

INCO TRIANGLE

VOLUME 15

COPPER CLIFF, ONTARIO, NOVEMBER, 1955

NUMBER 8



Making the Christmas Cake

(STORY ON PAGE 2)



Published for all employees of The International Nickel Company of Canada, Limited.

Don M. Dunbar, Editor.

EDITORIAL OFFICE COPPER CLIFF, ONT.

Mrs. Blackmore Our Christmas Cook With Her Terrific Cake

(FRONT COVER)

When Mrs. George Blackmore starts to make what she calls (with a nice little touch of understatement) her Rich Christmas Cake, the first thing she does is open the back door and throw out the calorie counter. Then, turning her back politely but firmly on the family budget, she proceeds to fashion a culinary masterpiece that would drive a fat man out of his mind.



MRS. BLACKMORE AND PAULA

Mrs. Blackmore, who is just as pleasant as she looks, has been at this sort of thing ever since she was a young girl in Copper Cliff. She and her three sisters all learned to cook before they were 12 years old, their mother, Mrs. Albert Suckow, being a firm believer in putting first things first.

Her expert early training has stood her in good stead for she is regarded as one of the best cooks in Sudbury. Cooking actually threatened to become a sort of "seven year itch" with her — she was in charge of the kitchen at the Copper Cliff Club for seven years, and later she operated a bakeshop in Sudbury for seven years — but she now has it under control and devotes her culinary talents to the delight of her relatives and friends, and to the projects of the ladies' association at Knox Presbyterian Church.

When she married George Blackmore (an electrician at Frood-Stobie No. 3 Shaft) in 1932, she took on a steady "customer" who is unfailingly appreciative of her skill with the skillet. They are a very happy couple. They live at 114 Roxborough Drive, Sudbury.

Little Paula MacKinnon from next door was waiting in bright-eyed anticipation for the time to lick the spoon when the Triangle called around to make a picture of Mrs. Blackmore for the cover of this issue. The cameraman eventually got the shot he wanted but he'll never be the same — he's had visions of Christmas cakes dancing in his head ever since.

School Band to Play Concert Series



To encourage instrumental music in Northern Ontario schools the Sudbury High School Band will play engagements during the winter months at Sault Ste. Marie, Espanola, North Bay, Parry Sound and Huntsville. The series, inaugurated by the concert at Copper Cliff High School shown above, will enable other schools to hear a particularly fine young 50-piece band with a broad repertoire, expertly conducted by Earl Simard.

Here's the recipe, men, and don't take no for an answer:

RICH CHRISTMAS CAKE

3 lbs. seedless raisins
2 lbs. seeded sticky raisins
1 lb. citron peel
Small box candied ginger (optional)
1 lb. glazed cherries
3 lbs. cut mixed candied fruit
1 lb. colored candied pineapple rings
1 lb. blanched almonds
1 lb. butter
2½ cups white sugar
12 eggs
3½ cups flour
1 tsp. salt
½ tsp. each of maize, cinnamon and cloves
1 tsp. each of vanilla, almond and lemon flavouring
1 cup pineapple juice

Method:

Wash raisins and place in flat pan to dry. (This should be done in advance to allow sufficient time for drying.)

Cut up pineapple rings and with fruit and almonds add to raisins.

Place in large mixing bowl.

Using another mixing bowl:—

cream butter and sugar well;

add eggs one at a time and beat well;

add flour one cup at a time and mix;

add pineapple juice, vanilla, almond and lemon flavouring;

add spices and salt; mix until blended;

pour over fruit and mix well.

Pour in pans which have been lined with pasteboard and wax paper.

If desired a few almonds may be placed on top of the cake.

Bake in oven at 275° for 3½ hours.

Note: No rising ingredients required in this cake.

Five Queen Scouts at Willisville



Willisville, the Lawson Quarry town, more than makes up in quality what it lacks in quantity where its Boy Scouts are concerned. Shown with their scoutmaster George Stalker (second from left) these five members of the 1st Willisville Inco troop were all presented with Queen Scout certificates by Governor General Vincent Massey in ceremonies at North Bay. They are Hugh Stalker, Michael Filston, James McCue, Peter Filston and Peter Dow. At the world jamboree of Scouting at Niagara Falls in August, Peter Dow was chosen to present a relief map of Canada to Major-General Spray, the world chief of Scouting, on behalf of all the Canadian Scouts at the Jamboree, to which he was accompanied by Peter Filston and James McCue.

INCO FAMILY ALBUM

It's getting around to the time again for Good King Wenceslas, and Adeste Fidelis, and O Little Town of Bethlehem, and all that other wonderful music of Christmas. Among those singing it joyously will be: (1) Mr. and Mrs. Jack Karpinchick (Port Colborne) with their twin daughters Beth and Cathie, aged 2. (2) Mr. and Mrs. Walter J. Clarke (Garson Mine) with Ronald, 2½ mos., Carolyn, 5, Catherine, 8, Kenneth, 3, and Keith, 1½. (3) Mr. and Mrs. Al Beauchamp (Levack Mine) with Lise, 10 mos., and Joy, 2½. (4) Mr. and Mrs. Oswald Arsenault (Coniston) with Maurice, 6, and Bobbie, 4. (5) Mr. and Mrs. Bill Blackwell (Creighton) with Donna, 8, David, 3, Bill, 7, and Gail, 6. (6) Mr. and Mrs. Herb Telfer (Copper Cliff locomotive shop) with Marcia, 5, Marilyn, 7, Sharron, 11, Herbert, 14, and Wendy, 13. (7) Mr. and Mrs. Jack Nilsson (Frood-Stobie Mine) with Theresa, 7½, and Allan, 3½.





Two bulwarks of Canada's greatness, her traditional link with the Crown and her mighty mining industry, are represented in this picture of His Excellency the Governor General, Mr. Vincent Massey, and Vice-President Ralph Parker of Inco. In the background are the Frood Open Pit, the headframe of Frood-Stobie No. 3 Shaft and, on the skyline, the chimneys of Copper Cliff Smelter and the iron ore recovery plant.

The Governor-General Pays a Visit to the Nickel Belt

Impressing everyone with his quiet friendliness and his deeprooted enthusiasm for all things truly Canadian, Governor General Vincent Massey made his official visit to the Nickel Belt on October 31 a memorable one.

"This is my first visit to your city," he said in his address to the Sudbury Canadian Club. "I have long since wanted to see this community which plays so important a part in our national economy. You are a very Canadian city. It is a privilege to be here.

"Today we in Canada have achieved maturity and have shown that we have. We have acquired great material strength with, I believe, an accompanying sense of responsibility.

"Never before in our history have we been able to contribute so much to the world, both as a powerful nation in ourselves, and as an influential country in the international field, where the contributions we have made, and are making, are regarded as valuable

and characteristic.

"No country, however, in either prosperity or adversity, can do without certain qualities of heart and mind — call them what you will. We needed those qualities two generations ago for our survival; we need them today to deepen our unity, and to keep safe the previous things which have come to us out of the past. We need this national feeling — a sense of purpose — to cope with

(Continued on Page 6)



Stanley Stadium at Copper Cliff was filled to capacity for the visit of the Governor General who, having obtained the consent of His Worship Mayor C. O. Maddock, drew tumultuous applause by declaring a holiday for the school children. Standing with Mayor Maddock (foreground) behind Mr. Massey are Principal A. G. Orr of the public school, Principal W. H. Harrington of the high school, Chairman N. H. Kearns of the public school board, Chairman G. S. Jarrett of the high school board, Flt. Lieut. Ian MacMillan, one of His Excellency's aides de camp, Esmond Butler, asst. secretary, Lionel Massey, secretary to his father, Mrs. Massey and Mrs. Maddock.

What Happens When Staid Geologists Slip the Hobble



The Caruso Club, Sudbury, was the scene of this year's high jinks as members of the Foot & Hangingwall Society and their ladies held their annual costume party. A few of the widely assorted characters present are shown above: at the carbaret table, left to right, Theresa Guenette, Kylie Pajala, Mr. and Mrs. Norman York, Percy Demers and Lena Facca; on the right, flanked by a pair of skeletons from the geological department cupboard (Mr. and Mrs. Carl McIntosh) are Mr. and Mrs. Frank Zurbrigg.



More merrymakers at this popular mardi gras of the usually stern and staid geologists were, on the left, Mrs. Bill McGill, Mrs. Ron Taylor, and Mrs. Gordon Merriam; above, Mrs. Terry Podolsky dancing with Bill Mullock, Mrs. Charlie Michener between Mr. and Mrs. Bill Fritz, Mrs. Jack McAndrew jiving with Bert Souch. The party marked the 21st birthday of the Foot & Hangingwall Society, a group usually devoted to solemn and learned discussion; president is Freeman Marshall, vice-president Louis Fajcz, secretary-treasurer Carl Goddard, and chairman of the entertainment committee Terry Podolsky. It is learned with relief that no serious complications resulted from mistaken identities at the festivities.

First Aid Training Again Pays Off for Frood-Stobie Man

If further evidence were needed of the value of Inco's First Aid training program, a recent experience of Frood-Stobie's Allan Ellstrom dramatically filled the bill.

Al, a popular operating shaft boss at No. 3 Shaft, was returning to Sudbury one evening last summer from a trip to North Bay. Approaching Stinson he came upon a car-and-truck collision in which several of the occupants had been severely injured. After promptly sending for medical aid and the police, Al, with the assistance of another passing motorist, was able to check the condition of the injured, reduce shock by making them warm, quiet and comfortable, and keep the highway clear in order to prevent further accidents.

Being the sort of chap he is, Al was not content with the service he had already rendered the accident victims but also visited them during their hospitalization in

Sudbury and even arranged for blood donors.

D. K. Irwin of St. Catherines who was the



AL ELLSTROM

driver of the accident car, has written a very appreciative letter to the Company which states in part, "One of your employees, Mr. A. Ellstrom, rendered valuable First Aid to my wife before a doctor arrived on the scene and I believe he deserves commendation for his prompt action. I was able to personally thank this man but felt I would like to write this letter to your Company as I understand Mr. Ellstrom's knowledge of First Aid was gained through your Company's excellent training program."

Al is proud that since taking the Inco First Aid course five years ago this was the second chance he has had to put his knowledge to work in giving assistance in an emergency.

That old adage, "A little knowledge is a dangerous thing," certainly doesn't apply where First Aid training is concerned. Knowing even only the elementary principles of how to care for the injured can turn out to be of incalculable value. More than 3,600 of the Company's employees in the Sudbury District have taken the excellent general course in First Aid arranged by Inco's safety department in conjunction with the medical staff, so no one in the area is at any time very far away from trained assistance should an emergency arise, a very reassuring thought indeed.



Vince Mazza, famous coach of the Port Colborne Lakers, was photographed while chatting with some of the Incoites who helped win the Intermediate ORFU championship. Standing are John Karpinchick and Gino Favero, and seated are Teck Babirad, Zeke Robins, Bill Yankovich, Jerry Fleming, Punko Ivanich, Dick Bell, Ed McWatters, Fred Butler, and Lloyd Goss.



"Just before the battle mother" some of the Sudbury Hardrocks were pictured in a locker-room huddle. The speaker is Sid Forster, and the group includes Cec Brown, T. Andruschuk, L. Jaworski, R. Giacomini, R. Pierce, N. Lekun, Doug Ogsten, and R. Dussiaume.



Teck Babirad of Port Colborne Lakers gathers in a pass, with Lorne Jaworski (5) and Rolly Giacomini (10) of the Hardrocks bearing down on him.

Hardrocks Found Port Colborne Is Much Too Refined

The young Port Colborne Lakers, playing their first season of ORFU competition under the coaching of Vince Mazza, former Hamilton Tiger-Cat and Detroit Lion, beat Sudbury Hardrocks 24-5 for the all-Ontario Intermediate B championship.

A crowd of 2,000 at Port Colborne watched the well-played match in which the Lakers, although slightly outweighed, produced the stronger passing and rushing offensive. Hardrocks were wobbly in the passing department and handicapped themselves with penalties that helped set up all four Port Colborne touchdowns.

Hardrocks took command of the game after the opening kickoff by rushing the ball to the Port 25 on gains by Sid Forster, Norm Lekun and Ted Curtis. Then quarterback Paul Dinan completed a pass to Curtis on the 10. Curtis lateralled wide to Norm Rutenburg who romped over on one of the best plays of the game. Lakers broke through to block the attempted convert.

The Port Colborne touchdowns were scored by Lorenzo, Marr, Burke and Favero, with quarterback Pete Rysdale converting all four.

Lakers won only four games and tied one against five losses in their regular schedule, but have wound up with four straight wins and a tie in their next five efforts.

The game was of particular interest to Inco people, and the result seemed to indicate that the refinery end of the Company's operations is more conducive than mining and smelting to refined football, if not to refined golf.

Governor General

(Continued from Page 4)

the many problems a country like ours must face."

Mr. Massey referred to the increasing number of people who are coming each year from other countries to make Canada the land of their adoption. "These newcomers, and they are with us in large numbers, must be welcomed and made members in the fullest sense of the community they come to join. They must be encouraged to feel that they belong, that they are not Canadians in any hyphenated sense, but are to be offered full membership; they must be persuaded to realize that the cultural gifts they bring with them from the lands of their origin will be accepted as part of our national pattern."

The Governor General spoke briefly to large gatherings of school children (5,000 at the Sudbury Arena) and won their undying friendship by declaring November 10 a school holiday.

He paid a short visit to Frood Open Pit and Copper Cliff Smelter, displaying keen insight as the operations were explained to him and his party by Vice-President Ralph Parker and other officials of the Company.

EVERYBODY HAPPY

Mr. Barr was a keen cyclist and his young wife played the piano. They had a little son and desired to christen him with a name that would suit both sides of the family.

After much thought they decided to call him Handel Barr!

CREASE-RESISTANT, TOO

King Arthur: "Ods bodkins, Lancelot, what didn't thou pay for that suit of armor?"

Lancelot: "Five cents an ounce, Sire; it's first-class mail."

Much Pleasure Depends on the Efforts of These People

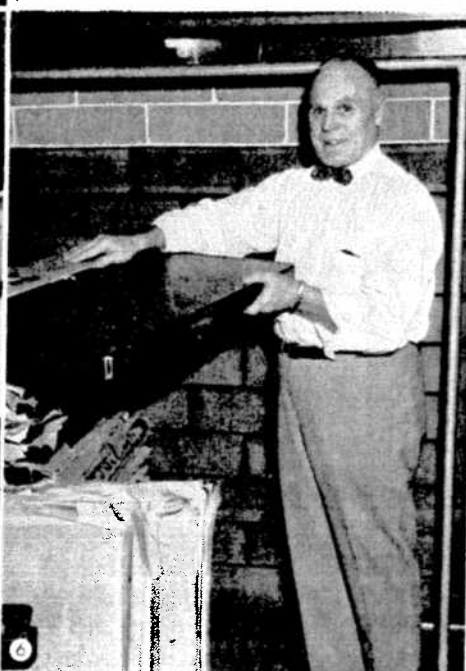


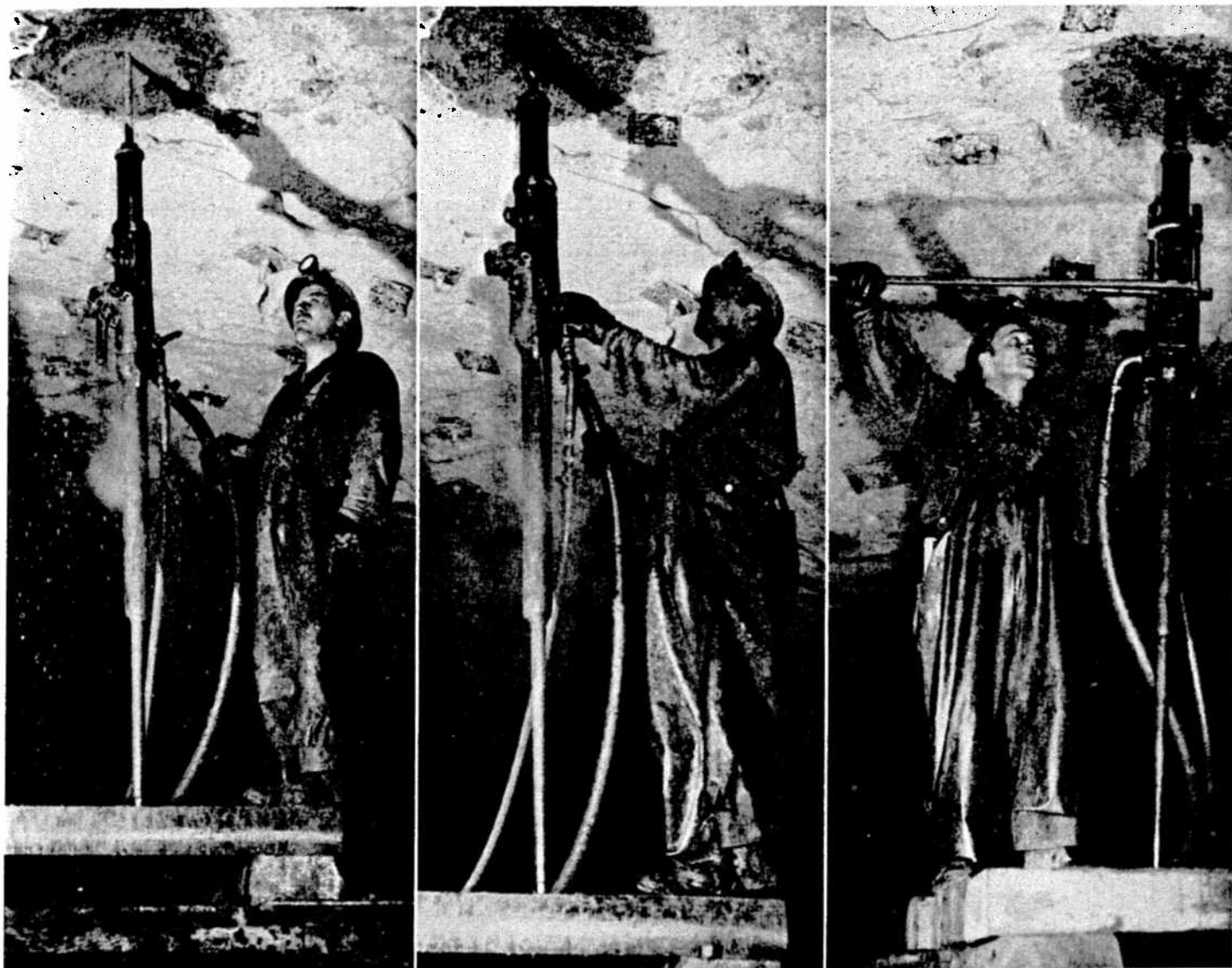
Loyal Staffs Keep Activities on the Go At Employee Clubs

Soaring birds and rows of maples may sound like a summer's day to the nature lovers, but to the busy people who run the Inco employee clubs they sound like badminton and bowling, very much to the fore in winter too.

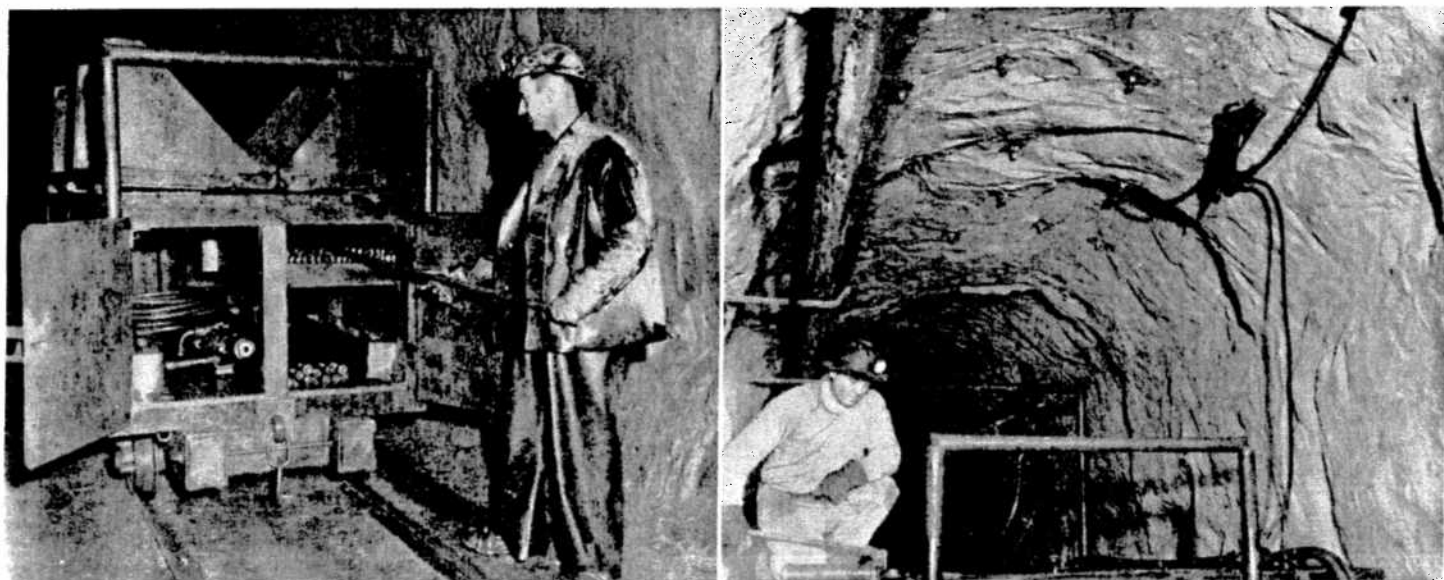
These two big B's of Inco employee activities are once again in full swing but while they hold the lion's share of attention they're by no means the only items on the recreational bill of fare. Many other activities are sponsored and encouraged by the staffs of the six Inco entertainment centres in the district, where members have as usual been greeted by gleaming revitalized facilities, the

(Continued on Page 14)





The three operations in installing a rock bolt in an Inco mine are shown in these photographs. In the first picture the hole is drilled in the back, using carbide insert steel. In the second picture the rock bolt is being driven into the hole, using a threaded dolly which in only 30 seconds' driving time gives the anchorage to the bolt required by Inco standards. In the third picture the bolt is being tightened with the tightening dolly, which turns with the rotation of the stoper. The miner is Hugo Raudaskoski, Levack.



On the left above Alex Spiers of Murray Mine, is seen with the rock bolt truck used in haulage drifts to provide a working platform for the rock bolter and also portable storage for his equipment and supplies. On the right Louis Gore uses a hydraulic pull tester to make a routine spot check of the anchorage of a roof bolt, which at Inco must resist a minimum pull of 15 tons.

Rock Bolting Coming Into Its Own as Back Support as Inco's Engineers Broaden Use of "Sky Hooks"

Rock bolting is on the march! Since first reporting the introduction to Inco mines of this "sky-hook" device 20 months ago the Triangle finds that in addition to simplifying and improving its installation, Inco engineers have made major strides in adapting it for several new phases of mining.

Besides its use as back support in drifts, for which it was first introduced, rock bolting

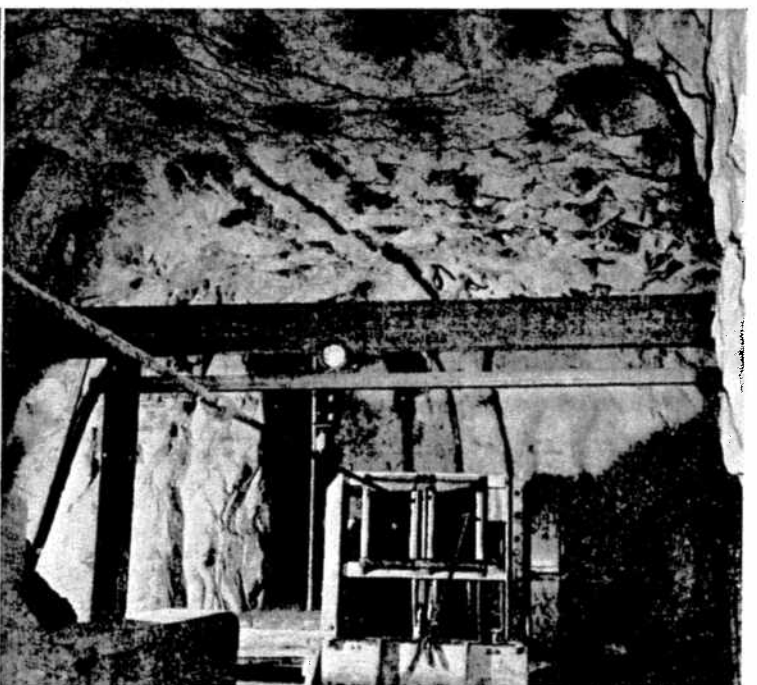
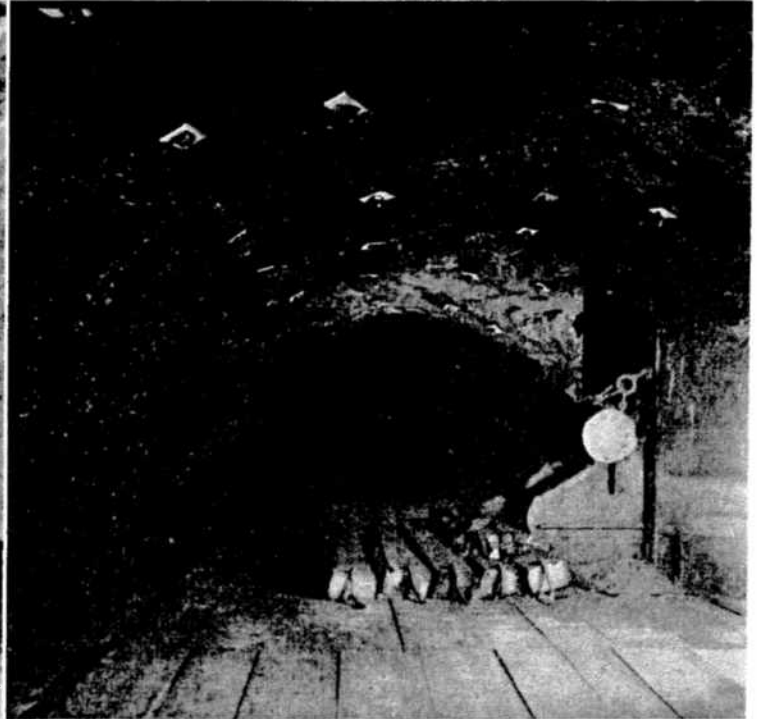
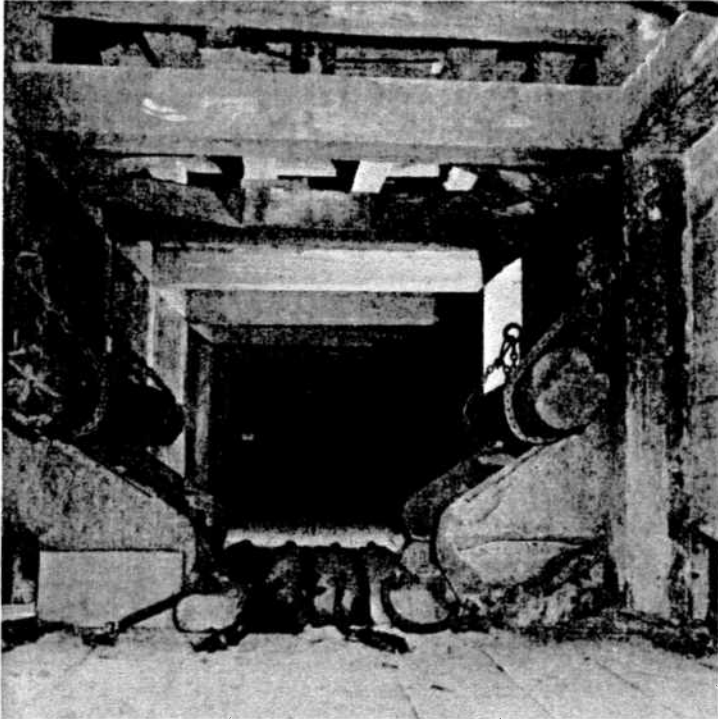
has now been successfully demonstrated in cut and fill stopes, fresh air raises and box-holes, and also in shaft stations, underground hoist and rectifier rooms etc., in place of the conventional steel beams.

While this method of back support had been used in the coal mining industry and some other mines for many years its potentialities in metal mining were not fully ex-

plored until Inco became actively interested in it. The Company has been a leader in helping to bring along this newcomer to its present prominence as a means of ground support under many types of conditions in metal mining.

Today, many stopes where ground conditions would normally dictate square set

(Continued on Page 11)



These "before and after" pictures illustrate the effectiveness of rock bolting in two of the many types of underground openings where it is used at Inco. In the top photos, rock bolts compare with conventional timbering for back support in a gangway chute, and in the bottom pictures they show their advantages over steel beam support in a slusher station. They're faster, easier, and more economical to install.



The victorious Creighton Mine brigade is seen on the left above: front row, F. Pentney, P. Britton, W. Blackwell, M. Cayen, F. Blum, A. Blackwell, W. G. Serpell; back row, E. LeBreton, B. McAllister, F. Szmigielski, M. Jurman, W. Zyma, J. Dingwall, G. Wilson. On the right are the non-pumper champs from Frood-Stobie No. 3 Shaft, front row, R. J. Borkovich, C. Sandberg, H. Jacques, L. Johns; back row, N. White, E. Barrett, D. Fortin, L. Hall, G. Passi.



Runners-up to Creighton in the pumper event were Levack, seen on the left above, front row, L. Leroux, D. Konopoda, E. O'Connor, G. Carvel; centre row, R. Lauzon, B. Owens, S. Kemp, L. Parker, R. Purvis; back row, H. Kulmala, G. Calford, E. Kauppinen, A. Hutchinson, C. Shailer, S. McKenzie, W. Bushnell, R. Pearson. On the right are Coniston (McLean's shift), runners-up in the non-pumper event, front row, J. Bett, W. Bradford, A. McLean, A. Strachan; back row, M. Churchill, A. Rivard, L. Lafontaine, E. Grenon.



Fire Inspector Humphries times a smoke test in the competitions for the Inco inter-plant championships.

Creighton and Frood-Stobie No. 3 Are New Inco Fire-Fighting Champions

Inco's fire-fighting championships have been decided for another year.

When the smoke cleared away and the hoses were dried and coiled, Fire Inspector Bill Humphries announced that the Creighton Mine brigade under Chief Fred Pentney had won the pumper competition, with Levack only four seconds behind the winner and Lively, last year's champs, in third place.

In the non-pumper class Frood-Stobie No. 3, directed by Chief Norman White, performed the four required tests in the remarkably good total time of 10 minutes and 30 seconds, with Coniston as their closest rival.

This was the 10th consecutive year that the interplant fire brigade competitions were held, and it appeared that interest and enthusiasm were keener than ever. After reviewing the results, Fire Inspector Humphries expressed his satisfaction with the calibre of the competing brigades and warmly congratulated the winners.

Eleven teams participated in the pumper competitions, including three each from the

Smelter and Mill, two from Lively and one each from Creighton, Levack and Coniston. Their problem consisted of three parts, two of which involved the use of the pumper and the third a smoke test requiring that two lengths of hose and a nozzle be coupled together in a smoke-filled chamber, the fireman wearing a mask.

The non-pumper contest had 13 entries, three each from the Copper Refinery and Coniston, two from the Open Pit, and one each from Frood-Stobie No. 3 and No. 7, Murray, Creighton No. 5, and Garson. Tests in this competition consisted of four parts. A handicap system was used whereby previous winners had three minutes chalked up against them before they started. Even with this handicap Rebellato's brigade from the Copper Refinery finished in third place.

The four-part problem in this class consisted of: stretching a line of 1½ inch hose 200 feet long and hoisting the nozzle by rope to a predetermined height; coupling two lengths of 2½-inch hose together and then

(Continued on Page 15)

Longest 4 Days He'll Ever Spend Says John Delay

If there was any question about the mental and physical toughness of nickel miners, it got its answer in the feat of big, happy John Delay of Frood-Stobie No. 3, who was lost in the bush in mid-November for four days without food or matches, and came out fit and smiling.

On Saturday, November 12, John and a companion went deer hunting a few miles north of the town of Field. They became separated and by late afternoon John realized he was lost in country that was entirely new to him. His companion had taken the compass and matches, and he had only his cigaret lighter, it low in fuel.

Chuckling heartily at his plight, John made himself comfortable for the night with spruce boughs and a fire, and managed to have a pretty good sleep. The next day, Sunday, he came across a power line but couldn't follow it far since it crossed water he was unable to ford or circle. Now admitting to himself the seriousness of his position, he showed great presence of mind by remaining

keep moving or die. Resolutely putting down the panic that mounted swiftly within him, he cheerfully prepared himself for an ordeal of survival. But along about noon his ear caught the sound of the first human voice he had heard in over four days, and finally over a small ridge there appeared just about the most welcome sight he had ever seen — two men coming to his aid. After exchanging his coat for a dry warm one, and having a drink and a sandwich, he walked the three miles out to the road with his rescuers. Early that evening he was safe again in his home at Bleazard with his devoutly thankful wife and three kiddies, actually very little the worse for his gruelling experience. The little community, which to a man had rallied for the search, rejoiced with them.

Will he go hunting again? "Sure I'll go hunting again," says John. Having been in the bush every fall for the past 24 years, and never lost before, he sees no reason to give up his favorite sport, but he's quick to add that he'll never again be caught without a compass and matches. And he'll always have his own private reason cause to remember that cardinal rule of the woodsman, "No matter what happens, don't panic or lose your head."

Rock Bolting

(Continued from Page 9)

mining can be mined by the cut and fill method if rock bolting is used for back support. Through exhaustive testing and checking by Inco's mines' Research and Operating departments, a standard pattern of holes for this type of bolting has developed using six foot bolts at 5-foot intervals, care being taken that the side bolts do not extend into the pillar nor the vertical holes extend above the height the new cut will be blasted. This latter eliminates the possibility of bolts holding up small remnants of the back after blasting.

Gangway chutes are another of the rock bolts' conquests. Here they have eliminated the gangway sets of 10 x 10 fir timber commonly in use and thus considerably reduced material and installation costs. They have also made it possible to reduce the size of the gangway opening required, which in turn increases safety and shaves excavation costs.

Slusher stations, shaft stations, rectifier rooms, underground hoist and pump rooms, in fact almost any large underground room with average ground conditions in which steel beams were formerly used, may now be much more quickly, safely and economically supported by the use of rock bolts. Inco's mining men have found. Gunnitting, a form of cement application, is frequently used in conjunction with rock bolting in large excavations. This forms an air and moisture-proof seal that prevents, or at least retards, spalling in addition to improving appearances.

Still another recent application of this prize pin-up project is in preventing boxhole brows from becoming enlarged and requiring concreting at a later date. Bolts are counter sunk to avoid being struck by the flow of muck. The most recent use of rock bolts, however, is in fresh air raises that require some wall support in order to prevent future sloughing. In such raises bolts are installed as the raise advances so that upon completion the raise is merely stripped to be ready for action with none of the former trouble encountered from falling ground within the raise. This eliminates the necessity sometimes encountered of having to drive an oversize raise and concrete it later.

Rock bolt installation consists of three phases — drilling, driving and tightening. In this work improvements are constantly being made in the equipment involved. The original driving dolly was a comparatively cumbersome article which, among other things, required at least a minute and a half

driving time with a heavy stopper to provide the required anchorage on the bolt in harder rocks. In conjunction with the rock drill manufacturers a streamlined dolly was eventually designed which gave the required anchorage in only 30 seconds driving time and had a stem that fitted directly into the chuck, doing away with the necessity of removing it for driving or drilling.

Impact wrenches, which at the outset were required to tighten all rock bolts, were largely replaced by the development of an adapter for stoppers that provided the required tension on the bolts by means of the stopper rotation. It is still necessary to use an impact or ratchet wrench on wall bolts but it is probably only a matter of time before this too will belong to the past.

Testing and checking of tension and anchorage of bolts is a highly organized feature of the Inco rock bolting program. Monthly spot checks by specially trained engineers are made with a 30-ton hydraulic pull tester to determine anchorage. In addition members of supervision make frequent checks with torque wrenches to test the installed tension of the bolts, Inco standards calling for an installed tension of seven tons and an anchorage of 15 tons. This means that one rock bolt will withstand the pull or weight of at least 15 tons of loose before it will move, and the tension test indicates that if there is a measurable tension of seven tons on the bolt then the ground is so firmly clamped or bolted together that it has no chance to start moving.

The standard rock bolt stopper in use at Inco mines has a 2 3/4 inch bore and is fitted with a 3/4-inch hexagonal chuck for use with collared insert-type steel. Steel lengths of 2, 4, 6 and 8 feet are used with bit gauges of 1.34, 1.30, 1.26, and 1.22 inches respectively, extensive testing having shown these the most satisfactory. One-inch wedge type roof bolts in four and six-foot lengths with left hand rolled threads and 1 1/4 inch hexagonal nuts are standard at Inco mines. Plates are five inches square cut from 3/4 inch steel. After exhaustive testing a 3/4-inch by 6-inch wedge was found to give the best anchorage under local ground conditions.

At present an average of over 5,000 rock bolts are installed each month at Inco mines. While the actual installation of bolts is comparatively simple the prescribed method must be followed accurately at all times in order to ensure dependability. When rock bolts are correctly installed and regular spot checks of anchorage and tension are made, they are the equal and in most cases the superior of conventional steel or timber support.



JOHN DELAY SAFE AT HOME

near the power line until Tuesday despite the temptation, at times almost irresistible, to try to find his way out. That night it rained, a cold penetrating rain, but John improvised a small shelter and got some sleep although by now his lighter had gone dry and he had to do without a fire.

On Monday he shot a deer and attempted to eat some of the warm flesh but this nauseated him. Hunger however had ceased to be a great problem to him after the first couple of days.

On Tuesday, his position growing desperate, he took a bearing with his knife on his thumbnail and headed for what he thought was the road. Some sixth sense soon told him he was going in the wrong direction so he very wisely decided to retrace his steps to the area where he had become lost and wait there, reasoning that by this time a real search for him would be underway. His only movements from then on were short walks within the area to keep warm.

He slept a little on Tuesday night and when he awoke on Wednesday he found himself blanketed with a couple of inches of snow. Again he resumed his vigil and as it became colder he realized he must now



MISS BLUE & GOLD

Sally McDonald (centre above) a 5th form student, was acclaimed Miss Blue & Gold at the annual Sadie Hawkins dance at Copper Cliff High School. With her are the runners-up in the popularity contest, Alice Digby and Violet Tokary.

"The Shape of Things to Come"



Silhouetted against the sky in "the shape of things to come" are some of the buildings at Inco's iron ore recovery plant, photographed during construction. It will bring to an impressive 14 the number of elements the Company is getting from its ores.

Iron Ore Recovery Latest Success in Getting the Most Out of Inco's Ores

The latest major result of Inco's work in process research, the iron ore recovery project at Copper Cliff, was discussed by Dr. John F. Thompson, chairman of the board, in his letter of November 15 to the shareholders.

The maximum utilization of its ores is one of the Company's primary objectives, he said. Process research is constantly being carried on, looking toward improvements in existing mining methods and the establishment of improved processes in all of the Company's plants. Dr. Thompson's remarks follow:

"While Inco is engaged in a never-ending search for new nickel deposits, an important corollary is the constant attention our research staffs devote to getting the most out of the mineral deposits which are mined by the Company. The success of our efforts is apparent in the number of products recovered from these deposits.

"The Company's most important product, of course, is nickel, of which Inco is the world's largest producer. Next in importance is copper and, in addition, we have an impressive output of 11 other elements —

platinum, palladium, rhodium, ruthenium, iridium, gold, silver, cobalt, selenium, tellurium, and sulphur in the form of sulphur dioxide and sulphuric acid. Now, iron ore is soon to be added to these products as the result of an Inco-developed process for the recovery of nickel and of iron ore from nickeliferous pyrrhotite.

"This development by Inco constitutes an outstanding advance in extractive metallurgy. Other nickel recovery processes in current commercial operation do not usefully recover the iron content of the ore. International Nickel after years of laboratory and pilot plant study has solved this problem with a new process which recovers the iron content of the pyrrhotite in the form of high-grade iron ore, the nickel content being removed by an atmospheric pressure ammonia leaching process.

"Built at a cost of \$19,000,000, the first unit of the Company's iron ore recovery plant has been virtually completed, less than two years after construction was initiated at the plant site near Copper Cliff, Ontario. Trial operation of the equipment has begun, and the plant is scheduled to go into commercial

production in the near future. In this first unit, 1,000 tons of pyrrhotite concentrate will (Continued on Page 15)



The \$19,000,000 plant has taken less than two years to build. Picture shows the 637-foot chimney in an early stage of construction.

As the Two Minutes of Silent Remembrance Was Observed



At one of the largest Remembrance Day observances ever held in Sudbury, the legion of the living saluted the legion of the dead on the 37th anniversary of the signing of the armistice ending World War I. Ministers from five Sudbury and district churches took part in the solemnly impressive services, assisted by Sudbury Canadian Legion president Wes Edwards and past president Art Cressey. A color party from the various Legion branches in the district flanked the approach to the cenotaph, and four airmen from the Falconbridge station stood guard at the four corners of the granite memorial with arms reversed.

How to be Happy



Jim Hugg, electrician at Coniston smelter for 15 years, brought home some extra bacon the other day in the form of a \$67.00 Suggestion Plan payoff for an improvement to the compressor motors on the 50-ton locomotives. An even nicer reward was the big kiss he got from his proud wife Mae.

SCORELESS

"So you didn't do so well with that millionaire's daughter?"

"I did terrible — no runs, no hits and no heirs."



The first of more than 50 wreaths laid at the foot of the cenotaph was placed on behalf of the district's Silver Cross mothers by Mrs. P. A. Peterson of Azilda. Her son Howard was killed in May, 1943, while on duty overseas with the RCAF. He worked at both Levack and Froid mines. Mrs. Peterson was escorted by Lieut.-Col. C. M. Wilson, commanding officer of 58 (Sudbury) LAA Regt. RCA, and Sq. Ldr. Jack King, acting commanding officer of the RCAF station at Falconbridge. Legionaires from Sudbury, Copper Cliff, Lively, Levack, Garson, Falconbridge and Capreol took part in the long parade along with the Polish Vets, military and civic personnel, cadets, and other organizations.

At Party for the Coniston Red Sox



About 140 attended a hugely enjoyed banquet and dance held at Coniston's Club Allegri in honor of the Coniston Red Sox, who defeated Creighton Indians 4 games to 2 in the final playoff for the 1955 Nickel Belt baseball championship. A committee composed of Ray Bouchard, Art Gobbo and Argyle Eastwood was in charge of the arrangements, which left nothing to be desired. Some of the guests of honor and their ladies are seen above: back row, Richie Cavarson, Miss Madeline Stoivac, Keith Boyd; third row, Bert Boyd, Miss Noreen Benedetti, Joe Barbe, Mrs. K. Boyd; second row, Mrs. Bert Boyd, Clarence Fox, Mrs. Normie Hann and Coach Hann; front, Mrs. C. Fox, Mrs. Veno and her 3rd-base hubby Murray.

Loyal Staffs Keep

(Continued from Page 7)

result of much wax, polish, paint and plain elbow grease applied during the quiet season.

At Levack the employees' club is the hub of a major portion of the town's recreational activities and with keenly interested Lloyd Davis and his wife attending to the steward duties there is rarely if ever a dull moment. Many youth activities are encouraged here and these along with the usual bowling, badminton, ping pong, billiards, TV room, card parties, dances, etc., provide a fine outlet for the playtime energies of Levack residents.

The Creighton club, under the capable stewardship of Lawrence and Mary Sharpe, is the entertainment centre for Creighton and Lively families. This club, always a hotbed of badminton, is no exception this year with nearly 100 teenagers whomping the little feathered object with a vengeance while that old master Ev. Staples looks them over hoping for another Hreljac. Bowling also ranks high at this club with several leagues from both Creighton and Lively pushing the facilities to the limit.

The Copper Cliff and Coniston community halls, directed respectively by Don Cooney and Lou Draper, provide a meeting place for many organisations in those towns such as Boy Scouts, Girl Guides, and Cadets, and are also much in demand for teas, showers and other social events. At Copper Cliff a weekly baby clinic is held at the club and at both locations badminton and basketball as well as other activities are enjoyed by many.

At Garson the operation of the club is in the very capable hands of pert Mrs. Sammy Grassam, who has things as well organised there as she would in her own home, only

more so. The usual employee activities prevail with special attention paid here also to the teenagers, who have a big weekly do each Friday.

The Inco club in Sudbury is a regular rendezvous for men and women from many mines and plants and here are held varied forms of entertainment ranging from a tussle of wits at the regular chess session to the weekly battle of the bulge, brawn and biceps at the popular Monday night wrestling shows. Sandwiched in between such extremes are bowling, badminton, bingo, dances, con-

certs, meetings, first aid contests, etc. etc., making the club a veritable hive of goings-on. Impresario of this many-ringed circus is Vern Tupling, who is aided and abetted by a staff of trained personnel familiar to thousands of Inco employees.

These clubs and their facilities play a vital role in community life and with their very nominal membership fees are well within reach of all Inco employees in the district.

For the benefit of those beyond their balliwicks, and also for the few local people who haven't yet met them, the accompanying layout gives a pictorial introduction of the popular people who run the Inco fun hubs:

1. Mrs. Sammy Grassam (centre) and her two loyal assistants, Mrs. Irma Peramaki and Mrs. Linnea Latvala, take the pause that refreshes while they plan the day's work.

2. Mr. and Mrs. Lawrence Sharpe check over some bowling scores at the Creighton club.

3. Here's the staff of the Sudbury club, familiar faces to thousands of Incoites and their families: Mrs. Jennie McNichol, Miss Dorothy Purvis, Mrs. Margaret Vaillancourt, and, in the back row, Henry Dunn, Don Greer, Steward Vern Tupling, Red Downer, Val O'Neil and Sam Krazewski.

4. At Coniston, Lou Draper was into one of his regular rassles with the banquet tables when the Triangle cameraman came around.

5. Mr. and Mrs. Lloyd Davis check the test pattern on the TV set at the Levack club.

6. Don Cooney is the genial gent in charge of the community hall at Copper Cliff.



RECEIVES BUTTON

A member of the Copper Cliff mechanical engineering staff on loan to Port Colborne, Doug Thom was welcomed into the Quarter Century Club by President H. S. Wingate at the annual banquet of nickel refinery branch on November 8.

Bob Pascoe Honored by Big Gathering



A handsome television set was presented to Bobby Pascoe of Creighton Mine at a retirement party largely attended by friends and colleagues in the mines mechanical and operating departments. Picture shows the popular Bob (fourth from the right) with a group of his well-wishers at the festivities, H. Hodgins, J. Thomas, F. Pentney, J. Dawson, B. Johnson, M. Jurman, Bob Pascoe, O. Mattinen, A. Husson, and C. Cretzman. The presentation was made on behalf of the big gathering by J. C. Ferguson, master mechanic of mines.

Dream Comes True to Tune of \$56,000



A holiday trip by air to Mexico during the Christmas season is what Mr. and Mrs. Beverly Fallis and son Francis are planning as a celebration of their \$56,000 windfall in the Irish Hospitals sweepstakes on the 113th running of the Cambridgeshire Handicap in England.

It was Mrs. Fallis who held the ticket in the good-luck *nom de plume* of 7 — 11. The horse she drew was Turk's Blood, which finished second.

She was alone at home when she heard in a broadcast from radio station CKSO the wonderful news that she had won. She rushed next door to tell her neighbor, Mrs. McLean, the thrilling news. Then she tried to telephone her husband at his job at Garson Mine, where he works in the rockhouse. She was so excited she tried about a dozen wrong numbers before she finally got through to Fred Desjardins in the topman's office at the mine. Fred got in touch with Bev, who of course punched out and went straight

home, through work for that day. There were some joyful hugs when he arrived at his cosy place in Lockerby.

Bev, who is also known as Pop at Garson, has worked for Inco for five years, starting first at Creighton Mine. The \$56,000 windfall gave him no thoughts of quitting his job, he said, but it did give him a very relaxed feeling about his family's security. It will enable them to do some things they've often dreamed about but never quite expected they'd ever be able to enjoy.

Bev's hobby is photography, and one luxury he'll now probably allow himself are a couple of extra lenses for his Leica camera as well as a few of the latest darkroom gadgets.

Mr. and Mrs. Fallis have a daughter, Mrs. Bob Packham of Minnow Lake, whose husband works at Falconbridge, and a lovely little granddaughter named Carole Anne.

Their son Francis, who is all boy and 11, is in Grade 5 at McLeod Rd. public school, where his teacher is Mrs. Doyle.

Iron Ore Recovery

(Continued from Page 12)

be treated daily. After operation of this unit at full capacity, expansion is planned to permit an ultimate annual output of about 1,000,000 tons of iron or higher in grade than any now produced in quantity in North America. This ore will contain more than 65 per cent iron and less than two per cent silica.

"It is expected that Inco's iron ore will command a premium price for direct use in open hearth and electric furnace production by the North American steel industry, which has been largely dependent on imports from foreign countries for its requirements of ore of such high quality. The decision to proceed with the construction of this new plant enabled the Company to take special measures to anticipate the release of smelter capacity which will result from the new process. This early release of smelter capacity made it feasible for Inco to assume the contract, signed in May, 1953, to provide the Defense Materials Procurement Agency of the United States Government with 120,000,000 pounds of nickel and 100,000,000 pounds of copper during the five years ending in 1958. Thus the new plant before completion of construction has made a most important contribution.

"It is a source of satisfaction to the Company to have pioneered this and many other advances in extractive metallurgy, especially in the nickel industry. Inco's process for the recovery of iron ore opens the way for

increased recoveries of other elements from the complex Sudbury ores, including elemental sulphur, when such recoveries are economically feasible. It is one of a series of planned long-range developments by which International Nickel's ore treatment processes are being revolutionized."

Other important research developments at Inco over the past decade include:

Improved Mining Methods

Excessive experimentation has led to the adaptation of mining methods which, in combination with improved metallurgical processes, permit Inco to treat economically lower grades of ore than was possible previously. Inco's underground ore production rate has been increased from about 5,000,000 tons in 1945 to over 12,500,000 tons a year at present.

Matte Flotation

All of Inco's matte is now treated by this improved process, replacing the historic Orford nickel-copper separation process on which the Canadian nickel industry was founded. In the new process, the copper sulphide and nickel sulphide in the matte are separated by subjecting it to a combination of operations including controlled special cooling, followed by grinding, magnetic separation and flotation.

Oxygen Flash Smelting

All of the Company's copper concentrate is now treated by this process at Inco's Copper Cliff smelter in Ontario. This process provides economies through curtailment of coal requirements and permits large-scale recovery of by-product sulphur dioxide.

Electrolytic Refining of Cobalt

The production of electrolytic cobalt which was started recently at Inco's Port Colborne, Ontario, refinery, marked the first commercial output in Canada of cobalt in this form. The high purity of Inco's cobalt makes it particularly useful in the manufacture of electrical alloys and of high-temperature alloys.

Creighton

(Continued from Page 10)

to a nozzle while wearing a mask inside a smoke-filled room; a 10-part questionnaire on fire extinguishers; stretching of a 2½-inch hose under conditions designed to approximate a twisting corridor or hall or flights of stairs, turns and corners etc. Time was calculated from the starting signal until water hissed from the nozzle.

All in all they were very fine competitions, well handled and displaying keen rivalry and interest amongst the many participants, and all associated with the project are to be warmly commented for their efforts. Faint rumblings have already been heard about next year and what a cinch it will be to beat you know who, etc., indicating that the interest is due to be stepped up still another notch.

Well-Known Refinery Man Retires



When Harry Roe retired at Port Colborne recently after over 32 years of valuable service to Inco, he and his wife were guests of honor at a dinner party at which this picture was made. Extending congratulations and best wishes to him is R. C. McQuire (right), manager, nickel refining division, while to the left of him are Mrs. Roe and Mr. and Mrs. W. J. Freeman.

SNAPSHOTS OF LIFE WITH INCO



Photographed with some of his chain blocks, sheaves, and other equipment he had just moved into the new rigger's shop at Levack Mine is Al Hutchinson, rigger boss.



The first real snowstorm of the season, on November 20, was put to good use by Butch Dupuis, Glen Taylor, Bill Rorison and Pat Armstrong, who put up the first real snowman of the season at the corner of Worthington and Douglas in Sudbury. Glen's father, Noss, works at Frood-Stobie and Bill is a nephew of Hughie Rorison, Garson football great.



The well-pleased people in this picture are Alex Salo (right) of Copper Cliff and his son Allan, who were among the first hunters home with their deer following the opening of the season on November 1. Hunting from their camp on Lake Penage they brought down this 240-lb. beauty on the third day about six miles up the lake. They carried it two miles through the bush and brought it the rest of the way by boat. They gave away a few cuts to friends and the rest has gone into their frozen food locker. In the 10 years that they have been hunting together, Alex and Allan have never failed to get their buck. Reports indicate that the 25-day season in Sudbury District (only 10 days on Manitoulin Island) has been about average, most nimrods being successful in the great annual quest.



Fellow in the middle, cheque in hand, is Bill Matson, drill fitter at Garson, wearing one of those big Suggestion Plan smiles on learning that his idea for improving the cable guard rollers on small air slushers brought him \$238.00. Rallied around to congratulate Bill on this big windfall, not exactly unwelcome just before Christmas, are Alex Brethauer, topman, Mike Pechkoff, drill fitter boss, Glen Stutt of the carpenter shop and Maurice Martin, a welder from the shops. Bill has been at Garson throughout his 16-year Inco career. His daughter is the wife of Clive Taylor, another Garson man.