

INCO TRIANGLE

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A Lovely June Bride

(Story on Page 10)



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Big Nickel Joins Famous Stacks As Tourist Treat

A striking new symbol of the Sudbury district has joined the famous Inco stacks on the skyline of "The Nickel Capital of the World".

It's the Big Nickel, a 30-foot replica of the 1951 Canadian five cent piece which was minted as a tribute to Canada's nickel industry on the 200th anniversary of the isolation of nickel as an element by the Swedish scientist Cronstedt.

Towering 40 feet above a rocky hill alongside Highway 17 between Sudbury and Copper Cliff, the Big Nickel has captured the imagination of Sudbury district people and has already become a lively tourist attraction. Fabricated of gleaming nickel stainless steel, it can be seen for several miles by travellers approaching the city from the west. It will be floodlit at night.

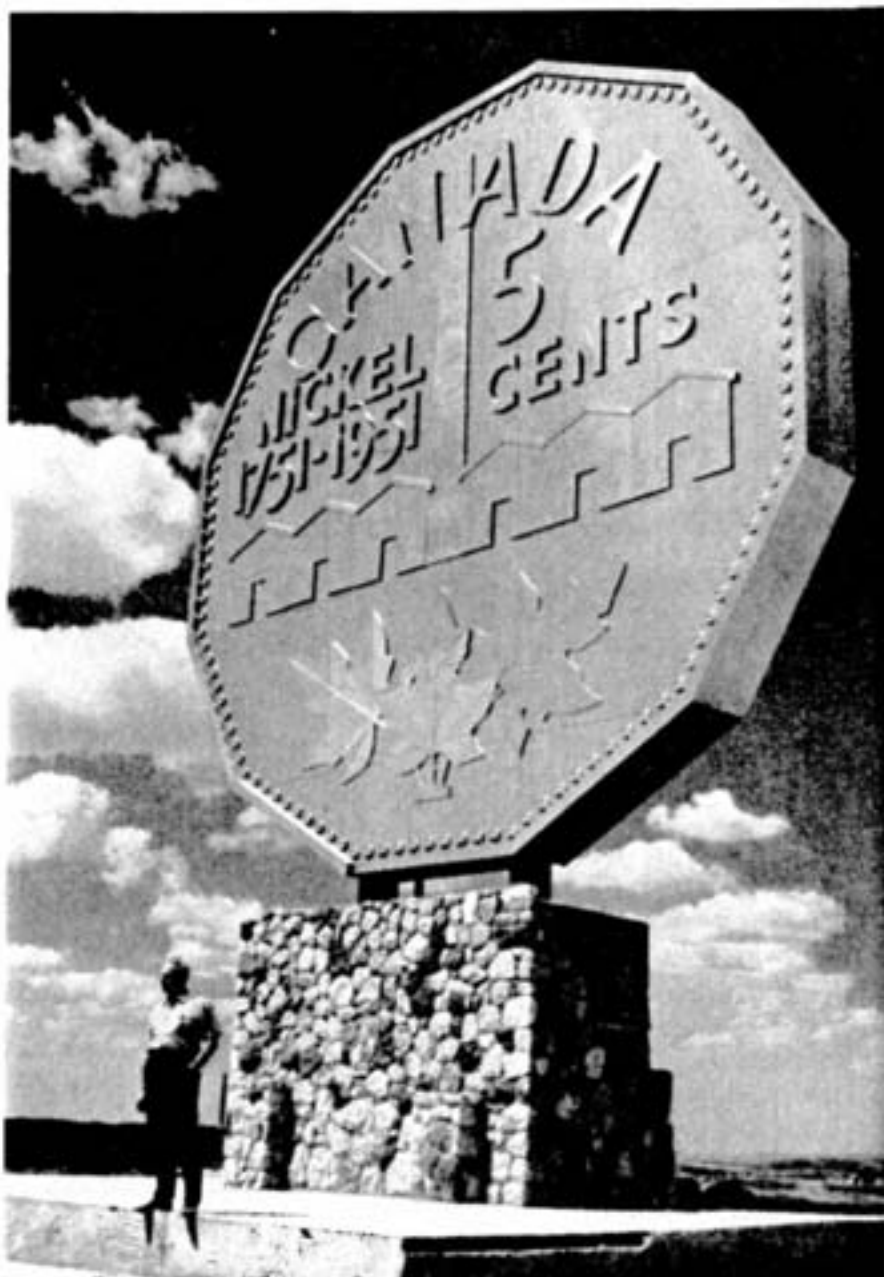
Ted Silva, Bruno Cavallo, Cecil Fielding and John Goodearle are the four Sudbury businessmen who formed the "Nickel Monument Development Company" to launch this ambitious and imaginative project as a salute to Canada's 1967 centennial of Confederation.

Their plans call for the Big Nickel to be the centre attraction of the world's only numismatic park, in which will be erected smaller replicas of coins from many countries. On the 17-acre site they also plan to erect a three-section museum containing a local historical wing, a mining section, and a numismatic or coin section.

The park affords an excellent view of the Copper Cliff plants and that perennial attraction for tourists and visitors, dumping the smelter slag, as well of course as the City of Sudbury, the bright new buildings of Laurentian University, and the lovely nearby lakes.

Already open on the location is a souvenir shop at which can be purchased the "Sudbury nickel dollar", an attractive medallion one and one half inches wide, which has the Inco reduction works at Copper Cliff on one side and the Big Nickel on the other. The "Sudbury nickel dollar" sells for \$1.25; this medallion can also be purchased in copper at \$1.25, silver at \$8.00, or gold at \$175.00. A wide variety of other desirable souvenirs and gifts can also be obtained at the shop, many of them featuring small chunks of Sudbury district ore.

Eight tons of nickel stainless steel and lead backing, and 10 tons of angle iron framework, were used in construction of the Big Nickel.



The Big Nickel and artist-designer Bruno Cavallo

Design and fabrication of the symbols on the huge coin was completely done in Sudbury under the direction of the well-known artist, Mr. Cavallo, in his own shop. The panels and structural steel were also produced in Sudbury.

Two hundred tons of concrete went into the 10-foot base which supports the Big Nickel. In the ornamental stonework a colorful effect has been produced by combining white quartz from Lake Penage, pink quartz from Alban, and chunks of sulphide ore from a Sudbury district mine.

Official dedication of the Big Nickel and the projected numismatic park as a Canadian Centennial monument will take place on July 22. The distinguished guest for the occasion will be none other

than "Mr. Canada" himself, John Fisher of Ottawa, chief of the 1967 centennial preparations, who has stated that he is looking forward with keen anticipation to attending the unique event.

Tom LaPierre

Tom LaPierre's many friends at Creighton, Frood and other district mines will be glad to know that his health is improving daily and he now puts in a pretty good shift on his 160-acre farm near Whitefish on the old Soo road. Tom has a small herd of white-faced Herefords, and the demand for his beef far exceeds the supply, he said.

As if a heart condition wasn't enough trouble Tom developed a kidney complaint which neop-



Mr. and Mrs. LaPierre

talized him for several weeks and made it advisable to take a disability pension. A young man still, born in 1919, Tom had service with the Company dating back to 1939. Tom married Mary Ballantyne in 1943 and the latest addition



Major Crusher Repair Quickly and Expertly Done by Mines Mechanical

One of the biggest and most successful welding jobs ever tackled at Inco mines was a high priority repair on the big main shaft from Clarabelle Open Pit's 54-inch gyratory crusher.

After crushing better than 10,000,000 tons since its introduction to service at the Frood pit back in 1951, the shaft finally cracked through last December from metal fatigue. Diameter of the shaft at the break was 36 inches. The spare shaft was quickly put into service and arrangements made to repair the broken shaft as swiftly as possible.

It required four shifts of cleaning and setting up before the shaft was properly prepared for its major surgery. Frood's power house was converted into a temporary operating theatre. Gangs of four welders per shift worked round the clock from December 16, to January 7, Christmas and New Year's days included, to complete the job.

Mines mechanical department superintendent A. M. Cameron

paid tribute to all men who contributed to the successful completion of the assignment. "It was a genuine cooperative effort," he said, "that reflected highly on the skill and interest of our men at all levels."

In the picture a team of welders is at work attaching the 28 pieces of 2x6x58-inch flat bar which were used as reinforcing around the area of the break. The spaces between the bars were later filled with scrap and welded solid.

Success of the operation is indicated by the fact that since its return to service about seven months ago this repaired shaft has crushed nearly half a million tons.

During the operation 14 bottles of oxygen and five bottles of acetylene were used along with 2,400 pounds of welding electrodes. In addition 350 pounds of copper-clad carbon electrodes were used in the preparatory work.

So into the records goes another outstanding example of the ability of Inco's service departments to keep plants operating no matter how big or tough the job.

to their very happy family is 8-month-old Tommy junior, pride of the household. Others are Wendy Lou, 10, Judy, 15, a student at Copper Cliff high school, and Linda who is employed in the bank at Copper Cliff.

Born in Pembroke, Tom came to Sudbury in 1939, started at Frood, then served in the army from 1942 to 1945. Posted to Crean Hill in 1951, he worked the next four years helping sink the shaft and ready that mine for production. Then followed a succession of moves — first to the Frood Open Pit to drive the haulage tunnels, then to

Creighton to excavate the 8 shaft hoist room. After that came a year on production at Levack, a year at Creighton 3 shaft, Crean Hill Open Pit and back to Creighton 6 shaft in 1961. He was with tramming crews many years.

A man happy with his home and family Tom is looking forward to increasing his farm activities as his health permits.

Marriage is an institution that teaches a man regularity, frugality, temperance, forbearance and many other splendid virtues he wouldn't need if he had stayed single.

Ivan Vrbancic

Ivan Vrbancic's first mining experience was at Levack in 1926, the year after his arrival in Canada from Yugoslavia. Earlier he had found out how tough it was getting a job when you didn't understand or speak any English.

A long-time Creighton resident who recently joined the ranks of Inco pensioners Ivan enjoys recounting tales of his early years in Canada.

His first job was with a section gang near Winnipeg, followed by a winter in the bush near Kenora. Then came Levack, a move to

returned a couple of times. During slack times he tried Rouyn and other gold mining areas but couldn't find work.

At Creighton he was a chute blaster for many years and was also a slope leader. The last 14 years he worked as blaster boss at 3 shaft.

Ivan married Eva Golub in 1922. In 1957 he made a trip back to Yugoslavia to bring her and daughter Donica to Creighton. Donica is now Mrs. Victor Golub and their 5-year old son John is Ivan's boon companion these days.

Ivan has lived in Creighton for almost 30 years. He is presently recovering from an eye operation which has temporarily curtailed his time outdoors in the sunlight. Otherwise he is in fine health and enjoying his retirement.



Mr. and Mrs. Vrbancic

Frood for several years, a lay-off, then Creighton where he left and

SUPERFLUOUS

Expecting weekend guests, a family engaged a temporary maid. The first morning she put the coffee cups on the table, but no saucers.

"You'd better put the saucers out, too," she was told.

"No use," she replied with an air of experience. "Nobody drinks out of 'em any more."

Bird Collection Over 100 Years Old



Most of the birds common to Perth county and south-western Ontario a century ago are included in a most interesting collection which became the proud possession of Mr. and Mrs. Leslie Zinn of Sudbury some 20 years ago.

The collection was made and mounted around 1860 by Fletcher Switzer, paternal grandfather of Mrs. Zinn, who is shown above with her husband, a Copper Cliff smelter man of 25 years' service.

"The Switzers came over from Ireland around the middle of the 19th century," Mrs. Zinn related. "They settled first near Peterborough, then moved to the township of Blanchard, county Perth. My grandfather, who made this collection, was married in 1859. I have their family Bible which contains all the dates of marriages, births and deaths."

The unique collection, made several years before Confederation, requires little maintenance. "A light once-over with a soft cloth and coal oil keeps any fungi or insects away and helps maintain the natural coloring of the feathers," Mr. Zinn explained. "That's what they have been getting for over a hundred years now." And Mrs. Zinn added, "my grandfather was no

taxidermist but he shot and mounted all these birds himself and after all these years I guess we would have to say he did a good job."

One of the most interesting birds in the collection, apart from the huge horned owl that claims centre stage, is an original English robin, a bird that did not take too well and is now extinct in Canada. "The common robin that we now know is a member of the thrush family," Mr. Zinn explained. "The original robin is a smaller bird with a deep red circular patch on its breast, red topnotch and black feathers flecked with gray." He is pointing to this bird in the picture.

Among the other birds in the collection are the bluejay, scarlet tanager, oriole, brown crackle, kingfisher, flicker, thrush, bluebird, morning dove, several hummingbirds and wrens, swallows, barn and screech owl, black-capped linnet, red-headed linnet, snow bunting, cedar waxwing, bobolink, sandpiper, plover, pigeon, duck, mud hen, grouse, partridge, red-breasted grosbeak, red-winged blackbird, plus a flying squirrel and an albino shrew, all taken from a 100-acre farm in the London-Stratford area of Ontario.

Harry Wladyk

A dependable smelter worker for many years, Harry Wladyk has taken an early service pension and is enjoying his leisure very much.



Harry Wladyk

"I go to Bell Park nearly every day," he said, "and I have lots of time to visit my friends now."

Harry was born 64 years ago in the Ukraine, worked at farming until coming to this country in 1929, and for the next 12 years farmed near Brandon, Manitoba.

Starting with Inco at Levack in 1942 he transferred to the smelter at Copper Cliff that same year. After punching tuyeres for nine years he went on as a conveyer-man helper, the job he held until retirement.

Harry made a trip back to the Ukraine in 1937 and plans to go again this year. His wife, two daughters and four grandchildren all live there and he is looking forward to the reunion. His wife was Maryna Olynik before their marriage in 1924.

A happy man who enjoys and appreciates the simple pleasures in life, Harry is very thankful for his good health and regular monthly pension cheque.

Joe Varga

Joe Varga has retired on full service pension from the electrolytic department at Port Colborne with service dating from 1937. He worked for many years in the leaching, calcining and sinter department before transferring to the electrolytic building in 1950.

Coming from Hungary in 1926, Joe worked on a farm and then the railroad in Saskatchewan. A year later he was on his way to Toronto and then to Port Colborne where he started with Inco in 1928 and continued working until 1931 when he was laid off due to curtailment. During the depression he took a trip to the Old Country. It was 1937 when he again entered the

employ of the Inco Refinery. In 1950 when the sinter plant opera-



Mr. and Mrs. Varga

tion was curtailed, he transferred to the electrolytic department where his occupation has been unitman for the past 14 years.

In 1923 Joe married Elizabeth Nagy. They have two sons and a daughter, Julius in Toronto with Marine Insurance; Joseph, a lab technician in Rochester, N.Y.; Elizabeth (Mrs. Brian Ripley), Niagara Falls, Ont. They have one grandchild.

At a gathering in the electrolytic department Joe received a purse and radio from his fellow workers. Mr. C. H. Ott thanked him on behalf of the Company and extended best wishes for the future to him and his wife.

A high school boy took home from the library a book whose cover read "How to Hug," only to discover it was volume seven of the encyclopedia.

33 Classy Riders in Thompson Bike Rodeo



A bike rodeo staged by Thompson Junior Chamber of Commerce drew an enthusiastic entry of 33 young riders who showed real class in negotiating the difficult tests laid out for them. Picture above shows rodeo chairman Allen Janke presenting a new C.C.M. bicycle to the grand prize winner, Wayne Jordan, and silver cups to Bob Steele, winner in the 8-10 age group, and Bill Barr, winner in the 13-14 age group.



Bob Steele never wavers as he rides the 8-inch line.



Wayne Jordan, who also won the silver cup for the 11-12 age group, performs under the watchful eye of RCMP Sgt. Singleton.



Murray McKenzie Here's Bill Barr wheeling smoothly through the figure 8 test.



At Copper Refinery's Semi-Annual Stag

Twice annually the boys at the Copper Refinery honor their recently retired buddies at a bang-up stag party that includes all the trimmings. The most recent effort was one of the biggest and best to date and paid tribute to Jack Crawford, Albert St. Amand, Ken Dowdall, Phillip Badgerow, Harry Wereschak, Henry Limoges, Steve Ramaniuk, O'Kelly Storms, Teddy Moroz, Josephat Roy and Mike Merenic. Enjoying a spot of pre-dinner pleasure on the left above are, standing, Cec Mathews, Bud Rul, Teddy Moroz, Steve Marshall, Norm Ripley; seated, Bill Thornton, Jerry Linquette, Red Lang, Percy Iles; in front, Roddy Vallier, Gary Harper. In the picture on the right are, standing, John Jarsulich, Vince Waters, Grant MacDougall, Jim Caron; seated, Louis Fera, Irv Riley, Don Uguccioni; in front, Fabian Casas, Roly Roy, Jim Bryson.



ROYAL COURTESY

An armored knight rode up to the castle on a huge but many St. Bernard and asked for lodging. The king, somewhat put out, nonetheless replied: "I suppose I'll have to give you a room. I couldn't put a knight out on a dog like this."



INCO FAMILY ALBUM

Mr. and Mrs. Sam Dykstra and their sons Ted, 20, and Arnold, 25, came to Canada from Holland in 1954, and they are a very happy foursome. Sam has been employed in the warehouse at the Nickel Refinery, Port Colborne, since May 1955. Ted attends Port Colborne High School and Arnold is a salesman for Humbertstone Builders' Supply.



Our Thompson family this month are Rudy and Angela Valentino, formerly of Copper Cliff, and their wonderful little brood: Tommy, 5, and Gerry, 6 (in front), Douglas, 7, Robert, 9, Cathy, 4, and Kim, 10. They have recently moved to a smart new home at 60 Sandpiper Crescent. Rudy has been a baleman in the Thompson smelter for almost two years. Recreation? "Fishing and bowling," replied Rudy. "Washing and ironing," replied Angela.



Representing Creighton this month is Mike Stry's family of his wife Alice, Calvin, 7, Kenneth, 4, and Darlene, a red-haired little charmer who celebrated her first birthday on May 7. Having worked at Creighton since 1947 and lived at Lively since 1956, Mike likes both.



Young Bill King, a popular member of the tabulating staff at Copper Cliff, and his attractive wife Ann were among the first couples to build on Woodbine Avenue in New Sudbury. Here they are in their modern home with son David, 8, and Kathryn, who was 4 on May 8.



A member of the Copper Cliff transportation department staff for the past 18 years, Les Mills joined the Company in 1936. With him in this picture are his wife Jean and their three sons, Howard, 16, Allan, 7, and baby Christopher, 10 months.



Here we have Charlie Murphy, his wife Marjorie and their happy family. Joan is 8, Janet 6, George 4, and Barbara 3. Charlie hails from Quebo, Quebec, has worked at Stobie mine for 13 years, and lives in Sudbury's west end.

Henry Anderson

Henry Anderson arrived in Canada along with the depression. "I landed in Toronto," he recalled, "and was very lucky a few weeks later to get a job on construction." He spent that winter in the bush near Foley, then returned to Toronto and a job helping to drive a rock tunnel, experience that was valuable to him later as a miner.

Henry is retired now from Frood on a disability pension. He had been one of that great operation's more reliable miners since 1936.

Before coming to Sudbury in 1935



Mr. and Mrs. Anderson

he spent a couple of years working around summer resorts in the Lake Simcoe area and for a time was a private chauffeur in Toronto. "Used to drive a long, sleek, black Pierce-Arrow," he said with a sigh.

Before starting at Frood he worked a year with Fraser-Brace. At the mine he was a first-rate stope and pillar man. In 1961, for reasons of health, he took a job as powderman, working two years at Frood and his last year on 1400 level at Stobie.

In 1930 Henry married Enni Rantanen. Their son Ingmar works at the Iron Ore Plant and daughter Iris, a graduate nurse, is now in Denmark. Henry made a trip back to his native Sweden in 1955.

His comfortable home and well-groomed grounds on Bruce Street in Sudbury and the family camp on Lake Penage provide plenty of work, pleasure and diversion for this new pensioner.

Jack Crawford

One of the original Ontario Refining Company staff members Jack Crawford recently retired from the Copper Refinery on a disability pension. "I started there in 1930," he said. "There were Ernie Woods, Ron Lipscombe and myself — we started the cost department and I've been in that work ever since."



Mr. and Mrs. Crawford

Jack was born at the Soo 59 years ago but came to Sudbury at an early age. His father was a member of the town police force. Jack's first job was with the CPR but after seven years he succumbed

Veteran Jim Tosto Captained the Champs in Copper Refinery Bowling League



A greatly enjoyed banquet in Legion Memorial Hall wound up the season for the six-team Copper Refinery bowling league, which included a pair of hot teams from the neighboring Iron Ore Plant. Picture shows some of the bowlers and their ladies. Trophies were presented as follows: league champions, Jim Tosto, captain, Tony Masotti, Tony Scinto, Walter Krakowski, Dom Constanza, Paul Tidd, Metro Szeryk. "A" section playoff champions, Ken Thompson, captain, Fred Gundrum, Bill Hannan, Gene Bryan, Larry Gannella, John Buckowski, of Iron Ore Plant. "B" section playoff champions, Ed Geoffrey, captain, Ken Glynn, Wilf Pellenin, Ollie Maxam, Bert Lecuyer, Jack Beaton, Rudy Sabourin, of Iron Ore Plant. Ken Thompson had high average '220', Paul Tidd had high triple (913), and George Blais high single (358).

to a tempting offer from Crawley-McCracken who were determined to have the best bowling team in the area. "I was a pretty hot bowler then," Jack grinned, "and bowling was the top sport."

A couple of years later Jack worked (and bowled) for the Creosote Company and in 1929 his bowling ability led to a job with Fraser-Brace. "We built the Copper Refinery and then, like a lot of other people, I decided it would be a good place to work," Jack explained. During the war he served in the navy from 1942 to 1945.

Over the years Jack has been closely associated with Copper Refinery sports both as player, manager and coach. Baseball, softball, hockey and bowling were among his favorites. He served six years as a member of the Sudbury Parks Board.

Jack married Paula Brunelle in 1946 and they have a son Walter, 16, and a daughter Mary Ann, 14. Residents of Lively for many years

Levack Repeats in Exciting Annual Inter-Club Match

Six teams fought it out for the highly coveted annual inter-club bowling championship on the Inco Club Alleys at Sudbury, and at the end of the exciting action-packed match it was again the Levack team that stepped forward to receive the trophy from Val O'Neill.

Picture shows, front, John Donaldson, Alex Didur, manager Fred Fioratto and Mr. O'Neill; back, Gaylord Cull, John Mihajic, and Len Roberts of the Levack team, and Gordon Quinn of the Frood team who rolled the best five-game total of the match, 1359. Other teams competing were Creighton, Ganson, Frood, Copper Cliff and Copper Refinery.



the Crawfords are planning to move down Midland way where they both have relatives. "I can find more to do there too," said

Jack, "and the weather seems to suit my health better." He hopes to find some light job to keep him occupied.



10-Pin Champions At Port Colborne

At their annual banquet the members of the 10-pin league at the Inco Recreation Club, Port Colborne, honored their 1964 champions, shown above: left, the "A" group playoff champions, Manny Wolfe, John Marshall (captain), Walter Ruzyski, Frank Kacur, and (standing), Earl Kiemle, Jack Rivers; right, the league champions, John Bilodeau, Hank Boyer, Tom Christoff, Jack Rickard, and (standing) Jack Bidgood, Alfred Eden, Al Bianco, Murray Richardson.

Matti Pakkala

Matti Pakkala first worked for Inco more than 48 years ago, in the Creighton rockhouse when he was about 14. Retired now on early service pension he looks back with considerable satisfaction on a long and interesting career with the Company.

Matti recalled that when he was 16 got a job with Jack Garrow's mechanics at Copper Cliff and worked there about 11 years. In 1926 he quit, foolishly he now realizes, but the following year was back with the mechanics and his continuous service dates from that time.

"I got tired of cleaning converter shells," he related, "so I went to Frood in 1928." There he worked as shaft inspector until 1934, then



Mr. and Mrs. Pakkala

moved to Creighton and helped sink the new 5 shaft and then cut the stations. He went back to Copper Cliff in 1943 and worked with the concentrator mechanics until retirement.

It was in 1906 that Matti's parents came to Canada. He was raised at Copper Cliff and Creighton. "My father lived on Evans Road in Copper Cliff for many years and my wife and I have lived there nearly thirty years now," he said.

Selma Niemi and Matti were married in 1923. They have eight

Rose Bushes Flourish in Mrs. Joe Siwicki's Garden

For some reason the rose bushes in Mrs. Joe Siwicki's garden on Paland Street in Copper Cliff just "grewed and grewed" and now there are close to 30 profusely blooming bushes where a dozen years ago there were but three. They send out runners from which new bushes sprout, explained Mrs. Siwicki, who has given



away hundreds of shoots and cut countless others off. "They must like this place," smiled this little lady who tends their large garden with knowing care while her husband Joe, an Inco pensioner since 1960, is recovering in Copper Cliff Hospital from a stroke he suffered this spring. The rose bushes are all of a common hardy variety that requires little pampering, gives beautiful bloom and scents the air with delicate perfume.



Copper Cliff Club's Bowling Champions

Here are some of the trophy winners in the several bowling leagues which wound up another enjoyable season at the Copper Cliff club. Winners of the Rosemary Owens trophy were the foursome of Mrs. Sheila McPoland, Mrs. Rosalie Martel, captain Mrs. Kay Duffy and Mrs. Marilyn Hodgins. On the right are the junior teenage league winners, Duncan Morrison, Glendo Ristimäki, Linda Wynocht and Bob Gervis, captain.

The Lambert trophy for mixed bowling went to the team of Russ and Allie Tunney, Bill and Edna VanAllen. The senior teenage league winners were Margaret Duffy, Rheo Bennett, Barry McQuillan, Wayne Davidson.



daughters, Ailene (Mrs. A. Smith) of Manitoulin, Lillian, wife of Frank Minsky of the converters, Karen (Mrs. W. Don) of Winnipeg, Mildred who married Roy Wiley of the Iron Ore Plant, Beulah (Mrs. B. Mann) of Garson, Pauline, whose husband John Lisum works at Creighton, Vivian and Viola, both of Sudbury, and five sons, John of Sudbury, Robert at Niagara Falls, Theodore who works in

the post office at Copper Cliff, Raymond and Adrian at home. They have 23 grandchildren.

Always an active man Matti is a bit bored with all this new leisure time but he'll soon find something to keep him occupied.

Ernie Saunders

Timekeeper at Copper Cliff no. 3 time office since it was opened in 1947, Ernie Saunders has taken an early service pension. He had been with the timekeepers since 1941, starting at no. 1 time office.

Ernie's Inco service dates back to 1923, the year he arrived in Canada and came directly to Copper Cliff where a brother-in-law helped him get a job. "We were working week on and week off then," he recalled.

He worked in the reverbs until the layoff in 1932, when he took



in the ten-pin section Jack Hodgins' team was tops. He is holding the trophy and behind him are Don Finlayson and Sid McCoom; Tom Finlayson was the other team member. Jack Hodgins also captained the winners of the Bert Flynn trophy, Don and Tom Finlayson and Robert McNeil.

Mrs. Saunders, who was Eva May McCarthy before her marriage to Ernie in 1936, was for many years the switchboard operator at the Copper Cliff office, in fact right up to the year of her wedding. Lately her health has not been the best so the Saunders are planning a move to a more moderate climate and will spend most of their winters in Florida.

The time office, pay office and accounting department staffs held a party in Ernie's honor at which assistant division comptroller Tom Meehan presented him with a wallet of money.

ONCE WAS ENOUGH

Larry: "Do you know, honey, if I had to do it all over again, who I'd marry?"

Wife: "No. Who?"

Larry: "You."

Wife: "Oh, no you wouldn't."



Mr. and Mrs. Saunders

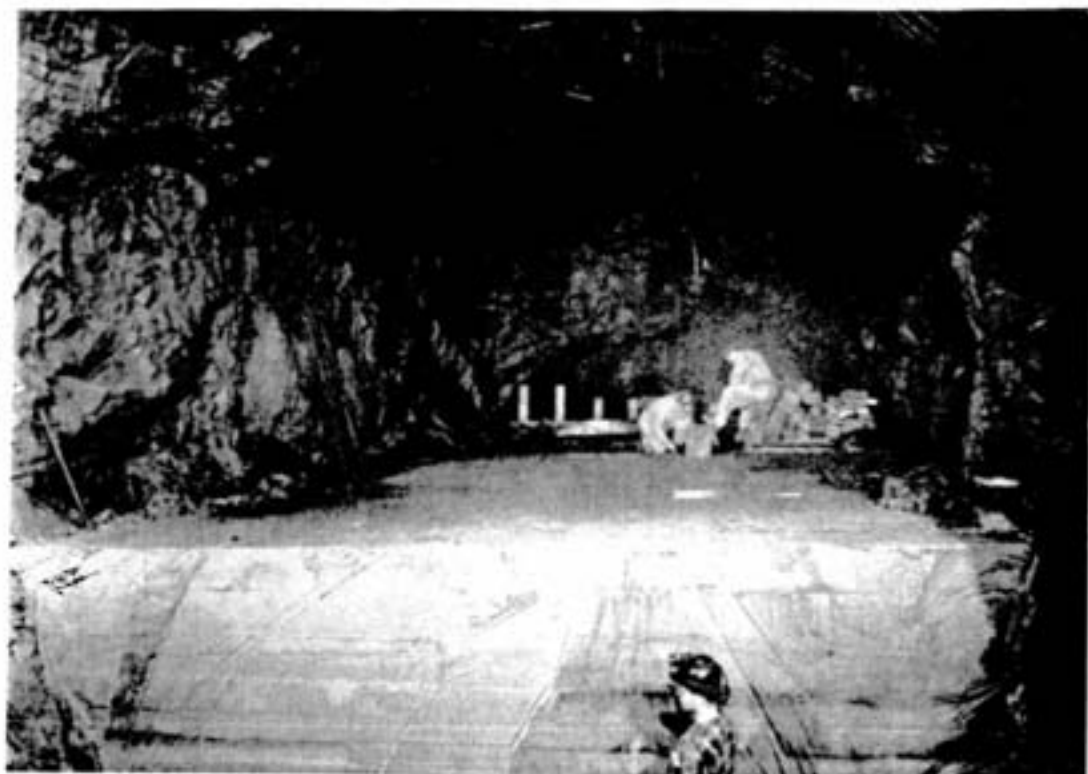
an extended trip back to his native England. He returned to work in the Orford building early in 1933. The following year he went into the scalehouse where he remained until 1941.

Born 64 years ago, Ernie worked in a munitions factory during World War I and later was in the grocery business in Birmingham.



The trend to modification of existing mining methods made possible by the use of cemented sand fill is clearly exemplified in this photograph. Mining of a pillar is proceeding directly alongside a stope which was mined by the cut-and-fill method and filled with cemented sand. The height of the stabilized fill is approximately 20 feet, as indicated by the loading stick held by the miner. The additional strength of the fill allows the pillar to be mined by the more economical cut-and-fill method, as well as eliminating the necessity of a timber fence. The picture was made in 2972 stope on 1000 level at Frood mine during experimental studies in Inco's development of bulk filling with cemented sand. The miner is Roy Beaulieu.

Here is shown another experimental pour at Frood to determine whether Garson pit sand would work as well as wet mill sands in cemented fill. The verdict was that the pit sand, of which 1,000 tons was used in the experiment, is completely satisfactory both in stability of fill and in hardness of the mucking floor. As a result a small fill-mixing station was set up on 2200 level at Garson mine to make further investigations of the behavior of water-borne pit sand prior to finalizing the design of a surface plant for Garson. Seen examining the surface of the fill are Garson mine superintendent Bruce King and engineer Harvey Jarrett.





In this undercut-and-fill pillar on 1600 level at Frood mine the use of cemented sand fill has made it possible to replace laminated stringers and a solid log mat with a much simpler and less expensive screen-type mat supported on stringers. The miner is shift boss Jim Chisholm.



Here, on 3600 level at Frood, mining of a pillar is proceeding directly alongside a square-set stope section which has been filled with cemented sand. Prior to the development of the stabilized bulk fill, conventional timber fences would have been required to retain the sand fill.

Bulk Filling with Cemented Sand Another Valuable Inco Development

Among significant developments noted in Inco's annual report for 1963 was the use of cemented sand for filling and stabilizing mined out areas.

"The wide use of cemented sand fill throughout our underground mines," the report stated, "resulted in substantial economies in timber requirements, decreased dilution of

ore, and greater flexibility of mining methods. Coupled with special mining techniques, it has permitted mining by the cut-and-fill method to much greater depths than heretofore."

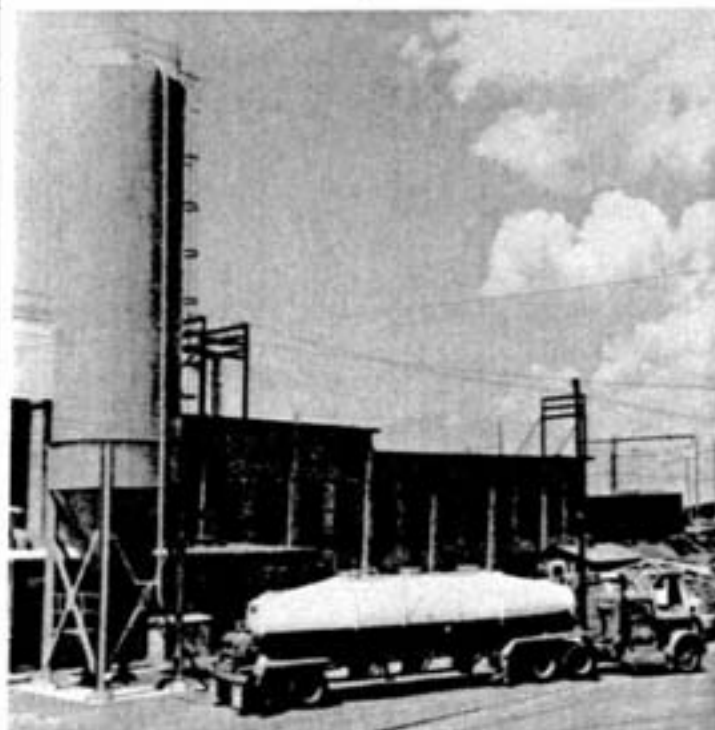
Another "first" for Inco's alert

and progressive mines research organization, bulk filling with cemented sand has produced even better results than were anticipated when it passed out of the experimental stage and its use was ex-

(Continued on Page 16)



Here's the control panel in the Frood sand fill plant from which the operator regulates the ratio of cement to mill sands in the plant's mixing tank. A density gauge and a magnetic flow meter on the mixing tank outlet report automatically to the dials on the panel. The operator shown is Harry Shepherd.



Portland cement is delivered to Frood mine by modern 25-ton carrier and unloaded pneumatically to the 200-ton storage tank by a compressor unit installed on the carrier. In the background is the sand fill plant in which the cement is mixed with mill sands brought by railroad from the Copper Cliff concentrator. The cement-sand slurry is piped underground to the stopes. Cement storage tanks have also been erected at Creighton and Leveck mines, which use mill sands from the adjoining concentrators for underground fill.



1,000 Cubs Thrilled by "Fitness in Space" Day

The loudspeaker, and 1,000 eager young Wolf Cubs got set for the next exciting development at their third annual Cuboree on Inco parkland opposite the Copper Refinery. "Fitness in Space" was the imaginative theme of a full and fast-paced program that made a memorable day for 39 Wolf Cub packs

"Now hear this! Now hear this!"

The broad Scottish accent of camp chief Alex Gray boomed out from the loudspeaker, and 1,000 eager young Wolf Cubs got set for the next exciting development at their third annual Cuboree on Inco parkland opposite the Copper Refinery. "Fitness in Space" was the imaginative theme of a full and fast-paced program that made a memorable day for 39 Wolf Cub packs

gathered from all over the Sudbury district. The boys wore space suits designed and made by themselves, and each pack built its own rocket and designed its own flag for planting on the moon. Balloons carrying full details of the Cuboree were ceremoniously released to the stratosphere, and camp chief Gray is now awaiting replies from Mars, Venus, and other points up. Picture shows the Cuboree during the opening ceremonies.

Hector Sabourin

"The first work I ever did for wages was at Crean Hill Mine," recalled Hector Sabourin. "That was around 1914 or 1915 and I was picking rock." A recent early service pensioner from Clarabelle, Hector was raised in Sudbury where his parents moved in 1909. He was born in 1901 at Embarras, near Ottawa.

A shovel runner at the open pits, Frood, first, then Crean Hill, and finally Clarabelle, Hector was well regarded by men and supervision alike. And he liked his work and those he worked with too. "I sure miss them," he grinned as he busied himself painting his home in Sudbury.

Hector was a steel worker for many years starting back around 1919 on the old British American property at Murray. He spent several years in and around Windsor and Detroit on steel, and recalled that in 1928 he helped with the construction of the headframe and surface buildings at Frood. "When there was no steel work I worked in bush camps and on river drives," he added.



On his last shift at Clarabelle, retiring Hector Sabourin (second from left) was presented by master mechanic Campbell Girdwood with a key case and a wallet of money from his fellow workers. Others in this picture are Tom Heartry, Art Dawdall, Lindsay Hodgins, Ernie Powlesland, and mine superintendent Norman Creet.

In 1929 Hector got a job at Copper Cliff, was laid off in 1930, then came back in 1935 as a rigger at Frood. He moved over to the Open Pit in 1939, went to Crean Hill in 1960 and Clarabelle in 1961.

The Sabourins have two daughters, Rose (Mrs. M. Labelle) of Falconbridge, and Florence, wife of Roger Leger of Creighton, a son Edgar at Capreol, and nine grandchildren. Mrs. Sabourin was Laureate Clementine before their marriage in 1928.

Hector's asthma periodically gives him trouble but otherwise he is in good health and enjoys the summers at his French River camp.

On the Front Cover

First thought was to title our cover picture "Ed Rumney's 15th Student Bride", which would have pointed out the story well enough but might have been just a little misleading to some people not in the know.

So we played safe and called it "A Lovely June Bride", which she most certainly was in the fullest sense of that nice old description.

When Ed Rumney, of the teaching staff at Copper Cliff High School, was soloist at Claudia Rowe's wedding in Copper Cliff United Church on June 27, it marked the 15th time he had sung at the marriage of one of his former pupils.



Spacemen of 1st Lockerby Pack are shown here with their moon rocket, awaiting the arrival of the judges. In the background is assistant cubmaster Lila Wright; cubmaster of 1st Lockerby is Marian Armstrong. Standing on the right is cubmaster Carol Groves of 2nd Broder. The trophy for the best "Fitness in Space" displayed among the 39 packs was won by 15th Sudbury, of which Mary Lou Clemens is cubmaster.

Our photograph shows him congratulating Claudia at her wedding reception in the Ukrainian Hall and wishing her and her proud young husband Joe Sentic (left) a long and happy life together.

Daughter of Mr. and Mrs. Danny Rowe of Copper Cliff, Claudia has been a popular member of the Inco general office staff for some six years, more recently in the tabulating department. She and Joe will live in Eganville, where he will teach school — and perhaps sing at his pupils' weddings.

George Voronich

"I think that's the coldest place in the world," grinned George Voronich in recalling his first winter in Canada spent in a lumber camp on Anticosti Island. The following year, 1927, he joined his brother at Montreal and worked there several years for a gas company and later the street railway company.

Now on disability pension, George worked at Frood from 1934, most of the time on surface. "I worked many years on the fillraiser," he said, "and for about 10 years I was

helper on the truck."

Born 60 years ago in Czechoslovakia, he came to Sudbury in 1933. He worked a year in the bush before starting with Inco. Earlier in the depression years he labored on the Trans-Canada highway near Mattawa.

Ten years ago George married



Mr. and Mrs. Voronich

Mrs. Anne Schollenberg. Her daughter Freda is the wife of a Stobie man, Herb Snipia. They have two grandchildren.

George and his wife have several properties in Sudbury that help keep them busy most of the time although this summer Mrs. Voronich plans on taking time for a trip back to the old land, and on her return George will make his pilgrimage.

Toronto's Airport A Modern Poem in Nickel Stainless

In less than a decade the business of fabricating nickel stainless steel to the exacting demands of the architectural and construction contracting industries has grown by leaps and bounds.

As recently as seven years ago there was a mere handful of shops that had bothered to learn the techniques required, whereas today there are literally dozens of companies engaged in the design and fabrication of nickel stainless steel architectural forms for major building projects across the country.

Evidence of the growing importance of this new trade on the Canadian contracting scene is found in the crop of handsome new buildings that grace the metropoli-



The aeroquay at the new Toronto International Airport dramatically demonstrates the great strides taken during the past few years by the Canadian metalworking industry in fabricating nickel stainless steel. In its magnificent interior the soft reflecting gleam of nickel stainless steel captures the traveller's eyes wherever they come to rest. The nine-level parking cube above the elegant arrivals and departures concourses has capacity for 2,600 cars.

tan areas. The Canadian Imperial Bank of Commerce and the Hydro Quebec buildings in Montreal, 130 Bloor Street West and the Union Carbide Buildings in Toronto, are but a few of the new structures where the enduring qualities of nickel stainless are more evident to the casual observer than ever before... and the end is nowhere in sight. Many projects still on the draughting board or under construction — such as the new Laurentian University at Sudbury and the Toronto City Hall — indicate a still greater future demand for exposed nickel stainless steel in both interior and exterior architectural applications.

The high state already achieved by this new Canadian craft is overwhelmingly evident in the recently opened Toronto International Airport, particularly in that unique monumental structure called Aeroquay. In its interior, the soft reflecting gleam of nickel stainless steel captures the traveller's eyes wherever they come to rest.

The arriving air-traveller enters the building through finger-like lobbies that extend to the concrete apron from around the circumference of the great two-storey ring corridor. He passes nickel stainless steel guardrails, rides on stain-

(Continued on Page 14)



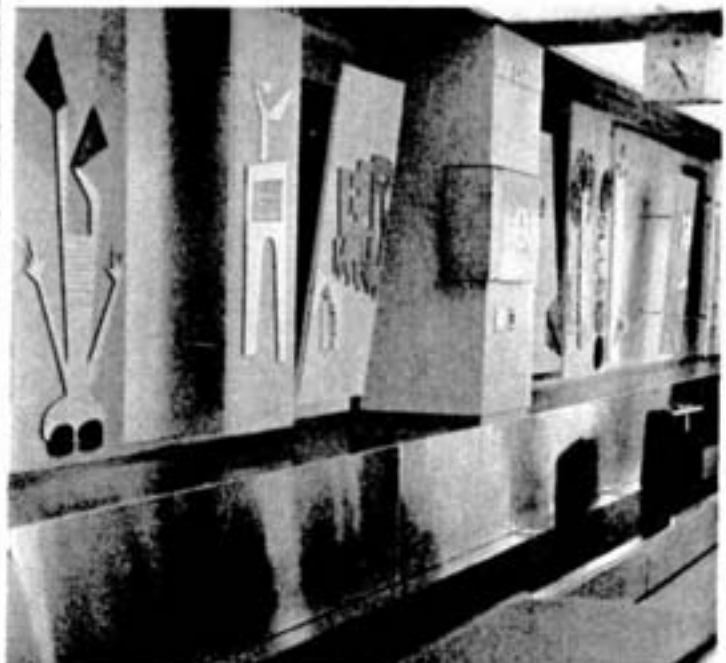
Gleaming nickel stainless steel makes the escalators things of architectural beauty.



The baggage carousels, subjected to hard usage, will remain brightly new on account of their nickel stainless steel construction.



Nickel stainless steel curtain walls and siding on the entrances set off the 600-foot ring concourse of the aeroquay.



An air of crisply modern efficiency as well as design is given to the lowly baggage conveyor by imaginative use of nickel stainless steel.



Top left, assistant to the vice-president Alex Godfrey, who congratulated the new pensioners and expressed the Company's appreciation of the fine record of service maintained by the 1300-man Copper Cliff mechanical department. Lower left, Harry Costello, pension club president, who presented gold watches to the new pensioners. Right, pensioner Charlie Tuttle steps to the mike to thank the boys for their gift; seated is mechanical department superintendent Fred Burchell, and behind him is the one and only Jack O'Hara, master of ceremonies.

300 Attend Pension Club Banquet

One of the biggest and most enjoyed banquets of the year is the Copper Cliff Mechanical Pension Club's annual pow-wow at which gold watches are presented to the members who have retired on Inco pension during the previous 12 months.

Getting together with old friends, and enjoying fine food and entertainment, the 300 who attended

this year's 26th annual party at the Italian Hall had a fine evening of it.

New pensioners who received gold watches were Ed Brown, Charlie Tuttle, Walter Ibbotson, Jack Cullen, Bill Fitzsimmons, Jack Rennie, Pete Pressacco, G. Nardi, A. Roy, Filippo Imperatori, V. Rintimaki, Stan Poulton, Pete Mrozek, Joe Skerl, L. Roux.



Enjoying the big annual mechanical department get-together are Dan Bray, Rusty Duberry, Harold Wilson, Alex Sala, Jack Beaudry, Johnny Baird and Wes Basso.



Syd Stone, Jimmy Davidson, Lena Crema, Dennis Poppin, Frank Dams, Syl Merla, Dan Fraser.



Mario Borsato, George Kurk, Dino Miatello, Malcolm Finlayson, Elwood Trezise, Steve Lesiak.

Andy Brndiar

Andy Brndiar has retired on disability pension. A Frood man all his Inco years, he developed a heart condition a few months back, and wisely following his doctor's advice is slowly regaining his health.

Before coming to Canada in 1926 Andy farmed and spent a couple of years soldiering in his native Czechoslovakia. His first job in this country was at Sioux Lookout in a



Mr. and Mrs. Brndiar

sawmill. Later he spent a couple of years in Fort William, worked for a farm implement manufacturer in Hamilton, was in Montreal nearly three years and in 1934

helped cut the railroad right-of-way into Geraldton.

Andy came to Sudbury in the spring of 1935 and worked for a local market gardener until he got a job at Frood that fall. For 16 years he was a miner and leader underground, and during the past 12 years worked in the timber yard on surface.

Catherine Michaleuk and Andy were married in 1937 and together they keep their Frood Road home on 11 grounds looking very attractive. Taking things easy at present, Andy hopes later to make a trip back to the land of his birth. "Only for a visit though," he emphasized.

FUME SLEUTHS

Advanced fume and fire detection systems use an activating mechanism which consists of a coating of the precious metal platinum on a nickel-chromium wire. The platinum, acting as a catalyst, reacts with smoke and hydrocarbons in the air to trigger an alarm.

METALS IN MOLARS

Most gold alloys used in modern dentistry contain carefully established percentages of platinum or palladium.

Creighton Men Check on How Their Ore Is Treated



A party of 20 members of the Creighton mine supervision came over to the Copper Cliff reduction works to see what happens to the ore they produce. After a full tour they went away thinking that the mill and smelter men have their problems too. In the above group, listening to an explanation by superintendent of mills R. G. Regimbal, are George McGrath, Frank Larson, 5 shaft underground superintendent Grant Bertram, Ron Witherell, Norm Lessard.



In this group of Creighton guests are George McKinnon, Sandy Sanderson, Bob Gorman, Dunc Yates, and (partly hidden) Irvin Essensa, with mill superintendent Jim Lee answering their questions.

Owes His Life to First Aid Training

Throughout his 23 years with Inco, Art Hein, screening plant boss at the Copper Cliff mill, has always been a strong booster for first aid training and time after time has gone back for refresher courses at the St. John Ambulance classes held annually by the Company.

Now he owes his life to it.

When a plate glass window shattered in his hands, at his home near Hammer, it slashed the main artery just below the elbow of his right arm.

Assisted by his wife Simone, who under his directions applied a tourniquet, he was able to keep the bleeding sufficiently under control to make it in a taxi to the doctor's office.

But the doctor said that without his knowledge of the pressure points through his first aid training Arthur would undoubtedly have bled to death.

Edrick Biglow

Edrick Biglow, who has retired from the Port Colborne plant on service pension after 18 years with the Company, was born in Quebec



Edrick Biglow

in the year 1894. "I left school at the age of 13 and started to work in the lumber camps, driving a team of horses. Later I went to Cobalt where I worked for the Kilmar Mines." In 1946 he started with Inco as a carpenter and for the past 18 years has performed a variety of jobs.

In 1917 Edrick married Anne Dode, who died in 1942 leaving Edrick with three sons, Howard, Kenneth and Roy. Eight grandchildren complete his family.

At a gathering in the mechanical department, Edrick received a purse from C. H. Ott on behalf of his fellow workers, and thanks and best wishes for his service to the Company.

Edrick is now going to spend much of his time at his camp on the French River at Hartley Bay, where he says the fishing is very, very good.

John Svajka

John Svajka was raised on a farm in Czechoslovakia and now that he has retired on service pension has a hankering once more to turn his hand to the soil. He is looking for a small place in southern Ontario.



John Svajka

John was an Inco man from 1934, underground at 3 shaft Creighton the first 10 years, and from 1945 to retirement in the timber yard at Garrison.

He came to Canada in 1928 and



Lively Golf Course Having Big Season

The divots are flying these days on Lively's challenging little golf course, located in a beautiful park area adjoining the town. Divotees of the royal and ancient game shown in action above are: 1, Walter Tuttle, secretary-treasurer of the golf club; 2, Bert Squirell putting, watched by Frank Young, the club president; 3, Al Manson getting away a tee shot on the first hole.

The sporty nine-hole layout is kept in excellent condition with the addition this year of a new mowing machine. The club now has 125 members, most of them enjoying the \$15 family fee. Visitors are welcome; green fees are 75 cents on week days and \$1.00 on weekends. Jim Dewey is honorary president of the club, Walter Smhoray is vice-president, and hard-working Charlie McCoy is chairman of the greens-keeping committee.

for six years farmed, dug ditches, was stevedore at Fort William, miner at Noranda and odd-job man around Toronto.

His wife Annie Friedman, whom he married in 1923, died in 1955. She had remained in the old country with their two married daughters and eight grandchildren. John made a trip back in 1961 and may go for another visit this year.

For the past 20 years he has lived in Sudbury with another Inco oldtimer, George Kudel of the Copper Refinery. In good health, John is enjoying his retirement, but will be happier when he has a bit more to keep him busy.



Dressing Up at Murray

Carrying on the good work in the Company's continuing program of beautifying the approaches to its mines and plants, the Inco agricultural department has a full agenda again this summer. One of the main projects is landscaping the large area adjoining the offices and hoisthouse at Murray mine with lawn, trees and shrubbery to match the pleasant development fronting the residential section.



Over Two Million Safe Man Hours

The last lost-time accident charged against the Angus McNeil shift on the roasters at Copper Cliff smelter was away back in June 1948. In the 16 years since, this keenly safety-conscious crew has been quietly piling up thousand after thousand of accident-free man hours until today the total is well over 2,200,000. "This tremendous safety achievement stands second to none,"

enthusiastically declares safety engineer Al Clarke. Naturally it's a great source of pride to the McNeil roster gang. Manager of reduction works R. R. Saddington and smelters superintendent J. N. Lilley recently took occasion to congratulate shift boss McNeil and members of his crew on their outstanding safety record, as shown in the above picture. On the left is R. J. Neal, general foreman of the reverberatory furnace department, and on the right are safety engineers Al Clarke and George Brake.

Toronto Airport

(Continued from Page 11)

less steel escalators, retrieves his luggage from revolving nickel stainless steel baggage carousels. Customs inspectors lean over long low stainless steel luggage inspection tables; waste paper is deposited in flush-mounted waste containers; mail into mail boxes; coats and cameras into rental lockers; foods into cooking utensils, refrigerators, stoves and cupboards; forks and spoons into hungry mouths;—and all are of nickel stainless steel, at work in a myriad of ways.

Architecturally speaking, the most dramatic uses of nickel stainless are seen in the 12 x 40 x 12-ft. curtain walls that extend, like spokes in a wheel, around the ring concourse and divide separate enclosed departure lobbies and their accompanying open observation decks; in the hot air convectors and base boards that gird the ring;

and in the 142 nickel stainless clad columns that march in dignified procession around this 600-foot circle. The curtain walls extend from 10 feet inside the corridor through glass window walls to 30 feet outside, inviting into the interior the great expanse of the aerodrome by reflecting the exterior light, color and motion during daytime and conversely adding to the jewel-like sparkle of the building at night. Three exterior walls of the aerodrome restaurant that seems to float above the ring corridor are also fabricated from nickel stainless steel.

Access from the arrivals and departures concourses to the massive nine-level parking cube (capacity 2,600 cars) rising from the inside of the ring, is achieved by a bank of high speed elevators. Here again, in the elevator lobbies and cabs, nickel stainless steel panels and trim enliven the scene and maintain the sense of airiness and durability reflected throughout the structure. Even the traveller wait-

ing out a stop-over in the departure concourse has only to raise his eyes to the ceiling to enjoy the artistic function of nickel stainless steel in either of the two 400-pound "Galaxies" created by Canadian sculptor Kazuo Nakamura.

And so it goes throughout this most modern of buildings, the new craft of modern metals and new architectural techniques are clearly evident... a tribute to John B. Parkin Associates, consulting architects and engineers to the Department of Transport; The Foundation Company of Canada, general contractors; and to the many fabricating subcontractors who have been engaged on the \$40 million project. Proof enough, as an executive of one major Canadian metal working company contends, "... that our industry has now learned to design and fabricate in nickel stainless steel so that its extremely desirable qualities can be employed competitively with other metals in the architectural field."

Inco Golf August 15

Saturday, August 15, is the date set for the 1964 Inco golf tournament held at the Idylwyld Golf and Country Club, Sudbury.

Arrangements for this year's play will be identical to those in 1963. The "shotgun" method of starting will again be used, thereby allowing 144 18-hole rounds. In the event of a larger entry, some golfers will be drawn for a special nine-hole round. Except for obvious competitors for the Beattie Trophy, selection of the nine-hole entrants will be by lot.

The fee for all competitors is \$5.00 and covers golf, lunch or dinner, and dancing after the presentation of awards. The entire day's activities will be held at the Idylwyld.

H. S. Judges, Copper Cliff, is in charge of the arrangements.

Opportunist: Man who, finding himself in hot water, decides to take a bath.



Creighton Says Farewell to Albert Collins

Lean and fit as many a good man a quarter century younger, Albert Collins stepped into retirement on service pension last month. A Creighton miner since he joined the Company in 1939, he had earned

high regard for his work as stope boss in the mine's school stope.

Assistant mine superintendent Archie Massey thanked him on behalf of the management for his

valuable service (above) and presented him with a gift of luggage and a casting reel from his friends and workmates at the mine.

Born at Ottawa, Albert Collins had worked at bush camps and on paper mill construction before coming to Inco. Through some very nimble footwork he has re-

mained a bachelor. In the next few months he plans to divide his time between his comfortable camp at Little Penage Lake and "travelling around some", after which he may line up part-time responsibility to keep himself out of mischief. Mrs. Bert Gibson of Espanola is his sister.

Levack is Third In Ontario Mine Rescue Contest

Inco's Levack mine team won Sudbury district honors and placed third in the all-Ontario rankings of the annual mine rescue competitions held by the provincial department of mines. George McPhail, the department's inspector of mine rescue training, was in charge of the province-wide event.

Murray, Creighton, Garson and Frood mines also entered teams, with Murray finishing a close second to Levack in the Inco division. All acquitted themselves well in their competition debut, reflecting credit on their coaches.

The Sudbury district competitions were conducted in Stanley Stadium, Copper Cliff, the Inco division teams taking the floor one day and teams from the Falconbridge division the next. The winning team from each division completed the following week for all-Ontario rankings.

The stadium was converted into a close approximation of underground conditions, complete with almost total darkness. Drifts and other openings were constructed with burlap, and actual mine shaft signal bells and other equipment lent real authenticity to the scene.

The problem confronting the teams was an underground fire at a conveyor, reported by the conveyorman who had fled to the safety and fresh air of the refuge station. Being alone he was in an agitated condition when the teams arrived, and gave them a good test in dealing with a man near the panic stage.

Before actually getting under oxygen and proceeding underground each team had a briefing session on surface with mine supervision and here the course of action to be followed was determined. Among other details each team was instructed to take a fire hose with them, proceed directly to the refuge station and make sure the conveyorman was okay, then report conditions by telephone to surface. Next move was to extinguish the fire, erect a cloth batture across number 3 x-cut, make certain the air in number 1 drift was clear, then contact the briefing office



Winners of the Inco division in the Ontario mines department's annual mine rescue competitions, the Levack mine team pose happily with manager of mines John McCreedy, who presented them with Sony transistor radios. Front centre are Mr. McCreedy and team captain Eddie Poirier, with Bob Nadeau, Eddie Luoma, Ken Miron, Mel Guse, Fred Moanet, and briefing officer Ron Glassford. Other Inco teams making their debut in the mine rescue competitions are shown below:



1. Creighton Mine: standing, Bill Duncan, Ian Haffard, John Gauthier; front, Allen Patterson, Regis Cormier, Louis Beres.
2. Murray Mine: standing, Speedy Visentin, Gerry Joliat, Nick Skuro; front, Roger Joliat, Rene Plouffe, Fred Predon.



from the refuge station before returning to surface.

Field judges followed each team through all manoeuvres noting moves made or not made and these marks, along with marks for field testing equipment, getting under oxygen, plus an oral examination,

determined the winner.

Team members wore the approved McCaa 2-hour oxygen breathing apparatus, standard equipment for mine rescue work.

The competition for provincial rankings presented a more complicated problem. Top team turned out to be Cochenor-Willans, with Levack third.



Garson Mine: left to right are Ray Bergeron, Doug Matheson, Ken Stone, Maurice Martin, John Guthrie, Jim Pettigrew.

Frood Mine: standing, Max Jefferson, Carl Lohr, Ed Johnson; front, Bob Anderson, John Leonard, Len Marion.



30 Parliament Members Studied Inco's Sudbury District Operations



International Nickel had the unusual honor of entertaining a group of 30 members of the House of Commons, Ottawa, on a tour of its Sudbury District operations. Led by two cabinet ministers, Hon. Wm. Benedickson, minister of mines and technical surveys, and Hon. Arthur Laing, minister of northern affairs, the parliamentarians made a thorough day-and-a-half study of the production end of the nickel industry and its value to the Canadian economy. The two scenes above were photographed on 1000 level at Frood mine; on the left Hon. Mr. Benedickson watches intently with Inco executive vice-president James C. Parlee as Alphonse Beaulieu gives a slusher demonstration, and on the right the drilling procedure in a cut-and-fill stope is explained to Hon. Mr. Laing by assistant general manager J. A. Pigott and driller Maurice Gauthier.



The visit of the parliamentarians was arranged by the member for Sudbury, D. Rodger Mitchell, shown above at Frood mine with two Nova Scotia members, James Stewart, Antigonish-Greysborough, and R. MacEwan, Pictou. Sudbury & District Chamber of Commerce gave a banquet at the Caswell Hotel in honor of the visitors at which Inco president J. Roy Gordon, deputy mayor Lou's Desmarais, Mr. Mitchell, and the member for Nickel Belt, O. J. Godin, were among the speakers. The address of the evening was given by Hon. Arthur Laing.

In the tankhouse at the Copper Refinery a group of the parliamentarians hear about the electrolytic process from assistant vice-president and general manager T. M. Gaetz and J. G. MacDougall (left) and Wayne Wilson and Bill Brown (right).



After visiting the Levack plant the distinguished group was entertained at luncheon in the Employees Club, where this picture was taken: Hon. Mr. Benedickson, Mrs. Noella Wynn, who was in charge of the catering, Mr. Gaetz, Hon. Mr. Laing, and Levack mine superintendent Vern Ritzel.

where stopes are breaking through to the levels above, and in undercut-and-fill pillars where overhead pressure is encountered.

Delivered to the mine in modern truck carriers, dry cement is unloaded into a storage tank from which it is screw-conveyed to a feed tank located in the sand plant. A variable speed motor-driven rotary feeder delivers a measured quantity of cement to a Denver tank, in which the cement is mixed with sand fill pulp. The mixing of cement-sand pulp is a continuous through-put operation.

A mass flow meter consisting of a gamma density gauge and a magnetic flow meter, installed on the outlet pipe from the mixing tank, measures the quantity of dry solids in the cement-sand slurry going to the mine fill lines. The speed of the cement feeder is adjusted as required to maintain the desired ratio of cement to sand. The metering system provides a continuous read-out of pulp density, which is used to control the amount of water in the pulp to that required for a density in the range of 65-70 percent solids.

Behind the successful stabilization of sand fill by the addition of small quantities of Portland cement lies a background of research dating back to 1960 and involving an extensive laboratory and underground test program.

Test work included such projects as attempts to cement sand fill by speeding up the oxidation of sulphides present in the mill sands. The addition of various oxidizing agents such as chlorates, nitrates and permanganates was tried, and in other tests low pressure air was forced through the fill. The use of oxidizing agents showed no promise of success, and in the experiment with low pressure air oxidation occurred only very slowly. Other tests involved the use of calcium chloride and sodium silicate, materials often used to consolidate quick sand.

The addition of Portland cement was the only procedure that showed promise, and large scale underground production tests using mixtures of cement and sand were then undertaken at Frood mine. These tests showed that the use of cement-sand mixtures permitted the elimination of timber pillar fences, and that an enriched topping on the surface of each cut of fill poured eliminated the necessity of installing a timber mucking floor.

HE'S STUCK WITH IT

The stewardess distributed chewing gum to the passengers while an airliner was flying over the Rocky Mountains, explaining, "It's to keep your ears from popping at the high altitude."

When the plane landed, one of the passengers rushed to the stewardess and said, "I'm meeting my wife right away. How do I get the gum out of my ears?"

THAT'S WHY

"Why don't you play golf with Harry any more?" Pete's wife asked him.

"Would you play with a fellow who puts down the wrong score and moves his ball when he thinks you aren't watching?" Pete asked.

"No," he replied.

"Neither will Harry," said Pete.

Bulk Filling

(Continued from Page 9)

tended last year to all mines which have water-borne sand filling systems. In addition to the cost advantages in reduced timber consumption through the elimination of fences and floors in cut-and-fill mining, and modified mat construction in undercut-and-fill mining, improved ground stabilization has been realized. The application of cemented sand fill has proven particularly successful in consolidating and stabilizing areas