is the reception lobby of Inco's general offices at Copper Cliff, shown above on a quiet day. Usually it is filled with travelling representatives of the many firms supplying equipment and materials to the Company. At the left is the receptionist, Miss Ethel Walmisley. The visitor is Gilbert Briscoe, a fitter at the Copper Cliff mill.





Looks like the shot rock coming in there. The skip on the right is Don Slimmons, with Earl Johnson and Wilf Leclair the sweepers.



Game over, there's no better place for the post mortem than around the coffee bar. From the left are Jack Angove, Larry Deschamps, Bobby Leclair, Hee Gervais, Tom Hoare, Gord Chisholm and Harold Olivier, with Jim Forestell doing the honors with the java jug.



A great place for a hand of 500 is the club locker room. This foursome has two pensioners, Bob Muirhead (left) and Leon Gervais (second from right), along with Gerald Geoffrey and Lefty Sleaver.

## Coniston Enjoys Its Curling

That lusty youngster, the Coniston Curling Club, its third active season in full swing, is providing plenty of fun and competition for its 125 enthusiastic members. Nightly, from 7 o'clock to near midnight, the four ice lanes are active. In addition high school curlers take over on Saturday morning, and plans are now being made for daytime shift curling.

With Harold Olivier pebbling up as good ice as any in the district, drawmaster Eddie Traill doing a fine job in that department, and the ladies brewing ambrosia-like coffee and dispensing home made baking, members of this club really have it made!

The ladies (bless 'em) paid for the tile floor installed this year through receipts from the coffee bar. Also this season the locker rooms have been completely painted and a 20-year bonded roof installed on the rink at a cost of \$3,400. This just about completes the physical features of the club and while they are not yet out of the woods on their original investment the boys are now dreaming of putting in artificial ice.

Current club president is Romeo Boulay. Jim Forestell is treasurer, and Don Slimmons secretary. Majority of the membership are also members of the Inco family.

Their invitation bonspiel and Little Briar were two of the district's more interesting week end spiels. Regular events include the Murphy, Labatt's Wahnapiitae Lumber and Adams trophies, and next season they hope to have a Consols playdown.

### "HEADING" OFF ACCIDENTS

It isn't the number of safety rules  
Or the rails on well-kept stairs,  
Or the traffic lights that they  
install,

Or the signs on thoroughfares.

It's true that these do help a lot  
But when all's been done and  
said,

The thing that prevents the  
accidents,

Is the way YOU use your head.

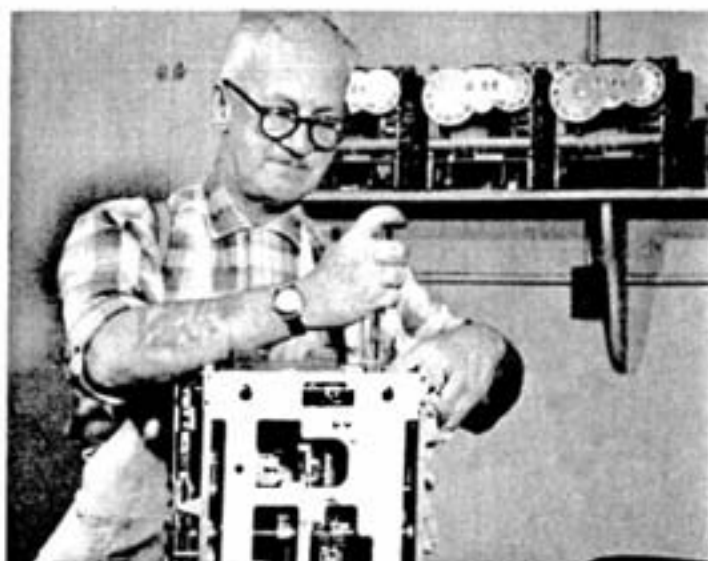
Good thoughts are blessed guests,  
and should be heartily welcomed,  
well fed, and much sought after.

—Spurgeon.

BELOW: Left, a corner of the attractively finished waiting room is shown, with some of the gals gathering for the 9 o'clock draw. Right, Cecilie Forestell and Pauline Goodspeed sweep mightily.



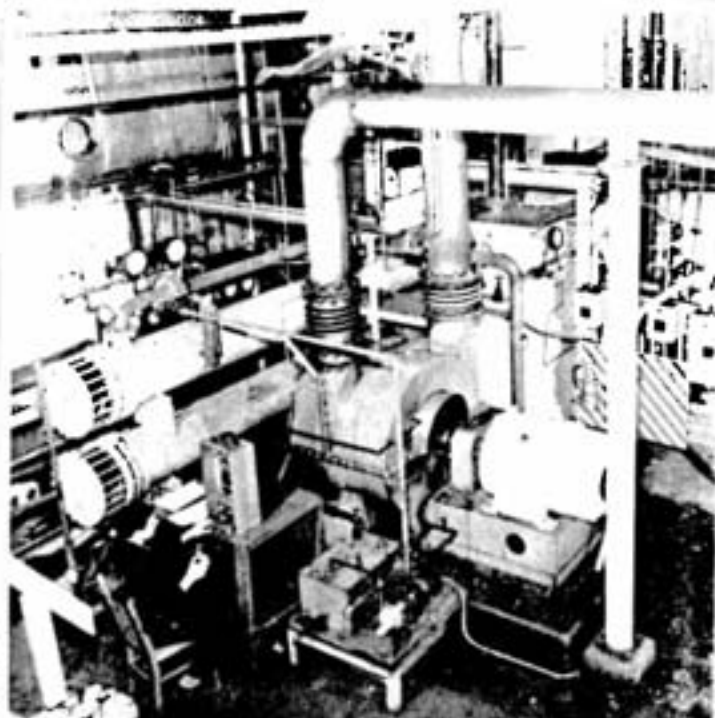
# The Roving Camera



**H**IS name is Russel Harold Smythe but everybody calls him Tony, a nickname he picked up at the orphanage which took him in at the tender age of 5 and kept him until his adoption when he was 12. Tony travels the Inco circuit in the Sudbury district keeping the 75 time clocks in order. This coming June he will have been with the Company 30 years, and he will also have been married to Edna Bulson for 30 years, and he wouldn't want to trade back in either case. He started in the smelter but became "clock doctor" in 1942. His son Ray works in the Copper Cliff mill and his daughter Patsy Ann in Wilson's drug store. Although his camp at McFarlane Lake is his favorite holiday haunt, last year he and his wife took a trip to northern Quebec, and he proudly reported that his trusty 4-cylinder car travelled 2286 miles on only \$22.10 worth of gas. "Can't afford to stay home, at that rate," said Tony.



**J**OE CASSAR arrived in Canada in 1948 from the "George Cross Island" of Malta and has been an Incolte ever since. He is a stripper in the Nickel Refinery at Port Colborne, and this Roving Camera portrait shows him at his job, peeling a thin nickel starting sheet from its mother sheet of stainless steel. Joe married Melita Borg, also from Malta, who came to Port Colborne in 1954, and they have two children, Josephine, 3, and Carmen, 5 months. In Malta Joe played the national game of soccer, but "It's too risky a game for a married man where injuries could mean loss of work," he thinks. His soccer know-how made hockey easy to understand and he soon became a fervent Maple Leaf follower. He has been to the Gardens in Toronto twice this season to see his favorite Johnny Bower in the Leaf nets, and otherwise follows his team on television. Inco has 18 Maltese men on its payroll at Port Colborne.



Part of the pilot plant installed for obtaining pure sulphur from sulphur dioxide in the high quality roaster off-gas at Inco's iron ore recovery plant, Copper Cliff.

## Report Encouraging Results in Sulphur Pilot Plant Studies

"Encouraging results" were reported by Texas Gulf Sulphur Company and The International Nickel Co. of Canada, Ltd., from the initial eight-months operation of a pilot plant for obtaining pure sulphur from sulphur dioxide in the high quality roaster off-gas at Inco's large iron ore recovery operation at Copper Cliff.

Its proximity to the Great Lakes offers Sudbury sulphur the advantage of low-cost transportation to eastern Canada and other large consuming areas. The feasibility of large tonnage commercial production will be determined in part by costs as determined from further pilot operations, while the future price of sulphur will be a further influencing factor. The plant was completed in 1958 and, with associated facilities, cost over \$500,000. Initial operations consisted of test runs. However, since last April, operations have been on a 24-hour schedule and will be continued on this basis in an attempt to successfully conclude the development programme.

### IT'S LEAP YEAR

1960 has 366 days and unmarried girls have the right to propose to unattached males. Just when this custom started seems obscure. When we consulted the encyclopedia we found that it's an old one, and that it was taken so seriously that laws were passed to ensure fair play. According to a law passed in 1288 in Scotland "ilk mayden ladye of bothe hiegh and lowe estait shall hae liberte to bespeke ye man she likes, albeit he refuses to tak her to be his lawful wife, he shall be mulcted in ye sum ane pundis or less, as his

Sulphuric acid and liquid sulphur dioxide are now being produced in quantity from Inco smelter gases but, because of storage and shipping limitations on these products, it has not been possible to market all the sulphur available from such gases. In the event that the sulphur values in smelter gases can be reduced economically to elemental sulphur, a considerable degree of flexibility of storage and transportation will be achieved.

The sulphur is extracted by reacting high quality sulphurous gas with a chemical reducing agent at high temperature over a specially developed catalyst. Among the three satisfactory reducing agents, natural gas (now available at Copper Cliff) has some technical advantage over propane gas or fuel oil, but selection will remain flexible in the light of cost. Many years' work in the laboratories of Texas Gulf Sulphur had proved the extractive process chemically sound but a pilot operation was required to evaluate the engineering aspects upon which economic commercial production will depend.

estait may be; except . . . he can make it appear that he is be-throthit and ether woman he then shall be free." Seems a good way of making money.

### NICKEL ONCE A RARE METAL

Nickel was regarded as a comparatively rare metal until the discovery, in the latter part of the 19th century, of extensive ore deposits on the island of New Caledonia in the South Pacific. This island was the world's chief source of nickel until early in this century when Canadian production surpassed it.



# Revolutionary Gas Turbine At Open Pit

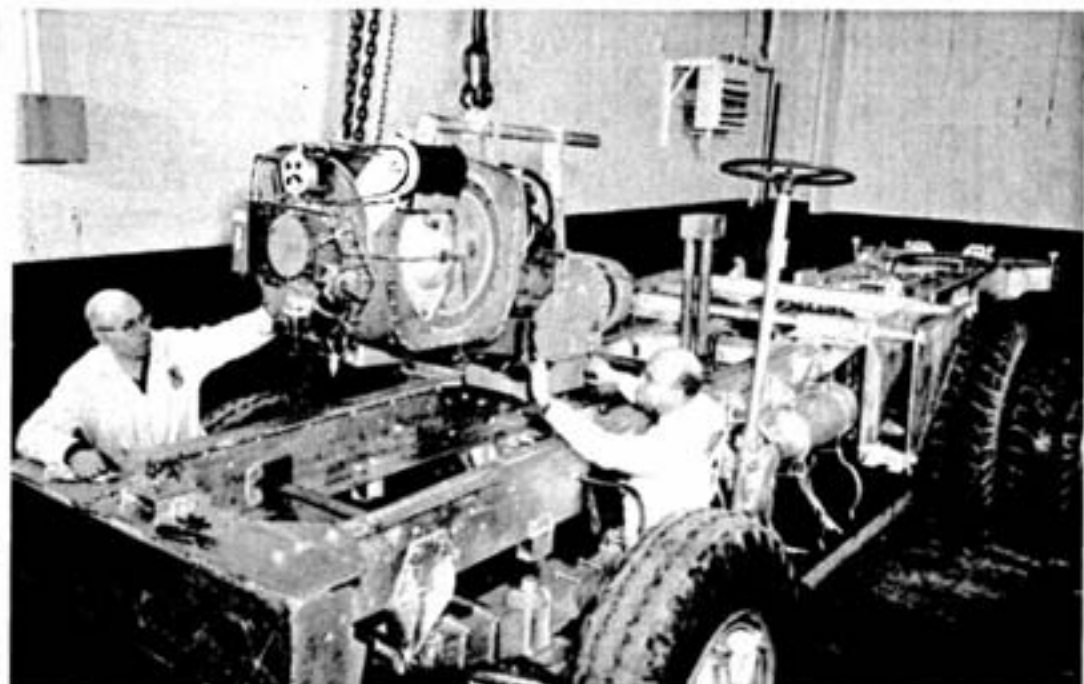
Another milestone in the development of automotive power was reached with the receipt of a regenerative gas turbine engine for installation in an ore haulage truck at Inco's Open Pit mine.

This will mark the first time that an automotive gas turbine engine has been subjected to the rugged requirements of ore hauling.

Called the GMT-305 Whirlfire, the turbine engine was manufactured by the Allison Division of General Motors Corporation, Indianapolis, Indiana. The 225-horsepower engine, which is the culmination of years of research and development by the General Motors research laboratory, is a multi-fuel engine with more than double the power of a comparable piston engine per unit volume and approximately 70 per cent more power per pound. International Nickel — which has undertaken the field testing of this revolutionary engine — has long been interested in the potentials of the gas turbine for commercial use. Inco research helped to develop the heat-resistant nickel alloys that made possible the use of gas turbine engines in turboprop and turbojet aircraft.

In many ways, the Open Pit mine should prove to be an ideal testing ground for this new engine. Although the crushing plant is located only about 1,000 feet from where the shovels are working on the pit floor, the turbine-powered truck will have to travel almost two grueling miles over a road winding upward at an 8 per cent grade around the inside of the pit walls before reaching the surface with its load of 32 tons of ore. The gas turbine engine is built for this kind of performance.

Extensive testing at the GM



Ray St. Pierre, garage foreman at the Open Pit, and Howard Booth, field service man for the Allison Division of General Motors, carefully guide the GMT-305 Whirlfire into position in a modified 26-foot Mack truck chassis. Culmination of years of research and development, the revolutionary gas turbine engine will be given a chance to prove its mettle in the rugged job of ore hauling at the Open Pit.

laboratories has proved that a gas turbine engine will deliver more usable horsepower than a reciprocating engine for the same installed horsepower. The concept of more usable horsepower is a direct result of the torque characteristics of the dual shaft gas turbine engine. The torque characteristic results in a broad horsepower curve which allows the turbine engine to be operated over a wide range of speeds with a minimum loss of power. The piston engine, with its narrow horsepower curve, has difficulty retaining peak horsepower and delivering its rated capacity. Furthermore, the gas turbine's ability to maintain maximum horsepower over a broad output speed range makes possible the use of fewer speed changes in the transmission.

The gas turbine engine is also ideally suited for the climate in the Sudbury district, where the mercury often dips well below zero. The GMT-305 engine has been started, after extended cold soaking, at  $-45^{\circ}\text{F}$ . in about 30 seconds. In fact, it can be started even at temperatures as low as  $-65^{\circ}\text{F}$ .

The negligible oil consumption and multi-fuel capabilities of the GMT-305 Whirlfire make it extremely economical to operate. Also, optimum fuel economy is realized at full power — a definite asset for trucks engaged in heavy duty hauling.

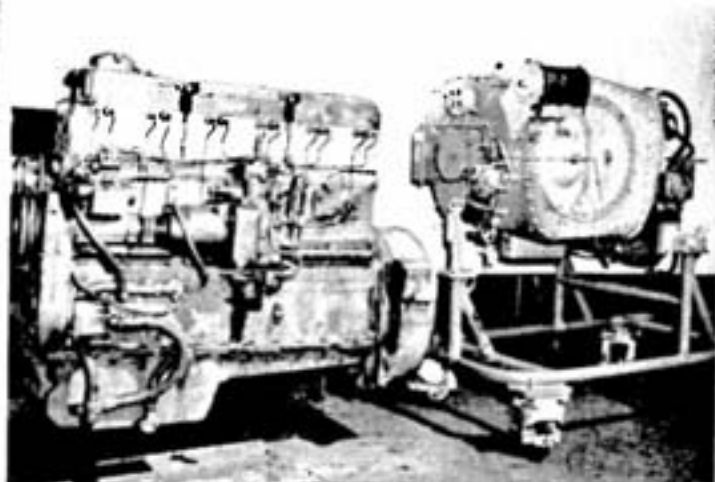
Approximately 30 pounds of nickel is used in the alloys in this prototype engine. The highest percentage of nickel-containing materials is utilized in the hot end components such as the turbine blades, turbine wheels, combustion chambers and nozzle vanes. The drum-type regenerator, which operates at a lower temperature,

also relies heavily on nickel-containing alloys.

In the gasifier turbine and power turbine rotor assemblies nickel-containing alloys are used in the blades (GMR-235, a heat-resistant cast alloy of 63 per cent nickel, 15 per cent chromium, and 6 per cent molybdenum); wheels (16-25-6 alloy, a moderately heat-resistant nickel, chromium alloy forging with properties of high ductility and yield strength); shafts (AISI 4340, a nickel, chromium, molybdenum, high strength heat-treated steel); and turbine bolts (Inconel X age hardenable nickel-chromium alloy with high strength and low creep rate at temperatures up to  $1500^{\circ}\text{F}$ .)

Castings of SAE 60347, a heat-resistant iron base alloy of 10.5 per cent nickel and 18 per cent chromium, are used in the transition liner support, turbine casing, engine bulkhead and extensions, and the nozzle support and casing.

Hastelloy X nickel base sheet



In the picture on the left the GMT-305 Whirlfire gas turbine engine is shown in comparison with an ore haulage truck like the one it will power in an extensive field test at the Open Pit. Standing beside it is J. "Buster" Dyck, assistant master mechanic of mines. On the right the revolutionary new gas turbine engine is seen on its portable stand beside one of the diesel engines regularly used in the Open Pit ore haulage trucks. The diesel job weighs 2,830 lbs., the Whirlfire 750 lbs.



alloy which retains high strength at high temperatures, is employed in the combustion chambers and transition liners. The crossover tube is made from wrought SAE 30347, a heat-resistant iron base alloy of 11 per cent nickel.

In addition to the gas turbine purchased by Inco, the Allison Division of General Motors is presently manufacturing prototype engines for use in a highway tractor, a 28-foot personnel boat, an amphibious lighter, a military track laying vehicle, and an earth-moving tractor. Other possible turbine engine applications include locomotives, missile ground handling equipment, minesweepers, and standby stationary power plants.

### Nick Sobin

Nick Sobin has retired from the smelter at Coniston on an early service pension. He had close to 20 years of credited service.



Mr. and Mrs. Sobin

Coming from St. Louis to Coniston in 1928 he started with the transportation department, then moved into the smelter. He worked for 16 years as a puncher, a couple of years as skimmer and the last few years he spent on the slag hoist.

Nick married Lena Todosichuk and they have a son Paul in Hamilton and a daughter Victoria living at home.

With plenty of leisure time now Nick plans on completing some alterations to his home in Coniston while enjoying his free time and good health.

### Bill Hannaway

A Copper Cliff mechanic recently retired on service pension is Bill Hannaway, fitter for many years on the converter aisle cranes. "I really liked the work," Bill said, "and was always treated well."

In vigorous health, he is thoroughly enjoying his new-found leisure. "I walk downtown twice a day and skate two nights a week at the arena. That helps keep me in shape."

Born in Quebec in 1894 Bill spent much of his youth on log drives



Bill and Mrs. Hannaway

and in the bush. He ran a mine hoist near Quyon for a year too.

## Sharp-Looking Inco Basketball Teams at Port Colborne



They didn't win many games but they always gave a good account of themselves! Here's the Inco nickel refinery team in the Niagara district intermediate basketball league, which also included Hamilton, Burlington, Welland, St. Catharines, Niagara Falls, and Ridgeway: back row, Al Riou, George Miniou, Stan Pettit, Al Thompson, Al Findlay, Gary White, Jack Karpinchick, Don Buchanan (coach and manager); front row, Trevor Fregren, Chas. Grassie, Gino Favero, Larry Roach, Steve Boris.



Also playing out of the Inco Recreation Club is this classy looking girls' team, which is entered in a league with Niagara Falls, Welland, and Crystal Beach. From the left are Lucy Graham, Ella Berkhout, Carolyn Jamieson, Bev Schill, Sandra Hockley, Jackie Chappellaine, Betty Kalaliff, Marje Lewis, Jos Drobnay, Dolores Miniou and Jean Anne Strath. Their coach and manager is Jack Karpinchick.

He went to Schreiber in 1925 and worked for the railway for 10 years, then stopped in at Copper Cliff in the fall of 1935 and soon joined forces with Bill Ripley's gang, mechanical department. That is an association he looks back on with a good deal of pride.

Bill married Loretta Gibbons in 1920 and they have three sons and one daughter. Thomas works in the Copper Cliff mill, Catherine is married to Floyd Cleary of the bricklayers, John is at Falconbridge and Robert at home. They have five grandchildren.

A man who has difficulty in sitting idle, Bill has made his home and garden in Sudbury a summer showplace. He also puts in pleasant hours at his son's camp on Fairbanks lake where he tops all comers at long swims or high dives.

Bill was really moved when the boys from his gang presented him with a finely machined miniature of his so-familiar grease gun, suitably inscribed. They also gave him 150 fine cigars, and he couldn't have received a more appreciated present.

### TO TAKE OUT

The ex-Kamikaze pilot was applying for a job.

"What's your name?" asked the personnel manager.

"Chou Mein," answered the pilot. "But I thought that, during World War II, all Kamikaze pilots either fought to the death or committed suicide. What about you?"

"Ah," said the pilot. "Full name is Chicken Chou Mein."

A man spends his days pondering how to reconcile his net income with his gross habits.

## Clovis Olivier

Clovis Olivier comes of a real Inco family. His father Eli was a Coniston pensioner, his three brothers all work at Coniston, and his wife's father Napoleon Lafrance was also a Coniston pensioner. Now Clovis himself has joined the ranks of the Inco retired, taking an early service pension after more than 30 years' service.

Born at Sturgeon Falls some 63 years ago he was raised at Victoria Mines where his father kept store, as he did later at Coniston before joining Mond.



Clovis and Mrs. Olivier

Returning to Coniston after serving with the Royal Flying Corps as a machine gun instructor in World War I, Clovis worked for a time on the smelter cranes, then got itchy feet and took off for Noranda and points north. He finally settled down for good in Coniston in 1928. After a short time in the plate shop he moved to the power house and worked there as an operator for 26 years.

"On June 5, 1929 there was a big snowstorm," Clovis recalled. "That was the day we got married." Aurora Lafrance, who became Mrs. Olivier, is often reminded of it, too. "Lots of people phoned up to ask when we were married," she said, "so they can settle an argument about when we had snow in June."

Their daughter May is Mrs. A. Hardy of North Bay.

Summer campers for many years Clovis and his wife now intend converting their Lake Wahnapiatue camp into a permanent residence. And there Clovis intends getting good mileage out of the spinning reel and rod the boys at the plant gave him as a parting gift.

## Sudbury Festival

(Continued from Page 8)

received the Sudbury Star scholarship of \$150, which was presented to him by Mrs. Betty Meakes, the women's editor. His teacher is Karl Pukara, who says he is a perfectionist and practises three hours a day. He was a gold medalist at the Canadian National Exhibition in 1958-59, and won at Kiwanis festivals in two previous years.

Accordianists at the festival won special glowing mention from the two adjudicators. "Absolutely sparkling," said Mr. Griffiths. "This is a very high professional standard of playing."

A former Copper Cliff girl, Joan Salo of Sudbury topped all previous festival marks for vocalists when she received 94 and 96 in the "concert group of two songs" competition. "This is a most promising upstart; she has fine breathing and

## Tech Beauties Win Nickel Belt Nite Cheerleading Contest



Sporting flashy new uniforms this attractive group from Sudbury Mining and Technical School were chosen top cheerleading squad at the 10th annual Nickel Belt Nite, held at Sudbury High School. Teams from Chelmsford, Espanola, Nickel District, Lockerby Composite, Levack, Lively and Sudbury High also competed.

The Tech gals drew thunderous acclaim from their fanatically loy-

al supporters as they went through their intricate routine with sharp precision and plenty of bounce. Trudy Manchester, Mrs. N. Porter and Gerry Wallace were the judges again this year.

Replacing the conventional sweater with a smart white satin blouse, Tech's new outfits also featured kilt-like skirts of blue and white tartan with matching socks. The cheerleaders are part of the

Tech band, director George Netke told the Triangle. "It took us 10 years to win the cheerleading championship but we knew this was going to be our year," he said. Picture above, the girls are: front row, Jackie Downey, Audrey Lewandoski, Peggy Palmer, Bonnie Whiteside; back row, Myrna Gordon, Alice Gaigalas, Marilyn Gibbons and Mary Mihalcin; not shown, Phyllis Muraska.

control, and a fine voice," her adjudication read.

One of the festival's best in the piano classes was Joan Noble of Sudbury, daughter of Bill Noble of the Copper Refinery. She took part in nine competitions and won eight of them. She was awarded a \$100 Kiwanis scholarship.

"There were some very outstanding individual performers, and there was also some unusually fine work by the school classroom choirs," said Kiwanis president Morley Goddard in discussing the festival with the Triangle. "On the whole we were immensely pleased with the week's showing. We were a little concerned at the start by a slight decrease in the number of entries compared with last year, but we checked this out and found there were definite reasons which had nothing to do with general interest and enthusiasm."

"Would you please pass on our thanks to all of your readers who assisted in the success of the festival, either by helping or competing," Mr. Goddard added.

If you had your life to live all over again," the prominent agnarian was asked by reporters "do you think you'd make the same mistakes again?"

"Certainly," the old man said. "But I'd start sooner."



"Was I ever thrilled" laughed pretty Jackie Dewar, "but I didn't cry" she hastened to add in describing her feelings when she was chosen Miss Nickel Belt of 1960. A signal honour this, since upwards of 50 girls from eight different schools were competing. Daughter of Garson engineering departments John Dewar, this popular and very personable young miss is a grade 12 student at Nickel District Collegiate. She is in her first year with the senior cheerleaders after two years with the juniors. Here Jackie displays some of the zip and zing that won her the title.