The Imperial Oil Review

VOL. 30, NO. 1 FEBRUARY, 1946

The REVIEW is published every two months by Imperial Oil Limited in the interests of shareholders and employees. Correspondence should be addressed to the Editorial Office, 56 Church St., Toronto, Ontario.

IN THIS ISSUE:

First "Cat" for Canada
Slide Rule Delivery
"Research in Canada"
International Petroleum Names Executive
The Drills Return to Western Ontario
The Veteran Returns
Petroleum's Most Versatile Product
Seeing With Electrons
"The Petrol Tanks Were Empty"
Operator—Call Akbari!
Imperial Man of China
Personalities in the News
First Operator

ON THE COVER . . .

During the war fluid catalyst cracking plants such as the one shown above were built in the United States. Now that men and materials are available in Canada, Imperial Oil's Montreal East Refinery is to have Canada's first "cat cracker." These units, used to date chiefly to produce 100 octane aviation gasoline and synthetic rubber feed stocks, open up a new field in petroleum refining.

NOW that we have entered the first full year of peace for Canada we can look ahead with a fresh and confident courage. Our confidence can be solidly based for it rests on victory—which means most of all perhaps the sacrifices and mighty achievements of our people. The waves of war subside slowly but they subside surely as the statements of 45 Allied nations painstakingly seek formulas to avoid future major armed conflicts.

From this most terrible of wars many thousands of the Armed Forces have returned and the Imperial Oil family is being reunited rapidly. But our first thought must be to the 75 fellow workers of the Company who have given their lives for Canada. These men win the most profound feelings.

More than 2,220 men and women of our 11,700 staff in Canada joined the Services. Of these, many have returned and about one-half have been reinitiated with the Company. They are heartily welcome in our reinstatement plan we have tried to show that their sacrifices and services are appreciated by their co-workers. Now like the rest of us they can look forward to sharing in the orderly expansion which has been planned for this industry because, like most of the partners in Canada's business, Imperial Oil recognizes that a high level of employment is an essential requirement for a prosperous postwar Canada.

Our Company's plans have been under consideration for many months preceding the end of the war. Apart from readjustment to civilian economy, these plans envisaged not only rehabilitation and replacement of equipment but also a wide programme to make use of the most advanced technological developments resulting from the concentrated experience of the war years.

We are now proceeding with these long-laid plans and the first step is the new construction programme for Montreal. There will be complete renovation of our existing refinery and to it will be added an 11,000 barrel-per-day fluid catalyst cracking plant, a 19,200 barrel-per-day crude distillation plant, a new light ends recovery unit and a 4,200 barrel-per-day non-selective catalytic polymerization plant.

These great changes, requiring more than 30,000 tons of new metal and entailing large capital expenditures will use the most advanced technique of the world petroleum industry. For instance, the "cat cracker," as the fluid catalyst cracking plant is called, is new to Canada and will be the first one in operation in the Dominion. All the processes from these and other installations will ensure that our millions of customers from coast to coast will have at their disposal the finest products of petroleum that can be produced.
FIRST "CAT" FOR CANADA

IMPERIAL OIL'S NEW CATALYTIC CRACKING UNIT WILL TAILOR PRODUCTS TO THE NEEDS OF TOMORROW

PLANS, men, steel and time, so long harnessed to the needs of war, are ready today to maintain Imperial Oil in its place of leadership in the Canadian petroleum industry. The first step in the planned development of the company's manufacturing facilities is the expansion and modernization of the Montreal refinery. By 1947 Canada will have at Montreal East one of the most modern and up-to-date refineries in the world.

To the public the Montreal modernization will mean more products and greatly improved quality. Gasoline, for instance, can be made to meet the needs of the automobiles of the future.

An outstanding feature of the new construction will be Canada's first "cat cracker"—a fifteen-storey high fluid catalyst cracking plant, earlier models of which produced in the United States a large part of the Allied Nations' 100 octane gasoline requirements. Other new units include a 13,200 barrel-per-day crude distillation unit, a light ends recovery plant, and a 4,000 barrel-per-day non-selective catalytic polymerization plant or "cat poly" plant.

In addition to new construction, an existing cracking coil will be remodelled to "vis-break" reduced crude to cracked gasoline, furnace fuel oil and heavy fuel oil; another cracking coil will be remodelled into a naphtha reforming unit to improve the octane number of low octane gasoline.

The modernization project will take nearly a year to complete from the beginning of construction. It is estimated 1,025 men will be employed at the peak of construction. The new units will employ permanently 90 men per day. They will occupy 270,000 square feet of Montreal East property.

Some idea of the size of the project may be gained from the amounts of construction material which will be required:

Some idea of the size of pipeline required may be had from the picture of a catalytic cracker under construction. Workmen have built a scaffold around one of the huge tubes.

(Below) Welders play a large part in the erection of a modern catalytic cracking plant. Here they are welding in the regenerator cone.
be used. It is estimated 18,000 tons of steel, 200 tons of alloy steel, 1,000 tons of cast iron, 25 tons of copper and brass will be used—to say nothing of the scores of miles of pipe, thousands of valves and other fittings and the quantities of brick, concrete and lumber. Over and above this, new storage tanks capable of holding more than half a million barrels will be required.

Translated roughly into implements of war, these materials represent 625 medium sized tanks, 10,000 aircraft of assorted sizes and 10 destroyers of medium size.

The additional cooling water required for the new and remodeled units will total 32,000,000 gallons a day—enough to service a city the size of Hamilton or Quebec.

The Montreal development places major emphasis on producing increased quantities of higher octane gasolines tailored to fit the needs of improved motors in years to come. The new crude distillation unit which separates crude into naphtha, kerosene, gas oils and reduced crude will increase the crude running capacity of the refinery to 27,400 barrels per day. The cat cracker will convert gas oils largely to gasoline of high octane number. The “cat poly” plant will chemically combine gases segregated by the light ends recovery unit into a synthetic gasoline also of high octane number.

Of all the units in a modern refinery the cat cracker is the most interesting for its size, its operation and its importance in producing large quantities of the gasolines required for high compression motors in cars or aircraft. The fluid catalytic cracking process was announced in 1941 and the first unit, built in the United States, went “on stream” about a year later. Since then many units have been built south of the border to produce 100 octane gasoline and gasolines for synthetic rubber and chemicals. Today they are a major source of high octane motor gasoline.

Cracking is the name given to the process whereby heat and pressure break up a heavier oil such as gas oil into molecular bits and then recombine them largely into gasoline. Catalytic cracking means that petroleum scientists have learned how to direct this process to produce much better gasoline. They do this by adding a catalyst to the vaporized heavier oil. The catalyst by its mere presence and without appearing in the final product causes the cracking process to produce higher octane gasoline. The action of a catalyst might be likened to that of a football coach who doesn’t play but directs his players—or likened to moonlight, which by its mere presence has been known to cause reactions between a couple on a park bench.

The catalyst used in the cat cracker is a dust-like powder so “fluffed” with air or gas that it flows like a fluid. It flows through a pipe to join the gas oil, which has been previously heated until it is a vapour. The catalyst causes the molecules of vaporized oil to break up and then recombine largely into gasoline molecules. At this point the catalyst particles, now coated with carbon and no longer effective, are separated from the gasoline vapour in a cyclone separator so shaped as to cause a whirlwind that lets the gasoline vapour go up and the spent catalyst go down.

The spent catalyst flows through a regenerator where the carbon is carefully burned off thus preparing it for use again. The gasoline vapour is passed into a distillation tower where it is separated from the fuel oils and gases which have also been produced. The latter contain the components required for the manufacture of polymer gasoline by the “cat poly” plant.

The building of the new cat cracking unit marks a great step forward in the history of oil refining in Canada. It is not just another process; it embodies new and revolutionary principles in chemical engineering which mark a new era in oil refining. Its simplicity and flexibility ensure for it not only a permanent place, but an ever-widening scope in the service of mankind. It is fitting as we move into this new year of peace that we should also be entering a new era in the Canadian oil industry.
SLIDE RULE DELIVERY

HOW THE METEOROLOGIST AND A BATTERY OF EXPERTS MAKE AUTOMATIC FUEL OIL DELIVERY POSSIBLE

HEATING by oil is so simple, so effortless, so completely devoid of distractions that most owners of oil-heated homes forget they have a furnace. And thereby hangs a tale—"effortless" heating is actually the result of vigilant, never-sleeping watchfulness and service. This is particularly true in those communities fortunate enough to have "automatic service".

The reason the home-owner with automatic service forgets his furnace worries lies in the battery of experts who take over for him. The first of these is the meteorologist—the weather man.

Beginning in September a weather forecast is received daily from the nearest official meteorological bureau. At the Imperial Oil offices an exact record is kept of the temperatures. Mild spells, cold snaps and just ordinary pleasant weather all go into a system of computation known as "degree days". To say the system is complicated is an understatement; but it works! It will tell exactly how much above or below the average rate fuel is being consumed.

To supplement this there is a complicated card-index system which will bring up owners' names just when their fuel oil tanks are getting low. This, too, is a complex but highly effective system which dovetails with the weather man's findings.

The net result is to free the customer entirely from fuel worries; he only knows his tank is low when he sees the driver drawing up at his home.

The tank truck itself operates on an efficient schedule. The location of homes needing fuel is carefully considered when the truck's route is being made up. One load will usually care for about five homes; probably the route will take the truck to another, perhaps a suburban, filling station, and there it can load.

At Toronto's big Princess Street station 1000-gallon trucks fill up for the morning run. For their second load they may take on oil at a more conveniently located suburban warehouse. Here Louis Pulkauskis, recently returned from the South for where he saw action in H.M.C.S. Uphold, checks a tank truck.

Starting to fill a 300-gallon house tank in a typical medium-sized Canadian home. No need for the driver even to ring the doorbell; he knows the tank capacity and the correct amount to deliver. To prevent overfilling, a vent valve blows during the filling operation and stops when the tank is full.

The driver inserts a fill in the meter aboard the truck. On it is registered the actual gallons delivered. One copy goes to the customer and the other is returned to the office after checking with the customer's delivery card on the spot. The system has proved to be almost foolproof.

Checking the customer's delivery card. On it is recorded the capacity of the tank, the number of gallons delivered and the total amount in the tank after delivery. The card is returned to the office for future delivery reference. The customer is assured that his supply will be maintained.
again and continue on a circuit which will produce maximum deliveries for a minimum of miles travelled. This careful attention to economy is required in a business which operates on such narrow spreads as the petroleum industry.

Efficient as the oil furnaces is, it is like any other mechanical instrument in that it cannot run without attention. Again, the Imperial Oil service man takes care of this; he is on call 24 hours a day to customers needing oil burner service. Automatic service has been available only in large communities having a large number of oil heated homes, because it cannot operate efficiently unless it services a considerable group.

Oil heating and the automatic system of delivery, however, is increasing in popularity. The industry faces a huge backlog of wartime orders for oil furnaces which the government decreed could not be installed in war time except under special circumstances. These orders are being filled as rapidly as possible. An increasing section of the Canadian public has come to prize both the automatic service and the clean, constant warmth of their oil furnaces.

``RESEARCH IN CANADA''

A VOLUME CONSISTING OF PAPERS GIVEN AT THE RESEARCH SYMPOSIUM OF THE CHEMICAL INSTITUTE OF CANADA AT THEIR FIRST ANNUAL MEETING, QUEBEC CITY, JUNE, 1945

WHEN the Chemical Institute of Canada—which combined the old Society of Chemical Industry, the Canadian Institute of Chemistry and the Canadian Chemical Association—proposed to hold its first annual meeting in its new guise in Quebec City in June 1945, the idea of a research symposium was conceived. Imperial Oil sponsored this meeting which occupied the final day of the proceedings of the Chemical Institute.

The late R. V. LeSueur, then president of the company, gave the keenest support to the plan. He said, "Our interest in research is not merely theoretical. It is intensely practical. Research is an essential element in any industry, especially in the big industries. Every big industry today, I think, has to have a research department, perhaps many research departments, and those departments are bound to expand as industry advances. We know in war the tremendous and very effective contribution which science has made and that this contribution has really been a potent factor in the trend of war. I believe that is coming true in industry more and more all the time, and that industry may become a battle of science, just as the war has been. I do not use the term battle in the sense of conflict, but in the sense of overcoming difficulties and finding improved methods."

A number of the scientists gathered together in Quebec City agreed to prepare and deliver papers on research in Canada. The result was that the papers at the symposium presented perhaps the closest general picture which so far has been developed of research in this country. Qualified men in their various fields outlined the existing situation and the needs and aspirations of their groups.

Among them were Dr. H. B. Speakman of the Ontario Research Foundation who not only acted as chairman of the symposium, but also presented a paper: Mr. Alexander King of the British Commonwealth Scientific Mission; Dr. C. J. Marlemont, National Research Council; Dr. J. M. Swaine, Dominion Department of Agriculture; Dr. R. K. Stratford, chief research chemist, Imperial Oil Limited; Dr. D. L. Thomson, McGill University; Dr. Harold G. Fox, K. C., patent counsel, whose paper was read by Mr. F. C. Rutherford. These papers proved to contain so much information of value to research in Canada that Imperial Oil decided to preserve them in more or less permanent form. Accordingly, with the co-operation and assistance of the members of the Chemical Institute of Canada the volume "Research In Canada" has been prepared and is in course of publication by the Company. Though not given during the symposium itself, a paper by Mr. Gilbert E. Jackson, given earlier in the conference, has been included.

Most of the first edition of this volume will be handed over to the Chemical Institute of Canada for distribution among its members, to scientists generally and among the libraries of the Dominion. The remainder of the edition will be held for research workers in Canada who may not receive it otherwise and who care to write to Imperial Oil for a copy.

In his never-ending search for new products, for new uses of present products, and for ways of making better products available at lower cost, the research chemist plays a major role in the development of our modern way of life.
INTERNATIONAL PETROLEUM
NAMES EXECUTIVES

F. B. BIMEL has been appointed chairman of the Board of International Petroleum Co., Ltd., a position formerly held by the late R. V. LeBlanc. Mr. Bimel has been a director of International Petroleum since 1925 and a vice-president since 1944. Mr. Bimel has spent nearly all his business life in the oil industry, and is an expert on production and pipeline operations. He began his business life, after two years of college, as a shipping clerk and assistant man. The indoor work did not agree with him and in 1924, on a doctor's advice, he found something of a contrast; he joined a pipeline construction gang. For some years he worked on the laying of pipelines throughout the U.S., and became a foreman of construction. He had many "firsts" to his credit, and worked on some important lines on the continent. In 1915 he left pipeline operations to become a producing assistant in a northern Louisiana field, three years later taking charge of the gasoline department. In 1923 he made a highly important contribution to the oil industry by organizing a system of recovery of gasses—known as "light ends"—which played a major share in the oil resources conservation program. The current changes on the board of International Petroleum renewed for Mr. Bimel an interesting association. Back in 1927 he gave a bright young man a job in the industry, and having in mind his own practical beginnings, sent him out to begin at the bottom of the ladder by doing some hard labor. That young man was Paul Lambright, who takes the post of executive vice-president.

B. A. Myers, a director since 1935, has been elected a vice-president of International Petroleum Co., Ltd. He has for many years past been in charge of the widespread drilling operations of International Petroleum and of Imperial Oil. Like many executives in the oil industry, Mr. Myers began in a practical capacity as a young man in the oil fields and worked his way up to success. He has spent some 40 years in the business, beginning in the fields of Pennsylvania. Mr. Myers joined the Tropic Oil Co., a South American subsidiary of International Petroleum, in 1923 as a field superintendent. The following year he was made resident manager in charge of all oilfield operations. In 1933 he was transferred to the executive staff of International in Toronto. He has at various times resided in Venezuela, Colombia, and Peru.

PHIL MAYER has been elected president of International Petroleum Co., Ltd., succeeding the late R. V. LeBlanc. Mr. Mayer is also president of the Canadian National Corp., which operates a pipe line from Barranca, Bermejo to Cartagena in Colombia, South America. International Petroleum's new president has had a wide experience in South America. His first work there was in 1921, in connection with the building of the Andinas National pipe line. He was successively chief engineer, engineer in charge of construction, and assistant manager of the pipe line during the construction and early operations. In 1929 he was made a director of Andina; in 1939 a vice-president; in 1942 vice-president and managing director, and in 1948 became president. He was also, for a time, a director of International Petroleum. During the past two years he has been engaged in South America in the important task of co-ordinating the holdings and activities of International Petroleum in Colombia. During the war, because of his special knowledge of pipe line construction, he was borrowed for a year by the U.S. Navy to supervise highly secret defense installations. Mr. Mayer received his bachelor of science degree in civil engineering from the Carnegie Institute of Technology in 1918. After a few months of construction engineering with a railroad he joined the U.S. Army in 1917. He rose to the rank of Captain of engineers and spent two years in France. He received two citations "for meritorious conduct" in battle, and was for a time on the staff of General Chau, P. Summner, who succeeded General Pershing. Despite the time he spends in South America, Mr. Mayer still considers himself a resident of Canada. He has a son attending Trinity College at Fort Hope, Ontario, and another son in the U.S. Navy.

PAUL LAMBRIGHT became executive vice-president of International Petroleum Co., Ltd. He brings to this chair a world-wide experience. Had it not been for defective eyesight he might have been one of the U.K. naval heroes of this war. He graduated into the U.S.N. from Naval Academy in 1919 as a "line officer." He travelled widely with the navy and was among the American relief force sent to aid Japan after the disastrous earthquake of 1923. He was at sea during this war on route home from the Russian oil fields, which had been overrun by the Germans, when he heard grimly of the sneak Japanese attack on Pearl Harbor. When he left the navy in 1927 Mr. Lambright wasted no time in starting a new career. He chose the oil industry, and by choice also he took the hard way, deciding to gain experience by manual labour. That he put an alert and well-trained mind to good use, however, was evident from his progress. He became skilled in production engineering and was transferred to Argentina and Bolivia. When he left there in 1942 he was superintendent of two producing fields. His next move was to Sumatra, where he became assistant general superintendent of production for the Standard Vacuum company. He went to Romania in 1936 as general superintendent of the Romanian-American Oil Co.; he was general manager of this company, with headquarters at Bucharest, during the revolutions and counter-revolutions which preceded and followed the declaration of war in 1929. Many times he narrowly escaped arrest. Upon his return to North America he became manager of Imperial Oil's share in the wartime Caxol project in Canada's Northwest Territories. From this assignment he came to International Petroleum. Just prior to his appointment as executive vice-president he completed an extensive survey of International's holdings in Peru, Venezuela. He brings to his new task a special understanding of International's interests and problems.
THE DRILLS RETURN TO WESTERN ONTARIO

SOUTH WESTERN Ontario, the site of the continent's first commercial oil production, is today under the most comprehensive scientific survey for oil it has ever received. Well above 100,000 acres of land have been leased by Imperial Oil in the western counties and already some 20 exploratory wildcats have been completed.

Ninety per cent. of the oil produced in Ontario has been taken from fields discovered prior to 1886, and 85 per cent. of the province's natural gas from fields discovered prior to 1910. The possibilities of "second-crop oil" in southwestern Ontario were emphasized by similar discoveries in the United States just across the border. It was very well known that

Leasing and drilling is an old story to the farmers of Western Ontario. Here Dougal Ferguson and his wife and daughter listen as William Katzenmeier explains the province's lease.

The Ferguson family and Mr. Katzenmeier watch as mud is pumped out from a level of 1100 feet. As the rock is chipped out at the bottom of the hole it is mixed with water and becomes a mud. The "cuttings" are hauled up and dumped out every few feet.

Walter Moreno of Chatham explains to Marilyn how the big brakeman works as the one-ton cable drilling rig is being lowered into the earth.

Using a map of the district to illustrate his point, lease man William Katzenmeier explains to former Dougal Ferguson and his daughter Marilyn where Imperial Oil geologists believe oil may be found. Part of the site is on Mr. Ferguson's farm.
the southwestern Ontario formations continued across under Lake Erie and were to be found in Michigan and Illinois. As a result Imperial Oil began, in 1941, a systematic collection and analysis of all available information obtained in previous drilling in southwestern Ontario and related sections of U.S. So much interesting data was discovered that the present broad program was decided upon.

In general, the subsurface structures are similar to those in northern Michigan where many fields ranging from a few hundred acres to 3,000 and 4,000 acres in extent have been found, yielding many hundreds of thousands of barrels of oil in some cases and several billions of cubic feet of gas in others.

Two interesting facts stood out about southwestern Ontario exploration: many potentially productive areas had never been explored at all, and in other areas where wildcat wells had been sunk the drills did not penetrate deep enough to test formations which in U.S. and Canada were already proven producers.

Lost sound too hopeful, however, geologists hasten to add that Ontario can never expect “big” production. It can hope for a number of small commercially profitable fields, but not for any rich bonanza to be compared with the world’s great finds. Ontario’s total production to date is only 20,000,000 barrels of oil and 385,000,000,000 cubic feet of gas.

A vast amount of work, too, must be done before it is reasonable to expect results. In Michigan, out of a total of more than 12,000 wells drilled, about 200 were dry. This is in line with results obtained in drilling for gas by one of the larger companies operating in Ontario. Of 530 holes drilled by this company in recent years about half were dry. In 1944, in Michigan, about 22 wildcat tests were made for each discovery.

Geologically, southwestern Ontario is a problem child. This entire region is covered with a mantle of glacial drift, laid down in the ice age, which varies from a few feet to more than 500 feet in thickness. Rock exposures, the geologist’s clue to secrets below the surface, are few and widely scattered. The surface topography in no way expresses the underlying structures. There are many small underground faults and folds which, for the most part, reveal themselves only through a detailed study of drilling records.

These faults and folds, of course, are where oil is likely to be found. It is commonly known that oil saturates the pore spaces of rocks laid down by ancient seas, as water lies in a sponge. Oil is also known as a migratory substance; if it is not held it will escape to the surface. It is found, therefore, where underlying rocks have been gently folded upward so that large quantities of oil and gas have become trapped on the crests of these folds under an impermeable cover.

By painstaking examination of drilling records the geologists believe they have marked out the most favourable sites for folds; these markings, of course, indicate the areas to be leased and explored.

Leasing and drilling are familiar to residents of western Ontario. Since the first oil field on the continent was brought in at Petrolia men with property in the region have dreamed of bringing in fortunes in their back yards. Around Petrolia and Oil Springs and some other old fields one may still see plenty of tripod derricks with the traditional “walking beam” that brings up anywhere from one to four, five, or perhaps half a dozen barrels of oil a day.

These old fields, however, are being stripped in an operation that has long had a very narrow margin of profit. Most leasing and drilling in recent years has been for gas.

In the early days quite a reputation grew up about the lease man. He was believed to be a sharper who was out to chisel everybody in sight. In the early boom days there were doubtful promoters of this type in the field; to-day, however, the business is well standardized and—concealed from the whispers of the past—reputable companies make every effort to engage the most reliable men for leasing and give them a clear set of instructions to work and abide by.

Most of the leasing is from farmers, as southwestern Ontario is a fertile district famed for fine crops of corn, tobacco, and other produce. Leasing has a natural appeal to them. They know when they sow
their crops in spring that they are gambling on a harvest in the fall. The lease provides a very similar gamble, except that the oil company assumes the risk. As an initial payment the farmer usually receives a nominal sum of five dollars. In the present program Imperial Oil thereafter pays for its lease rights a standard amount per acre per year, usually on a ten-year contract. In addition crop and any other damage is made good.

This, however, is the least interesting part of the lease. If oil is found the farmer gets one barrel in eight. In Ontario, of course, the farmer owns the mineral rights on his land. As an indication of what could happen, the biggest producer among the wells in the Oil Springs area had an initial yield of 7,500 barrels per day. The average production over the whole field ran above 9,000 barrels per acre. The current price of western Ontario crude oil—the price varies according to quality—is about $2.40 per barrel, although in peacetime quotations were much lower than this.

At that rate signing the lease on a 100-acre farm which subsequently proved productive might result in the farmer ultimately receiving a cool quarter of a million dollars!

However, a much lower figure is likely in any western Ontario discovery. More probably an eighth interest on a hundred acres is of the type of field likely to be found would result in a total of $15,000-$20,000 per hundred acres.

So much for the farmer's share. What does the oil company do to earn the other seven barrels? In the first place the oil industry is faced with the need to develop Canada's oil resources. Canada is the second largest consumer of oil. In almost every field of effort there is a large and constant increase in the use of petroleum products every year. Yet Canada produces only 15 per cent of her needs.

If an oil company, therefore, is to meet its responsibilities as a good citizen it must seek to develop Canada's natural oil resources. This means gathering and employing scientists who will map out millions of acres in which it is possible oil may be present, and isolate the few square miles in which a producing field may actually be discovered. Years of study, as in the present exploration in Ontario, may precede the sinking of the first hole. Fortunately the western Ontario formations are shallow; even there it costs up to $30,000 to drill one hole, depending on depth. And the average is still roughly 30 days holes to one producer!

Seeking oil, therefore, means a large outlay of capital and a skillfully planned, intelligently pursued program. Once the oil is found there is the cost of opening up the well and installing efficient producing apparatus, and of transporting the crude oil to the refinery.

In the meantime money is flowing into the pockets of many deserving farmers, drillers and others resident in the southwestern Ontario counties. In Petrolia, the home of many retired drillers and rig men, little groups discuss the possibilities of a find in this new exploration program. Whether or not it proves productive, many an oil man, many a farmer, many a plain John Citizen will have anxious eyes focused on western Ontario in the months to come.

Their returns

THE above letter, addressed to Imperial Oil's President, is published here because the happy situation outlined in the letter is equally due to those in the Company who welcomed the veterans home, and to the service men. Upon the co-operation and understanding of all concerned must rest the success of the Company's policies—particularly so in such a human problem as the veterans' return.
PETROLEUM'S MOST VERSATILE PRODUCT

KEROSENE, FIRST COMMONLY USED PETROLEUM PRODUCT, HAS AS A FUEL ADDED DAZZLING SPEED TO ITS LONG AND USEFUL RECORD

LIGHT has always seemed strange and wonderful to man. Prehistoric man, enowvering in his chilly caves during long hours of darkness longed for the comforting light and warmth of the sun. It is a small wonder that down the ages the sun and fire, given of and warmth, have been symbols of God in the mind of man.

Probably no phase of the evolution of civilization has been more exciting than the development of artificial light from the first primitive wicks, floating in shallow stone lamps filled with animal oil, to the shining candle-globe of today. Kerosene, derived from crude petroleum, played the star role in this drama.

Today, electricity has replaced kerosene in the lighting of city homes and with the extension of rural power lines it has superseded the familiar oil lamp in farm homes and barns, just as the kerosene lamp itself replaced the tallow candle a century ago. But kerosene, first commonly used product to be derived from petroleum, remains today because of the need, rather than the cost, its greatest value has been transferred from the sphere of light to that of speed, and kerosene has醒来 again as a fuel. The new jet propelled fighter plane that promises to revolutionize flying uses a special turbocharged fuel of which kerosene is the chief ingredient. In the field of lighting and heating kerosene still plays an important part. In 1944 Canadiana used 24,729,881 Imperial gallons of kerosene, of which 19,817,951 gallons or 42.2 per cent, was used in stoves and lamps. Railways used 1,152,828 gallons for these lanterns, lamps and signals. Manufacturing plants used 1,389,272 gallons as fuel for their engines. Tractor fuel accounted for 1,509,375 gallons and boats used in 8,935 gallons for fuel. In 1943 Canada used 24,616,850 gallons.

In these years it was necessary to import kerosene to meet the current demand, but experts say that now they can stop up production to keep pace with home needs.

In spite of the hostages brought to established farming communities by rural electrification, there are many parts of Canada where the choice still are done by lanterns light and the family gathers around the kerosene lamp with beams, fuel and sewing every evening. Those kerosene stoves, almost as easy to operate and clean as the gas or electric stove of the city, light the homestead’s hearth. Baby chokers are kept warm in kerosene-heated incubators and brooders. Farmers no longer have to chop the ice from frozen water-ways, because kerosene-heating "salamander" stock tank heaters keep the water at exactly the right temperature for stock at all times.

Just as tractor and trailer have replaced the ox team and covered wagon in Canada’s pioneer districts, so the kerosene lamp has replaced the tallow candle. Actually, the change from that faint, flickering light to the brilliant and steady glow of the kerosene lamp and lantern was a more decisive improvement than the modern step from lamp to electric bulb.

How the Canadian scientist, Dr. Abraham Geiser, discovered kerosene in Haligon about 1858, is a romantic story of the way in which the country’s natural products were turned to the service of the people who came here to make it their own.

Dr. Geiser was born in Cornwall, Nova Scotia in 1837 and, after a medical education in London, England, returned to practice in Parrsboro, N.S. With his interest in medicine and surgery he acquired an intense enthusiasm for geology and mineralogy, which was heightened by the rocks and minerals he found along the Minas Basin.

This curious dentist knew what it was to ride his horse through wind, snow and sleet in answer to an urgent call on a dark winter’s night. He may well have known the tragedies and frustrations of trying to operate by feeble candle light only to have a sudden stormy gust of wind fling wide the door and quench the candle flame. Had the light not failed at a crucial moment, he might have saved the sick farmer even then. Such things happened in those days.

The nineteenth century in which Dr. Geiser lived was an age of great scientific discovery, and he worked in many fields before he made his great discovery of a light-giving oil. In 1858 he published a book on the geology and mineralogy of Nova Scotia and two years later he was appointed Provincial Geologist of New Brunswick. Later he returned to Nova Scotia and there he is restless in the possibilities of better lighting was stimulated further by a meeting with the original discoverer of illuminating gas, Lord Dunlop, Admiral of the Fleet at Halifax.

The two men enthusiastically agreed to do some experimenting together. Lord Dunlop was working on sulphuric acid from the pitch lakes of Trinidad, but Dr. Geiser sought to extract illuminating oil from some local product and began to experiment on coal and other plant materials until one day he got an oil that looked as if it might give a satisfactory light.

It was a tense moment as the scientific friends drew the curtains and applied a light to the oil. It did burn with a clear radiant light. Lord Dunlop declared all share in it. Dr. Geiser's discovery but helped him name it, "Keros", the Greek word for wax and "elaios", oil, were combined euphoniously in the new name of making the Glowing Meteor.

Joseph Howe, another great Canadian, who was then provincial secretary of Nova Scotia, hailed the discovery and the apparatus of Dr. Geiser contributed to turn it in with enthusiasm. The government placed the light house at Megahed Beach under Dr. Geiser's exclusive control for one month so that he might keep regular and detailed data on his experiment. The experiment, made in December 1858, was an exciting success. The kerosene lamp gave a stronger, steadier light than these had ever been in any light house before and could be maintained in all weather.

Two years after this success with kerosene, Dr. Geiser took out patents for manufacturing it in the United States where he began the large scale production of kerosene. In 1883, he returned to Halifax where he died a year later.

Through the introduction of kerosene man had conquered the dark. Women were spared the drudgery of candle making, the lanterns assured a remarkable degree of safety which allowed men to work in barns and stables after dark.

And now, when a newer and stronger light has superseded kerosene whose pioneer lines have reached, kerosene in turn has superseded what even very recently were considered the modern fuels. The specimen of other petroleum fractions being used to power the British "Meteor" jet fighter plane recently bought to Canada by the R.C.A.F. was developed in the Sarnia laboratories of Imperial Oil Limited to meet British specifications. It was the first such fuel used in Canada in aircraft and many herald a new era in fuels not only for flying but also for other uses.

No person can know the future achievements of science, but even today jet aircraft flying on kerosene are offering competition to propeller driven aircraft on 100-octane aviation gasoline, and for some purposes such as very high speeds the jet aircraft are undeniably better.

Jet engines demand a fuel with the highest possible heat content and kerosene possesses the qualities to meet this demand. It has another extremely important quality. Because it does not vaporize and explode equally as does gasoline, it should greatly reduce the number of deaths in flying accidents.

Although the kerosene now produced is hardly enough to meet current needs, experts say that if jet propulsion should become popular there is no need to worry about a shortage of this fuel. More kerosene can be obtained from crude oil just as more gasoline was obtained to meet increasing demands.
Seeing

WITH ELECTRONS

TINY NEW WORLDS HAVE BEEN OPENED FOR EXPLORATION BY THE ELECTRON MICROSCOPE, ONE OF THE NEW SCIENTIFIC SERVANTS IN MANKIND'S PROGRESS.

SINCE Anthony van Leeuwenhoek invented a workable microscope almost three centuries ago, men have seen the creatures whose entire universe is a drop of water and have studied them as they spoil wine, make cheese, drive dogs mad and kill men.

Today, as the ever-present tool of all sciences, the microscope is playing a highly important part in the everyday lives of each of us. Probably there is not a single part of our way of life that has not been influenced by it. Ways are found to improve our foods so that we have a better diet; new things are discovered about our clothing; greater knowledge of disease gives us a chance for longer life; and constant industrial advance contributes mightily to conveniences and comforts within reach of all. The microscope has long been an indispensable part of the oil industry; its uses range from reading the oil-bearing possibilities of rocks to the study of catalysts for the latest refining processes that make available the most modern fuels.

Seven years ago, Dr. E. F. Burton, head of the department of physics of the University of Toronto, and his co-workers, James Hilliar and Albert Prebus, developed and introduced into the western hemisphere an instrument that takes man's vision even farther into the world of the small than the optical microscope.

This wonderful discovery is a new kind of microscope, the electron microscope, which uses electrons instead of light. The electron microscope now developed as a commercial research tool by Dr. Vladimir Z. Zuevkin and his fellow researchers of the Radio Corporation of America, is taking its place beside the optical microscope as a tool of science.

In the biological field, the electron microscope assists the optical microscope in the study of bacteria. Only the electron microscope can study the smaller and more deadly organisms known as viruses, which are believed to be the cause of many diseases, such as influenza, and for which medical science has as yet no effective cures. With the electron microscope men have been able to see for the first time the active bodies in most serums and vaccines that attack and kill germs. The effect of sulpha drugs and penicillin on bacteria has been watched and cancerous tissue has now been sliced thin enough to be studied by the electron microscope. Even the scientific stumper "why is grass green?" has some hope of solution through the use of the new instrument. Even the tiny particles in sea cells, known as genes, which determine our hereditary characteristics are now revealed to the inquiring eyes of the scientist.

One of its first industrial uses was to aid tire manufacturers by revealing the size and shape of the carbon black particles which make up almost half of a tire tread and which give the tread its strength and durability. At the present time the electron microscope is used to study catalysts used in the production of ethyl alcohol.

Electrons are produced by an electron gun in a vacuum chamber, called the cathode. Attracted by 10,000 volts potential the electrons rush to a copper, or molybdenum target. Some of the electrons pass through it to fall on the screen and are focused on the objects to be examined by the magnetic influence of an iron coil wound around the end of the tube. The condenser lens...
to light waves, the picture contains a wealth of detail which still remains sharp and clear when it is photographically enlarged to 50,000 times the size of the original object. For example, a rib of a diatom, a microscopic marine creature as photographed through an optical microscope appears solid no matter how much photographic enlargement may be used. Enlargement of the picture obtained with an electron microscope shows the rib is not solid—it is full of holes like a sponge. Electrons being 2,000,000 times smaller than the light waves used in optical microscopy gives the electron microscope its great superiority in clarity of detail.

Except for the substitution of electrons for light waves, the principle of the electron microscope is remarkably like that of the optical microscope. In the latter light rays are bent and focused by a series of lenses in much the same way as to produce in the eye, or on a photographic plate an enlarged image of the object under the microscope. Similarly electrons streaming from a white-hot tungsten filament are bent and focused in such a way as to create an enlarged shadow picture of the object on a photographic plate, or on a fluorescent screen which permits observation of the shadow picture by the unaided eye. The bending and focusing of the electron rays is accomplished by passing them through the centre of a series of coils of wire through which an electric current flows under a pressure of 50,000 or more volts. The coils act as magnets which affect the electrons in much the same way as a magnet lying on a table would curve the path of a steel ball rolling near the magnet but not close enough to hit it.

Electrons would be stopped by even the thinnest glass slides on which objects are mounted for study. (Below) The "cartridge" with its mounted specimen is inserted into the electron microscope by a device which not only acts as an air tight plug in the microscope wall but permits accurate placing of the cartridge in the electron beam.

Dr. E. F. Burton, head of the department of physics and director of the McLennan Laboratory, University of Toronto, placed the sample to be examined is placed on the film after which the holder is removed and its mounted sample is placed in the electron microscope.

Electrons are also stopped and scattered when they attempt to force their way through air. Consequently, air must be pumped from the entire interior of the electron microscope. Electrons streaming through the vacuum of the microscope are brought to a focus on the object by controlling the magnetic fields created by the electric current in the coils of wire. Since the thin film of colloidion will not stop electrons, those striking the film pass through it and continue on to the photographic plate, or fluorescent screen. Electrons striking the object pass through in part, or are stopped entirely, depending on the thickness or density of each part of the object. In this way the object casts a shadow which can be examined.

The electron microscope is not as perfect an research tool as it might be. Since the object must be under a high vacuum the lack of air pressure probably changes or distorts soft substances, such as tissue and bacterial bodies with consequent unreliable shadow pictures. Furthermore, the electron beam when it strikes an object creates a high temperature. This heat quickly kills living organisms and tends to dry out and char such things as pulp and textile fibres. During the 15 or 15 seconds required for the exposure, materials other than the more durable ones such as metallic powders, clays and soaps may change greatly in their appearance. Despite these limitations, the electron microscope will always be a research tool. More than 100 such instruments, costing $5,000 to $10,000 each, are in continuous use.

What can be expected next? Already reports in scientific journals indicate that X-rays may be used to photograph molecules, which a year or two ago scientists believed could never be seen. From the secrets of the world of the small man will build a better life in the world of the everyday.
"THE PETROL TANKS WERE EMPTY"

ONE of the thrilling Canadian war stories of which little has been heard is the part played by men of the Royal Canadian Air Force in crippling Germany by knocking out her oil installations. Experts have made and are still making surveys and analyzing the effects of specific raids. From these reports and the visits of such experts as Roy H. Smith of the engineering and development department of Imperial Oil's Sarnia refinery, who went through Holland and southern Germany with a combined intelligence sub-committee, a startling picture of the effectiveness of Allied air power is being drawn.

The targets upon which Canadians concentrated were ten synthetic oil plants in the Ruhr valley. These plants produced one-third of all the enemy’s synthetic oil supply. Some of the results of Canadian raids are shown on these pages, in pictures which are published for the first time outside of secret intelligence reports.

The Canadians who helped cripple the enemy’s power units operated under the Bomber Command of the R.A.F., to which the R.C.A.F.’s No. 6 Group contributed its greatest effort during the period when the strategic oil targets were receiving the most fulsome attention of Bomber Command. They were, of course, but a part of the vast overall pattern of co-ordinated air might with which the Allies stiffened German nerve centres of war before and beyond our advancing armies.

The aerial campaign against German oil centres began in earnest in April, 1944, two months before D-day. By April, 1945, despite a vigorous effort by the enemy to repair bomb-damaged plants, his supply was cut so drastically that his overall production was only seven and one-half per cent. of what it had been one year before, and his petrol production was only two per cent.

In this broad picture, the Canadians played an efficient part. Authorities state it is probable no single bombing campaign was so complete in its effect as the one on the Ruhr. The synthetic oil plants were smashed, one by one, and when they had been put out of action coking and tar distillation plants which produced benzol as a by-product were bombed. All were very large plants and the fact that they were not only kept working but also repaired as rapidly and efficiently as the synthetic oil plants was clear proof of the enemy’s desperation.

The main product of the coking plants was of course coke, and the main use for this was in the steel plants of the Ruhr. But large numbers of these were inactive in the latter half of 1944, either because they had been destroyed by bombing or because the Germans could not get manganese chrome and other metals used to make alloy steels. Vast quantities of useless coke were allowed to pile up, however, in order to reduce the small quantities of coal in motor fuel.

The average coking plant produced about 1,000 tons a month of benzol, whereas the smallest synthetic oil plant in the Ruhr had a normal output of some 7,000 tons a month. To add to the scarcity, systematic attacks were made on petrol and lubricating oil dumps.

So little oil was being produced in Germany by the beginning of April, 1945, that it could not be efficiently distributed; there wasn’t enough petrol to move supplies to points where they were needed.

The results of strategic bombing are widely known. The Luftwaffe was grounded. Our forces captured perfect German mechanized equipment, rooted to the ground because gas tanks were dry. Our intelligence told of German troops marching to the front and to sectors where we attacked in force, when normally rapid transport should have carried them. Horses huddled supplies to the front, slowly and inefficiently, clogging roads and bogging down the army. This was an ironic fate for the army that taught the world “blitzkrieg” – the war of lightning movement. No less an authority than Hermann Göring admitted the reason for Germany’s defeat.

"The petrol tanks,” he said, “were empty.”
OPERATOR—CALL AKLAVIK!

TELEPHONE OPERATORS ARE IN THE FRONT LINE OF ENTERPRISE—YET THEY SMOOTH THE DAY FOR PRESIDENT AND OFFICE BOY ALIKE.

A TELEPHONE operator is a V.I.P.—Very Important Person—in any business, and in the oil business she is perhaps even a little more important than that.

Not only is the operator the business voice that greets the Company’s callers and turns them into warm friends or cold critics; not only is she the link that connects employees in Peru, Fort Norman, Colombia or the next floor down, but she must be also a mother of troubled tempests, walking with him or her to the production fields. Some of the girls are young and crisp, filled with the importance of the public relations aspect of their jobs. They know the world of difference there is between what the Telephone Company, for instance, describes as “the voice with a smile,” and a Shabby, distant-sounding “Hello.” Others have been with the Company through the years of its growth. They have grey hair and a twinkle in their eyes and can distinguish between the abruptness of a man who is busy and worried and needing their help, and one who is just plain mean. All of them have ideas about their jobs.

Miss W. Twiss of Vancouver, now retired on pension, recalls with a winkle how in 1913 the head of a large drayage firm bought one of the first automobiles in that city. He telephoned Imperial’s office, “I have just got an automobile. What do you use to run it?” It was not long after that the telephone operator was cheerfully directing proud owners of new automobiles to the first service station in Canada, opened by Imperial Oil.

Vancouver’s present receptionist and switchboard operator, Miss Jeanie Wilson, has been with Imperial since 1926. During the danger of air raids in the Pacific coast city, hers was an important post in the air raid precaution arrangements. An unusual type of call is one which she is required to handle: a radio call from coastal boats in the Company’s service. Calls are placed through radio stations at Vancouver or Prince Rupert, giving the name of the ship and the person aboard who is being called, and, within seconds, the shore telephone will ring. Once or twice these have been quick action calls for assistance from vessels in trouble. Once the M.V. “Boulevard” broke her crankshaft and was helpless. Another time the M.V. “Empire” was driven hard ashore and sent a hasty message.

Miss Edythe L. George, switchboard operator in the Edmonton office for the past twelve years, got in on the excitement of the “war-rush” days when the
In 18 years of continuous service with Sarnia Refinery, Miss Blanche Allingham has had many odd requests. One day a few years ago, a masculine voice asked for Mr. Miller.

"His initials, please?" Miss Allingham asked as there were several Mr. Miller working in the refinery.

"Oh, you know," came the caller's reply, "The one with the red-headed wife.

Sarnia's earliest telephone system was a few direct lines, each with several extensions, each with a different ring, very like rural party lines today. A new switchboard was installed when the present main office was built in 1912, to be replaced in 1926 by dial equipment. The system now has 13 lines to "Central" and more than 200 extensions. "The lines connect the Polymer Corporation to the Imperial system.

Miss Ethel MacGregor, chief operator, at the executive offices, 56 Church Street in Toronto, has served the company for 27 years and Mrs. M. Brown has one year more to her credit. Miss James, relief operator, has served 25 years. Mrs. M. Morrison who retired late in 1944, was operator with the old Queen City Oil Company and remembers when Imperial and Queen City amalgamated. New members of the switchboard staff are Miss Vi Bell and Miss L. Brown.

Approximately 3,500 calls per day are handled by the operators at the 56 Church St. executive offices with a daily average of about 100 long distance calls. On an ordinary day incoming calls would number approximately 1,400 and outgoing calls around 2,100.

Also in Toronto are the offices of the Ontario Division where the present modern switchboard was installed in the new office at Lakeside in December, 1941. The operators are Mrs. Rose McGovern and Mrs. Hazel Sutherland. They handle the average 900 calls per day, including long distances and inter-office calls.

"Hello" is a legend in the Quebec Division offices, Montreal. Her real name was Albertine Turet until she left in 1921 to become Mrs. Frank Polan. In 1913 she replaced Miss Maggie Price, the first operator, who was leaving. Eugene Vanier did not know the name of the attractive new operator, but he could see the title of the book she was reading was "Hello". So Helen he called her and Helen she became to everyone. She was the girl who stuck to her post through the excitement of a fire alarm and was severely scolded for her bravery. Besides the switchboard, her duties included almost anything from checking gasoline and oil contracts to cooking the manager's dinner when he was too busy to go up town.

Calls were few in those days. Now the office has two switchboards and Miss Jeanne Lafamme and Miss Rita Brautl handle approximately 2,000 calls a day. Miss Lafamme has been with the Company 14 years and Miss Brautl a little more than two years. Miss Fabiola Hade, a talented actress, served as the executive offices operators grouped around the chief operator, Miss Ethel MacGregor. Behind Miss MacGregor are "right ladies, relay operator, Miss V. Bell, Miss Lavista Brown and Mrs. Ida Boes.

operator for 15 years before she left in 1942 to be married. All, of course, are perfectly bilingual, including Miss Lucie Glouette, relief operator, newly transferred to her post.

Office Sales and Service department calls in Halifax are handled by Miss Jennie Webber. Miss Blanche Pike, who still is a member of the staff, was switchboard operator from 1933 to 1939 when she was transferred to other work and Miss Margaret MacKenzie took over. She also was transferred to a different occupation and Miss Webber succeeded her. Private branch exchange operators at the Halifax Refinery are Miss E. Fulton and Miss E. Carter.

Calgary and foco refineries are served by the central city switchboards and Winnipeg has only a small board.

The Company's lines of communication extend outside Canada to St. John's, Newfoundland, where a modern Stromberg-Carlson switchboard was installed in 1943. The switchboard operator, Mrs. Ruth Rood, does clerical work in addition to handling an average of 289 calls per day.

A glance at a western hemisphere map shows the extent of the Company's interests. All these offices, plants and production fields are connected by the efficient magic of the telephone and these are the women who control the lines of communication.

We give you Imperial's telephone operators!

ANSWERS TO TELEPHONE PERSONALITY QUIZ ON PAGE 27

1. No. Cheerful is good. Hello is bad. We should say, for example, "Hello department, Atlantic Blake speaking."

2. No. Efficiency is good. Grouchiness is better. We should not be so hard-nosed as to be abrupt. The moment opens in a friendly greeting pays dividends.

3. Yes. It may be important.

4. No. "Technical experts say|lips should be less than half as much as the mouthpiece."

5. No. "Trains in psychology have convinced experts that nobody likes to wait. They say that if information can be found in a matter of seconds we may say, "Would you care to hold the line for a second or two while I find out for you?" but if it will take longer, we should suggest we call back as soon as the information is secured.

6. Yes. Whether we say, "This is John Blank of the Marine department, Imperial Oil," or "Marine department, Imperial Oil calling, Mr. Blank speaking," or some similar form is a matter of the planning favored by each individual department, but the expert declare we should always identify ourselves at the opening of a conversation.

7. Yes. It should have.

8. No. "Psychologists say we unconsciously react automatically to good and bad approaches. When someone stands at set in our natural tendency to snap back. By the same token, a courteous request usually brings courteous service."

9. Yes. "We should answer promptly but sometimes it is impossible and experts say six rings is long enough for anyone to get to the telephone.

10. No. It is much kinder and better business to help the caller by having his call transferred.
IMPERIAL MAN AT OKINAWA

LT.-COL. CHARLES A. SABOURIN OF SARINA ACCOMPANIED AMERICAN INVASION FORCE.

WHEN the first wave of Americans stormed ashore on the west coast of the Pacific island of Okinawa, they were accompanied by a Canadian, Lt.-Col. Charles A. Sabourin, formerly a clerk in the barrel house office of Sarina refinery. As an observer for the Canadian South Pacific force which was then being formed, Col. Sabourin remained on the island for eleven bloody days. Two of his colleagues were wounded but he himself was unscathed in the fierce battle of the war. More than 17,000 Americans were killed and another 30,000 wounded.

"I landed," Col. Sabourin said, "with the first group of artillery at two-thirty on the afternoon of April first. The going wasn’t too bad because the Japs expected us to attack the east side instead of the west coast. But on the third day we ran into their prepared positions and from then on the battle was hard. My narrowest shave was when flying very low in an observation plane. Suddenly we ran into a patch of concentrated rifle fire from the ground. When we landed there were 16 bullet holes around me - too close to suit me. Another time, about 200 Jap commandos tried to jump us to destroy our 24 guns. They were 5.5 inch Long Toms. We lost two killed and two wounded. About 30 Japs who got near our position were killed, the rest were driven off. The Americans are great fellows to work with. They have the finest equipment, plenty of it and they know how to use it."

Col. Sabourin, now 35, was born in Rigaud, Quebec. He joined Sarina refinery in 1929 as box maker, later going to the office of the barrel house. He enlisted in the private in the infantry (Militia) in 1936, rose through the ranks to Warrant Officer. He was commissioned 2nd Lieutenant in 1938 and volunteered for active service the first day of war, 1939. Following courses in England, Col. Sabourin organised the French-Canadian Artillery Regiment in 1942, then served as Commanding Officer of the 20th Field Artillery Regiment. At his own request he reverted to the rank of Major to take part in the war against Japan.

THE IMPERIAL OIL board room was the scene of a pleasant ceremony when its associate measurer Clarence A. Bannister, retiring vice-president, with a silver tray "as a token of appreciation and affection." The presentation, made by Frank W. Pirnie, chairman of the board and H. H. Hewatson, president (centre), brought on, came as a complete but delightful surprise to Mr. Bannister, who had come to the board meeting prepared for a session of hard work.

PERSONALITIES IN THE NEWS

G. H. Dickinson Retires

George H. Dickinson, the only Imperial employee who wears the four-diamond service button, has retired. Although many Imperial Oil employees have long years of service with the Company, Mr. Dickinson, who was with the Montreal office of Quebec marketing division, holds the record - 52 years.

George Dickinson entered the oil business as a general clerk with the Vacuum Oil Company in 1902. He was employed in their office at St. Paul Street, Montreal, until the Imperial Oil Company took over the business in 1905, then when he moved to the Imperial Oil offices in the Board of Trade building. Mr. Dickinson has worked under ten different division managers since he started with the Company.

C. E. Tilston Appointed Manager, Lubrication Sales Department

Formerly assistant manager of the lubrication sales department, C. E. Tilston, B.Sc., has been appointed manager. Born in Toronto, Mr. Tilston graduated from the University of Toronto in 1917 with a degree of Bachelor of Science. His first job was with the Imperial Government Munitions Board inspecting aircraft motors. Following this he did similar work for the British Ministry until 1919. From 1919 to 1934, when he joined Imperial Oil Limited, he was chief engineer of the Willys-Overland Co. He was appointed assistant manager of lubrication sales in July of 1945 and in October was made manager.

Active in the Society of Automotive Engineers, Mr. Tilston has served on the council of the National Society of that organization and was chairman of the Canadian section in 1939.

James H. Percival Presented with 40-Year Service Button.

Mr. Percival was born in Sarina and was educated in the Sarina public schools. Joining the Company in 1905, his first job was in the cooper shop. He became familiar with all aspects of the manufacture of wooden barrels, and later became assistant foreman of the shop. The modern steel containers gradually replaced the wooden barrels and in 1930 the cooper shop was dismantled, and Mr. Percival was transferred to the machine shop for a year. He was then transferred to the boiler house on maintenance work where he is presently engaged.

Mr. Percival devotes a great deal of his spare time and takes great pride in his home and garden. He is an enthusiastic supporter of sports in the city of Sarina.
FIRST OPERATOR

She looked rather like a bride, slim in her powder blue suit. There were pink ruffles at her throat and a little hat of flowers with its gay veil tilted over her silver curls. Between the hat and the ruffle, big blue eyes danced with the sheer zest of living.

This was Mae Morrison, Imperial Oil's first telephone operator, who retired recently after 25 years of service. Mrs. Morrison has just started to do all the things she had been promising herself she would have time for when she left the switchboard and settled down to domesticity. Not that she hasn't been enjoying life all those 25 years, but with a husband, a home and a job, it was easier to store up pleasant plans for the future than to find time for everything that interested her.

When she was still in her 'teens she was a stenographer in a hardware firm and sometimes they allowed her to substitute for the regular switchboard operator. "Allowed" is Mrs. Morrison's word. It was then that she decided she wanted to be a telephone operator.

"Perhaps it's because I'm Irish," she said. "As a telephone operator you feel right in the centre of everything. You must be on your toes all the time and never get excited. You need a sense of humour and you can help people such a lot."

So she fibbed and said she was a year older than she actually was to get a job as receptionist and telephone girl on the small, one-operator board of the old Queen City Oil Company in 1911. She also looked after all telegrams. Later, when Imperial and Queen City amalgamated, she confessed the deception but by that time she had proved her value and was chief operator on the new board in the present Imperial Oil building at 56 Church Street, so she was forgiven and the records amended.

In 1922 she became Mrs. John Morrison and left the Company. It was only a few months, however, until her husband, a veteran of the last great war, became ill as a result of his overseas service and she sought her old job back. The Company was glad to have her and Mrs. Morrison returned to her switchboard.

Born in Toronto, she always has lived there, but she feels the lure of the wide world where petroleum interests reach out to strange and storied lands.

"It has been interesting always," she said. "We were in touch with so many distant places. We put in calls for London, England; South America; the United States; Western Canada; and talked to California several times a day. A job like that makes you feel alive."

Mrs. Morrison remembered some laughs through the years. "One Saturday afternoon a man called the executive offices and said his car had run out of gasoline," she recalled. "Would we send him some? I explained that it was Saturday and there was no one here and anyway we didn't keep the gasoline in the offices. He then wanted to know if I couldn't find a can and bring him some. 'You're an oil company,' he said, 'You must have gasoline.'"

Another time Mrs. Morrison was training a new telephone operator. A call came in for a Mr. Macleod.

"Which Mr. Macleod do you want?" asked the new operator. "We have several on the staff. Do you know his initials?"

The caller did not and the new girl turned to Mrs. Morrison asking, "What shall I do?"

"Ask him which department the Macleod he wants is in," she advised.

"The only what she was told. A startled look came over her face as she listened to the man's reply. Urgently she turned back to Mrs. Morrison. "He doesn't know," she reported, "but he wants him in an awful hurry. He says he's in a sewer!"

Mrs. Morrison believes that tact is the most important asset a telephone operator can have. Out of her long experience she lists a sense of humour, a good memory, speed, accuracy and a strong sense of responsibility as the most important qualifications for a good telephone operator.

In spite of her pleasure in having time to take walks, knit for the Navy League and enjoy her home, Mrs. Morrison misses the other girls on the switchboard and comes in to visit them every once in a while.

"The Company always has been good to me," she says, "and now I am on pension I feel I still belong to the organization."