INCO TRIANGLE

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Garson Team Winning Parker Shield (STORY ON PAGE 5)

INCO TRIANGLE

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M'sieu O'Brien Wins Gordon Event

First rink to enter the charmed circle of winners in the regular events at Copper Cliff Curling Club this season are seen here with the rosy glow of victory on their cheeks. In the J. R. Gordon competition the winners were: Basil O'Brien (with or without the French accent), Bill Pakkala, J. J. McGuire, and J. McDougall. They scored a thrilling 10th-end victory over Earl Stoneman's lineup in the final match. Mr. O'Brien was heard to remark that he was pleased with the result.

E. Minardi Had 33 Years' Service

A happy man with the precious knack of not worrying about things, Eugenio Minardi has come to the end of his active service with Inco, 33 years and four months of faithful attention to his duties. Now he turns to a life of pensioned leisure, with plenty of time for working in his garden or communing with old cronies.

It was a proud moment for him when the three shift bosses from the coal plant at Copper Cliff, where he had the longest seniority, called at his home and, on behalf of the men, presented him with a gold watch as a token of esteem on his retirement.

Life has been good to Eugenio Minardi since he was born in Italy on January 15, 1887. He hasn't a kick about anything, he says, and that's the feeling you get from the cheerful picture of him.

When he was 18 he came out to the United States and started as a trackman for the Pennsylvania Railroad at 13 cents an hour for a 10-hour day. After four years he was called back to Italy for army training and distinguished himself by winning a gold medal for marksmanship.

Released from service he decided to head west again, this time for Copper Cliff where, he had heard from friends, things were good. When he arrived, unfortunately things weren't so good—there was no work in the plant where only three blast furnaces were operating, so he hooked on with Proctor Construction, building streets in Sudbury, until 1915, when he started in the old converter building at Copper Cliff smelter, loading matte with a wheelbarrow. After a back-aching spell of that he headed for Schreiber to join the C.P.R., then went west for the threshing season. October found him back at Copper Cliff, convinced that smelter work wasn't so bad after all. And there he remained, a popular and steady worker who piled up a long record of worthwhile service.

He was married in Italy in 1911 to Allegrina Ghetti; their son Derno is with the civil service in Ottawa, their daugher Dina is chief of the stenographic department at the general offices in Copper Cliff.

C. L. Wilson New O. C. of Regiment

New commanding officer of 58th Sudbury (LAA) Regiment, RCA, is Lt.-Col. C. L. Wilson, who last month succeeded Lt.-Col. T. P. Gilday, retired.

Lt.-Col. Wilson, personnel officer at the Copper Refinery, was born at Farnham, P.Q., in 1908, and came to Copper Cliff from Ottawa in 1928. He was married in October, 1940, to Maureen Dixon of Sudbury and they have a family of four sons.

Lt.-Col. Wilson joined the Algonquin Regt. as a private in 1935 and was commissioned the following year. He became a captain in the Sault-Sudbury Regt. in 1939. He commenced active service in June, 1940, with the Grey & Simcoe Foresters as a lieutenant, and served with 4th Can. Armd. Div. HQ and 79th Armd. Div. (Kangaroos) in the United Kingdom and northwestern Europe. He returned to Canada to train for service in the Far East in July of 1945, was discharged in October, 1945 with the rank of major in the Reserve Force. In 1946 he became a battery commander in 58th Sudbury (LAA) Regt., was named second in command of the regiment in 1947, and was promoted to commanding officer with the rank of lieutenant-colonel on March 1 of this year.

Coniston Plant Scores 100,000

For the seventh time since 1944 employees at the Coniston plant have scored 100,000 consecutive shifts without a lost-time accident.

From August 9, 1951 to March 23 the Coniston plant rolled up a total of 100,133 safe shifts.

All employees who worked during that period will receive two tickets good for admission to any theatre in Sudbury district.

Nice going, Coniston! You've got the seventh—now make it the eighth!

FRIEND "DOWN UNDER"

After he read in last January's Triangle about the flourishing Inco Stamp Club, W. G. Wright of Sydney, N.S.W., gathered a selection of six each of about 30 Australian stamps and sent them to the club to be used as "swaps".

Don Dixon has acknowledged the generous gesture on behalf of the stamp club members, who were keenly appreciative of Mr. Wright's kindness.

Mr. Wright, whose company sells Inco products "down under", visited Copper Cliff in April of 1949. He is apparently very interested in things Canadian, for he writes that he often borrows 16 mm films from the Canadian Film Board to run off for groups of friends in his sound projector at home. A short in color of Barbara Ann Scott is a great favorite of his two daughters, who are figure skating enthusiasts.

INCO FAMILY ALBUM

Step right this way, ladies and gentlemen! We've some nice people we want you to meet: (1) Mr. and Mrs. Keith Young (Copper Cliff Concentrator) with Earl, 16, and Ellen, 19. (2) Mr. and Mrs. Alex Farquharson (Frood-Stobie) with Donald, 12, Brenda, 11, Connie, 8, Heather, 6. (3) Mr. and Mrs. Donat St. Germain (Garson) with Irene, 2, Claire, 4, and Helen, 5½. (4) Mr. and Mrs. Arthur Roy (Copper Refinery) with Marc, 6. (5) Mr. and Mrs. Roy Snitch (Coniston) with Wendy, 15 mos., Paul, 3, and Dana, 5. (6) Mr. and Mrs. Lucien Seguin (Creighton) with Louise, 6, Madeline, 11, Suzanne, 12, Peter, 9, and Gilbert, 5. (7) Mr. and Mrs. Nick Stepenchuck (Port Colborne) with Ward, 3, George, 5, and James, 3 mos.

Scouts and Cubs On the Move In New Town

It will always be said of the new town of Lively that its first citizens put first things first. So one of the first things organized during the rapid initial growth of the community was the Scout movement.

They're meeting in the basements of their

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Garson Takes Parker Shield For First Aid

A quick-witted smooth-working team of First Aid experts from Garson Mine won the Inco inter-plant championship and the Ralph D. Parker shield in a thrilling final match against the Copper Cliff Smelter entry at Inco Employees Club, Sudbury, April 3.

A triumphant cheer went up from the strong contingent of Garson supporters when the result of the closely fought contest was announced.

Both teams did extremely well with one of the trickiest problems yet set for the annual Parker event by Tom Crowther of the Safety Dept., arch-schemer of Inco's First Aid training program.

Warmly congratulating both the victors and the vanquished on their fine performances, Asst. General Superintendent James C.

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Thrilling Contest as Garson and Copper Cliff Meet in Final

(Continued from Page 5)

Parlee presented the trophy on behalf of Mr. Parker. He announced that 903 men had taken part in the 1952 First Aid competitions, of whom 526 had no previous organized First Aid training. In addition, he said, 419 men, 217 of them new to the work, had received certificates from the St. John's Ambulance Association. Inco now had nearly 3,000 men, or 5.3% of the total working force in Sudbury district, trained in First Aid, and they were well distributed throughout the organization. He expressed the Company's keen satisfaction with the results of the program, and thanked all who had assisted or taken part in it.

The problem for the final contest started off innocently enough. The four men of the First Aid team were presumably on a camping trip when they saw a jeep travelling across a rough field and disappear over a hill. They heard the driver call for help and, rushing to his assistance, found him lying near his overturned jeep. Swiftly they established that he had lacerations, arterial bleeding, a fractured left femur, and nerve shock. While they were treating him they heard moans coming from beneath a scattering of boards and discovered a second patient who had a fracture at the base of his skull and also a fractured left tibia and fibula. That really should have been enough in the way of grief, but the test became even more complicated when a young lad who rode up on a horse suddenly keeled over with heatstroke. For 45 minutes those First Aiders were busier than one-armed paperhangers with the hives.

Dr. H. F. Mowat, chief surgeon of Inco, and Dr. J. H. Stanyon were in charge of the floor work, for which there was a possible total of 539 points, and Dr. A. R. Foerster conducted the oral examinations. Patients were Cliff Beckett, Rene Desjardins, and Earl Bennett. Timekeeper was Lionel Roy, and bystanders who assisted the First Aid men were Carl Clubb and Owen O'Neill.

Much enjoyed selections were given by Guy Lemieux, popular Sudbury vocalist, who was accompanied by Mrs. Perras.

In the top photograph on Page 5 J. C. Parlee (left) poses with the victorious Garson lineup: J. Grassam (captain) A. Nasi, L. Kaattari, R. Dubois, R. Elliott (spare) and B. Spencer (coach). This was Garson's second win in the 16 years of Parker shield competition. Copper Cliff have won it five times, Frood-Stobie four, Copper Refinery three, and Creighton and Coniston once each.

The Garson team are seen in action in the front cover picture of this issue. Along with the Parker shield they were presented with cash prizes of $50.00 each; with the H. J. Mutz shield, emblematic of First Aid supremacy for Inco underground mines, they received blankets.

In the second picture on Page 5 the Copper Cliff team wrestle with the tough final problem, and in the third picture they are seen with D. Finlayson (left) as he presented them with his shield and blankets for winning the semi-final match for surface plants: W. Rachkowski (captain), G. Gribble, C. Bedard, C. Brash, A. Lavery (spare) and T. Gladstone (coach).

Pictures on Page 7 show other teams competing in the semi-final competitions:

1. Coniston; R. Keffer (captain), W. Coppo, D. Laporte, R. Caron, L. King (spare). Coach was F. Pare.
2. Copper Refinery; R. Duncan (captain), M. Bernier, E. Moore, G. Prevost, G. Mann (spare). Coach was S. Sutherland.
3. Creighton Mine; J. Peloquin (captain), J. Lalonde, K. Elliott, W. O'Hanley, J. Loftus (spare). Coach was H. Moyle.
4. Murray Mine; H. Chivers (captain), L. Scott, N. Kalenuik, R. Lefebvre, C. Leduc (spare). Coach was A. Bazzo.
5. Levack Mine; W. Caesar (captain), H. Gillis, B. Rodd, B. Eley, D. Laidlaw (spare). Coach was A. Didur.
6. Frood-Stobie Mine; N. Barnes (captain), E. Bimm, E. Maroux, H. Larsen, A. Dagg (spare). Coach was J. Vettorel.

No. 7 is an action shot of the Creighton team in the semi-final for underground mines.

At the elimination contests at the various mines and plants, as well as at the semi-final and final events in the Inco Club, large audiences showed the keen interest with which First Aid work is followed. Roy Scouts were prominent among the spectators, picking up pointers for their badge tests.

Enter Northern Hockey Finals

Twice coming from behind with some smart hockey and a real show of fighting spirit, Copper Cliff trimmed Sault Ste. Marie 9-7 in a thrilling sudden-death playoff and earned the right to enter the Northern Ontario midget hockey finals against the Gold Belt winner for the Carl Palangio trophy. The Cliff lineup, undefeated during the season in the 10-team Nickel Belt league, is seen above: back row, Bob Pakkala, Dino Morosso, D. Johnson, Eddie Shack (almost hidden), Eddie Pollesel, George Lamacraft, Billy McKinnon, David Fuller, Peter Crossgrove; centre row, Bill Pakkala (coach), Bruno Pollesel, Barry Wright, Pat Morrow, Paul Dean, Don Finlayson, Val McGauley (manager), Jay McCarthy (asst. manager); front row, George Hildebrant, Moe Martoli, Robert McGauley (stickboy), Gerry Bouillon; not shown, Billy Vaughan. The Copper Cliff team won the Palangio trophy last year.

But the Juveniles Stay at Home

Not so fortunate as the midget team was the Copper Cliff juvenile entry which lost to the Soo in another sudden-death affair with a berth in the N.O.H.A. finals at stake. Shown are: back row, Peter Hickey, Pepper Smith, Butch Casagrande, Ricky Valentini, Dick Hobden, Val McGauley (manager), Gil Rivet, Don Dumencu, Bob Pakkala, Jay McCarthy (coach); front row, Vic Bernardi, Jim Connors, Harley Martin, Jim McGauley, Ronnie Constantineau, Bill McLay.

CASE OF SENIORITY

Convict: "How long you in for?"

New Cellmate: "Ninety-nine years. How long you in for?"

Convict: "Seventy-five."

New Cellmate: "Then you take the bed nearest the door; you're getting out first."

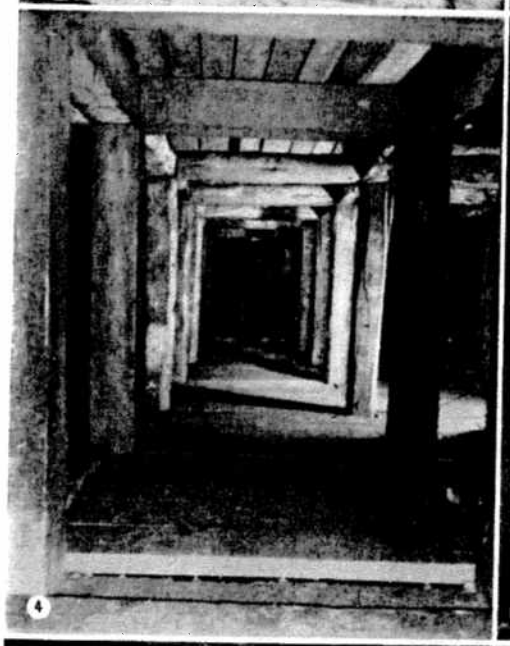
SOME GLASSES

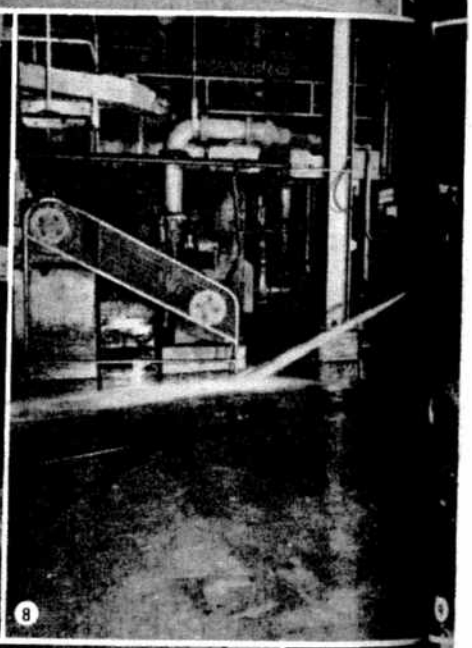
"What did you get for Christmas, Jackie?"

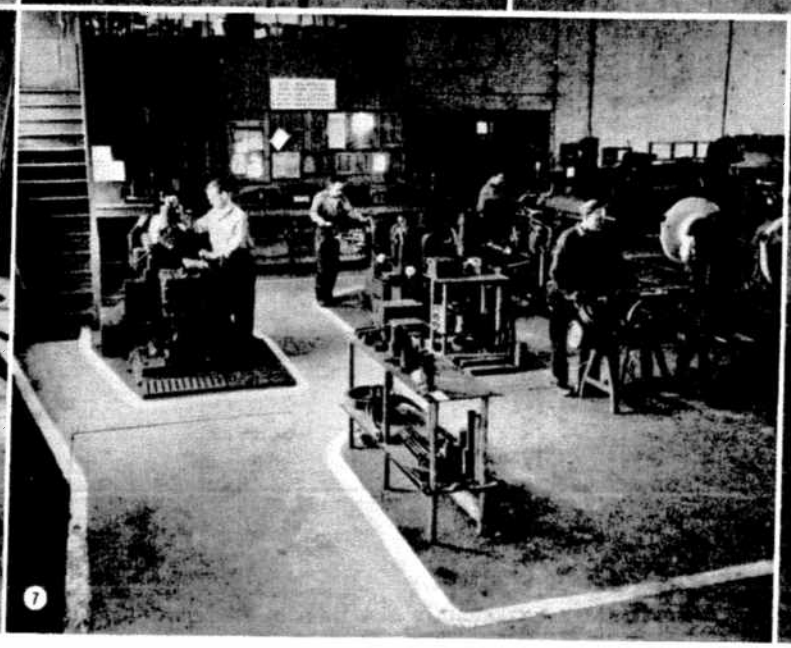
"A pair of binoculars."

"Are they any good?"

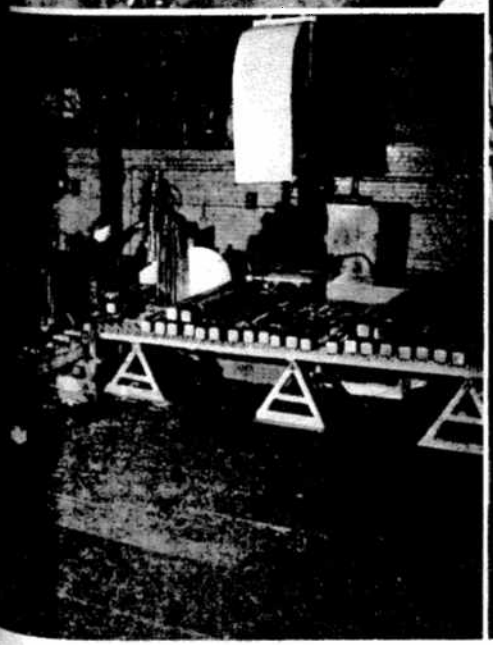
"Sure. Do you see that church about a mile down the road? Well, these glasses bring it so close that you can hear the organ!"







Good Housekeeping is Vital to Safe Working and Efficiency



"Good housekeeping," says Inco Safety Supt. A. E. O'Brien, "has as great an effect on the accident record of a plant as the installation of guards and other accident prevention measures."

When a plant is maintained in a neat and orderly fashion, facilities are provided for the proper storage of materials and equipment, and prompt attention is given to needed repairs, it is easier to carry out a safety program.

Moreover, good housekeeping gives a great lift to morale. A man takes more pride in his work when his working place is neat and orderly, and efficiency is increased.

Good housekeeping prevents many accidents which would ordinarily be charged to carelessness or classed as unavoidable. Accidents caused by tripping over an object on the floor, stumbling over a projection, or slipping on a wet or oily place are due largely to poor housekeeping.

It is often said that the condition of housekeeping within a plant is the most obvious evidence of the accident prevention sincerity of the plant personnel, and an excellent indication of efficiency as well.

Visitors at Inco almost invariably remark on the good housekeeping at the mines and plants. The Company is noted throughout the industrial world for its efforts along this line.

Like safety, housekeeping at Inco is everybody's business. Every man on the force has a responsibility in seeing that it is done, regularly and properly. A spirit of cooperation, and an attitude of personal interest and pride in maintaining a neat and orderly working place, are important to the success of this vital phase of the Company's operations.

The Triangle camera took a quick swing around the Inco production circuit to pick up a few illustrations of good housekeeping. The pictures show:

1. As the miner enters the stope at the start of his shift, the bottom of the manway is tidy and trim. The safety bulkhead is in place and there is no timber or miscellaneous material lying there to be tripped over.

2. Three different types of timber, plank, bulkhead, and square-set, are neatly piled individually in the stope.

3. A place for everything, and everything in its place. Tools are kept on the tool rack in the stope.

4. The stope boss has inspected the stope at the start of the shift to make certain that the supporting timber is all in good shape. He and his men have then cleaned up the stope after the blast fired by the previous shift, and the working place is seen here, spick-and-span in readiness for timbering and drilling.

5. In this picture of a drilling setup the drill rods and bits are neatly placed, and the hose is coiled to one side so there is no danger of tripping over it. At least two sets immediately behind the driller are clear of miscellaneous material for convenience of movement.

6. Here's a slushing setup which obviously is in charge of a man who knows his housekeeping. Having completed slushing he has cleaned up the mucking floor; any pieces of muck pushed to the sides during slushing have been cleaned into the slusherway and pulled by the scraper to the chute. The area behind the slusherman is clear for easy movement.

7. This view of a corner of the machine shop at Frood-Stobie No. 3 Shaft gives an idea of the emphasis which is placed on housekeeping. Only work in hand is kept near the machines, and it is piled tidily. Material to be worked and finished jobs are moved to storage in a designated area. The layout of the shop is carefully designed, and aisle boundaries are clearly defined.

8. Spill from the flotation machines falls through to the pump floor in the concentrators, and would create a hazard to walking if the floor weren't hosed regularly. This picture was taken in the Creighton mill, which is a model of good housekeeping throughout.

9. One of the toughest housekeeping as-

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Brilliant Future Predicted for Male Chorus

Making its first appearance in public, the Sudbury Male Chorus drew unqualified praise from the adjudicator at the recent Music Festival and won the George A. Trudel trophy for choral societies.

Music lovers will soon have another opportunity of hearing this well balanced and thoroughly trained group of 40 voices. The chorus will give a concert on May 13-14 in the new auditorium at Sudbury High School. The program will consist of sacred numbers, negro spirituals, English folk songs, and two or three humorous selections, and, judging by performance in rehearsal, it will be an impressive one.

The chorus was organized a year ago and is under the direction of the noted conductor, Queena V. Hawke. The accompanist is June Brown.

More than half of the members are Inco men, a recent survey showed. They are: from Frood-Stobie, Ernie Wagg, Jim Vettorel, Carl Heidman, Jim Scott, John MacKay, Ed Adams, Percy McGuffie; from Creighton, Ron Brown, Ken MacDonald, Jack Thomas, Charlie Platt, Gordon Luck; from Copper Cliff plant, Jim McNeil, Charlie Baxter, Frank Morgan, Chester McGilvary; from the Copper Cliff offices, Jack Nixon, George Hunter, Frank Homer, Dave Robertson, Jack Holloway; from the Copper Refinery, Herb Cavers.

1951 Was Record Year for Inco Activities, Annual Report Shows

Excerpts from the annual report of the International Nickel Company of Canada, Limited, for 1951, follow:

The chief objective of the Company in 1951 was to provide the maximum production of nickel for the defence and civilian requirements of the free world. Through the installation of emergency facilities ahead of schedule and further expansion of underground operations to compensate for the reduced quantities of ore available from open pit surface mining, the Company's output of nickel was increased by mid-year to equal the 21,000,000 pounds per month average rate achieved for World War II.

Production of ore was increased progressively and reached a rate at the year-end which was the highest in the history of the Company. In achieving this rate, our tonnage of underground ore production for the full year was increased thirty-five per cent over the underground tonnage for 1950.

In pushing forward our major programme to convert to all-underground mining and to more than double the maximum underground capacity which we have had in the past, we completed the new Creighton shaft which had been started in 1948, the new Creighton crushing plant and concentrator and the pipelines for transporting the resulting concentrate 7½ miles to Copper Cliff. This was followed immediately by regular production of ores from the lower-grade portion of the Creighton Mine, employing new low-cost caving methods. The mining of the Stobie open pit to the depth planned was completed, the Stobie underground mine was brought into production and other important phases of the conversion programme were advanced.

Much work remains to be done, however, before we can reach the final result of increasing our output from underground sufficiently to replace the large tonnage of surface ores still being mined from the Frood open pit. When this is accomplished the Company will be able to hoist 13,000,000 tons of ore a year, which is 5,200,000 tons more from underground than the record tonnage hoisted from underground in 1951.

The past year was a record year in many other respects. Net sales, net earnings, dividends, capital expenditures and pay-rolls, established new all-time highs, each increasing between twenty-five and thirty per cent over 1950. Higher rates of taxation and our larger earnings lifted the Company's income taxes to a new high, reflecting an increase in income taxes of approximately seventy-five per cent over 1950, which was the previous peak year. Deliveries of refined copper and of platinum metals exceeded those of any other post-war year.

All divisions of the Company were kept intensively active dealing with the many problems which the defence efforts of the free world in 1951 presented to us and to our customers. Our rolling mill and foundry organizations in the United States, England and Scotland, assisted by our research staffs, focused their efforts on improving the mill and foundry processes and adapting and expanding plant equipment in order to supply the special nickel-chromium precipitation-hardening alloys required in increasing quantities for components of jet engines. Special plant construction projects were undertaken at government request, including a reduction pilot plant in the United States for the Atomic Energy Commission, which was initiated and carried to completion during the year, and a rolling mill now being built in the United Kingdom.

The facilities and experience of our sales and technical organizations were devoted to distributing our supply of nickel in conformity with end-use restrictions and conservation and rationing measures in effect during the year within Canada, the United States, the United Kingdom, and other countries; and,

Men of His Shift Say Farewell to Fred Dubery

A popular general foreman with a long record of Inco service, Fred Dubery was honored by a representative group of men from his shift after he made his last rounds of the converter aisle on the morning of March 29.

The boys gathered in No. 3 Dry at Copper Cliff for a presentation made on their behalf by a veteran member of the crew, Tony Morosso, who gave Fred a gold watch fob for himself and a gold locket for his wife, both suitably engraved.

"It's a good thing they didn't ask me to make a speech," said Fred afterward. "I couldn't have done it." He was taken completely by surprise. The presentation was arranged by Sid Fielding. In the picture above Fred is in the centre, with Tony on his right and Sid at his left, hat in hand.

Born in Gilford, Surrey, England, son of a stonemason, Fred Dubery had worked at a variety of jobs before he decided, at the age of 21, to try his luck in Canada. His brother Bill had located at Copper Cliff, and wrote that things were good, so Fred hopped a boat and headed in that direction. He arrived at the Cliff in 1908 and landed a job as a pipefitter, working for John Schofield. He was transferred to the sample house and after a period of taking samples from the first basic converters he became interested in that department of the smelting game. He got a transfer and eventually graduated to skimming, then to converter boss, and finally to general foreman.

The finest thing he ever did, says Fred, was to return to England for a brief spell in 1913 to marry Mary Buckingham, an arrangement to which the young lady herself was not noticeably averse. They have been happy every day since. Their family is: Frederick William, of Frood Stobie Mine; Rusty, welder at Copper Cliff, and Phyllis, now Mrs. E. L. McKay of Prince Albert, Sask. They have eight grandchildren, of whom they are pardonably proud.

Fishing has been Fred's hobby, and "Don't worry" has been his philosophy, and he doesn't intend to let his gardening interfere with either seriously. He has bought a very cosy little home on Simcoe St. in Sudbury, and this will be his headquarters for trout-hunting sorties thither and yor. He has several favorite haunts in the Sudbury District but the best fishing he has encountered yet is in the lakes of Northern Saskatchewan, and this summer he will return to the country of Waskesiu to fill his creel and satisfy his soul. May he have many such journeys is the wish of all his old colleagues.

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beginning with the fourth quarter, in accordance also with the international allocations recommended by joint action of the Canadian and other member governments of the International Materials Conference.

Along with out immediate and urgent responsibilities to maintain the maximum supply of strategic metals from our mines and to complete our major programme of conversion to all-underground mining, we have been planning our course for dealing with many problems which the future may hold in store for us. Exploration for new nickel deposits is being pursued extensively. Active research is under way further to reduce metal losses in the mining and treatment of our ores, to recover and exploit the by-product elements present in the ores, such as iron and sulphur, and further to achieve operating economies to compensate for mounting labor and supply cost increases. The future needs of all classes of nickel users in periods of lesser emphasis on defence mobilization are being studied, and new and modified forms of nickel-containing alloys and mill products are under development in order better to satisfy the needs of industry and further broaden the usefulness of nickel.

It has been these activities, briefly reviewed above, which have engaged the energies of the Company in 1951.

Ore Mined and Ore Reserves

During 1951 mining from underground was increased very considerably beyond that achieved in any previous year. The underground ore mined was 7,780,143 short tons, compared with 5,733,269 in 1950 and 5,015,318 in 1949, reflecting the progress during the year in our programme of conversion to mining exclusively from underground. The open pit ore mined was 4,019,177 short tons compared with 4,115,755 in 1950 and 4,969,573 in 1949. The total ore mined, accordingly was 11,799,320 short tons, compared with 9,849,024 in 1950 and 9,984,891 in 1949.

Proven ore reserves at the year-end stood at 253,704,771 short tons, compared with 252,859,725 at the end of 1950 and 251,805,157 at the end of 1949. The nickel-copper content at the year-end stood at 7,693,122 short tons, compared with 7,669,219 at the end of 1950 and 7,630,009 at the end of 1949.

Underground Development and Mine and Mill Projects

The programme of conversion to all-underground mining to replace open pit production by the end of 1953 made rapid progress during the year.

Underground development in the producing mines advanced 89,269 feet or approximately 17 miles, compared with 87,963 feet in 1950 and 84,654 feet in 1949. The total development in our operating mines now stands at 1,585,546 feet or more than 300 miles of underground development.

Mining of the Stobie open pit was completed early in August to the depth planned. The Frood open pit was continued in production throughout the year at a rate calculated to preserve a flow of ore from this source until the expanded underground mining facilities which we have under construction are ready to be operated at full capacity.

All three of the new major mining operations involved in our programme to replace the open pit ores, namely, the Creighton project for mining lower-grade ores by low-

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Receive Prizes at Rod and Gun Club Smoker

Highlights of Copper Cliff Rod and Gun Club's annual smoker was the presentation of trophies and prizes for fishing prowess and markmanship.

Pictures above are some of the proud winners: left to right, Bob Zavitz, second prize for biggest pickerel in 1951, 5½ lbs.; Edwin Desotti, the Fred Benard shield for the outstanding catch of the season, a salmon trout weighing 12¼ lbs.; Charlie Stemp, second prize for speckled trout, 3 lbs. 14 ozs.; John Schijns, secretary of the club; Ed Beatty, first prize for rainbow trout, 4 lbs. 12 ozs.; Walter Van Exan, first prize for northern pike, 9 lbs. 3 ozs.; Kel Sproule, the Paul Queneau silver tray for marksmanship.

Other winners not shown were George Appleby, first prize for speckled trout, 4¾ lbs.; Mario Desanti, first prize for pickerel, 5 lbs. 13 ozs.; Dominic Silvestri, first prize for bass, 3½ lbs.

The Benard shield was presented by George Norman and the Queneau tray by Jim Lee. Bill Bray was chairman of the competition committee.

Russ Whitfield, a former provincial biologist and now manager of a commercial fishing company at North Bay, was the special speaker at the smoker. He announced that no game fish will be retained or gill nets used in the commercial fishing operations to start on Lake Wahnapitae and Onaping Lake this month. Only coarse fish will be removed, and it is expected by many that this will improve game fishing in these waters.

Barbecued pork was the piece de resistance of the sumptuous feed which was served.

There was a big turnout, including representatives of the conservation clubs at Coniston, Levack, Sudbury and Espanola. Harold Borland, president of the Rod and Gun Club, was in the chair.

1951 Was Record Year for Inco Activities, Annual Report Shows

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cost caving methods, the mining of the Stobie section of the Frood-Stobie Mine, and the Murray Mine project, produced ore from regular operations during the year.

The new No. 7 Creighton shaft, the related underground ore bins and crusher station, the permanent hoist house on the surface, the new crushing plant and concentrator, and the pipe lines for transporting the bulk concentrate 7½ miles to Copper Cliff, were all completed during the year. Regular production from the first area of the Creighton caving project was delivered through this new shaft in July, in time to replace the tonnage which theretofore had been obtained from the Stobie open pit. By the year-end the daily mine rate had been lifted to 10,000 tons of ore from the caving area and operations in the new crushing plant and concentrator had been brought to full scale and integrated into the milling operations at Copper Cliff.

Additional areas are being developed in the Creighton caving area to bring this mine project to a condition of stabilized production. Ore-passes and slusherways are being advanced to serve the extension of caving area and work is also progressing on the elaborate ventilation system required to maintain satisfactory working conditions. A second underground crusher installation is under way to handle ore from the new caving areas. Plans have now been completed further to increase the daily capacity of the new concentrator by 2,000 tons, bringing the daily capacity to 12,000 tons.

At the Stobie section of the Frood-Stobie Mine we commenced ore shipments to the concentrator at Copper Cliff at a daily mine rate of 3,000 tons. The large underground crusher installations at the 600 and 1,000 foot levels, along with the necessary ore-passes, were completed and put into operation. Preparation of stopes is under way to bring the area served by these installations into regular ore production as soon as possible. Preliminary work is in progress also on the 1,400 foot level crusher and ore-pass system.

Work continued on the sinking and equipping of the new No. 8 shaft at Stobie required to provide additional ore hoisting capacity and flexibility in the Stobie phase of the conversion programme.

At the Frood section of the Frood-Stobie Mine alterations were completed, increasing the ore handling capacity of the main Frood shaft and improving the operating efficiency of the No. 3 rock house.

Production from the Murray Mine, which had been put on a regular production basis of 4,500 tons daily at the start of the year, was increased to 5,000 tons daily. More stoping area is being developed to meet the requirements of the complete conversion programme. The deepening of the Murray Mine shaft was completed during the year, making way for the exploring and developing of the lower level ores.

At Levack Mine, work proceeded on the deepening of the existing main shaft and the sinking also of the new internal shaft. The new shaft will allow the exploiting of the lower level ores that are not now accessible. Both of these shaft projects will be completed in 1952.

Large scale development for future mining was continued throughout the year at the deeper levels of the Creighton Mine; at the Frood section of the Frood-Stobie Mine, where the mining, by low-cost blasthole methods, of levels immediately below the open pit reached scheduled production; and at Garson Mine in the area of the existing main shaft. The deepening of the Garson main shaft continued on schedule.

Water-borne sand filling from the Copper Cliff concentrator continued to be used in the lower levels of the Frood section of the Frood-Stobie Mine for stabilizing older areas, as well as for filling of current working stopes on these levels. It is expected that a complete change from rock fill to sand fill will be made at the Frood section during the year.

Mill tailings from the Creighton concentrator are also being employed for stope filling at the lower level stopes of Creighton Mine. The use of mill tailings at this mine is expected to effect the same benefits, of more economical mining and higher production from individual working places, as are being realized at Frood-Stobie Mine.

Capital Expenditures

Capital expenditures amounted to $23,737,575 compared with $18,683,606 in 1950 and $18,553,851 in 1949. The largest capital expenditures in any previous year of the Company's history amounted to $21,497,609 in 1929.

The principal expenditures during the year included $15,888,942 for our programme of

major expansion in the mining and treating of underground ores, $3,091,217 for the building of homes for our employees in the Sudbury District, $1,594,805 for installations for the oxygen flash smelting of our copper concentrates and $1,401,516 for improvements at our rolling mills. The remainder of $1,761,095 was expended for numerous other capital requirements at our various plants and properties in Canada, United States, United Kingdom and elsewhere.

Exploration

The Company's programme of exploration in search for new sources of nickel for future needs was further expanded during the year. The programme has involved continuous geological work on our known deposits, extensive studies of the geology of other parts of the Sudbury Basin and property examinations or prospecting elsewhere in Canada and throughout the world.

The cost of the entire exploration programme during the year was $2,593,908 compared with $1,682,436 in 1950 and $1,554,373 in 1949. The number of feet of exploration drilling in Canada was 289,677 compared with 260,127 in 1950 and 149,399 in 1949.

Major exploration camps were operated in Ontario, Manitoba and the Northwest Territories, and projects were carried on also in Saskatchewan and Quebec. Outside of Canada, exploration was started in Tanganyika and property examinations were made in seven other countries.

Comprehensive exploration to determine the ore possibilities of our Crean Hill Mine also has been proceeding, following the dewatering and shaft reconditioning which was completed in April. This mine was closed as an operating unit in 1919.

Research

Process and Plant. Process and plant research continue on an expanding scale at all of the Company's mines and plants.

A major result of our research was the completion during the year of a special type of smelting furnace and auxiliary equipment which will use oxygen for the flash smelting of copper concentrates in place of smelting with pulverized coal. As part of this project, a plant for the production of oxygen was also completed. This combined unit was under experimental operation by the year-end. It is designed to provide economies through curtailment of our costly coal requirements and will make possible the greater utilization of sulphur from our smelter gases. The rich sulphur-containing gases from the new process will be employed in the large-scale production of liquid sulphur dioxide, a product which has significant potential demands and of which there is no other domestic production in Canada. The gases will be supplied to Canadian Industries Limited for conversion into liquid sulphur dioxide in a plant which is now being erected at Copper Cliff.

Much of the attention of our research staff continued to be devoted to the development of more economical methods for treating the nickel-bearing iron sulphide mineral (pyrrhotite) which is now being fed to our smelters in large volume. This has entailed pilot plant as well as laboratory investigation and includes as a major feature the prospect of production of high-grade iron ore on a commercial scale.

Products and Uses. In a year in which our markets were affected by rearmament programmes, the Company directed much of its research on nickel products and their uses to securing the most efficient utilization of the available nickel supplies. Conservation and substitution measures instituted voluntarily by industry and imposed also by government controls have created needs for additional tests and research by the Company in fields both of civilian consumption and those associated with military end-uses.

Our research on alloys for use at higher operating temperatures in the jet engine power plants of the future was supplemented by laboratory and field work intended to provide satisfactory performance of alloys containing lower levels of nickel for the currently manufactured jet engines.

The progress of the Company's conservation research is illustrated by its development and production during the year of alloys containing less than forty per cent of nickel, for use in partial substitution for the company's standard Nimonic and Inconel alloys containing greater percentages of nickel.

New facilities were added during the year to our Harbor Island Marine Corrosion Laboratory at Wrightsville, North Carolina for the study of performance of metals in environments of special interest to governmental agencies as well as to industry. The North Carolina project for research into corrosion of alloys in salt water and sea air was started at Kure Beach in 1935.

The new Ductile Cast Iron announced by the Company in 1948 also made further progress. In co-operation with the iron foundry industry, a large amount of research is being devoted to the solution of the problems involved in developing the use of this material for diversified applications.

Number of Shareholders

The number of shareholders is shown by the following table:

	Preferred	Common	Total
Beginning of Year	6,886	79,449	86,335
End of Year	6,621	79,640	86,261

Employees

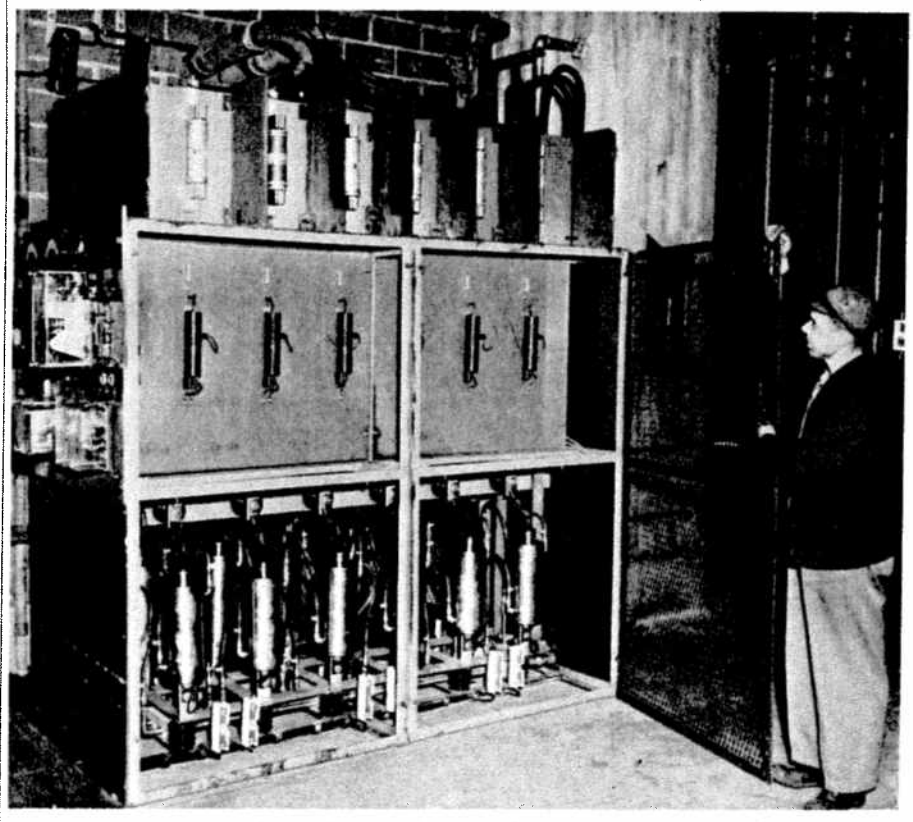
The total number of employees of the Company and its subsidiaries at the year-end was 25,757, representing an increase of 3,254 since the end of 1950 and 5,714 since the end of 1949. The largest number of employees at any previous year-end was 23,098, at the end of 1942.

At the year-end, the total number of service and disability pensioners under the Company's Retirement System stood at 1,194, an additional 131 employees having been added to the pension rolls and the names of 73 pensioners having been removed from the rolls on account of death. Death benefit payments were made during the year to the beneficiaries of 170 employees who died in service or as pensioners.

The Retirement System has now completed its twenty-fourth year and continues to be financed wholly by the company.

Cash benefits were paid during the year in 4,960 cases under the contributory group sickness and non-occupational accident and life insurance plans maintained by the Company and certain subsidiaries.

Rectifier Unit Converts Power For Murray's Trolley System



As Murray Mine emerged from the development stage and swung into full production the Transportation Dept. found difficulty in lifting heavy trains of smelter-bound ore due to low voltage on the 600-volt trolley line at Murray. The Electrical Dept. moved in to remedy the trouble by installing a 1000-k.w. Ignitron rectifier unit in the hoist house at Murray.

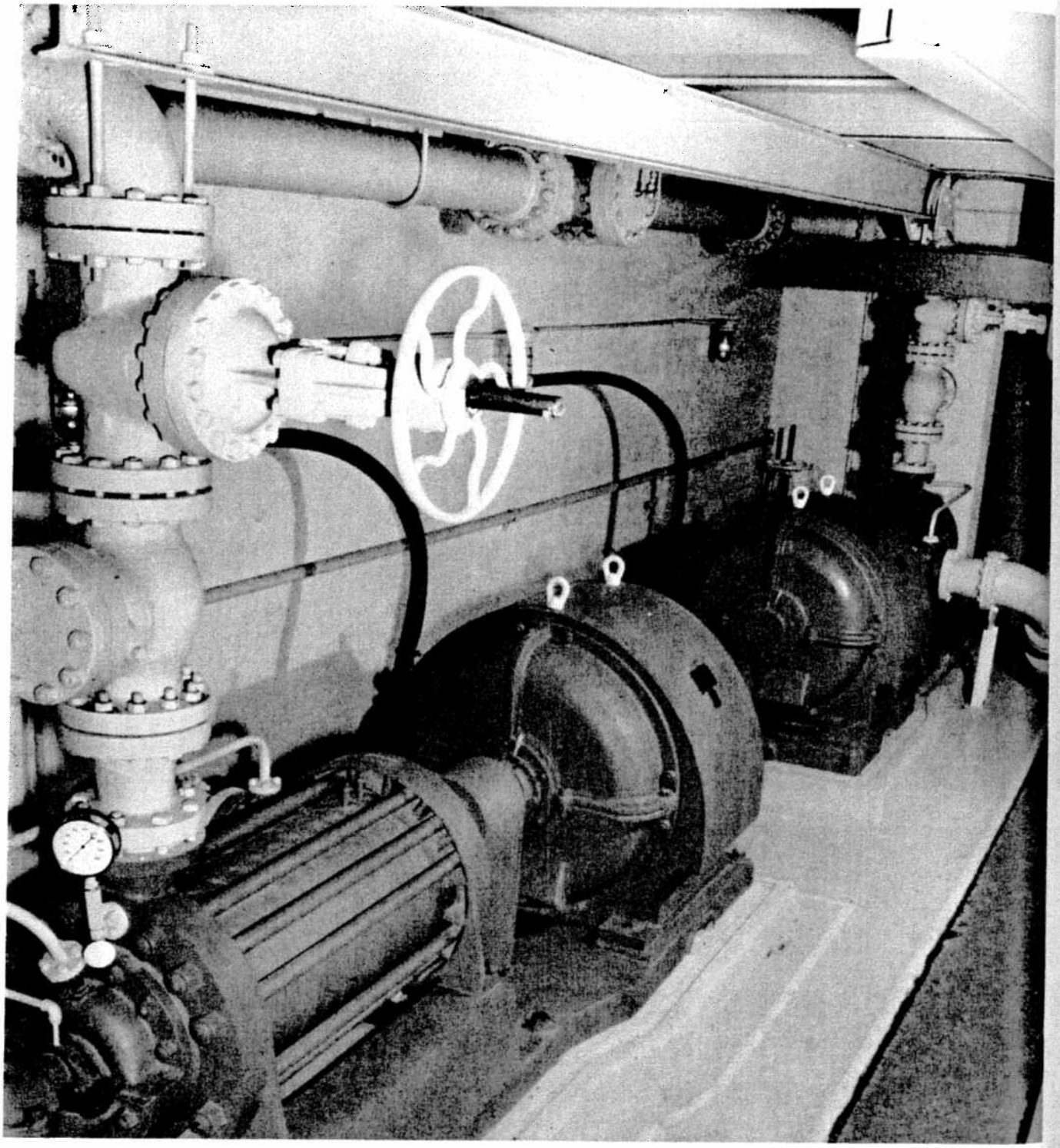
The unit, shown above, consists of 12 stainless steel "stove pipes" (General Electric Ignitrons) which convert the 25-cycle power available at Murray to 600 volts d.c. for the trolley system.

Mercury arc rectifiers offer many advantages over the old rotary converters, and have been the choice for this type of electrical installation at Inco for almost five years. They require less maintenance, since there are no commutators and brushes to change, and eliminate the danger of flash-overs or runaways.

A rectifier unit has been operating on the surface trolley system at Levack, and one is to be installed at Frood-Stobie No. 7 Shaft. Several mercury arc units have been located underground to convert power for the big 20-ton trolley locomotives, as well as selenium units in the battery charging stations.

Seen with the unit is Bill Muncaster.

This Is an Inco Underground Pumping Station



This picture of the new pump room on 30 level at Creighton Mine would fit very nicely into the layout on Pages 8-9 featuring good housekeeping at Inco plants.

The color dynamics technique has been followed in the paint job on this impressive installation, and to the traveller stepping into the room after a brisk trip down from surface, the general effect is nothing less than astonishing. "You mean you have this sort of thing underground?" is likely to be the incredulous reaction.

To be ready for additional surface water as the extent of the caved area at Creighton Mine increases, as well as taking care of the water which carries sand fill into the mine from the new concentrator, additional pumping installations have had to be made.

The two stainless steel centrifugal pumps in the picture are driven by 500-h.p. 1750-r.p.m. motors direct-connected. Each unit can pump 700 gallons per minute a height of 2,000 feet, and they can operate singly or as a team. In peak periods, such as during the spring run-off or after exceptionally heavy rains, they may be called on to operate at full capacity of 1,400 gallons per minute but on the average they pump about 350 gallons per minute.

Similar stations have been established on 52 and 68 levels of the mine. Through a 10-inch rubber-lined steel pipe the water is pumped up No. 6 Shaft to 52 level, flows through the drainage ditch to the station at No. 5 Shaft,, is picked up by the pumps there and boosted to 30 level, flows to the sump at No. 3 Shaft station, and is pumped from there to surface where it eventually finds its way into Mud Lake. Sump capacity is more than ample to take care of the long-term average power cut-off.

Disposal of water is a problem which doesn't occur to the Sudbury District layman when he thinks of mining, but to the men who produce the ore it's a very important proposition, as the above photograph indicates.

Party Honors Charlie Lively On Retirement

You could almost say that an era in Inco mining came to an end when Charlie Lively retired. But that wouldn't be entirely true because the men he trained are carrying on the job with the skill and devotion to duty he imparted to them, and the men after them will do so too, and so on. Thus Charlie Lively becomes a legend, rather than an era ended.

Every plant in the Inco organization was represented at the big party they threw for him at the Italian Hall in Copper Cliff to mark his retirement on pension after over 36 years with the Company. The speakers all testified to the practical thinking he brought to his mining, and the intense personal interest he took in his work. The sum of his career, toted up in sincere words of praise, was a job well and truly done.

They kidded him too—laid it on unmercifully about humorous little sidelights of his record, and he took it all in good part, of course, because it was just another way of expressing friendship and esteem.

The pictures show some highlights of the enjoyable party:

1. In the distinguished group at the head table were, left to right, J. R. Gordon, asst. vice-president; Harry Endleman, Levack merchant; Pete Martell, Inco pensioner; Jim Husson, Inco pensioner; R. D. Parker, asst. vice-president and general superintendent; C. E. Lively; Ed. Myhill, Inco pensioner who was a witty master of ceremonies; H. J. Mutz, general superintendent of mines; A. McAllister of Garson; Angus Villeneuve, Inco pensioner; W. T. Waterbury, asst. to the vice-president; Ted Dash of Frood-Stobie.

2. A handsome sum to be spent on equipment at his summer camp was presented on behalf of the gathering to the guest of honor by H. J. Mutz, right.

3. As he has on several previous occasions, Joe Ribic of Levack strikingly impersonated Charlie Lively in a mood of advanced exasperation. The skit was cleverly written and staged. Gordon French was the other man in the piece.

4. Part of the entertainment was provided by two Creighton miners, Arvo Tuori and his son Elmer, accomplished accordionists both.

5. Rich melody was produced by this gifted quartet of Jack Holloway, "Jake" McNeill, Gordon Colgrove and, doubling at the piano, Grant Boland.

A souvenir program contained amusing sketches of Charlie Lively's life and times—working in an antimony mine in Nova Scotia, shaft-sinking at Cobalt, gold mining in Nevada, jumping on his old felt hat in his early days with Inco. The hat was displayed in a glass case on a table at the front of the hall along with several types of lamps which have been used underground over the years.

A man whose greatest joy has come from making mining go smoothly and economically, Charlie Lively leaves a trail of solid organization and operating efficiency. His inventive touch has resulted in dozens of valuable improvements in mining methods. Known as a real straight-shooter and a champion of his men, he has won universal respect and admiration.

Air Cadet Squadron is Pride of Port Colborne

Pride of Port Colborne is No. 79 Lynton Davies Squadron of Air Cadets, shown here: front row, T. Bellinger, W. Shepherd, R. Teasdale, G. Robson, J. Weegar, L. Guinther, R. Weaver, A. Fedor, L. Roach; second row, D. Pettingill, L. Lepage, C. Riley, T. Jupp, J. Sammut, B. Bidgood, G. Smith, C. Whiteley, G. Hobbs, D. Longwell, H. Winfield, B. Chalmers; third row, G. Davison, R. Bisci, F. Randall, G. Shepherd, C. Sathmary, W. Hanham, L. Doan, G. Johnson, W. Macdonald, J. Rennie, E. Tronko, J. Lambie; back rows, E. Winfield, D. Ford, R. Tuck, A. Root, G. Eastman, B. Morley, R. Randall, D. Royal, J. Ruggiero, G. Beauregard, E. Pusiak, R. Rivers, J. Corbett, J. Falk, J. Minor, W. Nagy.

Housekeeping

(Continued from Page 8)

signments in all Inco is the converter aisle at Copper Cliff smelter, where skulls from the ladles, splash from the converters, and slag spill from the burner end of the reverberatory furnaces have to be contended with constantly. The wonder to the visitor is that the aisle can be kept as clean as it is. Photo shows a mechanical loader working on a pile of scrap which is loaded into a box and, after being passed through the skull cracker, is taken to the blast furnace bins.

10. Exemplary housekeeping is undoubtedly one of the seasons why the Copper Refinery occupies a leading position in Inco's accident prevention records. Typical of the neatness and cleanliness of the plant is this view of the saw for cropping copper castings, in this case 5 ⅞-in. VC wire bars.

11. At the Port Colborne refinery, too, constant attention is given to housekeeping. The nature of the operation presents some unusual difficulties, but by consistent effort the plant is maintained in good condition. Picture shows the huge hydraulic press used for crimping nickel starting sheets to prevent them warping in the plating tanks. Safety instructions are clearly displayed, working material is neatly arranged, and the general impression is one of crisp efficiency.

Lively Scouts

(Continued from Page 4)

leaders' homes until permanent headquarters are available to them, but the Scouts and Cubs are on the move in Lively, and give every promise of being among the most active troops in Sudbury District.

Ross Smith, leader of the new Scout troop, has had a long Scouting experience; Bud Meaden, head man of the Cubs, makes up with enthusiasm what he lacks in experience. The community is lucky to have men of this fine type who are willing to give time and effort to boys' work.

First of the accompanying pictures shows the 1st Lively Troop of Boy Scouts: front row, Sandy McKee, Danny Deacon, Ronnie Rogra, Douglas Chase, Billy Gibson; second row, Donald Toffoli, Scoutmaster Ross Smith, George Stanley, Douglas Morbin, Glen Smith; third row, Allan Gagnon, Bob Allen, Arthur Hutton, Brian Lefley, Russell Haas, Donald Laplante, Bruce Barberm, Roy Simpson; back row, Billy Bruneau, Jack Hamill, Robert Romaine, Danny Laplante, Donald Wilson, Lawrence O'Connor, Bob Wellington, Larry Mulligan, Sonny Somers, Robert Bruneau, Ellard Nadeau.

In the second picture Allan Gagnon goes through the investitute ceremony with Scout-

In the third picture are the 1st Lively master Smith officiating.

Pack of Wolf Cubs: front row, Leonard Horner, Leonard Laplante, Gerald Koulchuk, Billy Piggot, Bobby McAdam; second row, Terry Godin, Gary McFarlane, Cubmaster Bud Meaden, Brian Lefley, Stuart Young; back row, Ralph Ferris, Gary Pidgeon, Bobby Toffoli, Alex Zelinski, Rowald Gerling, Ilan Simpson, Jerry Friel. Absent: Paul Souci, Richard Campbell, Chris Crowder, Allan Kierstead, Stanley Behenna.

NO SYMPATHY

"I want to tell you sir, that I'm engaged to your daughter."

"Well, don't tell me your troubles. What else did you expect after hanging around the house every night for months?"

AGE OF INNOCENCE?

The teacher had forbidden the eating of candy or chewing of gum during school time. One day she became suspicious of a lump in Jimmie's cheek.

"Jimmie, are you eating candy or chewing gum?"

"No," replied Jimmie, "I'm just soaking a prune to eat at recess."

GOWAN CLICKS AGAIN

Bill Gowan, maintenance mechanic 1st class in the Separation Building at Copper Cliff, has the "Suggestion Plan habit" in no uncertain manner.

Last December Bill picked off a $1,000 award for one of his ideas. And in March he was back again to collect another $299 for suggesting a guide idler to prevent misalignment of the bucket elevators in the separation plant.

Ascending calls for effort. Descending needs no effort.—B. C. Forbes.

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