



The Company's Huge Expansion
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High School Geography Teachers on Tour at Creighton

On deck and ready to travel down the ramp at Creighton No. 3 mine, some of a group of 23 geography teachers from Sudbury district high schools are shown during a pre-tour briefing. The visit to Inco operations was one of a series organized by the Sudbury branch of the Canadian Institute of Mining and Metallurgy to encourage better understanding of the mineral industry and modern mining methods.

From the left are, Paul Thanase and Henri Brunet from MacDonald-Cartier; Sol Ezra, lively; Gilles Menard, Chelmsford; Laurence Jones, Capreol; Malcolm Morris, supervisor, industrial waste control, Inco; Colin Young, Confederation; Jean-Guy Pelland, Hammer; Hornidas Pitre, French River; and Doug Reynolds, assistant superintendent at Creighton No. 3 mine.



Bringing About The New Inco

Following is the text of a speech given by James C. Parlee, senior executive vice-president, to a recent Inco management seminar in Toronto.

"I have one message to convey to you today and that is that we must bring about a new Inco, and do so rather rapidly. Not that the old Inco was bad; indeed, it was good. In its time it served customers, shareholders and employees and this country remarkably well. But resting on past laurels never wins the future. The times have and are changing very rapidly. To survive and prosper we must change.

"You see signs of this happening organizationally: the rapid build-up of and strengthening of our central engineering department; the re-organization and build-up of our labor relations and personnel departments; new organizations in Paris and Australia; the creation of a public relations department and the emphasis we are asking of all in our PR and public affairs efforts; the increased emphasis we are placing on ecology and pollution control.

"All these organizational efforts are essential. My only admonition to those involved is to not only move rapidly, but also effectively. The problem these organizational efforts are designed to correct are real and pressing.

"My admonition to all of us in management is to realize what is

taking place and to help it along. It is not a passing fancy. We are not going to return to the old. We are in the process of creating a new Inco. To do this rapidly and successfully all of us must be part of it and help it to emerge.

"I know that most of mankind abhors change — we all tend to be comfortable with what we are used to even if it is not perfect and are worried that we may not fit into what change will bring. The biggest obstacle we have in adapting our Company is this natural tendency, and believe me, I know, for the older one gets, the stronger the fear of change. I know, too, because the more one is associated with the past, the more one is wary of a change from it.

The Elements Needed

"What then are the elements we need in the new Inco? Some of the organizational ones I have mentioned. Now let me say a word or two about those which are attitudinal and therefore even more important.

"Are we wary of the 'when I was a little boy we had to walk to school' attitude? Are we really looking hard and realistically, in the light of today's attitudes, at the working and living conditions we offer?

"Are our hiring practices, our induction procedures, our employment offices, our lunch rooms ones that will attract today's young people?

"Do we unwittingly assume that the mere offer of a job at Inco is enough?

"What about living conditions? Are they good enough to insure we will get and keep the quality of person we want and must have?

"What about our management style? Do we really want independent thinking competent managers who will contribute to, and participate in, policy-making or do we unwittingly want blind compliance? Do we mistake posi-

tive questioning for a lack of loyalty?

"Are we working to create clearly defined job responsibilities? Are we really willing to delegate the authority needed to execute these responsibilities and are we willing to then hold those involved accountable for results?

"Do we look upon management as a job of planning, organizing, informing, and motivating people or do we unwittingly think a manager's major job is solely decision making?

"Are we really working to spread the decision-making and management to all levels? Or do we unconsciously either hold on to too much ourselves or play it cautiously by always seeking confirmation from our boss? Our habit has been to push too much decision making to the top — are we really changing this?

A Profound Influence

"What about our public posture? Do we act unwittingly as if we are an entity with divine rights? Are we really aware and do we understand what politicians, key groups, employees, and the public at large think of us will have a profound influence on what we can do — how we can operate — indeed whether we can operate profitably?

"Do we have an innate feeling of uneasiness when we find that people do not understand or agree with a Company action or policy? Do we understand that if too many disagree, too many do not understand, they will force us to change? And let me be specific here, the job of explaining — of being in dialogue with our friends and critics — cannot be left only to PR people or a few top people, it is the job of all. You all have friends and neighbors who respect you and will be influenced by what you say. You must communicate with them. We all must be part of the effort to explain what the Company is doing and why. We cannot afford

to say I will take care of my job and leave the explanation of the Company's position on taxes, pollution, or what have you to someone else.

"I recognize that some may be fearful that in becoming more vocal they may make a mistake and be criticized. Let me make it abundantly clear that I am willing to take the risk of mistakes rather than the risk of muteness. I am convinced that the dangers of explaining too much are far less than the dangers of explaining too little.

"There is one other attitude that I wish to discuss. It is peculiar to us as Canadians. I detect at times almost a resentment among us that the Company is moving towards production operations overseas. The attitude seems to say that by so doing we are downgrading Canada and our operations here.

Protects Canadian Reserves

"My feelings are just the opposite. We all know that foreign nickel ore bodies are going to be developed — if not by Inco by someone else — therefore it is in our interest that Inco be part of this development. Such operation will provide opportunities for a number of our people and frankly will allow us to more systematically and carefully exploit our Canadian deposits.

"For these reasons we should welcome such operations even as we realize that they will provide very real competition for our present operations.

"I have said enough — enough I hope, to convey to you my belief that we must develop a new Inco. I recognize that the change will not be easy for all — some look forward to it more than others, some will fit into it better than others. My faith is that the change can be brought about without losing the good of the old and without hurting those who have made the Company what it is today."

INCO FAMILY ALBUM



THE FAMILY ALBUM's appointment with the Emile Parents of Sudbury coincided with the silver wedding anniversary of Emile and his wife, Rita. Starting with Inco at Garson in 1941, Emile transferred last January to Copper Cliff North mine where he is a motorman on 600. Standing with their father are Denis, 16, and Ron, who works on surface at Frood; seated are Lorraine, the teaching wife of Coniston baileman Ray Roy, Mrs. Parent, Denise (a twin sister of Denis), and Paul-ette, 17.



SURE AND WHO could guess that Kevin Keenan was born in Ireland? Kevin came to Canada in 1953, after a two-year stopover in New Zealand. After working at Copper Cliff and Coniston smelters, and then Garson, he is now a driller on 1600 level at Stobie mine. His wife Maureen was formerly a steno at Copper Cliff; she is the daughter of Inco pensioner Joe Brannigan. Perched at the back of the picture are Elish, 8, Maggie, 9, and Michael, 7; seated with their parents are Kevin, 12, and 11-year-old Kathy. They have a summer camp at Deer Lake, near Warren.



PICTURESQUE STEVENSVILLE was the site chosen by Harry Mymryk to build his own home with the capable assistance of his father. Harry was the first captain of the Stevensville Volunteers, and has been an active member of that fire company for the past 14 years. He also enjoys gardening and a round of golf. Pictured with him and his wife Donna are Bev, 16, Mike, 7, Pat, 17, and Jo-Ann, 12. Harry is a planfitter helper at the Port Colborne Refinery, with service dating back to February, 1951.

SAINT JOHN, New Brunswick, was the home of Len Duffy who started with the Company in 1960 at Creighton mine. His wife, Elsie, also a New Brunswicker, grew up at St. Andrew's on the Bay of Fundy. Len is the life of the party when he entertains on four different musical instruments. In the picture with their parents are Michael, 13, Susan, 10, and David, 16. The Duffy home is in Waters Township. Len is now a 2nd class maintenance mechanic at the Iron ore plant, having transferred from Creighton in August. Mrs. Duffy is a supply teacher for the Sudbury Board of Education.



AS A PARTY leader in Creighton No. 3 mine engineering office, Richard Trembley keeps the drifts and other headings "on line" to the ore body, while as an adviser to the Creighton Venturers, he helps the youth of the area stay "on line" to good citizenship. Son of Vic Trembley, Creighton senior stores foreman, Richard started with the Company in 1964. His wife Hazel, is a Sudbury girl, daughter of the late Frood timekeeper Joe Ringer. Other activities of this family include 10-pin bowling and Fairbank Lake outings. Michael, a real comer on the blades in the Copper Cliff Skating Club, is 3, and sister Michelle is 2.



JOE SAUVE was born at Espanola but moved as a child to Copper Cliff where his late father was foreman in the blacksmith shop. Joe started with the Company in 1950, and is now a buyer in the purchasing department at Copper Cliff. In the picture he is outnumbered 4 to 1 by the ladyfolk, but under the circumstances is that any hardship? Left to right are Terry, 15, Sharon, 9, Joe and his wife Auda, and Paula, 13. Joe enjoys golfing and fishing in the French River area but curling is his big game. He's president of the Copper Cliff Curling Club, and his ambition is to lead a rink to the Northern Ontario championship as he did back in 1963.



Honored on their departure from Abeokuta, Archie and Eileen Massey were presented with a crocodile purse and briefcase, and a tall, beautifully carved ivory statuette. Shown making the presentations is Mrs. Akin Taylor, wife of the president of the Nigerian engineering firm for which Archie undertook a development project in Canada's foreign aid program.

Pensioner Archie Massey:

"Nigerian Project Difficult But a Lot of Satisfaction"

Guy Lombardo notwithstanding, just about the sweetest music Archie Massey ever heard was the roar and rattle of a little crushing plant, deep in the heart of Nigeria one day last July.

The occasion was the official opening of the Akin Taylor Engineering Company's new £50,000 stone quarry, staffed and manned by Nigerians. The man who had transformed it from jungle to jingle, as his personal contribution to Canada's foreign aid program, was a 61-year-old Inco pensioner with 40 years of Sudbury district mining behind him.

Soon after he retired last year as area superintendent of the new Copper Cliff North and South mines, Archie Massey took up the challenge of Canadian Executive Service Overseas, a non-profit organization recruiting volunteers with senior supervisory or technical know-how to assist developing countries in achieving economic growth and stability.

The job CESCO handed him was to go to Nigeria to establish a granite quarry at Abeokuta, and teach the natives how to operate it to supply crushed stone for construction of a new airport near Lagos, 65 miles away. He signed on for six months. He was to receive transportation and living expenses, but no salary.

"I got a lot of satisfaction out of it. Of course we ran into difficulties and complications I'd never even dreamt of, but the Nigerians were so friendly, and appreciative of what Canada is doing for them in this and other ways, that I felt it was all very worthwhile," Archie said in retrospect.

"Nigeria has 65 million people in a country smaller than Ontario. Certainly they need all the help they can get, if they're going to reach anywhere near our standard of living within the next half century or so."

Archie and his wife Eileen left

Sudbury the morning of January 15 and flew via London and Frankfurt to the Nigerian capital of Lagos, arriving at 7:00 the next night. The war in Biafra, 300 miles distant, had ended two days before but the city was still blacked out, and roadblocks were operating.

The sudden change in temperature from 19 below zero at home to 100 above in Lagos promptly put Archie in the hospital for several days with bronchial pneumonia.

Abeokuta, they found, was a city sprawled along 12 miles of the highway, mostly the primitive dirt floor huts of the natives. Their home for the next six months was a six-roomed house in a fenced compound, comfortable enough and equipped with one of the city's very few refrigerators. They made themselves accustomed to the at first slightly unnerving presence of small salamanders, invaluable for insect control, and coped cheerfully with other exigencies.

"Good fresh meat was a luxury and so were greens," Eileen Massey said, "but there was plenty of wonderful fresh fruit, yams, and other vegetables. And I was given all the domestic help I needed."

Although other Canadian volunteers residing in Lagos naturally enjoyed more amenities and social life, the friendly, outgoing Masseys soon conquered any feeling of isolation in Abeokuta. The Nigerian community leaders and their wives were warmly hospitable and keenly intelligent, many with European educations. The native laborers were for the most part happy and work-willing, but endowed with a vast indifference to the passage of time, which the energetic Archie found baffling to say the least.

Carved from Jungle

Initially supplied with a mean-tempered bulldozer and 100 laborers, the quarry project launched by clearing a 1,000-ft. strip of jungle and five feet of overburden to get down to the soft granite. The dirt was used to build a loading ramp, 168 feet long and 14

feet high at the dumping end; for the retaining walls the natives carried rocks in pans on their heads, and brought water for the cement the same way in 5-gallon pails from a river about a mile off. That ramp took two months to erect.

Other development wasn't quite so agonizingly slow. Rock drilling got underway with 18 pluggers and four compressors which the natives were taught to operate. A few had experience in blasting, although it took some doing for Archie to establish the safety procedures ingrained by his Inco mining experience. Nevertheless not a serious injury marred the entire project, in itself a major accomplishment since to start with the workers were all barefooted.

A front-end loader and two trucks were eventually supplied, and a 10,000-ton stockpile gradually grew for the crushers.

Ah, the crushing plant. That was a story in itself. Second-hand equipment, with many parts found to be missing, it took three months to bring it into operation. Archie had to shuttle back and forth the 65 miles to Lagos, designing the missing parts and getting them made at a foundry of sorts. And the whole outfit had to be converted to diesel power, with consequent alterations in pulleys, belts, etc. "I was never so frustrated in all my life," he said, "but we finally got it set up to produce 500 cubic yards in a 12-hour day, with an hour for lunch and an hour for maintenance."

Archie worked six days a week, sometimes seven, in an average temperature of 100 degrees. The humidity was 90% in the "dry season."

Mission Accomplished

At last came the day of the official commissioning of the crushers. King Aleke of Abeokuta and 19 tribal chiefs from the Yoruba area were present with their wives, seated in a specially built pavilion. The speeches paid glowing tribute to Archie and his wife. The crushers roared, and proud smiles wreathed the gleaming faces of their newly trained operators. Canada's image shone brightly.

Since returning to their Sudbury home on August 5, after a three-week vacation in Europe, Archie received the following message from the president of CESCO, C. A. Peachey: "I should like to express the gratitude of all who are associated with Canada's foreign aid program, for the significant contribution you have made to progress in Nigeria. You met the many challenges squarely, and through both professional skill and personal attitude enhanced the image of Canada. For all this we thank you and assure you that the benefits of your work will be felt for a long time, both at home and abroad."

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In his ceremonial robes the Oshile of Oka Ana, Oba Adedamola, one of the 19 tribal chiefs attending the official opening of the quarry, strides across for a closer look at the primary and secondary crushers.



Preventing the Pile-Up

Company and Union Launch Problem-Resolving Meetings

The first of a series of semi-annual "full-committee" meetings designed to resolve company-union differences on a continuing basis as they arise, was concluded in Toronto October 23 by The International Nickel Company of Canada, Limited, and officials representing both the International and Locals 6500 (Sudbury) and 6200 (Port Colborne) of the United Steelworkers of America. The Union represents approximately 19,000 Inco workers in Ontario.

A joint statement issued following the meeting said:

"Both parties found the meeting to be informative and constructive. More than 30 major subjects were examined during the two-day session held at the Sutton Place Hotel.

Drug Plan Extended

"While most of the subjects remain confidential it can be announced that The International Nickel Company has agreed to extend the Company-paid drug plan to pensioners who retired before the effective date of the existing plan, and who are residents of Ontario or Manitoba effective December 1, 1970. In addition, Inco agreed to advance the date at which it will pay the full cost of group non-occupational sickness and accident insurance from August 23, 1971, to October 1, 1970, for the Port Colborne Refinery employees, in the interest of equitable treatment of Port Colborne and Sudbury employees of the Ontario division.

"Discussions were also held on methods of improving labor contract administration, more effective grievance handling, and other areas of mutual concern.

"Rather than exchange views only at the contract bargaining negotiations every three years, or only at times provided for in the collective bargaining agreement, International Nickel and the USW have agreed to hold twice-yearly meetings in the spring and fall. Such meetings, unprecedented in the history of the Company-Union relationship, are intended to provide a forum for resolution of general problems during the term of the agreement, rather than have them pile up during the three-year contract.

"In addition, the meetings will develop new approaches to improve the overall Inco-Union relationship. It is believed that such sessions will develop a more natural atmosphere surrounding meetings of the full union and company committees, rather than have them meet only during the emotionally charged bargaining climate every three years.

"A date for the next meeting has not been set but it will be held in the spring of 1971."

Reviews Other Activities

Details of other International Nickel's industrial relations activi-



Frank C. Burnet

ties since the termination of the strike in November, 1969, were outlined at a press conference in Sudbury on October 27 by Frank C. Burnet, director of industrial relations. Mr. Burnet, whose appointment was announced in April by Stephen F. Byrd, vice-president, industrial relations and personnel, is a Western Canadian with more than 25 years' experience in national and international labor-management affairs.

His press conference remarks were summarized as follows:

"Following the end of the strike in 1969 International Nickel recognized the need to completely re-examine its industrial relations. In the interest of developing relationships between the Company and the employees, and between the Company and the United Steelworkers, which would provide a work environment permitting management, the employees and the union to develop constructive and harmonious relations, we determined to undertake all actions necessary to ensure that Inco has the finest industrial relations in Canada.

"The success and continued growth of the Company is in the best interests of the employees and the Union, and the major objectives of all concerned are compatible. Although there will always be issues concerning which the Company and the Union will honestly disagree, these should not give rise to an atmosphere of hostility. Such issues can and must be resolved in a spirit of reason and mutual understanding.

Intensifying Effort

"We are intensifying our effort to improve our industrial relations and to emphasize increased sensitivity to human relations. To meet our aims, we have in the past year:

1. Substantially increased the staffing of our industrial relations department with experienced professionals. A corporate industrial relations group was established in the Toronto Office, and the Ontario division industrial relations department has been extensively



Dennis Wickie
Creighton and
Crean Hill areas



John Ridout
Frood-Stobie
area



Wally McIntosh
Maintenance and
Transportation,
Copper Cliff area

First Plant Representative Appointments Are Announced

Another inning is underway in the "brand new ball game" promised by vice-president J. A. Pigott in discussing employer-employee relations at Inco, during his address to the Sudbury district Quarter Century Club in June.

Along with other important developments being instituted by the industrial relations department is the selection of plant representatives, whose function will be to assist in processing problems quickly and sensibly at the so-called "grass roots" first-line supervisory level wherever possible, thus preventing grievances.

Arthur Bennett, superintendent of industrial relations, Ontario division, has announced the first three of a series of plant representative appointments: Dennis Wickie, Creighton and Crean Hill areas; John Ridout, Frood-Stobie area; Wally McIntosh, maintenance and transportation departments in the Copper Cliff area. Other appointments will follow in the near future.

In Constant Liaison

The plant representative will constantly interact with employees and Union stewards and provide advice to plant supervision on personnel and industrial relations matters.

He will thoroughly investigate all responsible complaints received from employees and advise them of the results of his investigation. In addition, he will conduct training programs and provide other related staff services for local supervision.

His overriding responsibility will be to accurately and effectively interpret for both employees and supervision the Collective Bargaining Agreement and the Company's industrial relations and personnel policies.

reorganized and strengthened. The Company is in the process of positioning full-time industrial relations representatives at all principal mines and plants in the Ontario division.

2. Published an industrial relations Handbook reflecting a positive industrial relations policy and program. Five thousand copies of the handbook have been printed, and distribution has been made to all levels of management and supervision as well as to the United Steelworkers representatives.

3. Developed and initiated a labor relations training course for attendance by all levels of management and supervision. Upon completion, the course will have been attended by approximately 3,000 Inco personnel throughout the Canadian operations. The course covers labor contract administration, grievance handling, Company-Union relationships, and the industrial aspects of human relations."

Nigerian Project

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He has been urgently invited to return for another project in Nigeria, or else to tackle an assignment in Mozambique.

Will they do it again?

Said Archie: "It was a great experience, and certainly broadened our understanding of the problems in that part of the world, as well as making us appreciate Canada all the more. But it's a little too soon to say whether I'd take on another mission."

Said his wife Eileen, with her charming smile: "It's up to Archie, of course. I wouldn't mind, but I'd just as soon it would be to the Riviera, or some place like that."

A good sermon helps people in different ways. Some rise from it greatly strengthened. Others wake from it refreshed.

Wives and Roses



Mrs. Floreda Lacourse, whose husband Hervey is employed in the electrolytic department, considered it very thoughtful of plant manager W. V. Barker to send her a bouquet of roses and a letter of appreciation on the occasion of her husband joining the Quarter Century Club.



"My, how those years flew by," was the comment of Mrs. Dorothy Radzinski, wife of first class iron worker and new 25-year man Paul Radzinski. Her flowers, and those sent to the wives of the other new Club members, were delivered on the day of the banquet.



"This is our first 25th anniversary celebration," said Mrs. Lois McQuire, wife of process technology analyst Jack McQuire. "Our next will be early in 1971 when we reach our 25th wedding anniversary. They've been very happy years."



Bond of Fellowship at Port Colborne



Port Colborne Banquet Told:

Inco International Marketing Involves Strong Organization

A near-record attendance of 465 Quarter Century Club members, at their annual banquet at Port Colborne, heard congratulations and reassurance on the future of their products from John O. Hitchcock of London, Inco vice-president of International marketing.

"Your refinery has the reputation in the Company for reliability. What you say you will do, you do. This is very fine support for those of us in the marketing field."

"The products that come from Port Colborne, electrolytic nickel, SD nickel and F nickel, all have an assured future. These products, coupled with the forms from our other refineries — pellets, sinters, powders, oxides, sulphates and so on — give us a range of materials to meet competition from any source. These products, plus Inco's marketing ability, place the Company in a pre-eminent position, and this is where we shall stay."



J. O. Hitchcock

30 Names Added

Thirty names were added, two posthumously, to the roster of 614 in the Port Colborne chapter of Inco men with 25 or more years of service. Executive vice-president F. Foster Todd and

vice-president J. A. Pigott, general manager of the Ontario division, presented gold badges to the 28 new members introduced by personnel assistant to the manager Charles Ott, congratulating them on joining the ranks of a distinguished organization.

A large representation of the 300 pensioners accredited to the Port Colborne club, including a few from Copper Cliff, joined in the warm fellowship and conviviality of the gathering, renewing acquaintance with old work buddies and giving a pat on the back to the new members, many of whom they had known in the community since knee-pants days and had later helped initiate in the complex process of refining nickel.

One of the things that should never change in this era of change, said J. A. Pigott, was the annual gathering of the Quarter Century Club members, who were the backbone of Inco's operations. He praised the semi-annual meetings of the Company and the Union which have been instituted to resolve every-day problems before they develop into issues at the contract bargaining table. This was a real forward step in labor-management relations.

Mutual Dependence

Proudly referring to the Port Colborne works as "the largest



New 25-year man Fred Hopping got a hearty handshake from executive vice-president Foster Todd, and then received his gold badge from vice-president and Ontario division general manager Jack Pigott.



Toast to the pensioners was proposed by assistant manager Bill Spence and replied to by "Nis" Nissen, mayor of Port Colborne.



Sparkling Nancy McCoig with her accordion was the lead performer in a roundly applauded program that included the Sorrelles, continental singing stars, smooth Bob Bowney with his disappearing doves, and that perennial side-splitter, Doug Ro-maine.



Among the new members were two pairs of brothers, who pose here with plant manager Vern Barker; on the left, are Royal and Frank Forest, and on the right Henri and Hervey Lacourse.

nickel refinery in the "world", plant manager W. V. Barker stressed the mutual dependence of the Company and its employees. "The strength of any company lies in its human resources," he noted, and the security of the employees rests in the strength of the company.

In dimmed lights the audience stood in a moment of remembrance for Club members who have died.

Assistant manager W. W. Spence, in proposing the salute to the Port Colborne pensioners, asked the audience to reflect on their accomplishments with the refining methods of earlier days. "Their work was undertaken with zeal and pride, and the results continue to be of benefit to us all." He congratulated those who, in retirement, are active in community activities.

An Inco retiree who serves as mayor of Port Colborne, Nis Nissen, replied for the pensioners saying, "We all hold the same memories of having done our share to help Inco grow and prosper in this city, of jobs learned and friends made. Although we have left the Inco working force, we are deeply appreciative of the fact that we are still remembered, and still share in their benefits." He noted as an example of Inco's continuing interest in the welfare of its pensioned veterans that the Company-aid drug plan for all employees had been extended to cover those who had retired before 1969 when it came into effect.

A Regular Attraction

The popular Reg Steeves was at the organ as usual to draw from (Continued on Page 9)

Assistant manager Jim Walter, chairman of the evening, enjoys a pleasant chat with three old-timers, John Goe-gan (Copper Cliff), George Worthing-ton and Steve Ivancic.





Old Creighton Landmarks Pass From the Scene, Rich in History

A last link with the days when the Creighton mine really came into its own as one of the world's great nickel producers — a reputation it has continued to enhance over the years with constantly renewing vigor — the old No. 3 shaft headframe and rockhouse are bowing to a demolition crew these days, and by year's end will have vanished from the scene.

Long since surrounded by more imposing modern surface structures in the Creighton complex, and with Inco's most mechanized underground operation now humming beneath them in the mining area they served so well, these grizzled veterans, dating back to 1916, have nevertheless managed to cling to a certain air of faded importance.

Gradually Phased Out

The old rockhouse actually went out of business in 1951, when an 1800-foot underground conveyor was installed on 30 level to carry ore from the No. 3 mine over to the new No. 7 shaft, to be hoisted directly into the Creighton mill. But the old head-

frame hung onto a piece of the action right up until last August, for handling men and supplies. Then that job was taken over by the trackless mining vehicles travelling the ramp that circles down through the new sub-level caving operations to 28 level.

The jig was up for the two proud old buddies, and the wreckers were called in.

No. 3 shaft, through which 25 million tons of ore were hoisted, retires from active duty but will continue to be valuable as an airway. In the area it serviced with its rumbling skips and cages a total of 56 items of dieselized trackless mining equipment, including seven 3-boom drill jumbos and 22 of the powerful big load-haul-dump machines, have so far been put into action. Many are designed to Inco specifications, and all have oxy-catalytic scrubbers to remove exhaust fumes. The contrast with the old days could hardly be more dramatic.

Development of the orebody at Creighton started in 1900 with an open pit, and, as it deepened, the

All three of the original headframes at Creighton mine appear in this historical photograph, taken in 1917. The skeleton of little No. 1 is visible on the left, No. 2 is in the centre, and the then majestic No. 3 on the right, with a skip coming up the inclined shaft from underground to the dump in the top of the headframe.

The demolition of No. 3 shaft headframe and rockhouse, last of the originals, finally signals the end of an early era in Inco mining.

3-compartment No. 1 shaft was sunk in 1903 for ore removal. By 1907 the depth of the workings had increased to the point where it became necessary to convert to underground mining, and No. 2 shaft was sunk. The first underground crusher in Canada was installed on 6 level of this shaft.

Reigned Until 1935

Then came No. 3 shaft, sunk in 1915 to help meet the sharply increased demand for nickel brought about by World War I,

and the headframe and rockhouse now passing from the scene were constructed. They survived a fire in their upper sections in 1930, and reigned in solitary splendor over the Creighton camp until 1935, when the No. 5 shaft surface plant appeared on the skyline.

In the early days, cumbersome piston drills, which weighed about 275 pounds and required two men to set them up, were generally used underground. When

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The 500 men working the three shifts at Creighton No. 3 mine now ride to and from their jobs in seven 25-passenger personnel carriers that travel the 10,000-foot ramp circling down through the new sub-level



caving operations. Equipped with 100-hp Mercedes-Benz engines, these sturdy Unimogs can be quickly converted for part-time duty as supply transports.

Inco International Marketing Involves Strong Organization

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his repertoire of long-time favorites while a delicious dinner, served by the staff of Rathfon Inn, was being enjoyed. The attractive stage setting was the work of Art Fort and Alvin Willie.

In the address of the evening vice-president John Hitchcock described in considerable detail the highly sophisticated world-wide marketing organization with which Inco backs up the men on its production lines. He said that in these increasingly competitive days "We are equipped at all levels to penetrate through to the ultimate user of nickel-containing products".

Market research is the first essential, he said — "to know where the market is, what end products are required, what forms of nickel will meet these requirements, and what can be forecast for the future up to 10 years ahead." Every industry in some 12 different categories is constantly under scrutiny for its potential use of nickel.

210 Experts Involved

Inco has offices in every major centre of consumption, staffed by qualified engineers and market men. World-wide the organization employs 210 experts in an unusually broad range of industrial activity. In Europe, for instance, these men are located in Paris, Dusseldorf, Brussels, Milan, Zurich, Madrid and Stockholm, as well as in the United Kingdom.

Through a highly developed system of inter-office exchange of information, "we are able to take

industries apart, assess their material requirements, and if suitable materials do not exist, carry out research to develop them. We arrange for pilot scale production and in-plant testing, finally leading to established applications which are then backed up by the world-wide promotional methods we have at our disposal."

The efficiency of Inco's marketing, had, in fact, been the envy of the metal industries. The great steel and alloy producers of the world had strong confidence in it.

Mr. Hitchcock cited one of the many outstanding examples of the organization's success in attaining strength through products "based on sound metallurgical and economic principles, so that their use cannot be readily shaken by the competition."

Long-Range Planning

About 25 years ago, he related, it appeared to the Company's market analysts that there was a potential need in the developing field of cryogenics for new materials that would stand up to extreme cold in storing and transporting liquefied gases. Armed with information gathered from potential users and producers on the requirements the final alloy would have to meet, Inco laboratories put together their wealth of experience and facilities in nickel metallurgy. It was a case of testing, trying, refining, and testing again. Two major steel companies co-operated in pilot plant work. By 1960 it was proved that a 9% nickel steel would provide design engineers



Mayor Richard Dow made the presentation; Italian Society president Remo Canapini and 1970 women's executive president Mrs. Terry Rupoli, hold the Copper Cliff Award of Merit medallion and scroll; Dr. Louis Renzoni was speaker at the banquet.

Community Spirit of Italian Society Gets Award of Merit

The Italian Society of Copper Cliff, founded in 1935, has received the town's rarely conferred Award of Merit "for their many years of dedicated and outstanding service on behalf of the Town of Copper Cliff and its citizens".

Mayor Richard Dow made the presentation to Remo Canapini, one of the Society's founding members and for 24 years the bachelor president of the popular Italian Club, a hub of community social activity.

The presentation took place at the Society's gala annual dinner, attended by 400 members and guests. In praising the organization for its community spirit, the mayor said, "Many times the Society has offered us help even before we knew we needed it".

President Canapini in turn presented honorary life memberships to seven leading citizens who have given outstanding assistance to the Society: mayor R. G. Dow, town councillor E. G. Stoneman, Inco chief surgeon Dr. B. F. Hazlewood, Aurilio Desanti of Sault Ste. Marie, Inco vice-president and Ontario division general manager J. A. Pigott, parish priest Rev. J. A. Delaney,

and Inco vice-president Dr. L. S. Renzoni.

Bursaries and awards of merit totalling \$800 were presented to seven sons and daughters of Society members who are attending secondary schools. The organization has a membership of over 300 men and 260 women.

Native Son Honored

A native son of Copper Cliff who has recently moved from Toronto to New York as Inco vice-president in charge of special technical projects, Dr. Louis Renzoni was the guest speaker.

His mother, 82-year-old Mrs. Emma Renzoni of Espanola, and two sisters were present to hear him specially honored as a distinguished scientist by his fellow-Canadians of Italian descent.

He was given a standing ovation when he was introduced by A. J. Pianosi, and again at the conclusion of his address, during which he reviewed major projects undertaken by International Nickel in its multi-million dollar program of environmental improvement which will give Sudbury "the cleanest air of any urban municipality in Ontario". Even now, he said, there are .02 parts per million of sulphur dioxide in Sudbury's air as compared with .08 parts per million in Toronto's air.

Dr. Renzoni, who has been an Inco man since 1937, became superintendent of research in 1956, and was transferred to the Company's Toronto offices as manager of process research for Canada in 1960. He received his master of science degree in 1936 from Queen's University, which in May, 1969, conferred on him the honorary degree of doctor of science.

They Gave Poor Old Pete a Hard Time

Alas, poor Peter Pumpkin was in dire straits. Farmer Brown (9-year-old Gordon Kuzniar) has already carved him up and given his spiced soul to his bejewelled and be-toqued "wife" (11-year-old Bobby Desanti) for a pie. And that little devil (Tim Newburn, 5) kept poking out Pete's teeth with his wicked three-pronged fork. The forces of evil had to be winning, for even the haloed angel on the right (Nancy Jane Newburn, 9) seemed as much a conspirator as any of them. As for the leering witch below (9-year-old Donna Desanti), she was ready to catch Pete's fast-disappearing teeth in her bag to make a bad-luck charm bracelet. It all happened at Copper Cliff on Hallowe'en Night.



\$1.1 BILLION EXPANSION

The massive expansion program launched by International Nickel in 1966 will by the end of 1972 have increased our Canadian nickel production capacity by 30% to 600-million pounds per year.

In the Ontario division, which accounts for about 70% of Inco's Canadian production, the expansion includes eight new mines — four already in production and four under development — which along with major additions at several of the seven existing mines will boost ore capacity to 118,000 tons per day. It includes three new mills, one of which is in operation, a new nickel refinery, and extensive plant additions and modernization.

In the Manitoba division two new

mines are being developed, making a total of four; both open pit and underground operations are scheduled at the new Pipe mine for a combined production rate of 16,000 tons per day. Milling capacity has been increased to 20,000 tons per day, and smelter capacity doubled to 4,000 tons per day.

Advanced technology in mining and processing ore, and the exacting controls of modern electronics, figure prominently in the program, as do elaborate measures for environmental control.

Inco is spending \$1.1 billion on this program over the period 1966-72, a sum greater than the total of all the combined capital expenditures made by the Company prior to 1966.



LITTLE STOBIE

Scheduled to reach 8,000 tons per day in 1972, ore from Little Stobie mine will travel on a 4,670-foot underground conveyor to be hoisted through the new Frood-Stobie No. 9 shaft directly into the adjoining mill. The 185-foot headframe of the supply and service shaft is shown here with the 100,000-gallon streamlined water tower.

CLARABELLE MILL

One of the most modern in the world and biggest of Inco ore-crushing and concentrating facilities, the 35,000-tons-per-day Clarabelle mill north of Copper Cliff will have highly sophisticated instrumentation and controls. Elaborate systems for heating, ventilating, and dust and noise abatement, closed-circuit television for monitoring critical process points, and a process-oriented computer to perform alarm and limit functions, will be some of its features. It will be an \$80-million investment. The thickener in the foreground is 250 feet in diameter. In the distance can be seen the Little Stobie headframe and the Frood-Stobie No. 9 headframe and mill.

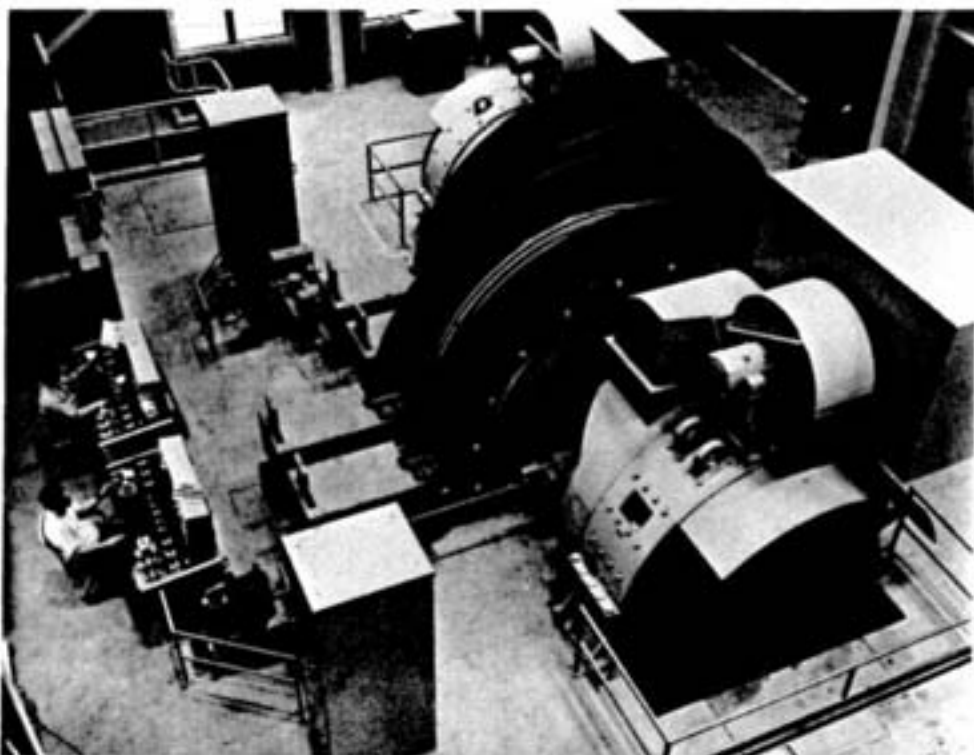




NEW NICKEL REFINERY OPERATIONAL IN 1972

Final outlines of the \$80-million new nickel refinery at Copper Cliff are taking shape. To be operational early in 1972, the refinery will produce 100 million pounds of high-purity nickel pellets and 25 million pounds of high-purity nickel powders annually. The plant will utilize the Inco pressure carbonyl (IPC) process, which offers several ad-

vantages over previous methods of refining nickel, including lower operating costs, higher metal recovery, improved product quality and more effective pollution control. Nearby the iron ore recovery plant is undergoing major expansion, and the capacity of the sulphuric acid plant is being doubled to 5,000 tons per day.



HOISTS AT COLEMAN

In the penthouse at the top of the 185-foot concrete headframe at the new Coleman mine, near Levack, operators man the controls of the two friction-type hoists for raising and lowering 10-ton skips and a double-deck man cage. There are six friction-type hoists of varying capacity in the current Ontario mine expansion program, two at Coleman, one at Little Stobie, one at Frood-Stobie No. 9, and two at Shebandowan. Coleman will reach its daily production rate of 4,000 tons in 1972.

THE FRONT COVER

One of the expansion program's extensive additions at existing mines is Inco's highest headframe, the 307-foot new concrete structure at Frood-Stobie No. 9 shaft. In our cover picture it presides majestically in the night beside the 25,000-ton Frood-Stobie mill, with which it is directly connected.



Expansion

(Continued from Page 11)

CONCENTRATE DRIERS

Installation of two new fluid bed driers, replacing old rotary units for drying copper concentrates and sand flux, is nearing completion at the Copper Cliff plant. This modernization is required to satisfy the increased capacity of No. 9 flash furnace, and can handle a throughput of 1,800 tons per day. The refractory-lined vertical fluid bed reactors, seen at the back in the picture, are 8 feet in diameter and 28 feet high. Each is equipped with 88 nickel stainless steel tuyeres, set in a horizontal refractory bed and receiving 3-pound air at 600 degrees F from the gas-fired windboxes in the foreground. Introduced through the top of the reactor, the concentrate feed is met by the searing air blast from the tuyeres, completely dried, and air-borne through a duct to a bag house. There it is settled in hundreds of nylon felt filter bags which, withstanding the high temperature, retain 99% of the suspended solids. Conveyors carry the dried feed to the flash furnace.



KIRKWOOD IS PRODUCING

Certainly one of the neatest if not the biggest new mine to join the ranks of Inco producers is the Kirkwood, on the southern rim of the Sudbury Basin. It is now hoisting 1,500 tons per day through its 2,134-foot shaft, completed in 1967 and followed by underground development. There are two combination skip-cages operating in balance, each with a capacity of five tons of ore or 24 men. Mining equipment includes four load-haul-dump machines and four mechanical loaders. Eight diamond drills are in use for underground exploration.

UNIQUE HAULAGE UNIT

Part of Inco's steadily growing fleet of powerful trackless mining equipment, eight of these 195-hp diesel teletrams have been put into operation to date, chiefly for ramp haulage in development work. The teletram's low profile enables it to travel and unload under an 8-foot back. Hydraulically operated, the high-lift gate rises and the rear section of the machine's body telescopes forward, discharging half the 20-ton load; the remainder is then ejected by a pusher plate moving forward from the back of the body. The unloading operation is completed in 20 seconds.



Getting to Know All About Us

About 90 graduates of universities and technical colleges who have joined the Company in the Sudbury area this year recently took part in a series of three familiarization seminars organized by the recruiting and employment section of the staff personnel department. They were shown motion pictures of the mining, smelting and refining operations, and had informal discussions with members of management and supervision in their respective fields. The seminars, held following luncheons at the Copper Cliff Club, were described as highly informative and helpful by the new staff members.



Jan Matousek, section leader in process technology, fields some questions from three new members of the department, Eric Pakkala, Reg White, and Park Lee.



Manager of mines M. E. Young (second from left) talks business with Robert Polano and Rodney Allison of the mines engineering department and Stephen Jones of mines exploration.



John Taylor (right), supervisor of staff recruiting and employment, in a discussion with Harold Grantham (exploration), Marvin Degazio (mines engineering), and William Watts (maintenance).

Old Landmarks

(Continued from Page 8)

No. 3 shaft was being raised from 6, 8, and 10 levels of No. 2, a new type light hammer drill was introduced which weighed about half as much and produced so much better footage that soon every miner was clamoring for one. By comparison, today's air-leg drills weigh only 75 pounds.

No. 1, 2, and 3, like all the early shafts of the Sudbury area, were inclined at angles of up to 55 degrees, paralleling the dip of the orebody to minimize travel time to the underground working areas. This advantage was more than offset by the time and labor involved in having to hand-load and unload supplies, and subsequent shafts were sunk vertically, so that a truck of supplies pushed into a cage on surface could be hauled directly to the stopes.

As mining and milling technology improved, the large low-grade zones in the upper part of No. 3 mine were made economic. A system of induced controlled caving below the original open pit gave the old mine a tremendous shot in the arm, and was the forerunner of today's ultra-modern sub-level caving operations.

The First Clues

It was at Creighton over 100 years ago, that the presence of minerals in the Sudbury district first came to light. In 1856 a land surveyor named Salter, while

Berk Keaney Again No. 1 in CCAA Annual Golf Joust

Jack Newell promised the Copper Cliff Athletic Association there'd be lots of loot for the association's 1970 golf tourney, and it was no idle promise. The 60 participating golfers divvied up some 30 merchandise prizes in their field day at the Garson golf club.

Berk Keaney, winner in 1968, again showed the way with his low gross of 78, snaring the Doran's trophy, while Henry Lewandoski won the association trophy for low net performance. Apart from loot for the low-scorers, there were dozens of special prizes for chipping, putting, hidden hole, and oldest, most improved, and most honest golfer. Jack Newell and Roy Maud were



the organizing team behind the successful event, with help from John Spec, Ken Fyall, and Jim Kuzniar.

Most of the winners are included in the Triangle picture above: front row, Ray Poirier, Lou Marier, George Joyce, Ron Gauthier, Jack Newell, George

Allan and Henry Lewandoski; Ray Caverson, Joe Sharpe, Berk Keaney, Tom Crowther, Jesse Morrison and Tom Gladstone; third row, Hurlie Hreljac, Eddy Traill, Steve Ranich, Lorne Garber, Harry Davidson, Bob Shaw, Dick Beaver, Al Martin, Dick Agar and Johnny Spec.

working in the area, made notes of erratic behavior of his compass needle, but did not appreciate the nature or potential of the mineralization responsible. The deposit was "rediscovered" in 1886 and one year later was acquired by Inco's corporate predecessor, the Canadian Copper Company. The first ore shipments began in 1901,

and to date total over 120 million tons.

Several times in Creighton's history its life was thought to be almost over. Then new ore discoveries at depth, along with new techniques, gave it renewed life, and subsequent developments and forward planning of world stature, like the 7,138 No. 9 shaft

and surface facilities, assure its vigor for generations to come.

The old No. 3 headframe and rockhouse leave a rich legacy behind them as they pass into history.

A pedestrian is often prone to be careless, and if he is careless he is liable to be prone.

Inco Brawn Aided Spartan Triumph

When Sudbury Spartans annihilated North Bay Tiacs 57-23 on the road for the championship of the Northern Ontario football conference, there was a lot of Inco brawn in there making its weight count.

Nine of coach Sid Forster's Spartans are Incoites, shown in the accompanying picture before doing battle with the Tiacs in the final game.

Standing left to right are defensive quarterback Alex Fex, a time clerk at Copper Cliff North mine; defensive halfback Gord Evans, a 2nd class machinist at Frood



mine; corner linebacker Ron Hewitt, assistant storekeeper at the Stobie mine warehouse; defensive tackle Rene "Booboo" Brisebois, a Garson stope leader, and first string quarterback Blaine Doherty, an assistant surveyor in the Kirkwood mine engineering department.

Kneeling left to right are assistant coach Cec Brown, casting foreman in the Copper Cliff smelter; offensive centre Bill Jacobson, a caving control technician at Creighton mines engineering; offensive halfback Sergio Conte, an electrical-mechanical apprentice at the copper refinery, and

defensive tackle Tom Hywarren, who works as a storeman in the Stobie warehouse.

The Spartans are now awaiting the outcome of playoffs in the Ontario Rugby Football Union in southern Ontario. They'll play the ORFU winners for the big jackpot.

Better Technology Challenge Facing Future of Mining

"By the year 2000 we shall need to produce many times the quantities of metals and other mineral resources we are producing today," Inco president Albert P. Gagnebin declared in a recent address before the American Mining Congress in Denver, Colorado.

He said the mining industry cannot underestimate the size, scope and gravity of the challenge it faces, adding that it will need scientific advance well beyond anything achieved up to now. He said another requirement will be the protection of the environment from waste products coming from the new expanded effort.

Besides going deeper into the ground, said Mr. Gagnebin, mining will soon go deep in the sea. "The seventies should prove to be the decade in which a radically new branch of the mining industry made the ocean floors available for exploitation of major new sources of mineral wealth. Great quantities of metal-bearing nodules lie on the sea bottoms. In addition to the nodules, we can anticipate that mining of metal-bearing muds in places like the Red Sea cannot be many years away."

Inco's president stated that in the present state of the exploration art miners have to drill more than 2,000 anomalies to find one that is economic. "If we could improve that batting average by even 10 per cent, we could save ourselves vast amounts of time and money."

He noted that geophysicists appear to be confident that equipment effective at greater depth will be developed in the coming decade.

"In exploration, the challenge is underscored by the fact that we have now covered a very large

part of the North American continent in a manner that has enabled us to find the worthwhile deposits that are in the more or less obvious places.

"The simple fact is that virtually all the world's mines were discovered from outcroppings. Undoubtedly we have missed many of the more obscure deposits—especially mineralization that does not outcrop, which must be by far the larger part.

"Ten years ago in North America", the president said, "we thought drilling from surface to 4,000 feet was going pretty deep. Some drilling now approaches the 10,000-foot level, and we already have evidence that 15 to 18,000

will be feasible in the seventies. But a diamond drill is still subject to the shortcomings that all it gives you is about a two-inch diameter core, and a fair chance of missing an ore body. Devices are on the way that will improve distance beyond the drill hole's periphery. Why not a device that could be placed at the bottoms of two holes at a distance from each other and would take significant readings in the rocks between?"

Mr. Gagnebin said two factors are converging to influence mining technology. One is the continuously declining grade of ore. The other is the growing disinclination of men to take up mining for a livelihood. The first

calls for lower cost methods of breaking and handling increasingly greater amounts of ore. This means greater mechanization, and mechanization makes for more skillful and attractive occupational opportunities.

"In metals extraction, the need to protect the environment has become critical," he stated. "In my opinion, it is going to rank along with cost in its influence on process planning and plant design. New mines and new plants will have full provision for eliminating, treating, or containing pollutants that affect plant and animal life, air, and water. Tonnage oxygen will also enjoy even more favor in smelting sulphides."

Nobody Knows the "Ups and Downs" at Inco Better than Nils and Al



Nils Johnson and his son Al share a truly unique distinction.

A 60-year-old plumber, Nils is employed at Creighton mine where Inco's No. 9 shaft reaching 7,138 feet down into the rocky heart of the Nickel Belt, is the deepest continuous mine shaft in the western hemisphere.

Al, on the other hand, often has his head in the clouds as one of



the Canadian Kellogg Company crew still active at the top of the world's highest chimney—the Company's 1,250-foot super-stack at the Copper Cliff smelter.

Although their earth-bound Inco working places are as vertically far apart as they could be, father and son share a common ambition—they both want to get their fingers into the good brown soil as farmers. Nils plans to

retire to the rural homestead on 320 acres at Kipling, near Warren, where he was born. But if Al's plans work out he'll be established on the homestead before his dad, in the new house he's busily building there between big stack jobs. Working on the same level at last, they'll certainly be able to swap experiences regarding the ups and downs at Inco.



Underground with Stobie assistant superintendent Ted Flanagan (centre) in this group are Dr. Les Johnston, Dick Gordon, Ted Gibbs, Alan Hall, Harry Lum, Dr. Michael Wendt.



Oiva Lane, Stobie efficiency engineer John Caulfield, Dr. Victor Ettel.

Greg Worthman and Terry Connaughton inspect drill steel.



Alan Church, Terry Connaughton, Nigel Guilford and Dan Myslik.



Area engineer Gerry Smith explains a mine model to Dr. Frank Theubert and Dr. Roberto Ferrajuolo.



"Better Understanding" By Process Researchers

Led by Dr. Stuart Warner, director of Inco's J. Roy Gordon research laboratory at Sheridan Park, 32 process research professionals selected from the staffs at Sheridan Park and the Port Colborne research stations made an extensive tour of the Company's Sudbury area operations.

"Our itinerary followed the ore through process in a very logical fashion, which helped greatly in establishing the complex flowsheet in our minds," Dr. Warner told the Triangle. "All hands were greatly impressed by the scope of the operations, and came away with a much better understanding of the problems Inco's operators face from day to day."



Dr. Warner

Archie Frame, technical assistant to the general superintendent of process technology, Copper Cliff, co-ordinated the tour, which included underground operations at Stobie mine, Frood-Stobie mill, the Copper Cliff works, iron ore plant, copper refinery, the construction site of the new nickel refinery, and the new engineering building.

Accompanying photographs show some of the keenly interested visitors during their Stobie mine trip.



Ray Bradford with Ted Flanagan.



Kjeld Bech and Peter Robinson.

"Downstream" Shows Inco Efforts to Save And Protect Water

Environmental protection, a fundamental function of industrial management, is graphically documented in a new Inco feature film.

The 16-mm 13-minute color production, entitled "Downstream", illustrates the efforts of International Nickel, to conserve water and safeguard the natural aquatic environment in the Sudbury District.

Produced by Westminster Films Limited of Toronto, under the direction of Don Haldane, it describes the precautions undertaken by Inco to prevent pollution of district watersheds and streams, and it shows how the Company conserves water by recirculating as much as 100 million gallons daily through its process plants.

"Downstream" is a sequel to Inco's award winning film "Rye on the Rocks", describing the work carried out by the Company's agriculturists which culminated in the successful cultivation of eroded tailings areas by planting grass and grain on the sterile rock waste.

Stainless Steel School

A new secondary school in Allschwil, Switzerland, has its entire facade, including the window frames, fabricated of nickel stainless steel. This material, which is finding increasing architectural applications, offers resistance to atmospheric corrosion and damage. In addition, it requires little maintenance to retain its good appearance.

Nickel Salad Next?

Symptoms of nickel deficiency have been produced in young chicks, indicating this trace mineral may be essential for good health, according to the U.S. Department of Agriculture. Dr. F. H. Nielsen, a research chemist with the department, says the study has implications in human nutrition research.

Of the approximately 100 known trace elements, scientists have already proved that 20 are essential to man (among them chromium, copper, iodine, iron and zinc) and there are indications that at least five others will be found indispensable to the human body. Nickel is one of the five now being studied.

Retired on Inco Pension

WITH 20 OR MORE YEARS OF SERVICE

ROLAND PEPIN

Roland Pepin was destined to ride one kind of range or another. Although born at Danville, Quebec, Roland moved with his parents at the age of six to a ranch near Red Deer, Alberta,



Mr. and Mrs. Pepin

and rode the range with his father for some 25 years. Coming to Sudbury and Inco in 1947, he worked for 14 of his 22 all-Garson Company years riding the Nickel Range with the 2400 level motor crew.

Helene Demers of Fabre, Quebec, became his wife in 1944. Among the eight Pepin children, four sons work for the Company; Gilles and Marcel are drillers, and Donald is on the motor crew, all at Garson, while Robert works for the agricultural department at Copper Cliff. Thus far, Roland and his wife have been presented with four grandchildren. A back injury in a fall from a ladder during a house renovation project resulted in Roland's retirement on disability pension, but he enjoys putting in his garden at his Garson home and pulling for Montreal Canadiens on television.

ARMAND PARE

Born in Broughton, Quebec, Armand Pare graduated from high school and teachers' college in Quebec City. He became a teaching brother (Freres des Ecoles Chretiennes) and taught



Mr. and Mrs. Pare

French in several cities for five years. He farmed before coming to the nickel refinery at Port Colborne in 1942.

Armand worked in the leaching, calcining and sintering department until 1950, then transferring to the electrolytic department where he became head anode scrap washer in 1967. He has retired on disability pension due to back trouble. "The Nickel

Plant gave me a good living and I enjoyed my time here," he said.

Generia Jacques and Armand were married in Robertsonville, Quebec, in 1939. They have four sons, four daughters, and six grandchildren. Son Robert and son-in-law Larry McAllister are nickel refinery employees.

The Pares will continue to reside in Port Colborne and hope to make frequent visits to friends and relatives in La Belle Province and Huntsville. Armand does a little fishing and is exploring several hobbies — "I had no time for hobbies when I was raising eight children".

BAPTISTA CUNDARI

Baptista Cundari started with the Company in 1928 at Copper Cliff, having come to Canada from Italy the year before. He worked in the Orford building until the layoff in 1931 and returned in 1933, transferring to the concentrator on tailing line patrol. From 1958 until his retirement on

special early service pension he was a dam boss on the line.

Although a lung ailment has slowed this bachelor down, Baptista enjoys frequent visits with friends and relatives in Sudbury and Copper Cliff. He intends to take a trip to his home town of Figline Vegliaturo in the province of Cosenza, Italy.

MICKEY PINE

"The Nickel Plant's the only real job I've ever had," said Mickey Pine, masticman in the Port Colborne refinery, electrolytic department, and where he has been employed since 1937. He has retired on a disability pension.

Mickey was born in Hagersville, Ontario, in 1916 and moved with his family to Port Colborne at the age of two. Grace Hege-



Mr. and Mrs. Pine

dus of Welland became his wife in 1938. They have two children.

Mickey was with the RCAF for three years, going over to the U.K. as flight crew but ending up in administration. He was an ardent bowler at one time, being on the Eastern Canada 10-pin

tournament winning team from Port Colborne in 1950. Now he's an ardent cribbage addict.

Mickey and his brother put up a cottage at Martin Lake north of North Bay. "Believe it or not, we cast for pickerel off the shore," he declares. Now he plans to spend a lot more time in that angling paradise.

BILL MADILL

A mechanic at a Sudbury garage for seven years before joining Inco in 1938, Bill Madill fitted right in at the new Frood open pit garage, where he was the third man to be employed.

He continued in the mines mechanical department, which latterly has been incorporated in the maintenance department, throughout his long and valuable service with the Company, and saw action at Murray, Garson, Levack and Stobie.

Since 1966 he has been maintenance foreman at Lawson

Quarry, where he succeeded Bill Bell.

He was married in 1937 at Midland to Lillian McCaw. They have one daughter and two grandchildren.

Youngest of a family of nine, Bill was born in Scotland of an Irish father who was a coal miner for 40 years. He came to Canada at the age of 17.

Mr. and Mrs. Madill have thoroughly enjoyed their life at Lawson Quarry but are looking forward to making their retirement home at Hamilton, closer to Bill's two brothers and two sisters who reside in that area.

HENRI LEROUX

Henri Leroux, who joined Inco at Port Colborne in 1948, was born on the family farm at St. Damien Belle Chasse, 30 miles south of Quebec City.

All of Henri's Company service has been in the electrolytic de-



Mr. and Mrs. Leroux

partment. He started in the shearing section and worked there for 13 years. He was a boxman at the time of his service retire-

Bill Madill Given Send-off at Lawson Quarry



With practically the entire Lawson Quarry crew overseeing the proceedings, superintendent George Gully presents retiring maintenance foreman Bill Madill with a nifty camera outfit as a token of everyone's esteem. On the left is recently retired superintendent Bill Tilton, and on the right security officer Gord Mathison.

ment, and his supervisors spoke highly of his work performance.

He and Alphonsine Fleury, a widow, were married in Welland, in 1951. They have no children. Mrs. Leroux has 10 children by her former marriage.

Henri enjoys playing cribbage with friends. He also grows a pretty good mixed vegetable garden, and is generous to his friends with the results. The Leroux will continue to reside in Port Colborne.

HECTOR BLEAU

With more than 35 years of Company service to his credit, Frood rigger Hector Bleau has packed up his tools and called it a day. Bothered by leg trouble for some time now, Hector has retired on disability pension from the rigging gang he worked with for 25 years.

Hector grew up in Biscotasing, between Sudbury and Chapleau on the CPR, and during school vacations worked in sawmills in the Bisco area.

In 1935 he moved to Sudbury to start with Inco. Throughout



Mr. and Mrs. Bleau

his service he remained at Frood, working in the carpenter shop until 1945 and then with the riggers.

Joanne Poulin, originally from Chapleau, became Hector's wife in Sudbury in 1939. Of their three children, Carmen is married to Stobie slusherman Jeff Haggart. Two grandchildren often hold the spotlight at Hector's Sudbury residence, and when the kiddies are away Grandpa keeps busy with gardening and home maintenance.

"P.J." FITZGERALD

Some superstitious types dread the arrival of the 13th day of the month, but not Patrick James Fitzgerald. Indeed the 13th has been a good day for "P.J." on



Mr. and Mrs. Fitzgerald

three significant occasions: on that day in May, 1945, he received his discharge from the Canadian Navy; on April 13 last year he had a successful bout of cancer surgery, and finally on May 13 this year he officially went on a permanent holiday with

Shebandowan Colleagues and Wives Honor the Olives



Bruce Cameron

At a farewell dinner honoring Al and Agnes Olive at the Royal Edward Hotel in Thunder Bay, mining engineer Ed Tutkaluk is seen making presentations to the popular retiring Shebandowan project superintendent. In the background are Al's successor, Doug Valentine, and Mrs. Olive.

A. P. OLIVE

Project superintendent at the Company's Shebandowan development in the Thunder Bay area since 1968, A. P. Olive has headed for Gulf Harbors, Florida, to enjoy his early service retirement with travel, boating, fishing, golf, and of course photography, at which he is an expert.

Graduate of the University of Alberta in the class of 1932 with a B.Sc. degree in civil engineering, Al Olive came to Inco at Frood mine in the spring of 1934, starting underground as a shoveller. He spent seven years in the efficiency and engineering departments before becoming a mine foreman in 1942. He was assistant superintendent at Mur-

ray and Stobie mines for 15 years.

Born in Stettler, Alberta, he married Agnes Feldhans at Copper Cliff in 1966. He has two sons by a previous marriage.

Assistant manager of mines Charles Hews of Copper Cliff conveyed the Company's appreciation of Al's long and valuable service at a farewell dinner at the Royal Edward Hotel at Thunder Bay, attended by about 100 of the popular superintendent's friends and colleagues and their wives.

He was presented with a golf cart and clubs, and an engraved bar set. Master of ceremonies was Ron Symington.

"Chi-Chi" has lived in Chelmsford all his life, as has his wife



Mr. and Mrs. Brosseau

Aline, whose family name was Vaillancourt before their marriage in 1937.

He had no wanderlust in his employment record either, for he worked at Levack mine without transfer for 33 years, the last 10 as a salvage man on surface.

The Brosseau cottage on Vermilion Lake is a very popular meeting place for the five children and seven grandchildren that complete the family. The senior Brosseaus will continue to enjoy their good life in Chelmsford.

CHRIS MacPHAIL

Mechanical superintendent at the Port Colborne refinery since 1948, Chris MacPhail has retired on full service pension. His association with the Company dates

back to 1922 when he graduated from Sudbury Mining & Techni-



Mr. and Mrs. MacPhail

cal School and worked briefly at Copper Cliff before leaving to attend Queen's University.

He was a draftsman in the engineering department during the expansion program from 1926 to 1931 when the new Copper Cliff smelter, concentrator, and Frood No. 3 shaft surface plant were established. During the depression years he was mechanical engineer at Lakeshore Mines, Kirkland Lake, returning to Copper Cliff in 1936.

Chris joined the Canadian Army (RCME) in July, 1942, and was stationed for two years at the National Defence headquarters in Ottawa. Following his discharge in May, 1946 with the rank of major, he was appointed works engineer at the nickel refinery in Port Colborne.

His family moved in 1910 from Almonte to Copper Cliff, where his father, W. J. MacPhail, was principal of the public school until his retirement 32 years later.

Bertha Jean Mitchell, a Sudbury girl, and Chris were married in North Bay in 1932. They have two children and two grandchildren. Port Colborne will continue to be home base for the MacPhails except in the summer months, which they will spend at the cottage Chris built on the French River. They also have extensive travel plans, including a trip to the British Isles.

Over 200 men from the plant and pensioners attended a hearty send-off stag party for Chris at the Club Rheingold. He was presented with several gifts, both handsome and humorous. Ross Butler was emcee.

DON DIXON

Don Dixon remembers canoes sailing down Sudbury's main street during a heavy rainstorm



Mr. and Mrs. Dixon

when he arrived in 1909 with his parents from Arnprior.

Don, christened Dominic, joined the Company in 1937 after working on construction of the Trans-Canada highway in the Kenora area for seven years. He

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Retired on Inco Pension

WITH 20 OR MORE YEARS OF SERVICE

(Continued from Page 17)

was a timekeeper at several of the area mines until 1953, when he became the first clerk-treasurer of the Town of Lively, which he remained until his recent retirement on early service pension.

Now engaged part-time as operator of Lively's pollution control centre, he also devotes much more attention to the making of rock jewellery, a new hobby that has taken over from his extensive stamp collection.

Huntsville was the home of Marguerite Scott, whom Don married in Sudbury in 1938. She is a music teacher in the Lively public schools. The Dixons have two school-age children and will continue to reside in Lively.

"BILL" BALLANCE

Wilmot "Bill" Ballance has no worries about the family name being carried on. With seven children and 14 grandchildren, new branches of the family tree are likely to be recorded by many a future census taker.

Bill was born at Napanee, Ontario, and after farming for several years came to Sudbury and joined the Company at Froid in 1940. Although he moved over



Mr. and Mrs. Ballance

to Stobie in 1947, he worked at the same job of drill fitter throughout his Company service.

Irene Gilligan became his wife in 1938 at Napanee. The Ballance residence in Sudbury is often bustling with activity from visiting children and grandchildren. One of their daughters, Marie, is Mrs. Albert Bidal, whose husband works as a diesel loader-man on 600 level at Stobie.

Between fishing trips to Lake Nepawass, Bill plans to take a trip to Alberta, but after a coronary warning last December, he's going to follow doctor's orders and take it pretty easy.

JOHN LEWANDOSKI

"When I joined the Company in 1937, this building didn't exist," John Lewandoski was talking about the Inco Employees Club in Sudbury, where he and his wife posed for the Triangle camera on his retirement on disability pension.

After starting at Creighton No. 3 shaft, he worked underground and then in the steel shop at

Froid mine, and wound up his service at Clarabelle open pit.

John farmed with his father near Yorkton, Saskatchewan,



Mr. and Mrs. Lewandoski

until age 22. Married at Sudbury in 1938 to Victoria Marcynik, he resides in Azilda and has three children. Jacqueline (Mrs. Richard Beaudry) is a key-punch operator in the data processing department at Copper Cliff, and Audrey is married to Copper Cliff police constable Warren Haggart.

ALEX THIBAUT

Alex Thibault likes Garson — he was born there, grew up there,



Mr. and Mrs. Thibault

worked there and plans to stay there on disability retirement from the Company. His continuous service dates back to 1948.

When asked about his work at the mine, his reply was "every job on every level."

Alex did leave his home town long enough to find a bride in Kenogami in northern Quebec, marrying Jeannine Lantin there in 1950. They have two school-aged children. Mrs. Thibault is a full-time school bus driver in the Garson area.

Retirement won't mean day after idle day for Alex; he runs a 4-unit apartment block in Garson, and this promises to keep him busy enough, along with fishing down the French River way.

GEORGE BURWASH

One-time deputy reeve of Neelon-Garson Township, and presently the finance chairman of the Junction Creek Conservation Authority, George Burwash will have plenty to do on full service pension with the Company. As well as his post on the conservation authority, golfing, flower gardening and bird hunting on the Manitoulin will receive more time on George's daily schedule.

Born at Ponsonby, north of Montreal, he started with the



Mr. and Mrs. Burwash

Company in 1935, the year he came to Sudbury. Working initially at Froid on production, he transferred five years later to the mines engineering department, and has been permanently at Froid since 1955 as a survey assistant.

Although George had a heart "bump" this spring, he's feeling fine now and is looking forward to his fifth Florida vacation at St. Petersburg. Mrs. Burwash was Eileen Wedgerfield before her marriage to George at Little Current in 1939; they have one son. They will continue to reside in Sudbury.

ALDO DESANTI

Here's fair warning to the bass in Hannah Lake. Aldo Desanti is exchanging his mortar pail and trowel for a minnow bucket and fishing rod, and plans to wage all-out war on the fighting bass from the cottage he built at Hannah in 1949.

Born in Fano, Italy, Aldo came to Canada in 1924, settling in Copper Cliff and first starting with the Company the following



Mr. and Mrs. Desanti

year at the smelter. Twenty-five of his 39 Inco years were spent as a mason leader.

Amelia Signoretti, who had come to Canada from Italy as a child, became Aldo's wife at Copper Cliff in 1930. Of their three children, Ed is a 2nd class carpenter at the smelter, and Marlene is married to insurance and retirement accountant Jack Moskalyk of the general offices. Eleven grandchildren make for many happy visitations at the new Desanti residence in Sudbury. Enjoying excellent health, Aldo has a trip to Italy on the books.

FRANK CASAGRANDE

If Frank Casagrande had a dollar for every safe mile he drove as a jitney driver for the Company, he'd have a real bundle. On his daily delivery circuit between the Sudbury area plants, Frank calculates he drove 750,000 miles in the 25 years he was behind the wheel, or about 30 times around the world — without bending a fender.

Frank settled in Copper Cliff

in 1927, the same year he came to Canada from Col. St. Martino in northern Italy. He started his continuous service with the Company in the Copper Cliff smelter in 1929, working on the converters until 1933 when he trans-



Mr. and Mrs. Casagrande

ferred to the transportation department. He became a jitney driver in 1945.

Frank married a Copper Cliff girl, Norina Tessaro, in 1935. They have a son and two grandchildren. Taking a special early service pension, Frank has good health and plans to take a trip with his wife to Italy next year. Copper Cliff will remain their permanent home.

BILL CARLYLE

Emphysema has forced Bill Carlyle to take a disability pension after 23 years' service with the Company. He was born at Walford in 1908, and joined the Company in 1942 at Lawson



Mr. and Mrs. Carlyle

Quarry after working on the parental farm and driving truck on construction. In 1963 he changed both his work location and home, transferring to the Clarabelle open pit and moving to Lively.

At her home in Whitefish Falls, Katie Golden became Bill's wife in 1935. Two of their four sons work for the Company: Bill junior, is a relief section boss at the Copper Cliff mill, and Roy is a 2nd class maintenance mechanic at Stobie. One of their two daughters, Myrel, is married to Copper Cliff North raise driller Dan Caetano.

Bill enjoys watching televised sporting events and trying to beat his wife at cribbage. Their 10 grandchildren make for seldom-a-dull moment at their Lively home, where they plan to continue residing.

A new lightweight grass shear, powered by rechargeable nickel-cadmium batteries, will trim up to 900 linear feet of grass without recharging. Weighing only 28 ounces, the unit has a "low voltage design" eliminating the possibility of serious electrical shocks.

Lively No. 1 Brigade and Coniston Rivard Shift Are 1970 Champs



HAVING HONED their techniques to a fine edge in the aftermath of the August storm, the Lively No. 1 brigade put their practice to good use and won top honors in the pumper brigade competitions. Sitting to the right of chief Bill Fortin are Alcide Carrier, George Allen and Jerry Tovey; kneeling are Murray Sharpe, Walter Hayduk and Bert Behenna. Although always close contenders in the annual competitions, top honors had eluded a Lively brigade since 1954, when their No. 2 team won out.

Scant Seconds Meant Victory In Competitions

Just as the banner behind the Coniston Rivard shift fire brigade reads, fires can destroy jobs. But armed with the latest equipment and trained in modern techniques, fire brigades at Inco's various mines and plants in the Sudbury area can do a job that destroys fires.

In the annual Inco fire brigade competitions held in October, 12 pumper and 19 non-pumper brigades put their wits and skill to the test in simulated fire situations master-minded by fire inspector Don Bray. Proficiency in rescue and resuscitation techniques and equipment identification also counted in the results.

Scoring was calculated by a timing system whereby competing brigades were penalized a pre-determined number of seconds for errors or delays in carrying out the evolutions.

After missing a competition session in 1969 due to the work stoppage, the various brigades were championing at the bit to meet fellow firefighters from other plants in the Sudbury district operations with the laurels on the line.

A Four-Second Margin

The tests were challenging, the brigades were all competitive, and the final scores indicated that no team had a walk-away.

In the competition for non-pumper brigades, the Murray contingent, champions in 1967, were second only to the Coniston

Rivard crew, losing out by four small but decisive seconds. The Rivard boys' winning time was an impressive 98 seconds. Clarabelle open pit was third with 123 seconds, then Frood-Stobie mill (Abigail), 126 seconds; iron ore plant (Jack), 128 seconds; Garrison, 130 seconds; copper refinery ("C" brigade), 132 seconds; Frood-Stobie mill (Potvin), 133 seconds; Coniston (Strom), 134 seconds; Coniston (Cresswell), 138 seconds; iron ore plant (Pandke) and Crean Hill tied with 141 seconds; Frood No. 7, 143 seconds; Frood No. 3, 144 seconds; iron ore plant (Morrison), 159 seconds; two Frood-Stobie mill teams (Martel and Eveline), tied at 161 seconds; copper refinery ("B" brigade), 178 seconds; brigade "A", 199 seconds. The average score was 140 seconds.

Another Close One

In the pumper brigade competition, the average score for the 12 entrants was 106 seconds. True to their town's name and reputation, Lively No. 1 brigade edged out the Levack (town) brigade by a scant six seconds. Lively No. 1's winning time was 75 seconds. Third place went to Creighton mine with a respectable 88-second finish. Levack mine was next with 91 seconds; then came two Copper Cliff mill teams (McInnes and Bertrand), with 93 and 95 seconds respectively; Copper Cliff smelter (Rachkowsky), 107 seconds; Copper Cliff mill (Dyce), 127 seconds; Copper Cliff smelter (Shebeski), 128 seconds; Lively No. 2, 129 seconds, and to wind it up there was a 130-second tie between Copper Cliff mill (Pidgion) and the Forth team



NOT AT ALL AVERSE to retaining their championship status, firemen from the Coniston smelter once again were tops in the non-pumper competitions. In 1968 it was the Cresswell shift brigade who emerged as champions, and this year the Rivard team maintained Coniston's supremacy. Standing are Robert Keffer, Lawrence Lamothe, Edward Black, William Stinson and shift chief Alex Rivard. Seated are Hank Lowe, Phil Leclair, John Bertin and Andrew Kesek; kneeling with some of the tools of their fiery trade are Emile Moche and William Couroux.

from the Copper Cliff smelter (Forth).

Fire inspector Bray presented the championship shields and

congratulated the victors. He thanked all the teams for their interest and efforts in providing fire protection.

University Assistance

One of several recent similar grants by the Company, a contribution of \$225,000 has been made to Queen's University, Kingston, by International Nickel.

Payable in five annual instalments of \$45,000, the grant will be applied to promote the fields of science and engineering in the construction of a new mining building complex and the extension of the university's geological facilities.

The grant is part of the Company's enlarged program of continuing aid to education which was initiated in 1956. Since that time donations in Canada by In-

ternational Nickel have totalled more than \$11 million.

Support is given to activities ranging from sponsorship of summer university courses in mathematics and science for high school teachers, to undergraduate scholarships, graduate research fellowships and postdoctoral research fellowships.

The SST—the supersonic transport now being designed to carry up to 300 passengers at nearly three times the speed of sound—will require some 100,000 pounds of nickel in alloy form to provide strength and to resist the tremendous heat generated in the jet engines.

Here's Looking at You!

If you're an adult of average weight, here is what you accomplish in 24 hours:

- your heart beats 103,689 times.
- your blood travels 168,000,000 miles.
- you breathe 23,040 times.
- you inhale 438 cubic feet of air.
- you eat 3½ pounds of food.
- you drink 2.9 quarts of liquids.
- you lose ⅓ pound of waste.
- you speak 4,800 words, including some unnecessary ones.
- you move 750 muscles.
- your nails grow .000046 inch.
- your hair grows .01714 inch.
- you exercise 7,000,000 brain cells.

And all of this activity can be stopped, never to start again, by one split-second accident! Always think and act safely, on or off the job.



A smiling Austin Force poses happily in the cockpit of the shortfield sport plane he's building at Port Colborne. With its 65-hp engine it will cruise for three and a half hours at 90 mph. It's an unusual short-wing design originally developed in 1930, with a 65-hp engine and open cockpit.

Building Own Light Plane Austin Force's Big Project

The crankcase he picked up in Buffalo, the pistons and main bearings came from California, cylinders from a fellow artisan in Wellandport, and other parts from scrounging around local garages and machine shops, and in hours of poring over catalogues.

Thus gradually Austin Force carefully and patiently gathered the components for the engine and main structure of the airplane he is building at Port Colborne.

Austin is no novice at the flying machine game. He got his license in 1960, and has had almost 500 hours in the air. For a few years he flew rented aircraft, then got a Piper Cub on which he did some remodelling work and also of course maintenance. After he sold it about three years ago he missed it so much he decided to build a craft of his own.

"What I really wanted was a plane with a high safety factor for short takeoff and landing, so I could drop in for a visit with some of my farm friends in the district. In the design books I finally came across this parasol-winged type, first built about 1930 by Bernard Pietsenpol in Minnesota. It was just what I had in mind. I studied the plans on and off for about six months before starting to look for parts."

Hopes to Fly It in June

Austin expects to have his home-grown plane air-worthy and duly certified by the Department of Transport inspectors early next summer. With its 65-hp engine it will cruise at about 90 miles an hour for three and a half

hours, and stall out at 35 mph. It will require only three to four hundred feet of pasture for landing and takeoff.

A fellow with a healthy respect for a buck, Austin smiles with quiet satisfaction when he says, "I'll have it in the air for \$1,500."

The little open-cockpit two-seater sport job will have a wing length of 29 feet, about six feet shorter than the average Cub.

Who'll occupy that second seat most of the time isn't any foregone conclusion, since Austin's wife is no airplane lover, having been up with him only about once during the three years he

had the Cub, and his daughter Lynne, 22, and son Jim, 19, aren't all that enthusiastic about sky-riding either.

Austin has done the fabricating work in his home work shop, not holding himself to any rigid schedule but usually managing a session after work most days. He soon switched from a rip blade to a planer blade on his table saw, saving himself hours of sanding.

"I've used Sitka spruce throughout, with a sheathing of plywood on the fuselage. It is one of the strongest woods per pound of weight, and has a long straight grain, free of knots. It's tough, and it takes glue better. It's often called 'aircraft spruce'. I rigged up a jig for assembling the wing ribs — there are 30 of them, each 5 feet long, and they're all

hand-cut. It has taken a lot of time but I've never pushed myself and I've enjoyed every minute of it."

Kindred Spirits

Austin has assembled his plane in a loft of the old Knoll shoe factory on George Street, where Cliff Kramer operates a plastics injection moulding shop. They're kindred spirits in a way, and Cliff takes a keen interest in the progress of his fellow artisan's project. Getting the finished plane out of the loft will be no problem for them. There's a big door and an overhead track, so with its wings off the craft can be easily lowered to the street.

With engine, prop, instrument panel, cockpit, wheels, tail assembly, controls, etc. all carefully installed and double-checked, Austin is now covering the fuselage and air frame with Grade A cotton — the wings have to be rib-stitched by hand. Then he'll apply nine coats of cellulose dope. "I haven't decided on the color scheme yet, but it will probably be red and white, with maybe a black trim."

Born in 1918, Austin has been an Inco nickel refinery man for 30 years, working in the electrolytic department. Do-it-yourself projects have long been practically a way of life with him — he has built two fine homes, and has designed and fabricated some very attractive pieces of furniture to his wife's specifications. He has the patience, perseverance, and pride of creation that characterizes the true craftsman.

Climatic Power

Vented rechargeable nickel-cadmium batteries can be charged and operated effectively at sub-zero temperatures ranging from 65°F below zero to those near the boiling point of water.

