

INCO TRIANGLE

VOLUME 14

COPPER CLIFF, ONTARIO, APRIL, 1954

NUMBER 1



A Dream Came True

(STORY ON PAGE 13)



Published for all employees of The International Nickel Company of Canada, Limited,
Don M. Dunbar, Editor
EDITORIAL OFFICE COPPER CLIFF, ONT.

A Quarter Century of Progress

(From Inco's Annual Report for 1953)

LOOKING BACKWARD

The principal predecessor companies of the Inco enterprise were organized toward the end of the last century when the Canadian nickel industry began, but one of our British subsidiaries traces its establishment as far back as 1833. The International Nickel Company of Canada, Limited was itself organized in 1916, as a subsidiary of the then parent New Jersey company, and it was not until 1928 that it became the parent company.

The Company and its predecessors have over the years engaged in research on an expanding scale. During the past quarter century we have, in addition to developing major changes in processes such as those noted in this report, developed and adapted new and lower-cost mining procedures which have effected the addition of millions of tons of nickel-copper ores to our proven ore reserves.

We have expanded our knowledge of the properties of nickel, copper, the platinum metals, and their alloys and compounds, and made this information broadly available to industry. Industrial research is effective and is justified only if the results are converted into practical applications. We have, therefore, stressed both research, which constantly adds to our knowledge, and development, which continually puts this knowledge into useful practice.

Out of our laboratories in Canada, the United States and the United Kingdom have come new alloys and new information on old alloys. The increase in the free world's consumption of nickel in the past quarter century reflects both this research and parallel research in which industry throughout the world has been continuously engaged.

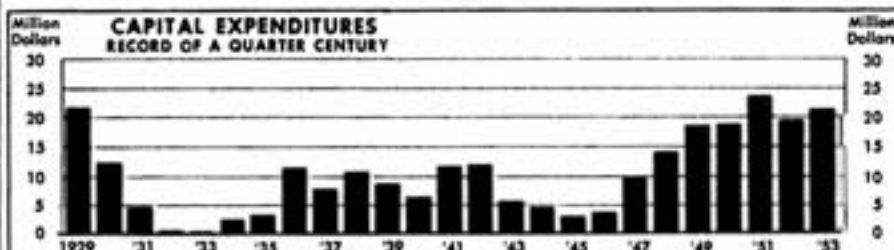
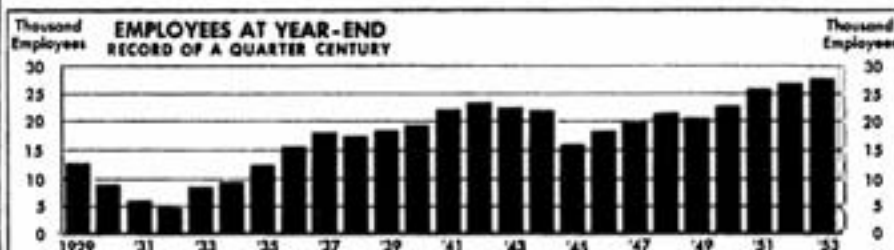
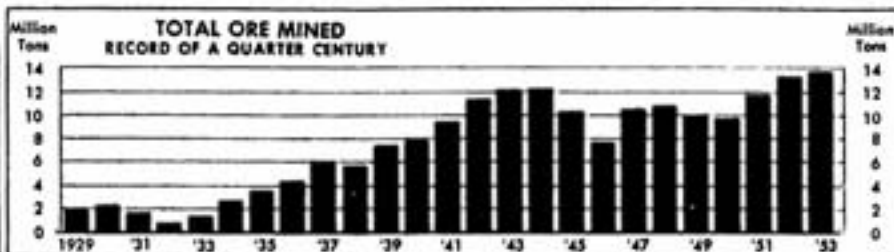
Over the past 25 years, the Company has supplied the world with nearly five billion pounds of nickel, over five billion pounds of copper and over five million ounces of the platinum metals. We mined 187 million tons of ore from 1929 through 1953. Over the course of that period we were able to replenish all of this ore mined and at the end of the period we were able to show a reserve which is 59 million tons over the amount at the beginning of the period. The total of 246 million tons of ore resources which we thus provided in 25 years was made possible by continued exploration and continued mining and process research directed towards the economic use of ores.

LOOKING FORWARD

From all present indications for 1954, we confidently expect to operate at full capacity and to sell all the nickel that we produce.

Stimulated by our developmental activities, industry generally has engaged in similar efforts resulting in a large and constantly expanding market for nickel. Simultaneously we have constantly exerted every effort to expand our production in order to satisfy these growing markets. War or preparation for war creates an immediate demand for all

Some Inco Comparisons



metals and destroys the usual balance between demand and supply. Commercial users suffer, some permanently and others temporarily, and demands pile up in expectation of fuller supply. We are now in such a period, because military and stockpile demands are still at a high level. We are doing all in our power to make available the maximum supply possible and to see that the nickel remaining for commercial use is distributed fairly to the different industries and among individual customers.

We are also entering a period when the world will have at its disposal nickel from new producers as well as increased amounts from established producers. In past periods of expanded capacity, the Company energetically sought and developed markets for nickel. It will continue to do so. With all producers contributing to the enlargement of the market the same energy they have demonstrated in developing sources of nickel, it is our belief that there will be profitable use for both the established and the new nickel production.

Arvid Wuori First Came to Inco in 1910

Although he first worked for the Company in 1910, it wasn't until 1924 that Arvid Wuori finally settled down permanently at Copper Cliff and commenced the 30-year Inco service record that culminated in his retirement recently.

A hearty fellow with a host of friends, he's known around the powerhouse and the machine shop, where he worked, as "Big Harvey".

When he first came to Canada in 1908 he went to Port Arthur on construction jobs. During his earlier years in the Nickel Belt he worked for a short time for the British America company.

He was married in 1912 to Selma Harju,

who five years previously had come to Copper Cliff with her brother. They have two daughters, Lillian (Mrs. Allan Hildebrandt) of Copper Cliff and Edith (Mrs. Onni Timber) of Espanola.



MR. AND MRS. A. WUORI

NOTHING TO SHOW

The small daughter of a televisionless household regarded the arrival of a new piano with little enthusiasm.

"Can't we put something on the roof to show we've got it?" she asked her mother.

BE A HELPMATE

"Help your wife," wrote the enthusiastic home economics editor. "When she wants to wash dishes, wash dishes with her; when she wants to mop the floor, mop the floor with her."

INCO FAMILY ALBUM

One thing we'll say for that Triangle camera—it certainly gets around where the good looking people are: (1) Mr. and Mrs. Tom Scanlon (Garson Mine) with Douglas, 21 months, and Kathryn, 12. (2) Mr. and Mrs. Albert McKinnon (Coniston) with Don, 12, and Ellen, 4. (3) Mr. and Mrs. Graham Smith (Copper Cliff warehouse) with Heather, 4, Bryon, 2½, and Arnill, 16 months. (4) Mr. and Mrs. Bill McAlpine (Creighton Mine) with Jill, 4 months, and Susan, 4. (5) Mr. and Mrs. M. Girouard (Frood-Stobie Mine) with Valma, 21, and Ronald, 17. (6) Mr. and Mrs. Ed Winn (Port Colborne) with Margaret, 5, and Sandy, 2. (7) Mr. and Mrs. L. M. Fraser (Copper Refinery) with Rena, 6, Lloyd, 11, Arlene, 7, Sharon, 3, Marietta, 9.



Mine Surface Wins Garson Shift Hockey Title



One of the main reasons why the mine's surface team won the championship of the Garson shift hockey league in the best-of-three playoff with the town team was a little speed merchant named Wally Morrison. He's seen in action in the picture on the left, his play completed and the puck well on its way into Bruno Pichnik's citadel. Breathing down Morrison's neck is Stan Hyduk who, in the other action shot, has just beaten goalie Nick Jarmovitch to score for the town. Surface won the third and deciding match of the title series, 10-8; both teams played a fast, heads-up brand of hockey all the way.

\$30 Million for Capital Items Is 1954 Program

(From Inco's Annual Report for 1953)

Capital expenditures (by Inco) during 1953 amounted to \$21,085,282, compared with \$19,315,291 in 1952.

Expansion of underground mining facilities accounted for \$8,481,655 of our capital expenditures in 1953. Other capital expenditures during the year included \$4,310,771 for smelting and refining improvements, \$5,044,847 for additions and changes at our rolling mills, and \$1,815,726 for the building of homes for our employees in the Sudbury District. The balance of \$1,433,283 was expended for numerous other capital requirements at our various properties.

Large capital expenditures will be required for some years in order to continue the constant improvements in our production methods and to build the new plant for treating pyrrhotite. For 1954 in particular the capital expenditures must be substantially higher. It is estimated that they will be in excess of \$30,000,000 for that year.

The concentrating and smelting plants and the refineries (in 1953) again handled record tonnages. In November we completed the programme to increase to 12,000 tons per day the capacity of the Creighton concentrator, originally designed for 6,000 tons and subsequently increased to 10,000 tons.

Large-scale oxygen flash smelting of copper concentrates was carried on throughout the year. At year-end a unit was put into operation permitting treatment in a single furnace of all the copper concentrates from our ores. Rich sulphur dioxide gas from this process was delivered to the adjacent plant of Canadian Industries Limited for production of liquid sulphur dioxide. Approximately 37,000 tons of liquid sulphur dioxide were produced and shipped to paper plants in Ontario and Quebec.

In September we began construction of the plant near Copper Cliff, which will initially treat 1,000 tons a day of nickel-bearing pyrrhotite. This plant, estimated to cost \$16,000,000, is the first unit of an operation which will ultimately recover 1,000,000 tons per year of iron ore in addition to nickel. This iron ore will be higher in grade than any now recovered in quantity in North America, and will command a premium price for direct use in open hearth and electric



Tied once but never defeated in 15 games of the Garson shift league hockey schedule were the mine surface team, who went on to win the championship. Front row, Russ Beaudry, Nick Jarmovitch, Wally Morrison, Eddie Renaud; second row, Paul Hupalo (trainer), Cecil Ace, Laddie Kavaliuk, Henry Boyd, Jim Lecoeur, Eldon Carmichael; back, Tom Scanlon, Garson Mine personnel officer, and Frank Caprice, the team's coach. Not shown, Ernie Beaudry, Al D'Alonzo, Dan Cuomo (who was injured in the game and had been taken to the hospital), Marcel Lafreniere, Gus Delavado.

furnace steel production in Canada and the United States.

At Huntington, West Virginia, the production rate was increased and is being supported by a 50% increase in warehouse and shipping facilities, an addition to the Cold Draw Department and the expansion of electric transformer capacity. The capacity of the Reduction Pilot Plant which we operate at Huntington for the United States Atomic Energy Commission was expanded.

In England, Henry Wiggin & Company, Limited completed construction of a new works under arrangements with Her Majesty's Government. The works is equipped to produce bar and sheet in heat-resisting alloys, particularly the well-known Nimonic series of alloys widely used in aircraft and turbine jet engines. Production started during the year. At Wiggin's Birmingham plant a new laboratory was brought into operation, and

at the Birlec Limited plant, furnace manufacturing capacity was substantially increased.

The Late R. L. Beattie

(From Inco's Annual Report for 1953)

Combining an always courteous and gentle manner with clearness of thought and the great quality of firm decision, Mr. Beattie brought to his work a standard of character, accompanied with broad wisdom in dealing with human relationships, which endeared him to all with whom he came in contact and for many years exemplified to the Canadian public all that we would wish this Company to be.



The three-stage conveyor at Creighton carrying ore from the rockhouse at No. 5 Shaft to the concentrator is 1,461 feet long.

Caving Project Has the Longest Inco Conveyors

The longest belt conveyors yet used in Inco's mining and smelting operations are among the many big-scale features of the caving project at Creighton Mine.

Daddy of all Inco conveyors is the installation on 30 level at Creighton to carry crushed ore from No. 3 Shaft to the ore bin and loading station at No. 7 Shaft, through which it is hoisted directly into the crushing plant of the Creighton concentrator. This underground conveyor is 1,820 feet long; its 48-inch belt, driven by a 150-hp motor, has a capacity of 700 tons per hour. The belt, which has a total length of 3,750 feet and weighs over 70,000 lbs., is 6 ply and is made of 48-oz. duck with a 1/4-inch rubber face and a 1/16-inch rubber back.

Three other conveyors of unusual length are enclosed on three sides in a gallery reaching on surface from No. 5 Shaft for transportation of a portion of the feed to the Creighton concentrator. The first of this team of 30-inch conveyors stretches 1461 feet from the rockhouse at No. 5 Shaft to a junction house, the second runs from the junction house 1,172 feet to a surge bin, and the third from the surge bin 864 feet to the crushing plant.

Three crews of Creighton miners established an outstanding Inco record in 1949 in driving the 1,921-foot drift in which the 30 level conveyor was to be installed. They advanced the 9 x 10-foot drift an average of 515 feet per month, cutting safety stations at 100-foot intervals and installing air and water lines and two 12-inch ventilation pipes. The drift was completed on September 21 after removing a total of 13,230 tons of rock.

Deposed king-pin of Inco conveyors is old No. 20, ore-scarred 48-inch veteran stretching 892 feet above the mill bins at Copper Cliff concentrator. Until the Creighton jobs were installed, 20 and its 889-foot sidekick, No. 21, were in a class by themselves.

Of more than 40 conveyors which are part of the crushing plant system at Copper Cliff, perhaps the hardest worker is No. 12, 443 feet long, which takes the ore from the three shorthead crushers and three rolls in the south section and delivers it to the fine screen



Inco's longest conveyor is underground on Creighton 30 level, carrying ore from No. 3 Shaft 1,820 feet to No. 7 Shaft for hoisting to the concentrator crushing section.

It has a capacity of 1,620 tons per hour. The heaviest conveyor belt in Inco service is on the 442-foot haul from No. 2 crushing plant at the Open Pit up to Frood-Stobie No. 3 Shaft rockhouse. It is a 10-ply belt, 54 inches wide, and weighs 34 lbs. to the foot.



See Them Smiling!

Asst. Vice-President Ralph D. Parker presents his shield and replica medals, first competed for in 1937, to the proud and happy Frood-Stobie No. 7 Shaft team of Captain Al Marshall, Lindsay Storie, Ed Leblanc, Jean Lafond, Dennis Flynn, and Coach Bob Wotton. In the other pictures on this page are shown all the teams taking part in the First Aid semi-finals, in which Marshall's lineup beat out four other underground teams for the Muts trophy, and Copper Cliff three other surface teams for the Finlayson trophy.



LEVACK MINE: R. B. Moir (captain), W. Sawchuk, J. Traflet, F. Dube, D. Ross. Their coach, L. Villeneuve.



COPPER REFINERY: E. Moore (captain), R. Champagne, V. Daverkis, E. Sutherland, S. Cuppage. Their coach was O. O'Neill.



GARSON MINE: R. Cayen (captain), W. Crump, M. Schatalor, J. Bowes, M. Kramberger. Their coach was J. Grassam.



CONISTON: K. Rafuse (captain), G. Briscoe, R. Cresswell, F. Greene, E. Traill. Their coach was W. McLaughlin.



MURRAY MINE: T. Lehtikainen (captain), J. Ratushniak, A. Landry, L. Woods, L. Morin. Their coach was A. Bazzo.



FROOD-STOBIE OPEN PIT: K. Withers (captain), M. McNicol, W. Fellbaum, M. Allen, R. Faulkner. Coach was W. Scott.



FROOD-STOBIE NO. 7: A. Marshall (captain), L. Storie, E. Leblanc, J. Lafond, D. Flynn. Their coach, R. Wotton.



COPPER CLIFF: T. Ratkay (captain), D. Gates, G. Gendron, J. Lamacraft, F. Gibson. Their coach was N. Meaden.



CREIGHTON MINE: G. Briggs (captain), T. Dobronowski, P. Blackwell, J. Bernier, D. Lamarche. Coach was E. Chateauvert.



Captain Tom Ratkay of Copper Cliff (kneeling) confers with Jack Lamcraft.



Sharpshooting Dogpatch Delilah feiled an innocent hobo she mistook for a "revenoer". Here she's determined to make amends by giving him a drink from her jug, but the First Aider wisely shoos her away, earning points.



The Frood-Stobie team carefully places a patient on a stretcher.



The winners swiftly went into action on the first patient.

Inco First Aid Supremacy Won By Frood-Stobie's No. 7 Shaft

One of the closest and most colorful battles of wits in the 18 years of Parker Shield competition resulted in a team from Frood-Stobie No. 7 Shaft capturing the 1954 Inco inter-plant First Aid championship.

Only three points behind in the thrilling contest was the quintet from Copper Cliff sister plant.

Several Wolf Cubs and Boy Scouts were in the large audience which followed the impressive performance attentively and thoroughly enjoyed the flashes of humour it produced.

Al Marshall was captain of the victorious team and Bob Wotton was coach. In the lineup were Lindsay Storie, Ed Leblanc, Jean Laford, and Dennis Flynn. It was the first time Frood-Stobie No. 7 had been entered in the competition.

Copper Cliff, captained by Tom Ratkay, were 18 points behind Frood-Stobie on floor work but beat their rivals by 15 points on oral

examinations and thus came within a whisker of the big prize.

The winners had a long and difficult climb to the championship. First they had to survive elimination contests at their own plant, and that was no easy assignment because every one of Frood-Stobie No. 7's 20 shift bosses came up with a well-trained First Aid team this year. Then there was the match for the Herman Mutz trophy, in which the best team from each of Inco's five underground mines took part. And finally there was the excitement and pressure of the grand showdown for the all-Inco title.

Triumphing over keen opposition from the various departments of the huge Copper Cliff operations, Tom Ratkay's men then won the semi-final in which they were pitted against three other surface plant teams with the Duncan Finlayson trophy at stake. In their lineup were Dell Gates, Gerry Gendron, Jack

(Continued on Page 15)



As Dr. Mowat watches, three of the Copper Cliff First Aiders minister to one patient while, in the background, their captain works on another with Dr. Stanyon observing.

*"I care not who writes the laws of a country . . .
 . . . so long as I may listen to its songs"*



Garson Continuation School junior choir won the George Trudell Co. trophy. Their leader, Paul Ellis, was senior piano winner.



Gail and Lynne Beckett, daughters of Dr. and Mrs. T. R. Beckett of Copper Cliff, received the Kiwanis Club shield for piano duos.



Sudbury Male Chorus (Grant Boland, second from left, front, conducting) gave a beautiful rendition of "Shenandoah".



Elaine Simmons of Espanola, winner of the Betty Meakes trophy for piano, was lifted up to the "mike" to say hello.



Claire Grenon, gifted soprano, won a \$100 Kiwanis scholarship. Here she sings Benjamin Britten's "Ash Grove" on the Festival Hi-Lites program at Inco Employees Club. She received Mrs. M. S. Hawke's Tudor bowl for adult vocal solos, Section B. She is continuing her voice studies in Montreal.

Sudbury's Big Festival of Music Again an Unqualified Success

In the silvery notes of a trumpet, rising high and clear and triumphant . . . in the haunting loveliness of a violin's voice . . . in the glad songs of hundreds of little children . . . Sudbury and District Festival of Music told of another great community achievement.

Sponsored jointly by the Kiwanis Club and the local branch of the Ontario Registered Music Teachers' Association, the 9th annual festival was again an unqualified success.

There were 4,600 people of all ages taking part. They filed 545 entries.

To encourage further musical education of outstanding competitors, 11 scholarships were awarded, one for \$250 and 10 for \$100 each. In addition, 50 shields, trophies, and other prizes were distributed to the winners in the various festival classes.

The program of Festival Hi-Lites, given at Inco Employees Club, as usual drew a capacity audience and provided an inspiring cross-section of musicianship in the district.

Both the Sudbury High School Band under the baton of Earl Simard, and the Sudbury Symphony Orchestra under the leadership

of Emil First, gave distinguished performances.

The choir of Grade 8 girls from St. Louis de Gonzague School once again made a magnificent contribution to the program, singing "La Patrie des Hirondelles". It will be recalled that their gifted conductor, Sister Jeanne-Mance, three years ago led her choir to win the highest mark awarded at any Canadian music festival, 95.

The chairman of the festival remarked with satisfaction on the way in which the scholarship awards, made by the two visiting adjudicators, happened to be spread around. Of the 11 awards, eight were to Sudbury, one to Capreol, one to Blezard Valley, and one to Espanola. Another gratifying coincidence of the distribution, he said, was that no less than seven different teachers of music were represented by the winners.

The going is best when you are on the level.

The only people to get even with are those who have helped you.



Repeating her triumph of 1951, Ella Minkkila won the \$250 Inco scholarship. A brilliant future as a pianist seems certain for her. Her father, Vaino Minkkila, works at Froid-Stoble.



Milan Sekeruk scored a hit on the "Hi-Lites" program with his piano accordion solo, "Ciribiribin". His dad, Martin Sekeruk, is a pillar leader at Froid-Stoble.



This brass quartet from Sudbury High School received the Standard Dairy trophy for brass instruments competition. On the Hi-Lites program they played "In the Sunshine." Left to right are Nancy Furchner (trombone), Bill Pitt and Neil Knight (trumpets), Cecil Reeves (bass horn).

Bill Gegear Was 30-Year Man



Some of the boys in the Electrical Department are seen giving Bill Gegear a final ribbing as he winds up his last shift before going on service pension. He's on the left, shaking hands with Bill Sylvestri. At a largely attended farewell banquet at the Italian Club he was presented with a miniature electric welder, and also a diploma in an ancient and honorable fraternity. "I didn't know I had so many friends," he said. "It was a pretty nice surprise."

Six of the happiest years of Bill Gegear's life were from 1911 to 1917 when, during the summer months, he and his brother "M. J." followed the harness racing circuit at the country fairs in Ontario and Quebec with a string of four horses.

"There wasn't much money in it, then, but it sure was a lot of fun," Bill says with a nostalgic gleam in his eye. One time at Chelmsford he had a green horse which everybody figured would be lucky to come in last, but on the back stretch the four other trotters all got tangled up in a bad spill and Bill's nag won the heat.

Bill was born down near Pembroke but came to a farm near Chelmsford with his family when he was a lad of 12. A couple of years later he and his dad both started to

work at Creighton Mine, his dad Rhody as an oiler and Bill as a rock-picker. They left to take contracts hauling cordwood to the roast yards and freighting to the bush camps. They were always on the go, either in the Sudbury District or farther north.

In 1923 Bill came to Inco to stay, working as a day shift maintenance man in the Electrical Department at Copper Cliff. This month he retires with credited service of more than 31 years. He has two sons, Howard, in Montreal, and Bob, in the RCAF, and two daughters, Mona (Mrs. Murphy) of North Bay and Dora (Mrs. Curneau) of Timworth Ont.

He expects to make his home in Southern Ontario, near where there's good harness racing.

Skiing is a Way Of Life to Paul

When a trophy was donated to the Nickel Belt skiing fraternity, to be awarded to the man they felt had done the most locally for their sport, Paul Jenson was immediately nominated for the honor.

It was a distinction well and truly earned. Since he came to the district in 1923 Paul has been tireless in his enthusiasm for skiing, both as a booster and as a participant. Nowadays, resting a bit on his laurels, nothing gives him greater joy than a week-end trip to watch Ellis Hazen's talented teen-agers carry Sudbury's colors to victory in a ski meet.

Back in the days before a heart condition all but sidelined him, Paul was as fast and strong as they came. At the International meet at Fort William in 1941, against a brilliant field from Canada and the United States, he won the cross-country championship. Two years previously Gillespie of Ste. Agathe had beaten him by only three seconds for the Canadian championship, also at Fort William.

At his pleasant home on Long Lake Road, overlooking Trout Lake, he has a large



cabinet filled with cups, medals, ribbons and other spoils of his skiing conquests. Among them none is more prized than the Mrs. Rantala Cup, which he won in 1948-'53-'54 and so holds permanently, awarded to the victor in the race for skiers over 40 years of age at the Vessa Athletic Club meet.

Now 55 but feeling like a young racehorse, Paul can't resist cheating on his doctor's orders every so often. For instance, he likes to hop on a bike and breeze from home to his job — maintenance man in the Inco offices at Copper Cliff — in 16 minutes. Even in a Jaguar this wouldn't be loitering.

Paul and his wife—they were wed in 1927 at Sudbury—have one daughter, Mrs. Wm. Kiemp. Their four grandchildren are all skiers.

Inco Tonnage Mined in 1953 Set a New All-Time Record

(From Inco's Annual Report for 1953)

The following table presents the tonnages of ore mined (by Inco) from underground and surface during the year, with comparative data for the previous year:

	1953	1952
Underground	11,095,199	10,196,068
Surface	2,571,896	3,052,523

Total mined

13,667,095 13,248,593

Our production of ore from underground in 1953 was at a new high, reflecting the progress of our major programme of underground mining expansion which has been under way for more than a decade. During World War II, our production of ore from underground averaged 5,900,000 tons per year. The tonnage mined from underground in 1953 was almost twice that amount and we produced more ore, from underground and surface combined, than in any previous year.

Ore Reserves

Proven ore reserves stood at 261,541,259 short tons at December 31, 1953. This compares with 256,355,903 short tons at the end of 1952. The nickel-copper content at year-end was 7,816,669 short tons, compared with 7,795,326 short tons at the end of 1952.

352 Miles Underground

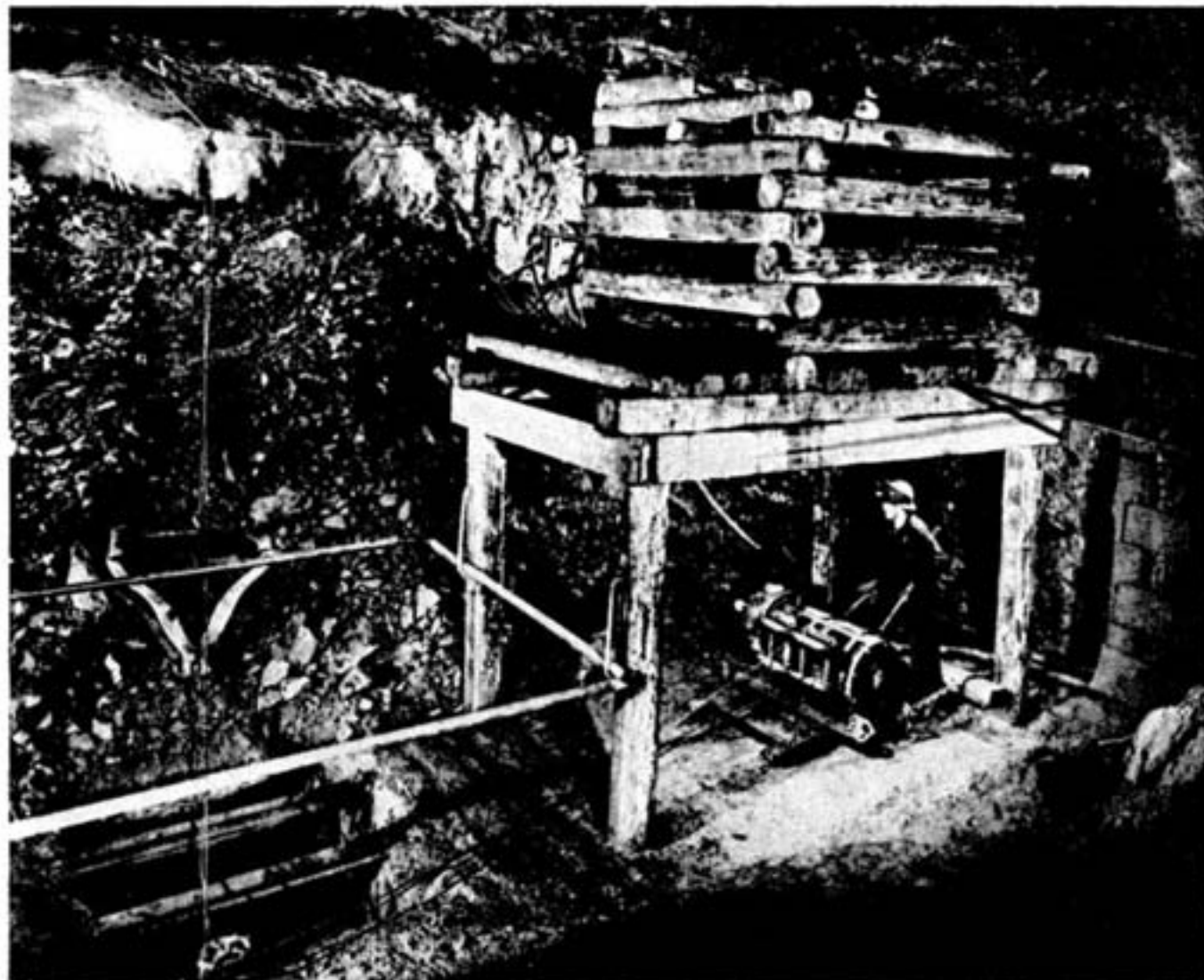
The underground development in the producing mines advanced 142,302 feet, or approximately 27 miles, compared with 132,435

feet in 1952. The distance of the advance during the past year is 12 times that of the longest highway tunnel in the world, which is under the Mersey at Liverpool. Total underground development in our operating mines now stands at 1,880,283 feet, or 352 miles.

Substantial progress was made in expanding our underground operations. A second crusher installation to serve the caving area at Creighton Mine was put into operation. Daily production from the Stobie section of the Froid-Stobie Mine attained a rate of 7,000 tons of ore, compared with 4,500 tons at the end of 1952. Regular ore hoisting operations were begun in the new No. 8 shaft at Stobie Mine.

Extension of the No. 2 shaft at Garson Mine below the 3,200-foot level was completed to a depth of 4,243 feet, while shaft stations were established on the 3,800 and 4,000-foot levels and ore-loading and spillage stations were excavated and concreted below the 4,000-foot level. At the Levack Mine, excavations at the 2,650-foot level for temporary hoist rooms for sinking to the 4,000-foot level were completed at the No. 3 shaft and started at No. 2 shaft. Construction of crusher and pumping stations was begun at the 2,650-foot level. Production was maintained and development work extended at the Froid section of the Froid-Stobie Mine and at the Murray Mine.

Slushing in Cut-and-Fill Stope at Garson Mine



Here's an interesting view at Garson of cut-and-fill mining, one of the six different methods used by Inco in its mines in the Sudbury District.

The slusher has been set up under a bulkhead on the pillar, which is the best location for reaching all points in the stope. The slusherman is Walter Byers.

A chain has been stretched across the stope and the pull-back block is free to move back and forth on the chain, allowing the position of the scraper to be varied and thus making it possible to bring the muckpile down evenly.

In the immediate foreground is seen the toe of the pile of gravel fill which has replaced ore already slushed from the footwall side of the stope. Brought down a raise installed for that purpose, the pile of fill is advanced as fast as slushing operations will permit.

On the hangingwall side of the stope, in the background, a miner standing on top of the muckpile is drilling off a round with his jackleg drill to advance the breast to the limit of the orebody. When this cut has been completed, all muck slushed down the chutes, and the stope filled with gravel to within 7 feet of the back, a mucking floor of 5-inch flatted jackpine will be laid and mining of the next cut will commence.

Yachtsman: "If this storm continues we'll have to leave to."

Lady: "What a horrid way of putting it."

10 Have Been Works Auditor At Copper Cliff

The appointment on October 1, 1953, of Mills Austin as works auditor at Copper Cliff prompted Frederick Bernhard to dig into his memoirs for a brief history of this position.

Once works auditor himself, later Inco's comptroller at New York, and for the past few years a very keen and interested member of the Company's pensioners, Mr. Bernhard now lives in New Jersey.

He recalls that George J. Oliver was appointed chief clerk (as the position was then called) of the Canadian Copper Company shortly after the formation of International Nickel, which was as of April 1, 1902. F. P. Bernhard was appointed chief accountant in April, 1903, and when he was transferred to Bayonne, N.J., as chief clerk of the Orford Copper Company in January, 1904, J. Newton Patton was named chief clerk at Copper Cliff.

When Mr. Patton was transferred to Creighton Mine as superintendent shortly before the end of 1904, H. H. Dumbrell became Copper Cliff's chief clerk. Next in-

cumbent was Robert Kirkwood, who resigned toward the close of 1907 to go into the insurance business in Sudbury with Col. A. Hoffman Smith. F. P. Bernhard was brought back from Bayonne in January 1908 to succeed Mr. Kirkwood as chief clerk. Some years later the title was changed to works auditor and the location became the Mining & Smelting Division.

Earle C. Lambert became works auditor in October 1918, and, on being transferred to Port Colborne, was succeeded by Frederick C. Allgeier in January 1922. When Mr. Allgeier went to the New York office in September 1933, he was followed as works auditor by R. Leslie Beattie. The latter became general assistant to the general manager early in 1935 and his place was taken by J. Roland O'Donnell, who traded posts in September 1940 with E. C. Lambert at Port Colborne. The latter, on his retirement in December, 1951, was succeeded by Alex Godfrey, who was followed by Mr. Austin when he became an assistant to the vice-president.

OLD STUFF

Sister—Well, Junior, your sister and I are going to be married. How's that for news?
Junior—Shucks! You just finding that out?

The more a man knows, the more he is inclined to be modest.



The company of 40 which presented the three-act operetta, "Green Cheese" at Coniston is seen above in the finale of the show, "Life is a Beautiful Song". Costumes, stage setting and music, particularly the choruses, made the production an outstanding effort.



Five of the merry maidens who earned the operetta a high score for beauty are seen here: Ilene Fabris, Rene Tremblay, Estelle Durette, Irene Fabris, and Linda Argentin.



Valedictorian of the Continuation School's graduating class was Janet Martinello, now in training for nursing in Toronto. In her valedictory she expressed the gratitude and affection of the class for their school and teachers. Seated behind her is A. Godfrey, assistant to the vice-president of Inco, who addressed the gathering.

Coniston School Scores High in "Green Cheese"

Coniston Continuation School has a record of accomplishment out of all proportion to its size, at both work and play.

Another brilliant success for the little school with the big ambitions was the presentation of the three-act operetta, "Green Cheese", in conjunction with the Annual Commencement Exercises.

Directed by Miss Margaret Ferguson, who also played the musical score, "Green Cheese" was a credit to the entire company and to the large number of eager volunteers who worked hard behind the scenes.

The stage was specially constructed in the community hall. The costumes were hand-



Fred Santala presents a bouquet to Miss Margaret Ferguson, director of the operetta, who also played the musical score. At right is Principal E. J. Orendorff.

made, and so were the flowers that decorated the scenic background. The program was hand-drawn and mimeographed. There were other "home-grown" touches. But everything was so well done as to have a professional air, and with co-operation like that to back it up, what show could miss?

Taking leading roles in the delightful story of an exciting day in the mythical Swiss village of Uppendown were Fred Santala, Lloyd Squires, Shirley Jeffrey, Eugene Wasylowski, Nora Blomgren, Jack Langlois, and Graeme Johnson. Every performance, including two at Copper Cliff, drew a packed house.

Cliff Girls Are North's Junior Pair Champions

Kaarina Tulisalo and Betty Peura (above and also on our front cover) are the new junior ladies' pair champions of Northern Ontario figure skating.

These graceful young ladies, representing Copper Cliff Figure Skating Club, won their title at the first championship meet held in the Sudbury Arena.

Scores of professional lessons, hundreds of



KAARINA TULISALO, BETTY PEURA

hours of painstaking practice, and uncounted wishes and dreams led up to the thrilling moment when they received the Bannan Bros. trophy for their outstanding exhibition. They also won the ladies' Dutch waltz.

More than 30 young skaters from Owen Sound, North Bay, Porcupine, Kirkland Lake,

Levack's Shift Hockey Champs



Led by the Malleau brothers, Jerry and Vic, with three goals each, the mine surface team swept to an 8-4 victory over Ted Atkinson's Panthers in the final game for the Levack shift hockey league championship, played at Stanley Stadium in Copper Cliff. Above are the winners: back row, Jerry Malleau, Cliff Hykin, Bernie Compeau, Vic Malleau, Fred Spencer; front row, Les Dusick, Clyde Westlake, Stan McCrea, and "Mucky" Tauratzo; not shown, Stan Plaskoski.



A scoring bid by Larry Laberge of the Panthers, one of the underground teams in the Levack shift hockey league, is smothered by the surface team's defence, which was outstanding throughout the playoffs. Stan McCrea has come out of his nets, and Bernie Compeau and "Mucky" Tauratzo (backs to camera) are right in there with him on the play to stop Laberge.

Copper Cliff and Sudbury skating clubs took part in the 12 events of the championships. The judges were Norman V. S. Gregory of Montreal, Richard McLachlin of Oshawa, and J. A. McKechnie of Ottawa.

Kathryn and Nancy Wilkins, long-time stars of Northern Ontario figure skating, won two championships, the senior ladies' pair and the ladies' fourteen-step and fiesta tango.

Another Sudbury pair, Carlotta Orasi and Maurice Lafrance, made a clean sweep of the juvenile honors, Carlotta winning the ladies' singles and Maurice the men's singles.

FASTER, TOO, LIKELY

A tourist in the Ozarks called to an old woman sitting on a porch. "How far is it to the nearest town?"

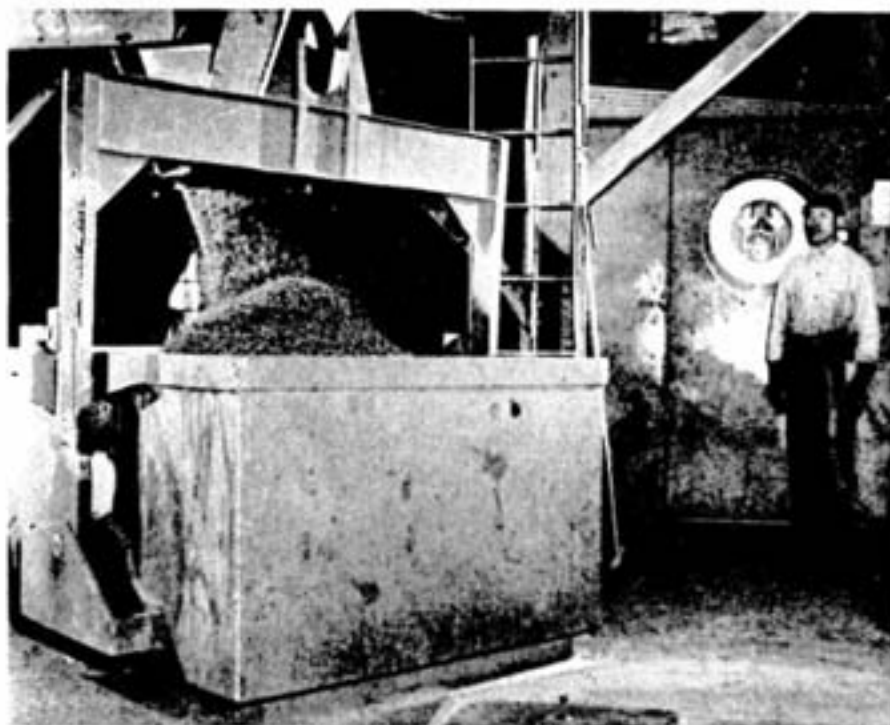
"Pa figgers it's about 10 miles thar, and about 12 back," she answered. "Which is on account of him walking straighter 'gain' than comin'."

Creighton Makes The Grade at Last

Several times since it last won the Safe Shifts award in 1950, Creighton Mine has been within striking distance of the 100,000 mark only to have an accident turn the tally right back to O.

On February 19 the long-coveted goal was reached, Creighton completing 100,479 shifts without a lost-time accident. There was keen satisfaction over the achievement among both men and supervision, to whom congratulations are extended from all other Inco operations.

Every man on the Creighton roll who worked during the period from December 23 to February 19 received two theatre tickets as a token of the Company's appreciation of his safe workmanship.



This Is the Mix That's Fed to The Nickel Refinery's Furnaces

Here's what things look like at the start of proceedings in Inco's nickel refinery at Port Colborne. Steve Maier, a charge mixer in the Anode Department, watches as a batch of 6,700 lbs. of nickel oxide sinter from Copper Cliff, mixed with 900 lbs. of petroleum coke, pours into a charge bucket. The charge is then transported by overhead crane to the

hopper above one of the anode furnaces.

From storage bins the sinter and petroleum coke are transferred by conveyors and bucket elevators to weigh hoppers which automatically weigh out the correct amounts into a mixer, from which the charge is automatically discharged into the dump bucket as illustrated.

Television and F.M. Antennas

Tenants in Company houses who have outside antennas attached to the houses are asked to see that the equipment is properly protected against lightning, which might cause a fire. The rules given below except where modified by Inco's Electrical Department are taken from the 1953 pamphlet "Television and F. M. Antennas" published by the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass.

Two kinds of protection are required:

1. The metal mast of the antenna should be connected to a water pipe or ground rod by a wire of suitable size.
2. Each lead-in conductor from an outdoor antenna should be provided with a lightning arrester placed as near as practical to the place where the lead-in conductors enter the building. The arrester has a ground wire which should be connected to a water pipe or ground rod. Fig. 9 shows the right and wrong location of a lightning arrester and Fig. 4 shows an improper ground to a sanitary stack-vent pipe.

Certain details of these installations are given below:

A. Grounding the Metal Mast of the Antenna

1. The ground wire or conductor may be run either inside or outside the building.
2. The grounding conductor shall be run in as straight a line as practical from the antenna mast and/or lightning arrester to the grounding electrode—sharp bends or loops in the wire are to be avoided.
3. The ground wire shall not be smaller than No. 10 copper or No. 12 aluminum

or No. 17 copper-clad steel or bronze provided that where wholly inside the building the wire shall not be smaller than No. 18. However, some authorities recommend No. 6 copper or equivalent for mechanical strength.

4. A single grounding conductor may be used for both protective and operating purposes. If a single conductor or wire is so used the ground terminal of the equipment should be connected to the ground terminal of the protective device.
5. A metallic underground water piping system should always be used as the grounding electrode where such piping system is available.
6. Where underground water piping is not present, a made electrode consisting of

a driven pipe, driven rod, or buried plate may be used.

7. Rod electrodes should be of at least $\frac{1}{2}$ inch diameter if of steel or iron and may be $\frac{1}{4}$ inch diameter if made of copper. Except where there is a rock bottom, the pipes or rods should be driven to a depth of at least 8 feet.
8. Pipes or rods for ground electrodes shall have clean metal surfaces and shall not be covered with paint or other poorly conducting materials.
9. Clean solid connections shall be made between the ground wire and the antenna, lightning arrester and ground electrode.

B. Lightning Arresters

Each conductor of a lead-in from an outdoor antenna shall be provided with an



FIGURE 4

approved lightning arrester, except that if the lead-in conductors are enclosed in a continuous metallic shield the lightning arrester may be installed to protect the shield or may be omitted if the shield is permanently and effectively grounded.

C. Support of Antennas

1. Special care is required with supports for antennas which would contact high tension wires if they fell over.
2. While supporting the antennas against chimneys is probably the easiest method of installation, it is not recommended because in many cases the chimney is not strong enough to stand the extra wind-load imposed. Fastening the antenna to the eave of the building is recommended.

THE IRISH OF IT

Pat and Mike were hunting. Pat saw a duck far overhead, gave it both barrels, and to his delight saw the bird wheel over, and fall to the ground.

"Ye wasted that powder, Pat," said Mike pityingly.

"I got the bird, didn't I?"

"Yis; but the fall would a-kilt him."

WISE TO HIM

Judge: "Do you consider the defendant a reliable man? Has he a good reputation for truth and veracity?"

Witness: "Well, to be honest with you, your honor, that man has to get somebody else to call his hogs at feeding time. They won't believe him."



FIGURE 9

Father and Son, Both on Pension, Total Nearly Century with Inco



At the Wiggin Works of Mond Nickel Co., our colleagues in the British Isles, they're hanging up a record for all Inco to shoot at.

In the centre of the above picture is John Parkes, a Wiggin pensioner with 46 years' service, and on the right is his son Jesse, who retires on April 3 with 50 years' service. So Wiggin boasts the unique distinction of having a father and his son both on pension with a combined service of 96 years!

The "youngster" on the left in the photo is Bernard Parkes, son of Jesse, whose four years of Inco service brings the family total to an even century.

Eric Bannister, editor of Mond's Nickel News, informs the Triangle that "Granddad Parkes is very much alive and kicking, and young Jesse at 65 is as hearty as a lion..."

The picture was made by a staff photographer of the Birmingham Mail & Post.

Inco First Aid

(Continued from Page 7)

Lamacraft, and Frank Gibson, with Norman Meaden as coach.

"This has been an outstanding exhibition of First Aid work," said Ralph D. Parker, asst. vice-president of Inco, in presenting his shield to victorious Frood-Stobie. He warmly congratulated both teams, and said that Copper Cliff certainly had "nothing to be ashamed of" in losing by a margin of three points. The contest, he said, represented a great deal of work on the part of Tom Crowther of the Safety Department, whose broad imagination and sense of humour in preparing the problem were appreciated by all. Thanks were due too to Dr. Mowat and his staff for the many hours they had spent in training First Aid classes and in judging competitions; their efforts were largely responsible for there now being more than 4,000 men trained in First Aid in Inco plants of the Sudbury District.

Each man on the winning team received a medal miniature of the Parker Shield and \$50 in cash.

When a First Aid team take the floor at the Inco Club to tackle one of Tom Crowther's special super de luxe problems they can expect to be confronted with anything from

an atomic explosion to a pack of hunger-maddened huskies. This year's test was up to standard, producing one surprise after another until the wonder grew that the First Aiders themselves didn't need to be treated for shock.

Everything started off innocently enough. Entering the auditorium the team was handed this little memo: "You four men are a survey party in the Dogpatch hills and are accompanied by a camp cook. There is no road to the cabin where you have established headquarters, and you arrived by train. The railroad station is located about one mile away."

"The only train each day leaves Dogpatch station at 9 a.m. It is now 8.30 a.m."

"When at breakfast, a man (obviously a hobo) arrives at your camp and informs you that a friend has been badly injured in a fall from a rocky hill, about 200 yards away."

"Another friend has remained with the injured man and you are asked to help. These hobos are not reliable and cannot be trusted to carry out any instructions, no matter how simple. You have no telephone, but do have a First Aid kit and stretcher."

Firing questions at the presiding doctor with machine-gun speed, the team captain quickly diagnosed the injured hobo's troubles, a fractured skull, a cut on the right forearm with arterial bleeding, a cut on the left palm, and fractures of both legs.

If he was on the beam the captain promptly sent the cook to Dogpatch station to flag the train, a move with a double pay-off because the cook later returned with a second stretcher he found in the station, and a passenger from the train to give help.

While the patient was being treated two shots rang out and one of the other hobos fell to the ground unconscious. A rifle-bearing maiden emerged from behind one of the Dogpatch hills muttering with grim satisfaction that she had at last "got one of them revenooers". When she was told she had cut down a harmless tramp she became very apologetic and was bound she'd buy him a drink from her jug, a kindness firmly refused by the First Aiders.

The captain quickly established that the unfortunate man had bullet wounds in the right forearm and in the abdomen, and treated him accordingly, while Dogpatch Delilah hovered about, making a nuisance of herself.

Then, to fill the First Aiders' cup of grief to overflowing, the third hobo suddenly uttered a great cry and collapsed to the ground, clutching his left hip. Rushing to him the captain found that he had been bitten by a poisonous snake. Swiftly putting the reptile out of business, he gave the man's wound prescribed care, making $\frac{1}{2}$ -inch deep cuts to start bleeding and drain off the snake venom. He could pick up three points by allowing this patient to have a snort from Delilah's jug, although the other two patients had correctly been shielded from such drastic treatment.

When each team had worked its way through this welter of woe, and finally delivered the three bandaged victims, two of them on stretchers, to the doctors, the audience gave it resounding applause.

Wounds and injuries of the patients were cleverly simulated, and props and settings were most realistic. The general arrangement of the accident scene allowed maximum visibility for the audience.

Handling the unenviable assignment of judging the very close competition were Dr. H. P. Mowat, Dr. J. H. Stanyon, and Dr. K. J. W. Bromley. The oral examinations were conducted by that veteran Inco First Aider, Bert Debnay.

In his stage crew Producer Tom Crowther had Ed Sutherland as timer, Joffre Ferras as makeup man, and Ray Bouchard as the passenger from the train. Scotty Muir was Dogpatch Delilah, and the three long-suffering hoboes were Sammy Grassam, Albert Elliott, and B. Irvine.

A total of 152 teams took part in the series of elimination contests culminating in the Parker Shield event.

Members of the teams winning the semi-final matches all received blankets; white pullover sweaters were the prizes that went with each plant championship.

Still Lives in the Old Family Home

The cosy place at 28 Poplar St. in Copper Cliff has of course been spruced up and modernized from time to time through the years but it's still "the old home" to Dennis O'Reilly, because it's there he was born in 1902 and it's there he has lived all his life.

His father, who during his career with the Company was foreman at the roast yards, retired in 1921. Dennis, who started at the



MR. AND MRS. DENNIS O'REILLY

plant on the blast furnaces in 1922, recently had to accept a disability pension on account of his health, much to the regret of his many friends. By taking good care of himself, though, there's no reason why he shouldn't enjoy a long and happy retirement.

Before her marriage to Dennis in 1933, Mrs. O'Reilly was Molly Gervais, a dreammaker who came to Copper Cliff from Victoria Harbor. Their daughter Ellen is a teacher in Sault Ste. Marie and their son Michael is in public school.

SNAPSHOTS OF LIFE WITH INCO



Dave Cresswell of Coniston figured out how to improve the method of forming sinter fan blades and submitted his idea to the Employees Suggestion Plan committee. It wasn't long until one afternoon he found himself wearing a big happy smile and accepting a cheque for \$112 from Superintendent Fred Murphy. A few days later Dave yielded to the high-powered persuasion of his two daughters, Lynn (9) and Valerie (5), and sank his winnings in a TV set. Other names recently in the Suggestion Plan news include Richard Dopson (Copper Cliff machine shop), \$33 for improving the method of cutting large gears, and Alfie Pinaud (Copper Cliff crushing plant), \$55 for a better loading arrangement on one of the conveyors.



A Copper Cliff curling team of Guy Hashey (skip), Jim Dewey, Doug Gathercole and Harry Stephenson invaded Kirkland Lake last month to try for the Van Itallie Company trophy, honored and revered by the T. & N.O. besom an' stane fraternity for more than 20 years. In top form throughout the week-end bonspiel, the Cliff foursome accomplished their mission and brought the coveted prize back to Sudbury District for the first time. Since it was presented by a New York firm in 1933 it has been won by Kirkland Lake, Timmins, Haileybury, Noranda, New Liskeard, Englehart, McIntyre. Picture shows Skip Hashey (right) with Harry Stephenson and the trophy.



Sure when it's March 17th, and your name is Pat, you have a party. Especially if it's your birthday. The host here is Pat Eldridge, 5, and he's at upper right with the bow tie. On his left is his brother Bruce, 3. Their dad is Al Eldridge of Smelter Efficiency.



A quick freeze on the heels of a pre-spring rain transformed this gravel stockpile beside the road to Levaek into a miniature mountain range.



Winners of the Sudbury Lions Club medals for oratory this year were, left to right, Catherine Mutsch (silver), Ronald Livingstone (bronze), and Judith MacKinnon (gold). When Judith won the Nickel District oratorical championship, Catherine came second; in the Northern Ontario contest a few days later the positions were reversed, Catherine emerging champion. Proud fathers are Fred Mutsch of Frood-Stobie, and Bill Livingstone and Jack MacKinnon of Copper Cliff.