INCO TRIANGLE

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Fresh Air for Underground

(Story on Page 4)

INCO TRIANGLE

Published for all employees of The International Nickel Company of Canada, Limited.
Don M. Dunbar, Editor
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Inco's Unremitting Research to Meet Jet Age's Demands

In a letter to the shareholders of the Company, Dr. John F. Thompson, chairman, has described the part Inco is playing in the Jet Age. In it he pledges unremitting efforts to meet the demands for "new and better materials to work under increasingly severe conditions of temperature and stress", saying, "The Company will continue to direct its research and development efforts... so that the usefulness of nickel can be realized to the fullest extent."

The text of Dr. Thompson's letter follows:

"The Jet Age brought with it a need for 'super' materials with hitherto unknown combinations of strength, ductility and resistance to heat, and in some cases resistance to special types of corrosion. Alloys containing nickel have met these stringent requirements. Virtually all of the special alloys developed for airplane gas turbines or jet engines in the past 15 years contain nickel. The nickel content of these alloys ranges from less than 10 per cent in stainless steels to more than 70 per cent in certain complex alloys produced in International Nickel plants.

"Jet engines, and gas turbines used in propeller-driven aircraft, need two or three times as much nickel per engine as is ordinarily found in the largest piston engine for aircraft. While a portion of this nickel is contained in high nickel alloys which the Company's rolling mills produce, a large part of the requirements for nickel is in heat-resisting steels and high strength alloys perfected in the laboratories and mills of many consumers of Inco nickel.

"Research has resulted in the development of dependable nickel alloys which contribute materially to the reliability and long life of today's jet engines. Our laboratory staffs in the United Kingdom and the United States have for many years conducted studies of high temperature metals and alloys for jet engines and improvements in production technique. Present high nickel alloys have temperature properties which were unattainable in any metallic material as recently as 15 years ago. Each year we have been able to offer something a little better to designers and engineers. Besides our activities, other metal producers, engine builders and government agencies are continuing the search for improved materials to make possible better aircraft performance.

"Alloys devised, perfected and marketed by International Nickel include the several modifications of the Nimonic series and high strength variations of Inconel and Incoloy. The Company's rolling mills at Birmingham, England, Glasgow, Scotland, and Huntington, West Virginia, which have been engaged in the production of these alloys, have become specially skilled in production techniques essential to the output of dependable, custom-made nickel alloys in rolled forms. The precision investment-casting department of the foundry at Inco's Bayonne Works in New Jersey is primarily devoted to the production of vital parts required in jet engines.

"An expanding market for nickel is foreseen not only in the jet aircraft industry but in industry generally as a result of the anticipated adoption of the gas turbine for many industrial purposes. The jet aircraft industry and other fields may be expected to continue to create a demand for new and better materials to work under increasingly severe conditions of temperature and stress. The Company will continue to direct its research and developenent efforts, as they affect the applications of nickel in gas turbines and jet engines, so that the usefulness of nickel can be realized to the fullest extent."

Principal Inco Nickel Alloys used in jet engine and aircraft construction include: Nimonic 75, Nimonic 80, Nimonic 90, Inconel, Inconel "X", Inconel "W", Incoloy, Incoloy "T", Monel, "K" Monel.

Among applications for these alloys are: afterburners, bellows, bolts, combustion liners, connecting tubes, exhaust fairings, filters, flame tubes, fuel lines, heaters, high temperature springs, ignition system parts, instrument components, insulating blankets, lock wire, rivets, structural parts, transition liners, turbine blades, turbine entry ducts, turbine rotor disks, vaporizer tubes.

Nickel is also widely used in such applications as electrical equipment and electronic gear. It is an important constituent in stainless steels and other alloys for engine and accessory parts.

GREAT COMBINATION

One married man: "I'm very happy — I have a wonderful home, a good job, and the finest wife in the country."

Another man: "Who wouldn't be happy with his wife in the country?"

Chronicler of Sudbury's Origins

Writing, both short stories and poetry, had always been a hobby with Charlie Dorian, and when he retired on pension in 1946 after some 28 years of Inco service he had time to give full play to this talent. From the files of the Sudbury Journal and other weekly newspapers of the early days, as well as from those of the Sudbury Star and various other sources which have volunteered help, he gathered a tremendous amount of historical data which he built into a chronology of the city and district. It has been published in the Star's last two annual "Reviews of Progress". Charlie has also been writing a daily column, "Old Timer Tales" in the Star under the pen name of Pundit Joe.

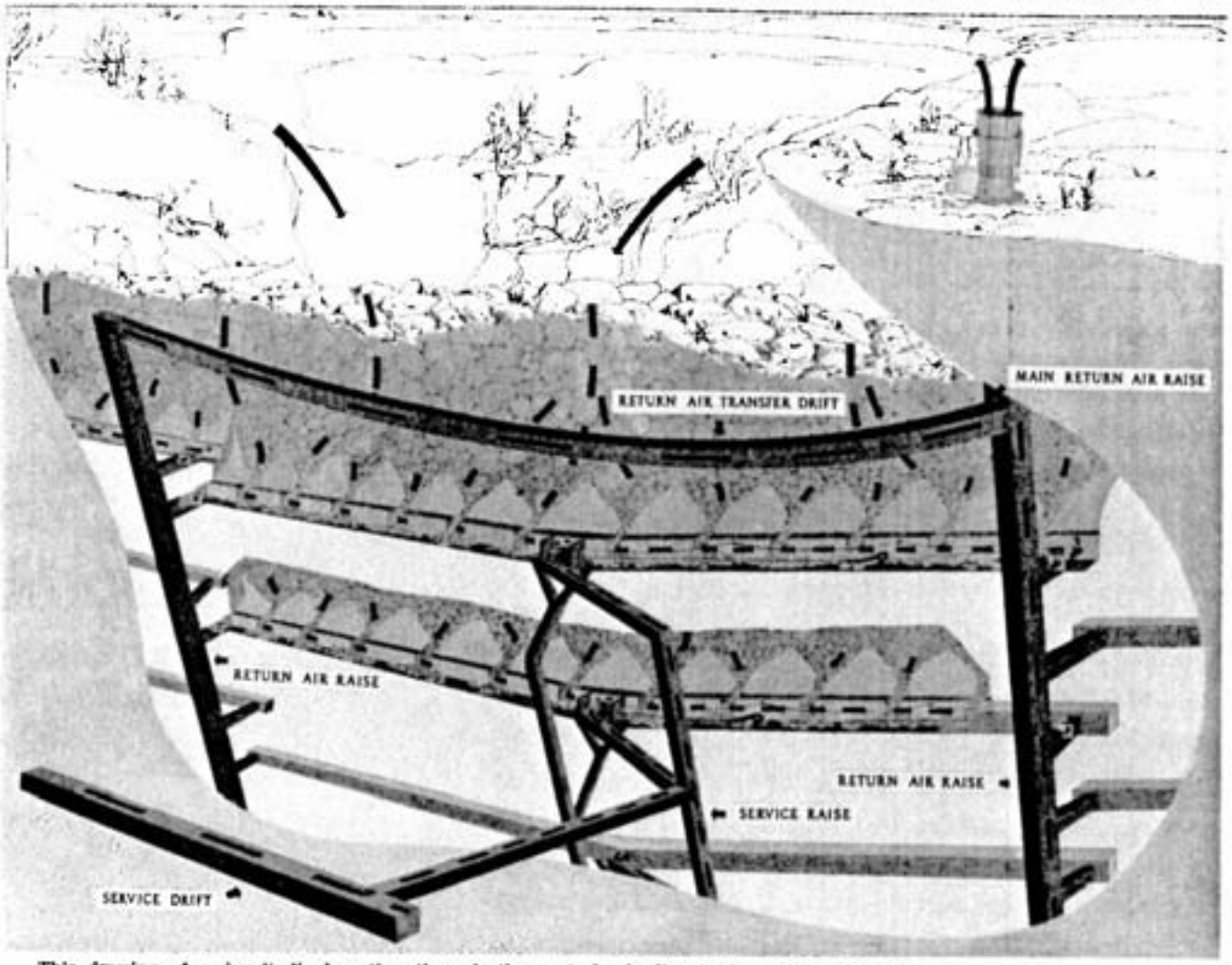
Turn About

The four Abner types seen above never had it so good as at the annual Sadie Hawkins dance at Copper Cliff High School, when delightful and delectable Daisy Macs honored the traditions of the event. Doin' the proposin': Beverley McDonell, Carol Stromberg, Nella Nicoli, and Elaine Pikkusaari (crowned Miss Blue and Gold as winner of the school popularity contest). Doin' the listenin': Wally Podedworny, Doug Ogsten, Bill McKinnon, Arne Kotanen.

INCO FAMOUS ALBUM

Most of the young fry in this month's batch of family groups seem to be taking life pretty seriously—no doubt preoccupied with such important matters as letters to Santa Claus and subtle gift hints to Mummy and Daddy. In the layout are: (1) Mr. and Mrs. Don Munn (Mines Department, Copper Cliff) with Jean, 2, and Sheila, 4½. (2) Mr. and Mrs. Jim MacDonald (Frood-Stobie) with Danny, 2. (3) Mr. and Mrs. Ron Booker (Port Colborne) with Tommy, 2, Linda, 3, and Larry, 4. (4) Mr. and Mrs. Matt Burdenuk (Murray Mine) with Ronnie, 14, Gordie, 20 mos., and Eugene, 12. (5) Mr. and Mrs. Louis Fay (Copper Refinery) with Robert 2. (6) Mr. and Mrs. Terry Hamilton (Levack Mine) with Mary, 15 mos. (7) Mr. and Mrs. Wilfred Orser (Creighton Mine) with John, 10 mos., Florence Mary, 8, Douglas, 12, and Jim, 4.

How the Caving Area at Creighton Is Ventilated



This drawing of a longitudinal section through the central block of the caving area at Creighton shows two typical slusher drifts arranged for two-way slushing to a central ore pass, with a central service raise to provide entrance.

The ventilation system for the block is clearly illustrated. A return air raise in the footwall at either end of the block is connected to the tail sheave end of each slusher drift, and these are connected by a footwall transfer drift to the main return air raise leading to the surface exhaust fan.

Part of the fresh air from surface downcasts through the caved ore and the boxholes to the slusher drifts, and the balance is supplied through the service connection. The fresh air flows along each slusher drift toward the tail sheave end of the branch in operation, carrying dust and blasting fumes out through the open exhaust connection at that end. All the exhaust controls in the non-operating ends of the slusher drifts are kept closed.

Ventilation of Inco's Mines Is A Highly Organized Operation

Almost two million cubic feet of air is circulated through Inco's mines every minute, and within the next few years this volume will be increased to 2,400,000 cubic feet per minute. Ventilation is big business at Inco, and readers of the Triangle will find much to interest them in the following excerpts from an article recently written about it by Jim Rutherford, chief ventilation engineer, Copper Cliff, and Keith Segsworth, ventilation engineer at Frood-Stobie Mine.

Mine ventilation has to do with establishing a positive flow of air through the underground openings, in order to provide satisfactory atmospheric conditions in all places where men work or travel.

The trend in metal mining during recent years towards mechanization and high-tonnage production methods has greatly increased ventilation requirements. For efficient mining operations the flow of air must quickly carry away the dust and blasting fumes. Mechanical ventilation is required to obtain the necessary volume and control, as natural draft pressures alone are for the most part inadequate and unreliable. In the event of a mine fire or other emergency, close control of ventilation is essential. The expenditure required to provide a proper system of mine ventilation can be regarded as an investment that pays regular dividends in the form of increased mining efficiency, safer working conditions, and higher morale of the miners.

At Inco, mine ventilation is considered a primary installation. A system of ventilation is planned as part of each new development and mining layout, and existing systems are expanded when production is increased or new mining areas are included.

Although the systems used to ventilate the different mining operations vary considerably in detail, they are all basically fresh air pressure systems, in that the approaches to the orebodies and at least part of the mining exhaust fans are used in series with the intake fans.

At Levack mine, where the resistance of the return circuit is low, a fresh air fan alone is used. At Garson, an exhaust booster fan on the collar of the main return is operated in series with the intake fan. At the Frood section of the Frood-Stobie mine, two exhaust fans are used in series with the intake fans, one at each of two returns.

A true push-pull system of ventilation is provided where the resistance of the entire return circuit is too high to be handled efficiently by the fresh air fan alone. The main airways and fans are located so as to maintain a positive pressure on the connections to the operating shaft and the approaches to the orebody. This type of system is in operation at Murray mine where both the intake and exhaust fan are on surface. A similar system is being established to ventilate the Stobie section of the Frood-

Stobie mine. At Creighton the lower mining area is also ventilated by a type of push-pull system. In this case, both the intake and the exhaust fan are located underground above the mining zone.

The system used to ventilate the caving mining area on the upper levels at Creighton is primarily exhaust, with the main return fan at surface. However, a positive pressure is maintained on the approaches to the workings by a fresh air booster fan.

Problems Differ

The main ventilation problem in the square-set mining area at Frood-Stobie and Creighton is to provide sufficient cooling power to maintain good working conditions in the stopes. This has been accomplished by circulating large volumes of air. Average stope temperatures have been maintained below 70 F., with a relative humidity from 90 to 97 per cent. In all other mining operations, especially in the blasthole and caving areas, the main problem is the quick removal of the dust and blasting fumes.

A simple upcast circulation of air is provided to ventilate all mining areas where square-set, cut-and-fill, or shrinkage methods are used. In this system, the main volumes of fresh air are supplied to the lower producing levels of each mining area, with smaller splits to the levels above.

The original system for ventilating the square-set area at Frood-Stobie mine provided a separate flow of air through each working place. The present upcast system has many practical advantages over the original system; it provides a much larger volume of air through the stopes, control of air flow is simplified, and fewer ventilation doors and brattices are required.

Ventilating Blasthole Areas

The blasthole stoping method has become of major importance in the conversion to all underground production. At present, approximately 50 per cent of the ore produced underground is being mined by this method.

A push-pull system is used for the ventilation of all blasthole stoping areas. The main fresh air splits are made to the slushing horizons, with a minor volume to each drilling level. Return air is exhausted from the slusher drifts through a direct connection from the tail-sheave end of each drift to the main return airway; the air from the drill drifts downcasts through the stopes and the boxholes, and joins the air supplied directly to the slusher drifts. Ventilation controls are provided at both the intake and the exhaust connection to each drift.

Good visibility is essential for efficient slushing, and quick smoke removal avoids lost time after secondary blasting. From experience, to provide good working conditions in a slusher drift the air velocity should be approximately 150 feet per minute. The volume of air supplied is based on 10,000 cubic feet per minute per operating slusher drift, plus leakage of 2,000 c.f.m. through the average non-operating drift; with proper control the flow of air through the operating drifts varies from 10,000 to 15,000 cubic feet per minute.

Where the slusher drifts are just above the haulage drift for direct slushing into cars, the fresh air is supplied from the haulage drift up through the drawhole and the ladderway to the slusher drift.

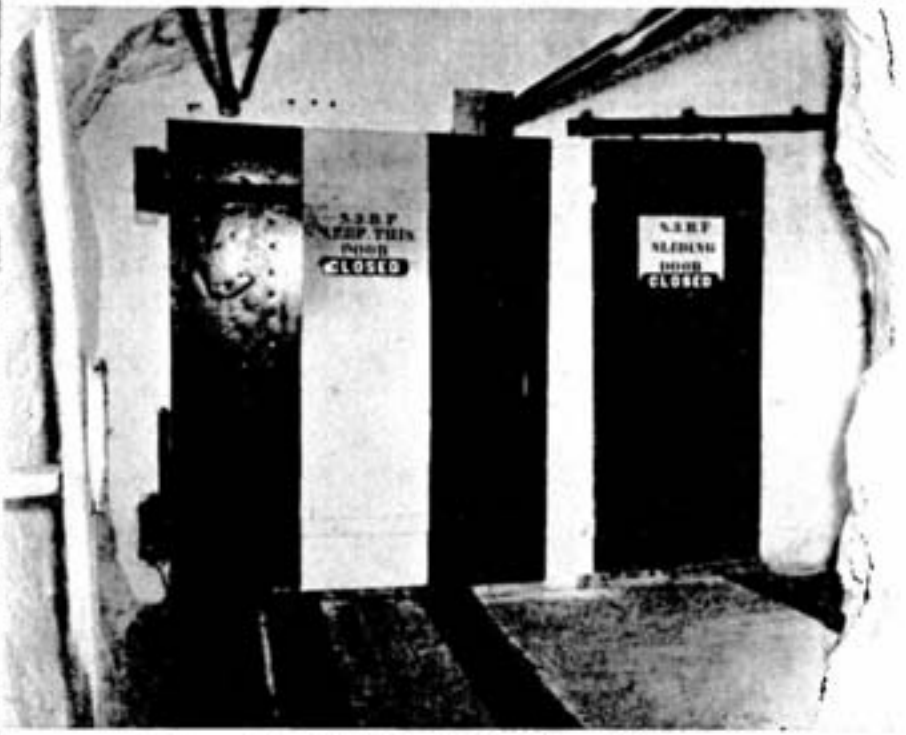
Where ore is being slushed to an ore pass, the fresh air is supplied directly past the hoist to the slusher drift.

Ventilating Caving Mining

The low grade orebody at Creighton that is being mined by caving has a length along the strike of over 2,000 feet and an average dip of 45°; it is divided into six 350-foot mining sections. In each section, there is a central ore pass and service raise. The slusher drifts are designed for two-way slushing, the two branches running parallel to the footwall in opposite directions from the ore pass.

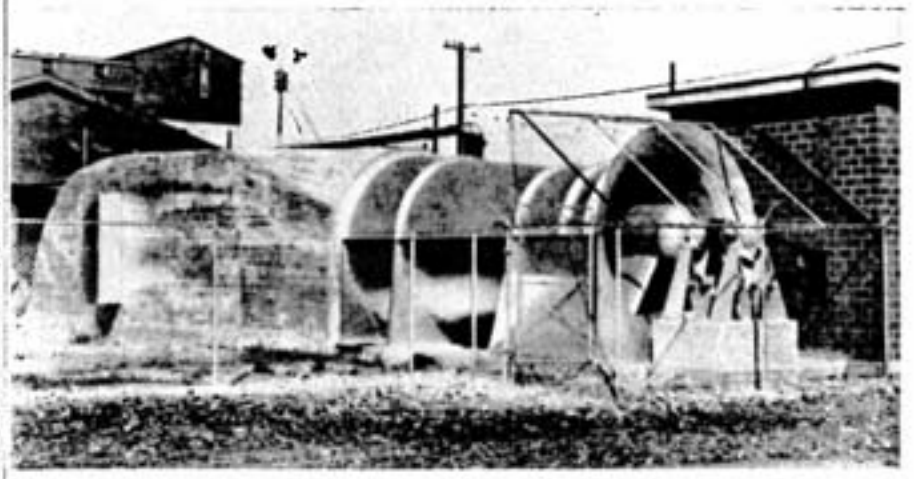
The system of ventilation for this mining area is similar to that for blasthole stoping, in that a direct exhaust connection is provided from the tail-sheave end of each slusher drift. A return air raise is driven in the footwall at the extremity of each mining section; each return serves one branch of the slusher drifts in two adjoining sections. The permanent exhaust system consists of one main raise from surface to the top of the mining zone and two branch raises from there to the bottom of the operating area, one at either end of a central mining section. The return air raises serving the other mining sections are smaller airways that are connected to the two central returns by footwall transfer drifts. The surface exhaust fan on the collar of the main return is

(Continued on Page 8)



Standard Ventilation Doors

These standard ventilation doors, seen in the main cross-cut of Frood-Stobie No. 3 Shaft, form an air lock with the steel fire doors to prevent loss of fresh air to the shaft. On the right is the sliding man-door. The hinged tramming door on the left, 6x7 feet, is operated by compressed air, the valve on the air cylinder being controlled through a system of cables and levers extending 175 feet on either side of the door for the convenience of tramming crews. The position of the door is indicated by two sets of red and green lights on each side of the frame, one set at the frame and one set 75 feet from it.



Sending Fresh Air Underground

One of nine major surface installations at Inco mines, this 84-inch-diameter horizontal fan supplies 180,000 cubic feet per minute of fresh air to the underground workings at Murray. In the winter the air is heated by steam blast coils located in the fan's discharge duct. On the front cover of this issue is another view of this fan, photographed as Adam Petryshen, Murray ventilation engineer, takes an anemometer reading to test of the fan's operating efficiency.

Scenes at Remembrance Day Ceremonies

A large congregation of the public, Legionaires, and representatives of various branches of the services took part in impressive services at the cenotaph in Sudbury on Remembrance Day. Many wreaths were laid by citizens and community leaders.

Presentation of new colors to the R. L. Beattie Branch of the Canadian Legion was made at the annual dinner by Harry Cobbold (right foreground) at the request of Mrs. Beattie. Beside him is John Robertson, president of the branch.

Tom Moore, president of Sudbury Legion, salutes after placing a wreath on the cenotaph on Remembrance Day.

This fine marching picture shows part of the parade at Coniston on Remembrance Day, led by Capt. J. McGauley and flag-bearers Joe Barnes and Joe Laprairie. The Coniston Band, Legionaires, Scouts and Cubs, Guides and Brownies were in the procession to the service at the cenotaph. Among the many citizens and representatives of local organizations placing wreaths was Mrs. LaFrance for the Silver Cross Mothers.

Legion of the Living Salutes Legion of the Dead

At cenotaph services in Sudbury, Levack and Coniston the morning of November 11, the "legion of the living" saluted the "legion of the dead".

Hundreds of heads were bowed in remembrance of the fallen in two world wars.

In Sudbury the 36th annual ceremony was attended by what was believed to be the largest congregation ever to turn out on Remembrance Day. Wing Commander M. Stroud, officer commanding the Falconbridge RCAF unit, took the salute in the march past of the long parade. At the cenotaph the wreath of the Silver Cross Mothers was brought forward by Mrs. C. H. Buck.

At Coniston the salute in the march past was taken by Major Bill Watt.

Deep reverence and respect marked all three services. There could be no doubt that these men who fought and died for freedom are remembered "at the going down of the sun, and in the morning".

Following its custom of many years standing, Copper Cliff Branch of the Canadian Legion held its annual dinner the night of November 11. This year's affair was a particularly auspicious one, since the branch received a new name, a new charter, and new colors.

Honoring the memory of one of its members, the late vice-president and general manager of Inco, R. L. Beattie, the branch will in future bear his name. A new charter was turned over to second vice-president Mel Reid by Leo Troy of North Bay, regional vice-president of the Legion's Ontario command. New colors, the gift of Mrs. Beattie, were presented in a very impressive ceremony in which the color party, led by Specs Telford, was composed of four veteran members of the branch who fought in the First World War, Tom Smith, Harry Hart, Wes McNeice Sr. and Walter Van Exan. The presentation was made by another old-timer, Harry Cobbold, assisted by the president of the branch, John Robertson.

The capacity audience was addressed by Clarence Campbell, president of the National Hockey League, on the war crime trial of Nazi general Kurt Meyer.

In the annual Remembrance Day service at Levack, wreaths were laid at the cenotaph by three Silver Cross Mothers, Mrs. Stan Veinot, Mrs. Sam Bolton (who now resides in Aurora but returns to Levack each year for this service) and Mrs. Karl Piaskoski. On the right, as Bugler Jim MacCoy sounds the Last Post, flags are dipped in salute by the color party, Harold Gillis (nearest camera), Carl Price, and Nelson Allen.

Ventilation

(Continued from Page 5)

handling a volume of 300,000 cubic feet per minute, and the volume through the operating slusher drifts averages 10,000 c.f.m.

The fresh air flows along each slusher drift towards the tail-sheave end of the operating branch and carries the dust and blasting fumes out through the open exhaust connection at that end. Originally a straight exhaust system was used, the fresh air being drawn from surface down through the caved ore and the boxholes to the slusher drifts. Development of a separate intake with a surface fresh air fan is in progress; this fan will supply 50 per cent of the fresh air through the service connections to the slusher drifts; the balance will downcast from surface through the caved area.

An exhaust control is provided in the connection from each slusher drift to the return system.

Main Airways

Separate airways are provided at each mine to handle the main flow of air both from and to surface; the operating shafts are essentially neutral. Originally these shafts were utilized as return airways. The provision of separate returns has greatly simplified ventilation control in the event of an underground fire, and has improved conditions in the shafts and headframes.

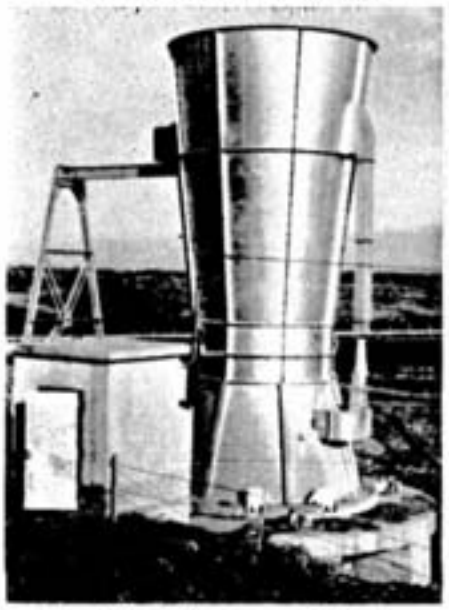
Permanent airways are located in the footwall rock outside the area that might be affected by mining. At each mine, the main intake is located between the operating shaft and the ore body; thus a positive fresh air supply can be maintained to either section in the event of an emergency. The footwall drifts are used to carry the fresh air from the intake to the working areas.

The orebodies involved are extensive and planning is done on a long term basis. Large expenditures are made to establish the permanent ventilation systems.

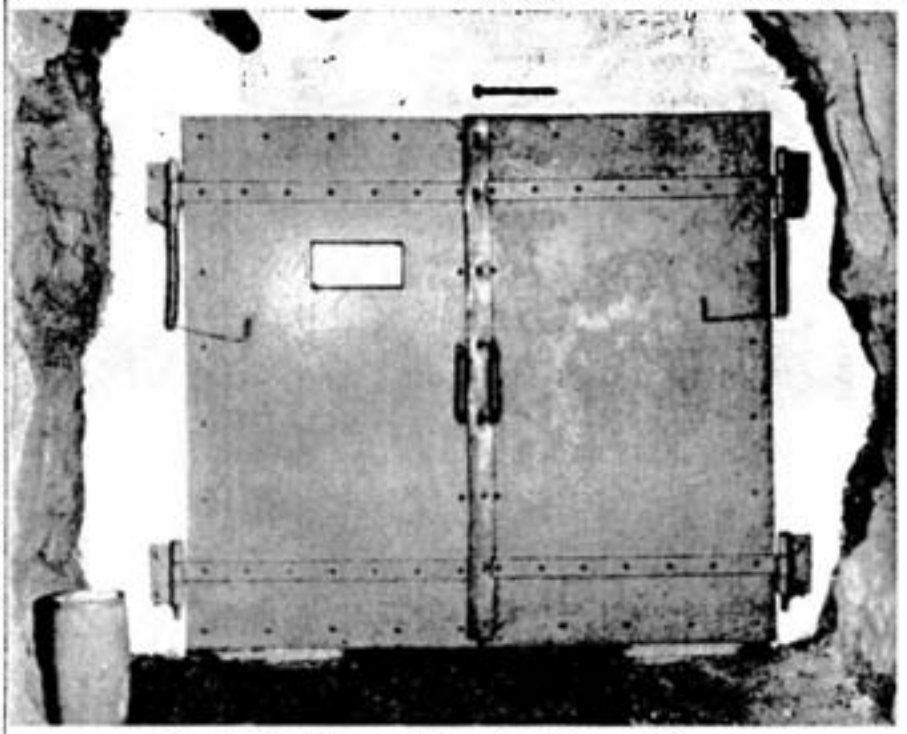
The main air raises are for the most part raw openings, either elliptical or circular. Airways up to 120 sq. ft. in cross section, driven as cribbed raises, are stripped and left raw. Airways from 13 to 20 feet in diameter, that are to be left raw, are developed by driving a 7 x 11 foot pilot raise and widening to the finished size with diamond drill blastholes.

Intake raises that require ground support are also circular and are divided into two compartments, an airway proper and an escapeway. These are concrete-lined and

Creighton Fan

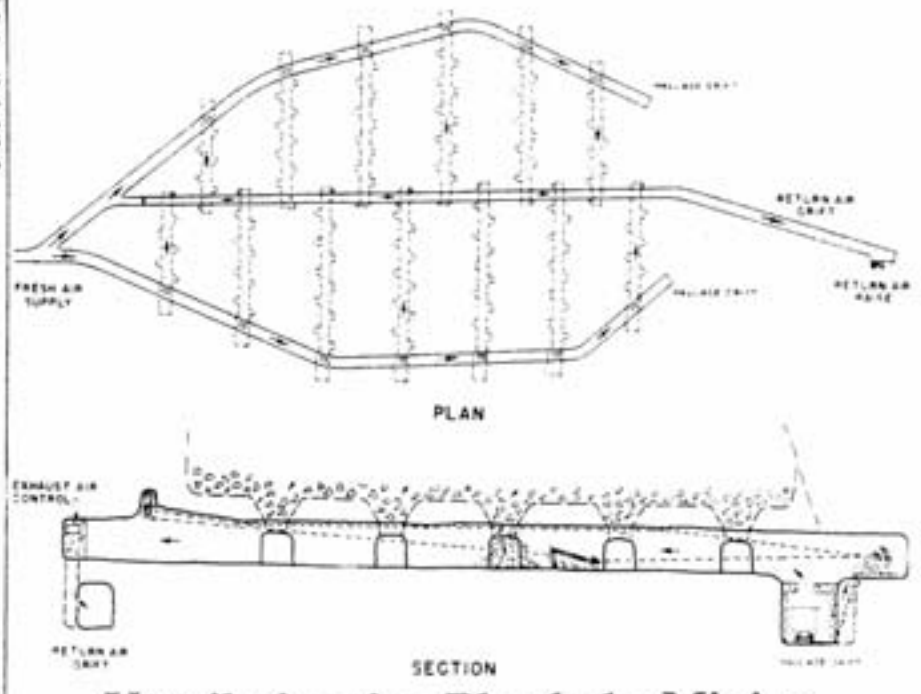


The 124-inch-diameter vertical exhaust fan at Creighton. Driven by a 350-hp motor, it has a capacity of 300,000 cubic feet per minute.



Regulation Steel Fire Door

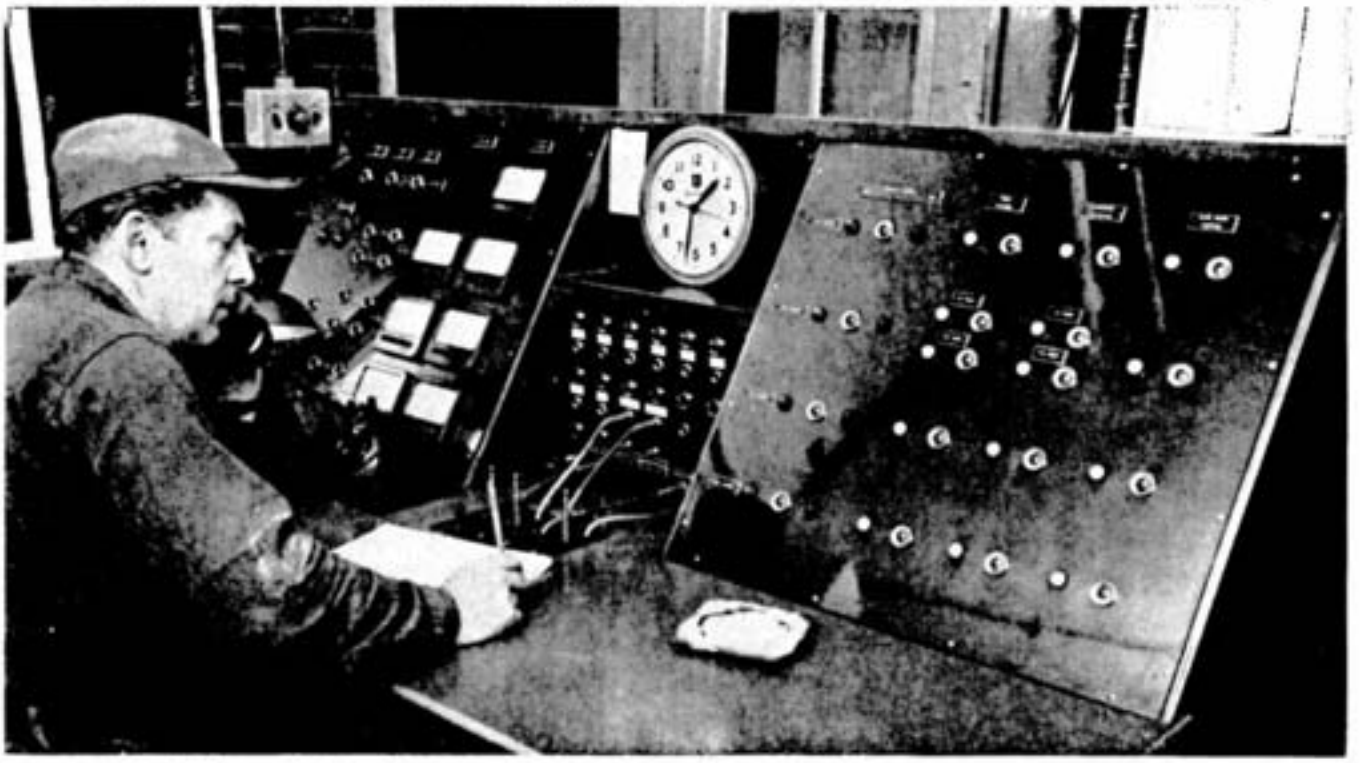
This steel fire door, standard at Inco mines, is located on 600 level at Murray Mine. Its two hinged doors each measure 4x7 feet.



Ventilation for Blasthole Mining

In both plan and section, these drawings show the arrangement for ventilation of slusher drifts in the blasthole mining area, Stobie section, Frood-Stobie Mine. In this case the drifts are located just above the haulage level for direct slushing of ore into cars. A central return air drift runs through this wide section of the mine where slushing is done to haulage drifts on both sides of the orebody. Fresh air from the intake raise is supplied via the haulage drifts to the operating slusher drifts through the drawhole and ladderway openings. Return air is exhausted from the slusher drifts through a direct connection from the tail sheave end of each drift to the main return air raise.

An Operating Shaft Boss at His Switchboard



Seen at his fancy switchboard in the collarhouse of Creighton No. 5 Shaft is Fred Gotro, one of the operating shaft bosses handling the three shifts at the mine. All contact between underground and surface is handled by this office. Among the other functions of the operating shaft boss is supervision of schedules for hoisting and lowering men and supplies and also for hoisting ore.

have steel dividers with corrugated iron brattices between compartments.

Ventilation System Fans

There are 19 fans in operation in the main ventilation systems at the five mines, including 11 main fans and eight booster fans. The total capacity of these fans is 3,000,000 cubic feet per minute and they draw 2900 brake horsepower.

All main fans are located on surface, except the two in the system for the Creighton square-set area; four of the booster fans are exhaust units and two of these are on surface. All fan installations are fireproof, with concrete, steel and tile throughout.

Sixteen of the main ventilating fans are horizontal units. Although this is a natural fan arrangement for underground installations, considerable construction work is required to install a horizontal unit on surface, particularly for an exhaust fan where a stack is required at the fan discharge. Recently, three vertical exhaust fans have been installed, two 124-inch diameter and one 72-inch. In each case the impeller is mounted on the shaft of a vertical motor and below the motor.

All exhaust fans are equipped with stainless steel rotors to eliminate corrosion from the acid condensate. The fan hub streamlining is also stainless steel.

The diameter of the fans in service ranges from 36 to 124 inches, with the majority from 72 to 96 inches.

There is a total of 87 auxiliary ventilation fans in operation, with 55,000 feet of steel ventilation pipe and 2,000 feet of flexible tubing. Of these fans, 31 are driven by electric motors and 56 are operated by compressed air.

A 198-in. diameter vertical fresh air fan is to be installed at surface on the collar of the main intake for the Stobie section of the Frood-Stobie mine. This fan is an adjustable pitch axial flow unit rated to handle from 500,000 c.f.m.

"Air Conditioning"

At Murray and Levack the fresh air is heated with steam blast coils in the discharge duct of the intake fan.

At Creighton mine the intake air for the lower mining area is drawn from surface down through the open pit and the footwall portion of the caved area above the old workings into the main intake airway, 450 feet below surface. There is a large accumulation of ice in the upper footwall section of the caved area. This is a result of a high natural circulation of air through the area in winter; the cold air downcasts through the pit and the footwall workings below the pit and upcasts to surface through the caved rock at the hangingwall. This large mass of caved rock and ice has proved to be a very efficient heat exchanger. It not only overcomes the wide range of air temperature experienced at the other mines with direct intakes, but also provides additional cooling power; the fresh air is delivered to the main intake at a mean yearly temperature of 35°F., or 7° below the average surface temperature.

Other "air conditioning" installations are being given study.

PETE PETRYNA A FURNACEMAN FOR 42 YEARS

His sister, who had come out to Canada with her husband and settled in Sudbury, encouraged Pete Petryna to make the break from the family farm in Austria, way back in 1910.

A few days after he arrived in this country Pete rustled a job with Mond Nickel Company at Victoria Mine, and he worked on the furnaces there and at Coniston almost continuously until his retirement December 1. His total credited service was 42 years and five months, a fine record.

MR. AND MRS. PETE PETRYNA

Pete was married in 1912 to Nellie Woloschuk. One of their sons, Alec, and two of their daughters, Mary (Mrs. Stan Kulchyski) and Anne (Mrs. E. Stanger) live in Toronto. A third daughter, Lena (Mrs. S. Tataryn), resides in Sudbury and another son, Bill, lives near his parents in Coniston.

Happy, carefree Pete isn't worrying about having time on his hands. His big garden, and chores around the house, will keep him as busy as he wants to be—"Don't forget," he says, "I'm supposed to be retired—no more work."

Only in sea-sickness can you get anywhere by giving up.

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

Foot & Hangingwall Society Lets Its Hair Down

Hank Vuori's busy little Leica snapped these pictures of the Geological Department's old-time Fall Fair for the Triangle: (1) Members of the committee, who were congratulated on all sides for the fine job they did, Louis Fajcz, John Dowsett, Roy Koronovich, Gordon Merriam, Jack Ross. (2) Mary and Nick Mandzuk made an elegant pair in all their finery. (3) Bert Souch, a gay blade, took kindly to this sort of treatment: on the left is Mickey Merriam, and on the right Bert's wife Frances. (4) A bunch of flowers from an old bouquet: back, Audrey Michener, John Shaw, Jake MacNeill (a welcome visitor) and, foreground, Ray Lejeune and Audrey Hudson.

To celebrate its 20th birthday, the Inco Geological Department's staid and august Foot & Hangingwall Society let down its hair at a rousing costume party at the Italian Hall in Copper Cliff.

More than 150 attended this jollification, which was built around the theme of a Sudbury Fall Fair, 1890. Costumes ranged from the most authentic period items Mallabar had to offer all the way down to outlandish rag-bag get-ups of confusing but amusing design.

The entertainment committee of Gordon Merriam, Roy Koronovich, John Dowsett, Jack Ross and Louis Fajcz, deserved great credit for the evening's arrangements. They were assisted with the decorations and other details by John Quance, Gene Glisky, Frank Truskoski, Herb Brownell, and Bill Fritz.

A special feature that was greatly enjoyed was the melodious quartet singing of Ed Rumney, Gord Colgrove, Ted Evans, and Jack Holloway. Other attractions were a kissing booth (tsk tsk), a laughing booth, a pumpkin exhibit and a potato exhibit, and a fortune telling booth. All were well patronized.

President of the Foot & Hangingwall Society is Paddy Laine, vice-president is Les Hart, and secretary-treasurer is Frank Truskoski.

A SPELLING TEST

Speaking of spelling, you are good if you can do this one without a bobble: "Beside a cemetery near the seminary sat an embarrassed pedlar and a harassed cobbler, gnawing on a desiccated potato and gazing at the symmetry of a lady's ankle with unparalleled ecstasy."

When a college professor dictated that to 208 students, not a one scored. The average was five errors.

JET FLIGHT

High up, a flash of silver, curving grace,
You fly with out-swept wings, a vibrant thing,
The luminous infinity of Space
Your world, through which you soar, scintillating

As you burst the clouds, exploding soft light
Chiffon wisps, drawing streams of fluid gold
Through the tinted vaprous walls, until, right
Beyond the clouds, an upward course you hold.

Up! Zooming to a shining pristine world,
Now soaring on long, silent, sunlit plains,
And higher yet, a flashing spear, is hurled
Your craft along the angled shafts of sun;
Until, aloft, escaped Earth's winds and rains,
You glide where Time and Space merge into one.

—Allan R. Needham in "Avro News"

Faced Guns of Highwaymen In Two Holdups

Not even by the wildest stretch of the imagination would the students of Cathcart Public School have voted mild-mannered Harry Stephenson the student most likely to have a gun fired at him when he grew up. Yet this bizarre experience was to be his on two different occasions, neither of them fatal.

As paymaster for Mond Nickel Company back in the swashbuckling days of the Nickel Belt when payrolls were met with cash instead of cheques and the limb of the law wasn't quite as long or muscular as it is now, Harry twice faced the guns of bandits in daring daylight holdups. The first time the bullets missed him, the second time he was wounded in the hip.

At Coniston about 9.00 o'clock on the morning of July 24, 1922, in company with Dr. C. V. Corless, general manager, and W. A. MacDonell, office manager, Harry was walking along the sidewalk leading from the town to the smelter. They had picked up $28,500 in cash at the bank, since it was pay day at the plant. As they approached a clump of willows, with Harry in the lead, three masked men stepped out, each holding a revolver. Gruffly commanded to "hand over the money", Harry surrendered a bag containing silver and a parcel of banknotes. Billy MacDonell took advantage of this diversion to toss his parcel of money into

MR. AND MRS. HARRY STEPHENSON

the ditch, at which the bandits got huffy, fired a wild shot or two and made off, covering their escape by threatening more gunfire. They took $3,400 with them.

Harry's next harrowing encounter with gun-toting highwaymen took place three years later. It was a beautiful August day when, shortly after the noon hour, he transferred at Levack station from the train to a gasoline speeder for the short run up the spur track to the mine. He was carrying $20,000 in cash for the semi-monthly pay day. The speeder was driven by Frank Eager, superintendent of Levack Mine; other passengers were W. H. Soule, Mond's electrical superintendent, and a clothing salesman named Miron.

About three quarters of a mile from the station they came on a railroad tie lying across the tracks. As they approached it, two masked men popped up from behind a pile of ties standing beside the right-of-way. Flourishing guns, they yelled a command to halt. Frank Eager, never one to brook interference with constituted authority, promptly stepped on the gas, the speeder pushed the rail block aside, and the party sailed through. When the foiled desperadoes sent a fusilade of shots after the fleeing speeder, Harry was hit in the right thigh. A bone-handled knife in his pocket took much of the force of the bullet, but he was seriously injured. An engine and van came from Cartier to take him to Sudbury, and he had the satisfaction of sidetracking the main line train while his "special" highballed through. He was in hospital for two months. The injury still kicks up a little fuss when a change in the weather is on the way.

Son of a farmer who later went into the contracting business, Harry was born on October 2, 1889. Cathcart, his birthplace, was a thriving little farming village near Brantford with its own wagon works, cheese factory, grist mill, and cider mill and evaporator, but gradually it yielded to centralization and its industries passed from the scene as the big towns took over.

After finishing High School in Brantford, Harry worked for a couple of years in a paper mill at Niagara Falls, N.Y., and then attended business college in Woodstock. When he signed on with Mond Nickel Company's accounting department on May 15, 1912, he went first to Garson Mine and then, in July, to Coniston where the new smelter was under construction. Two years later he became paymaster.

After the merger of Mond with Inco in 1929, Harry was transferred to the real estate department at Copper Cliff, where he remained until 1938, when he moved to the paymaster's department. There his broad knowledge of the Company's operations and his personal acquaintance with so many of its employees, were of great value, and he was often called an unofficial "ambassador of goodwill".

When he retired recently on pension, with credited service of just over 42 years, the esteem in which he is held was reflected by the gifts he received: a group of his associates among the old timers gave him a beautiful travelling bag; the pay office staff said farewell with a wallet containing a $100 bill; some of the girls got together and presented him with a fancy bottle of cough medicine, a $5 bill, and a cigar. He was very proud and pleased with it all.

Harry was married on August 17, 1920, to Elizabeth Martha Walsh, who had come with her family to Copper Cliff as an infant of six months, her father Michael being employed in the smelter there and then later at Coniston. They have six children: Charlie of the carpenter shop and Peter of the electrical shop at Copper Cliff; John, a high school teacher at Port William, who painted the lovely winter scene hanging above them in the accompanying picture; Mary, a nurse at Atikokan, Ont.; Harry Jr., of the machine shop at Copper Cliff, and Catharine, who works in a Sudbury real estate office.

The Triangle is glad to extend to Mr. and Mrs. Stephenson best wishes for many happy years of retirement.

Inco Club Team Wins Round-Robin

First of several inter-club badminton meets planned for the season was the round-robin at which Inco Club was host to Espanola and Chalk River. Some very interesting matches resulted. The enjoyable get-together wound up with a dance at the Hotel Frontenac ballroom. Members of the victorious Inco team are seen above: front row, Joyce Chesser, Jean Simonchini, Nellie Smith, Pat Gallagher, Marion Masih, Nema Nicoll, Colette Potvin, Jean McCrea, Monica Coules; back row, Gerry Myers, Bob Buchan, Red Dunn, Pete Dichok, Clyde Barrett, Dom Demarco, Bub Jewett (partly hidden), Ray Cholette (president), John Hartman, Gino Gonella, John Masih. Not shown, Stella Crawford.

GROWTH RETARDED

A woman stepped off the penny scales and turned to her husband.

"Well," he said, "what's the verdict? A little overweight?"

"Oh, no," replied the woman, "but according to the height table, printed on the front, I should be about six inches taller."

When down in the mouth, remember Jonah; he came out all right.

29 More Join Quarter Century Club at the Nickel Refinery

"I congratulate you on your accomplishments, thank you for your co-operative spirit, and extend to you the best wishes of the management of the Company," said Ralph D. Parker, asst. vice-president and general manager of Canadian operations, in a brief address to the annual dinner of the Quarter Century Club at Port Colborne the evening of November 23.

Twenty-nine new members from the Nickel Refinery who had qualified by completing 25 years of Inco service were welcomed to the club and presented with their buttons by Mr. Parker. Among them was Mrs. Alice Smiley, the second member on the distaff side at Port Colborne, the first being Miss Madeline Mathews. The other new members were: Frank Baksi, George Banjavich, Steve Bosich, Eddy Beauchamp, Tony Colangelo, Steve Culumovic, Ward Davison, Bob Duke, Simon Eros, Louis Fabian, Martin Farbiak, Frank Favero, Stan Ferguson, George Hrcka, Steve Ivanich, Wilf Johns, Alex Jonas, Joe Lisicky, Jack McAuley, R. C. McQuire, George Miscevich, Charles Misiner, Bill Outred, Neil Rae, "Curly" Robins, "Wallace" Staszyk, "Gamey" Thompson, Steve Voroscink.

Of a possible attendance of 190, there were 185 present.

A delicious chicken dinner, smoothly served by the catering staff of the Rathfon Inn, and a variety show by a group of Toronto radio and television stars, rounded out the very enjoyable program. The performance given after only one short lesson by Mrs. Smiley and W. J. Freeman when they were called to the stage to assist the Videoettes, a pair of bell ringers, was nothing short of sensational.

"Through the years it has always given me a great lift to attend these meetings, meet the new members, and visit with the old-timers and the pensioners," R. D. Parker said in commencing his remarks. He acknowledged the "grace and beauty" added to the head table by the presence of the club's two lady members.

"Tonight's new members represent a very important era in the Company's progress," he said, and quoted a number of figures to show the tremendous growth which has taken place over the past 25 years. In 1929 Inco in Canada had 3,102 employees, in 1953 it had 18,132; in 1929 it mined two million tons of ore, in 1953 14 million tons; in 1929 it sold 160 million pounds of copper and nickel, in 1953 it sold 486 million pounds. "In other words," Mr. Parker summed up, "during the past quarter century we have increased our payroll six times, increased our rate of mining six times, and increased our sales of metals three times."

Although the Company produced and sold 10 billion 236 million pounds of copper and nickel during this period, it had by diligent exploration actually increased its ore reserves from 202 million tons in 1929 to 261 million tons in 1953.

The total tonnage produced from all the Company's mines in the quarter century he was discussing, Mr. Parker said, had been 187 million tons, of which 118 million had come from the Frood operations alone. This huge tonnage, in terms of space, would be represented by a tunnel 10 feet wide and 10 feet high, reaching right through Canada from Halifax to Vancouver.

One way of measuring the Company's contribution to the Canadian economy in the same period was by the size of its tax bill. In 1929 its taxes amounted to $1,980,000, but by 1953 it was paying taxes at the rate of 28 million dollars a year.

All these figures, Mr. Parker said, illustrated progress which would have been impossible without improvements in processes and equipment. To maintain its position and meet the ever-growing demand for its metals and to continue to provide steady employment, the Company had to be ever alert to the quality of its products and its ability to produce them. "Out of its earnings must come money for research and improvements which contribute to such a large extent to our prosperity," he said.

Reviewing some of the changes which had taken place at the Nickel Refinery, Mr. Parker said he was happy to pay tribute to the "magnificent job" done by Manager R. C. McQuire and his staff in research and improvement of operations.

A total of 5,050 years of Inco service was represented at the banquet, the general manager had been told. He expressed his pleasure at seeing such a fine tournout of pensioners. They were gratifying evidence of the success of the Company's retirement system, "which in my opinion is unsurpassed in industry today." "I am proud to be associated with a company which had the foresight to set up such a plan so long ago in anticipation of your needs," Mr. Parker declared.

E. C. Lambert spoke on behalf of the pensioners, expressing appreciation of the enjoyable get-together provided by the annual Quarter Century Club dinner. He mentioned how glad the pensioners are to receive the Inco Triangle, which keeps them in touch with the Company's activities, and praised the Inco Retirement System for the comfort and security it provides.

R. C. McQuire, manager of the Nickel Refining Division, said he felt it was an honor to be joining the ranks of the Quarter Century Club. After acknowledging the splendid co-operation and assistance of both supervision and men at the plant, he gave a chronological review of events at the refinery during the past quarter century.

The year 1929, he recalled saw construction started on electrolytic units 5, 6 and 7 and the completion of sinter machine installations and also anode casting equipment. Shortly afterwards electrolytic units 4, 5 and 6 were placed in operation, only to be victims of a curtailed production program in 1931. In this year the complete shutdown of the Orford Process in Port Colborne took place, this operation being transferred to Copper Cliff.

Following a 10-month shutdown the refinery was reopened in May 1933, and some two years later another extensive program of expansion was launched in the construction of electrolytic units 8, 9 and 10. All of these were in operation by 1937, the year the Recreation Club was opened. During the next five years two more electrolytic units were built and put into operation. Within this period the major shift from sulphate electrolyte to the present sulphate-chloride process was instituted, and completed in 1945. In the same period the new electric slag treating furnace was placed in operation. Then followed production of the new products, nickel oxide sinter and cobalt oxide. In 1949 the hydraulic crimping of starting sheets was developed and the necessary facilities were installed.

Building of the new research laboratories and an addition to the general office were projects launched in 1952, and during the next year and a half important new installations were made for filtration of nickel electrolyte and the continuous removal of iron slimes.

The current year to date to round out the quarter century under review, has witnessed construction and putting into production of the new process for producing electrolytic cobalt.

"LIQUID" PRECIOUS METALS

"Liquid" platinum and "liquid" palladium applied as a varnish and reduced to a metal by ceramic firing are used on fine china and glassware for obtaining metallic decorative effects. These precious metals retain their white color and are unaffected by exposure to foods, liquors or sauces.

Learning makes a man fit company for himself.

To raise funds for uniforms and equipment, Garson girls' softball team staged a fashion show at the Inco Employees Club. Above are some of the models who displayed a handsome array of clothes loaned by Sudbury and district merchants: back row, Doreen Crisante, Buddy Kowck, Eddie Lalliberte, Eddie Labine, Shirley Farenzena, Violet Jouppi, Diane Mann, Claudette Delapiante, Diane Scagnetti (commentator); front row, June-Ellen Pettersen, Judy Baxter, Linda and Joanne Baxter, Ena Smerdon.

With Camera At Big Doings

The Triangle camera was clicking at the big Quarter Century Club doings held at the Recreation Club in Port Colborne:

1. W. J. Freeman, chairman, welcomes the 185 members who turned out to what was called "the best party yet". On his left is Ralph D. Parker, general manager, and on his right is R. H. Waddington, assistant to the vice-president.

2. Tom Strong (right) of Copper Cliff but formerly a Nickel Refinery man, was a guest at the dinner and is seen being warmly greeted by three old friends, Bill Duke, Ed White, and Howard Houser.

3. Bouquets of roses were sent to the wives of the new members of the Quarter Century Club by R. C. McQuire, manager of the Nickel Refining Division. Here Mrs. Simon Eros arranges her flowers beside a picture of her husband when he was a young officer in the Hungarian army.

4. Mrs. Bob Duke was delighted with her gift and the thought that went with it.

5. Mrs. Alice Smiley has a radiant smile for the camera as R. D. Parker congratulates her on becoming Port Colborne's second lady member of the Quarter Century Club.

6. Mrs. Neil Rae reads the letter from R. C. McQuire that accompanied the roses he sent to the ladies, and it's plain she likes what it says:

7, 8, 9, and 10. General Manager Parker presents Quarter Century Club membership buttons to Bob Duke, Joe Lisicky, R. C. McQuire, and George Hrcka.

George Grace, president of the Nickel Belt Baseball Association, who in private life is news editor of the Sudbury Star, presents the Monell Cup to Gerry Wallace, playing coach of Copper Cliff Redmen, the league champions. Gerry also got a coveted individual award, the Wiggie Walmsley Trophy for league batting laurels, presented to him by Alton Browne on behalf of the Walmsley sisters, Ethel, Gert, and Jo. In the second picture Tony DeMarco (left) turns over his firm's trophy to the Redmen for finishing on top of the heap in the regular season's schedule; accepting it is Herk Flynn, the team captain.

Baseballers Split the Swag at Annual Banquet

A Cinderella ending to a financially ruinous season was the good luck of the Nickel Belt Baseball Association. Too poor even to hold its annual banquet, the league stepped from rags to riches when the Sudbury Parks Commission volunteered to pick up the tab for a roast chicken spread at the Nickel Range Hotel.

So everyone was smiling and well-fed and happy, and all those rained-out games were practically forgotten.

With President George Grace in the chair, the program of speeches and presentations moved along smoothly and informally, to the great satisfaction of the large assembly. In addition to the prize-giving shown in the accompanying pictures was the presentation by Nick Evanshen of his firm's home-run awards, which unfortunately had to be done by proxy since both Norm Johnson of Sudbury Shamrocks and Tex Conley of Frood Tigers have gone hence for the winter.

Especially enjoyed were Sam Rothschild's witty reminiscences of baseball in the early days, both in Sudbury and up the T. & N. O.

Arrangements were in charge of Dick Waide, the league secretary.

It was natural enough for a catcher to be on the receiving end, but even for that old smoothie Jack Howe it was a big night. Creighton Indians' masked marvel collected two individual prizes. From Charlie Roffey (left) he got the Most Valuable Player Award, a beautiful engraved gold watch, and from Doug Dolman (right) the Yolles Runs-Batted-In Award, the natty suit which Jack (centre) is wearing. Another member of the runner-up Indians, pitcher Bill Kasepchuk (on the left in the second picture) received the Frood Hotel Award for the best strikeout, best base-on-balls record, Sam Rothschild making the presentation.

EVENTIDE

'Tis eventide:
Grey shadows gather
In the golden west,
As gentle breezes whisper,
Lull the birds to rest.
Fairy hands are closing
The petals of each flower.
There's a sweetness and a greatness
In the twilight hour.
'Tis eventide.
And sweet contentment
Comes at close of day.
Though years were long and dreary,
Brighter grows the way;
For a faith, unbroken,
Is our strength, our tower.
Friends are dearer; God is nearer,
In the twilight hour.

—Ethel Mercedes Grant

END TO END

A curling stone may get pushed around, but it travels a lot.

President Jack Lilley of Copper Cliff Curling Club got to figuring the other day. Each stone at his rink, by a conservative estimate, is used for an average of 30 ends per day, and since there are approximately 165 curling days in a season, a stone sees about 4,950 ends by the time spring rolls around. A played rock travels an average of 125 feet per end, Jack estimates, so that during the past five years each rock at the Copper Cliff Club has covered 585 miles.

Be a curling stone and see the world.

THREADBAIR

Husband: "What did the man say was wrong with the tire?"

Wife: "He said the air was beginning to show through."

Children Swamp Levack Library

A juvenile hurricane struck the Employees Club at Levack the night the new children's section of the public library was declared open. The librarian, Mrs. Jack Stephenson, is seen above filling out cards for some of the boys and girls who became members.

When the new juvenile section was opened on November 19, 166 children joined Levack Public Library.

Launching of this children's department has been a pet project of the committee ever since the library opened a year ago in an upstairs room of the Levack Employees Club.

With almost 400 books on the shelves, the juvenile section offers a fine range of reading for youngsters. Their interest, it is expected, will spark more book-borrowing by their parents, who have not yet put the library's facilities to full use.

All told, there are now more than 1,700 books available to the Levack public, and most of them are very recent, having been published within the past year. Largest section is of course fiction, with almost 800 titles, but there are some very interesting volumes among the 500 non-fiction choices, including Biographies, Fine Arts, Useful Arts, and Sports and Outdoors.

Library hours are on Tuesdays and Fridays, juveniles only from 6.30 to 7.30 and adults only from 7.30 to 9.30.

Members of the Levack library board are: E. W. Lawrence (chairman), J. D. Rowlands (secretary-treasurer), Mrs. E. S. Mallette, J. T. Hamilton, T. Rivard, D. C. Ross, P. Yuill, E. W. Gilchrist.

CLIFF'S GEORGE HILDEBRANT IS NEW PENSIONER

One of the old originals who drove them all — the first two-wheeler steam engines with their little boilers, then the big snorting Baldwins, and finally the electrics — has stepped down from his cab after his final run. George Hildebrant, 44 years and three months a member of Inco's Transportation Department, is now on pension.

Born at Arnprior, Ont., on December 1, 1889, George attended school only until he was 12 years old — the death of his father then made it necessary for him to get a job. He worked in the lumber yards at home and then at Blind River and the Soo. In April of 1909, he arrived in Copper Cliff and started in at the smelter, in the blast furnace building. The following year he moved over to transportation, and there he remained throughout his long and valuable Inco career, popular with the boys and respected for his steady, dependable service.

For the first 20 years he alternated between driving and firing the locomotives, and says he shovelled enough coal to keep Old Nick warm to the end of the chapter. Then he became a steady driver. He was stationed at the O'Donnell roast yard from 1916 to 1931, most of the work being switching in the yard although now and then he'd make a trip to Creighton for ore when the old Algoma Eastern Railway was snowed in or short of equipment.

On a Sunday in 1927 he was visiting Bill Dopson on Rink St. in Copper Cliff, and one of the Company's new electric locomotives happened to be standing on the tracks behind the house. Jim Henry was at the controls.

George climbed into the cab and had a good look at the strange new monster. "All I can say, Jim, is I hope they never ask me to drive one of these things."

Jim smiled. "Make no mistake, George," he said, "when you're in one of these you're sitting like a king."

It wasn't long until George was "in one of those" and "sitting like a king" and liking it.

When the locomotives were equipped with two-way radio, George discovered that the new gadgets were assembled in Arnprior, which seemed to him to indicate that he'd come the full circle.

MR. AND MRS. GEORGE HILDEBRANT

During the past six or seven years he was on the Frood job, hauling a train of supplies over to the mine in the morning, switching in the yard there during the day, and returning to the Cliff in the evening. He's going to miss it, he knows, but has plans for some house-building that will take up the slack time.

Catharine Warrington, who came to Copper Cliff in 1909 with her family from Perth, was married to George in 1913. Her father, who was later an Inco pensioner, drove the horse-drawn dray which serviced the shops before there were trucks.

A tragic traffic accident in Sudbury in 1942 cost Mrs. Hildebrant both her legs, but she cheerfully refused to be embittered by this loss and has enjoyed life to the full.

George and Mrs. Hildebrant have had a family of five. The husbands of two of their daughters are members of the Electrical Department at Copper Cliff: Evelyn is married to Andy Kanerva, and Norma to Hubert Mayo. Their third daughter, Geraldine, is the wife of Harvey James of Naughton. Their son Allan (Spike) works in the Copper Cliff machine shop. Another son, Bob, died in 1941.

A MYSTERY SOLVED

A city youngster, roaming around the country with some pals, found a pile of empty condensed milk cans.

"Hey guys," he called excitedly, "come here quick! I've found a cow's nest."

Character is not made in a crisis—it is only exhibited.

SNAPSHOTS
OF LIFE WITH INCO

Among the best-paid people in all Canada are the citizens of the Nickel Belt, according to official statistics. And of the things they spend their money on, good food and family pleasure are right up there at the top. Shown above, Lloyd Gallinger of Gatchell with part of the week's groceries; he works in the converter building at Copper Cliff. Below, Kurt Dorn, a bricklayer at Copper Cliff who lives in Sudbury, waits for Norm Fowler to gas up the family Austin.

At the Hallowe'en Dance held at the Caruso Club by the Lively Athletic Association, this "chain gang" was carefully guarded by pistol-packing Officer Billy Young. The dangerous "lifers" were: front, Dorothy Kovolchuk, Rita Laplante, Cele MacAlpine, Hildred Carroll, Grace Young, Ruth Morman; back, Bob Morman, Jack Carroll, Hector Laplante, Harry Kovolchuk, Bill MacAlpine.

Gordon French (right), president of Levack Mine Athletic Association, presents the keys of a gleaming new Meteor to Paul Jusulenas, a switchman on 1600 level, who held the winning ticket in the draw at the Association's dance for its Christmas Tree Fund. Beaming their approval of the proceedings are Mrs. Jusulenas and daughter Irene, 9.

Guests of honor at a stag arranged recently by the Mechanical Department of the Nickel Refinery at Port Colborne were these four gentlemen of leisure, Bill Shanessy, Hugh Ellsworth, Jack Warren, and Davie Cowper. Their credited Inco service totalled just over 108 years. The life of the pensioner seems to be agreeing with them all.

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