THE FUTURE IS IN GOOD HANDS
...THANKS TO YOU!

CANADIAN children of 1945 ... take a look at them ... they're worth looking at! Clear-eyed, healthy, good-looking youngsters with all the energy and ambitions of youth. Born at a time in history when strife and bloodshed stride across the world, they face a future which is, even now, shaping itself in the stirring events of every day.

They will do their best—we know that, but their best must be good enough to face up to a tomorrow which will demand every ounce of skill and learning they can acquire today. To handicap them now is not only unfair to them; it may well doom those hopes and ideals for which the present generation is fighting.

Yes, the future is in good hands, but we can make doubly sure that it will be a future in which these, our children, will have a fair chance from the start. Victory Bonds purchased and carefully put aside will not only provide the means whereby our fighting men will bring this war to a speedy close—but they will also make possible a way of life for this new generation of Canadians that will make their—and our—future safe.

Canada's 8th Victory Loan is soon to open. Let each one of us do our part for the sake of our fighting men—for the sake of the men and women of tomorrow! "Invest in the Best".

BUY MORE VICTORY BONDS
Hold What You Have!
ECUADOR

For five years exploration and development have been proceeding in Ecuador, where in 1939 International Petroleum was granted the exclusive right to explore a tract of about ten million acres. The republic of Ecuador is a little more than one-quarter the size of the province of Ontario and has about two million people. The country is mixed in climate, vegetation and topography. Though it has ninety rivers part of the land is desert. There is much flat country but from the capital, Quito, 20 volcanoes, mostly extinct, can be counted. More than a dozen of its mountain peaks exceed 15,000 feet in height. The land produces cotton, cocoa, sugar, rice and tobacco. Roads are few and there is only one railway—about 800 miles in length.

The Ecuadorean photographs here show some of the work of the International Ecuadorean Petroleum Company, the South American subsidiary of Canada's International Petroleum Company, Limited.

1. Panorama of Los Canos No. 1 location drilling camp operated by the International Ecuadorean Petroleum Company. Medium duty motor equipment is being used.

2. With the almost complete absence of roads, exploration in Ecuador presents extreme difficulties. Here a 500-ton barge loaded with drilling equipment and supplies for Camarones No. 1 well is about to be beached for unloading.

3. Drillers No. 2 well site on an elevation surrounded by scurvy trees. Camp buildings are raised on steel or cedar piles for ventilation and protection against dampness and insects.

4. The drilling camp at Drillers No. 2 well. One of the first tasks after landing is to build roads between the wells and to the nearest communication post.
Where natural gas is prepared for use by the consumer. The Madison Natural Gas Company's Compressor and Purification Plant with the Royalite Absorption Plant and tanks in the foreground.

ALBERTA'S NATURAL GAS

CANADA PRODUCES NEARLY FIFTY BILLION CUBIC FEET OF NATURAL GAS A YEAR. ITS VALUE IS ABOUT $15,000,000. ALL OF IT COMES FROM ALBERTA, ONTARIO, NEW BRUNSWICK AND SASKATCHEWAN—BUT IN THE GREAT FIeldS OF ALBERTA 80 PERCENT OF THE TOTAL IS PRODUCED.

DURING the winter when the coal shortage was so acute, particularly in Canada's cities, residents of Calgary, Lethbridge and the surrounding districts considered themselves lucky indeed. From the ground beneath them came the very breath of nature, a natural gas that furnished light, heat and power at a cost well within the reach of every citizen. For a little more than five dollars a month the average householder secured enough natural gas to thoroughly warm his seven-room establishment, cook his ninety-odd meals and supply his various appliances like hot water boilers, extra gas plates and grates. This yearly average rate of $70 compares more than favorably with the cost of similar services in the non-natural gas areas of the nation.

Alberta natural gas comes from producing fields in the Turner Valley, 53 miles southwest of Calgary; Medicine Hat, Viking, 80 miles southeast of Edmonton; Redcliff, Foremost, Bow Island, Watsaskiwin and the Paluxy field near Wainwright. Two companies in the Calgary-Lethbridge area handle about one-quarter of the production of the Province. The Madison Natural Gas Company receives and refines the natural gas of the Turner Valley field, then delivers it to Western Natural Gas, Light, Heat and Power Company for distribution to the consumer.

Older than Man

The first commercial use of natural gas in Alberta was in 1915 when it was made a source of power for the machinery of the original Dingman Well in the Turner Valley. This was a comparatively late beginning because natural gas had long been in use in Southwestern Ontario and, almost a century earlier, streets had been lighted with the miracle product in New York State. In Burma, China and Japan, natural gas as a lighting and heating agent is mentioned in the earliest records of those countries. History is bright and legend is brighter with burning bushes, burning rocks, seas of flame and pillars of fire. Probably all these phenomena, so astounding to the ancients, were connected with the accidental lighting of natural gas escaping from the earth's crust; or to the sister-product of natural gas—petroleum.

Like petroleum, natural gas is formed by the unlimited action of time, heat and pressure on deposits of organic matter—vegetation and animal substances—trapped and folded into the crust of the earth millions of years ago. The organic matter, by processes still being determined, was transformed into the myriad series of hydrocarbons that have combined to produce asphalt, petroleum, pure gasoline and natural gas. Everywhere, almost, that petroleum is found there also will be found water-salt and brackish—natural gas and the combination of water and gas. In almost every oil field natural gas is present, both in solution with the oil and in a free state. Some natural gas fields contain little or no oil but practically all oil fields have natural gas present in varying quantities.

It is believed that organic matter, caught in sedimentary rock formations, when subjected to heat and pressure as indicated above, turns in some instances into coal; in other cases into crude petroleum and natural gas. It is thought that only a very small part of the total amount of organic matter so imprisoned has gone into the formation of literally inexhaustible stores of oil and natural gas. Ever new methods of discovery and new techniques of recovery reveal more and more locations and amounts of petroleum and natural gas as being both available now and in potential reserve. A few years ago— even following World War I—it was said freely in scientific circles that nature's supplies soon might become exhausted; now there is more inclination to say that reserves are virtually inexhaustible.

Imprisoned in these limitless geologic traps, natural gas sometimes reaches a pressure of 4500 pounds per square inch and, as can be seen readily enough, this pressure factor is of paramount importance to natural gas and petroleum production.

Dry or Wet

Natural gas may be either dry or wet. The "dry" gas contains no important amount of natural gasoline; the "wet" gas is rich with gasoline in vaporized form.

SOURCES OF GAS

Vegetation and animal substances trapped and folded into the crust of the earth millions of years ago are the sources of today's natural gas.
Dry gas most frequently comes from natural gas wells that contain little or no oil; wet gas from gas-oil wells that yield both products. The natural gasoline recovered from the gas of a gas-oil well is called "casing-head" or "natural" gasoline and is a highly important part of motor gasoline. Too light and volatile for straight use it serves as an ideal blend for the heavier fractions of gasoline obtained by the refining of petroleum. Natural gasoline is part of the component that gives fighting grade aviation gasoline its tremendous punch.

In Alberta

Turner Valley natural gas comes from both gas-oil wells and gas wells. These latter are pockets in the earth's crust where untold billions of cubic feet of natural gas have been stored from time immemorial. Its heat content of 1100 British Thermal Units per cubic foot is double the standard net for artificial gas by the Dominion Government.

About 100 wells—oil-gas and gas—are tied into the Madison Natural Gas Company's system. Fifty miles of ten inch, six inch and four inch pipe link up the field, which last year delivered to the distributor, the Canadian Western Natural Gas, Light, Heat and Power Company, more than 13 billion cubic feet of natural gas.

From the wells Turner Valley natural gas, at a pressure of about 250 pounds per square inch, passes directly into a separator which takes out most of the oil. It then goes through three other plants before processing is complete—an absorption plant, which removes vaporized petroleum components and recovers substantial amounts of natural gasoline; a purification plant which eliminates hydrogen sulphide and its unpleasant odor; and a drying or dehydration plant to take out the last traces of moisture. The pressure is stepped up to a uniform 400 pounds per square inch and the finished product is directed into the big pipe line system of the distributing company.

These lines, 16 inches, 14 inches and six inches in diameter, stretch under the ground to Calgary, Lethbridge and the surrounding countryside. Thousands of homes are served and hundreds of factories—many of the latter being war plants which use nearly half the total supply of the distributing company. Prisoner-of-war camps and service barracks are served on an equal basis. The last act of the company is to regulate the rate of flow to usable pressure for the consumer.

Many Uses

Big users are the metal and parking industries. At 27 cents per cubic foot, natural gas with its high

A field meter checks and measures natural gas from the separator battery. Centuries ago in China pipes constructed from hollow bamboo poles were used for gas.

Between well and consumer natural gas passes through a complex purification process.

Dehydration Plant. When natural gas contains water vapor, it must be removed. Other processes take out hydrogen sulphide with its unpleasant smell, and gasoline.

Control table and gauges at the Calgary Distributing Centre. Night and day supervision is needed to measure and to regulate the rate of flow of the gas through the system.

BIGGEST single user of Alberta Natural Gas is this Nitrogen plant, part of Canada's $115,000,000 explosives industry. Over three billion cubic feet used annually.
heat content is invaluable for ease-hardening, crucible and pre-heating furnaces, core ovens and coolers. It is ideal for bakeries, breweries and dehydration plants. In R.C.A.F. Engine Test Houses large quantities of gasoline are saved by running motors on overhauls and inspection with natural gas. The biggest single consumer is the ammonium nitrate war plant which is supplied with three and a half million cubic feet annually.

One of the chief distribution problems centres on the weather and to cope with it the company maintains a constant check on forecasts. A sudden cold snap will double or triple the demand for natural gas and this must be met as well as the normal daily peak periods in domestic use.

Post War Natural Gas

Gas chemists and oil scientists place no limit on the possibilities and potentialities of natural gas. Though about 90 percent methane, it contains commercial amounts of ethane, propane, butane and dozens of other combinations. Already experiments have taken natural gas into the fields of synthetic rubber, plastics, explosives, perfume, drugs, alcohol, edible fats and fertilizers. Liquefaction of methane produces a high octane gasoline. For years gas has played an ever-increasingly important part in the chemical industry. And the supply is believed to be so vast that some naturalists think that as long as nature breathes there always will be natural gas.

Economical, convenient, clean. The hot water heating system, operated on gas, is the basement of a Calgary home. Average yearly cost for heating, cooking, is about seventy dollars.

In the great march toward victory the Allies constantly had to build more planes, train more air personnel and obtain more fuel. This presented to Allied engineers the ever-mounting task of constructing air fields rapidly to accommodate the increasing number of planes.

In these engineering efforts, we can discern several distinct phases. Construction of an air field is to all intents and purposes an operation very much the same as construction of a road, and the engineer approached the problem from the same angle. There was first the inevitable operation of clearing and levelling the ground; followed by drainage problems as construction of roads or air fields is a constant fight against effect of water. The Engineer had to build a base over the levelled-off ground or natural soil, thick enough or strong enough to support the anticipated plane traffic loads. He then had to build a pavement, all of which was identically the same as in the peace-time construction of air fields or roads.

Advancing troops need immediate and close air support. From airfields always on the move and always just out of artillery range, strafing planes and fighters continually must be in and out of the sky. In close support and strafing, the Royal Canadian Air Force played a leading part and, for that reason, the R.C.A.F. had a particular interest in techniques that could surface a landing strip or field in a matter of hours.

The main demand was speed. The Air Command didn't ask the engineer how he built his field, what he built it with, or even what it cost; the demand was speed, and this demand kept mounting all the time. The first answer to the requirement for speed on the part of the military engineer was simply to put in more machines, more men and more supplies, but there was a distinct limit to that. We know that the initial efforts in creating more and more air fields by the Germans was based principally on more equipment and materials, leaving the general plan of construction, specifications, methods, and materials practically the same as in peacetime.

Prefabrication

The great stress fell on development of some type of prefabricated surface or at least rapid methods of surfacing to make fighter fields available in the advanced areas within days, instead of months as had been the case with standard construction. The first attempts were made by prefabricating steel net-works and steel tracks of various types. The purpose of these was mainly to spread the load, thereby increasing the supporting value of levelled-off and compacted natural soil. It was apparent, however, that the effectiveness of all these net-works was
temporary and in a great many instances they were entirely useless. During wet weather, the soil under the mats became so soft that the steel reinforcing went out of shape and even out of sight, becoming more of a liability than an asset. The most effective track was the so-called "pierced steel plank" designed and produced in the United States, but even this track was only a temporary palliative and involved a huge tonnage of steel.

The next most interesting development was started in the United Kingdom during 1942 and was based on the premise that temporary airfields could be constructed very rapidly by the simple expedient of grading and compacting the natural soil and placing over it a water-proofed fabric which would act, first and mainly, as a waterproofing surface, keeping the moisture out of the soil; and secondly, as a wearing surface for plane traffic. This idea was an off-shoot of the old "cotton roads" developed in the States during the years 1930-35. The process consisted of compacting soil or road metal (crushed stone, gravel, etc.), spraying the compacted road bed with bitumen, spreading over it a layer of cotton fabric, water-proofing this cotton fabric with one or more sprayings of bitumen and covering with sand or other granular material. This actually produced excellent and lasting surfaces which have stood up to heavy traffic in a number of instances for over ten years. An interesting sidelight on the subject is that the Department of Asphalt Technology of Imperial Oil Limited has co-operated with the Quebec textile industry in the construction of a similar stretch of road in Drummondville, by just this method.

The difference in the U.K. development and the old U.S. cotton road was that instead of cotton, the promoters of the U.K. scheme used burlap which is much cheaper and more readily available, and instead of spreading out the fabric on the compacted soil and spraying the bitumen on the fabric, they impregnated the fabric with hot bitumen in a special machine mounted on wheels. The bitumen was melted on the air field site, thereby applying hot bitumen to the impregnating machines.

Brigadier Storrs, R.C.E.

This was found upon field tests to be impractical and entirely inept. Particularly in advanced areas. It was during this stage of development that the Royal Canadian Engineers took the problem in hand and Brigadier Storrs and his men designed a machine which was to lay the fabric onto the compacted soil and spray it with bitumen at one and the same time. While this was an improvement over the U.S. method and more practical than the U.K. method of impregnating on site, it was not the desired answer to the problem. This method still involved transporting large quantities of bitumen into the field, melting and spraying.

Major Gordon McIntyre, R.C.E., attached to the Canadian Military Headquarters at London, had been associated in an advisory capacity with the development of bitumen-impregnated fabric from the beginning. Since in civilian life he had been manager of the Technical Service Division of Imperial Oil Limited, he suggested that this Company's Department of Asphalt Technology be consulted. As a result the manager of this Department, C. M. Baskin, was invited to the United Kingdom.

Mr. Baskin had an idea which had its roots in his own long experience with petroleum asphalt and in the use of bitumen-impregnated fabrics for many purposes, ranging from wrapping Egyptian mummies to lining drainage ditches. He suggested that the fabric, whether it be burlap, cotton, or anything else, be saturated and coated with asphalt in a manufacturing plant before being taken to the field. This prefabricated material could be rolled up and transported wherever required. At the field the impregnated fabric could be unrolled, overlapped and stuck together. The sticking process could be accomplished by wetting the bitumen with a solvent such as fuel oil, which would make the bitumen an adhesive. The covering of an air strip could be likened to the unrolling of strips of gummed paper, wetting the gummed side and then sticking overlapping strips together to form a large sheet. By this process an air strip could be covered without the use of heat and without transporting drums of bitumen or special equipment.

The R.C.E. immediately proceeded with the development and demonstration of this idea. A roofed plant was made available to impregnate burlap strips and areas for experimental laying of the strips obtained. It was soon demonstrated that a fabric could be impregnated and surfaced with a film of high softening point bitumen and that it could be wound up in rolls. This material could then be used as a waterproof wearing surface, by the simple expedient of applying onto it a fine film of solvent fuel and cementing it in place. The application of the solvent could be carried out by hand or by means of a simple machine similar in principle to the gadgets used in stores to wet gummed paper.

This development gave the Allied Armies a prefabricated bituminous surfacing known as PBS; whereby a runway can be surfaced in less than one day as compared to construction of pavements and other materials which required weeks. Also, it should be of interest to the tax-payer because this new development has made possible the saving of immense sums of money. Cost is not a factor criterion in war, but if a saving can be made, it is worthy of consideration.

Oil To India

The PBS developments, however, did not cease at that point. The U.K. research had made available a light, low-cost surface and a simple process of application. This solved the problem of creating numerous so-called "temporary air fields", specially suitable for light and medium planes, and suitable for all types of planes during the dry season.

During these developments in the U.K. there were persistent, though silent, observers from the South East Asia War theatre. At the request of the Engineer-in-Chief's Branch, India, Mr. Baskin proceeded to India to demonstrate the process and to assist in the production of PBS.

Western Europe is settled, cultivated and open. There are numerous levelled spaces and networks of roads. South-East Asia, by comparison, is a wilderness of jungle and mountain with virtually no roads. There is an almost entire absence of gravel and stone for highway construction. On top of it all is a wet season of from four to six months.

Movement in these regions is entirely dependent on the construction of roads that will function under relatively heavy transport. Likewise airfields and runways must be capable of supporting at least medium bombers, as these are—and likely will remain—the primary means of moving men and equipment. In the rapid and economical preparation of these roads and landing fields PBS was unequaled.

In the brief dry season extensive areas are surfaced swiftly.

Our development, therefore, in the South-East Asia theatre has gone considerably further than in the West. PBS is now being produced in India in a number of plants and construction of roads and airports in the jungle areas and in the non-industrialized countries of the East is becoming much easier, more feasible, and more economical proposition than ever before.

The public in general has already been given con-

(Continued on page 24)
OFF TO SEA AGAIN

With the long winter over and the ice broken and gone, the high sun of spring pours down on the Imperial Oil inland fleet—once more out on the Great Lakes and coastal waters.

Four tankers—the Simeolite, Acadia-lite, Windsolite, and Talar-lite—wintered in dock at Sarnia. Their immobility since the close of navigation in December merely covered another kind of activity: winter is the time for "lay up and re-fit".

First they are berthed close together and crafstmen, mostly from the Sarnia refinery of the Company, begin their busy weeks of work by draining the ship's tanks and pipes. Engines and other machinery, electrical plant, all connections and equipment right through to safety devices are completely overhauled and put in first class shape. Thousands of dollars are spent on each vessel and the ships are expected to remain in top condition throughout the season.

By early spring the tankers are ready for examination by the federal Steamship Inspection Service. Meantime food supplies have been accumulated ashore and these go on board with the crews. Finally the moorings are cast off, the ships now gently apart from each other and they steam away for their first cargoes. The expensive winter face-lifting they have had enables them to sail the summer through without major repair or delay.

As well as on the Great Lakes Imperial Oil tankers operate in all parts of the world. At various times nearly all have been on deep sea runs and four—the Victor-lite, Canadialite, Montrolite and Calgar-lite—have been sunk in action with the enemy. Their grievous losses in men are unforgettable.

Left: Shaping tankers for the whole-stake. This is a built not welded tank that takes the strain when the tanker lies against steel or concrete wharves. Wood is used to eliminate possibility of friction sparks or static electricity.

Lower left: Checking the main economic ratio of the TALAR-LITE. Metfordite action has kept this grand old winner in service since 1928. During this fall the TALAR-LITE has been made in the highly dangerous offshore service.

Below: Attaching a new plate to the bulkhead. Every inch of the ship is gone over and put in first class shape. Delays during the running season are expensive and, after their careful overhaul, it is rare indeed that tankers lay up in summer.

The WINDSOLITE and the TALAR-LITE, two of the four tankers which wintered in dock at Sarnia. Behind them lie the ACADIA-LITE and the SIMCO-LITE. Crosswalks connect the ships for the convenience of seafarers and overland men.

Craftsman who overhaul and refit these vessels of the Imperial Oil fleet come mostly from the Sarnia refinery. Here two engineers are tightening an economic rod guide for the electric generator which lies below the grating.

Welding the channel of the whole-stake. The big timber to be landed has been shaped by hand and lies on a sled beside the ship. Not the least convenience is the platform Nature has formed on which the man works it is 14 inches thick.
THE BENEFITS COMMITTEE
(Formerly the Annuities and Benefits Committee)

THE Benefits Committee was recently appointed by the Board of Directors to administer the Benefits Plans of the Company, including sickness and death benefits, group insurance, hospitalization and surgical benefits, and to review and make recommendations on matters pertaining to the Thrift Plan and annuity plans referred to its consideration by the Board or the Pension Fund Society.

MAJOR DAVID VIVIAN CURRIE, V.C.
29TH ARMOURED RECONNAISSANCE, SOUTHERN ALBERTA REGIMENT

Major Currie before the microphone. The modest soldier probably would lose a battery of German 88-millimetre guns with more assurance.

The prevention of the escape of the German Seventh Army through the Corun-Falaise Gap, and the rapid success of subsequent operations in France and Holland were due, according to the official citation, in no small part to "...this officer’s coolness, inspired leadership, and the skillful use of the limited weapons at his disposal."

DAVID CURRIE was born in Saskatoon in 1912, son of a C.F.R. railroad engineer. Before the war he worked for nine years as a mechanic for Patterson Motors, Moose Jaw. His pecuniary pension was small and at 21 he joined the Militia, first the Biggles, then the King’s Own Rifles of Canada. He rose steadily through the ranks—corporal, sergeant, quartermaster-sergeant, company sergeant-major, and, just before the war, he was commissioned lieutenant. From the Saskatoon Light Infantry and Engineers he got, finally, his own tank squadron. The most significant aspect of his stand with 150 men against the German Seventh Army was that, before and during the fierce three-day battle, Major Currie was fully aware of the vital importance of holding the key-point at Falaise. The 32-year-old soldier is cool, modest and easy-going. After the war he would like to transfer to the permanent armed forces.

THE VICTORIA CROSS

Established by Queen Victoria, 1856. For signal acts of valor or devotion in the presence of the enemy. Awarded to all ranks of armed forces, also to civilians—both men and women—acting under military orders. Cross is cast from silver captured at Sevastopol and made only by Messrs. House & Holt, Sheffield, England. Of the 1,280 V.C.’s so far awarded, 135 have been given to women. In World War I Canadian women have won 13 V.C.’s. In all wars, of which eight have been for valor in the present conflict. Two British soldiers have won both the V.C. and the Victoria Cross. Those few women have been posthumously awarded the Victoria Cross, but many civilians in India earned the highest award during the past century. Pensions for all under commissioned rank is $100 per annum which may be increased to about $1.00 per day if deemed necessary. There have been only 150 posthumous awards.

Patterson Motors has served Moose Jaw for more than three decades.
PERSONALITIES IN THE NEWS

F. B. Bimel Presented with 40-Year Service Button
Fred Bimel was born in Huntsville, Ohio, and after leaving Ohio Northern University started in business as shipping clerk with a merchandising company. In 1948 he joined the Prairie Oil and Gas Company's commissionary department, moving later to the pipe line construction division. In 1928 he began work on the Standard Oil of Louisiana's first pipe line and after steadily advancing positions, transferred to Standard Oil, New Jersey, in 1922. He joined International Petroleum as Director in 1928 and now is Vice-President of the Company. Mr. Bimel is one of the most widely travelled and best known men in the petroleum industry.

J. G. Dunlop Presented with 40-Year Service Button
The presentation was made by Mr. R. V. Lefebvre, President of Imperial Oil Limited. Born in Ottawa and educated in the Public and Commercial Schools of the capital, Gordon Dunlop began his career with Imperial Oil as Mail Clerk. Since 1913 he has been with the Sales Department and now is Division Manager, Halifax. As a young man Mr. Dunlop took part in all sports, notably hockey, rugby and baseball but these now have been laid aside for golf. He is prominent in Halifax community and war work.

L. L. Miller Presented with 40-Year Service Button
Loren Louis Miller was born in Erie County, New York, and educated in the Toronto Public Schools. In 1904 he entered the Galena Signal Oil Company as Work's Boy, rising to Superintendent in 1922. When his company became part of Imperial Oil Limited in 1931, Mr. Miller took over the job of supervising the compounding of special oils in the Grease Plant of the Sarnia Refinery. He is a nephew of George C. Miller who was associated with General Charles Miller in founding the oil industry in Canada. Loren Miller is a gardener, a bowler and an enthusiastic worker in the Sarnia Lion's Club.

Arthur Kirby Bullock Presented with 40-Year Service Button
Mr. Bullock was born in Sarnia and educated in the Sarnia Public Schools. In the early days of the Sarnia Refinery he began work in the old Cooper Shop. Later he transferred to the Boilermakers and then to the Mason's section. After several years as Foreman of the Masons, he took over his present position—Foreman of the Carpenter's Shop. In his spare time, Mr. Bullock is a gardener and poultry raiser. He is a mine of information concerning the early history of the Refinery.

AWARDS to Officers of the Imperial Oil Fleet

T. D. Kelly, formerly Mooring Master and Assistant Marine Superintendent at Talara, Peru, promoted from Commander, RCNR, to Captain, RCNR, mentioned in despatches, March.

Captain Kelly began his career with Imperial Oil Limited in 1922 as Able-Bodied Seaman. He became Deck Officer in 1923 and Master in 1928. During this period he spent 15 months in the engine rooms of various vessels of the Imperial Oil Fleet to gain engineering experience. Captain Kelly entered the RCNR in 1940 with the rank of Lieutenant.

CAPTAIN EDWARD A. DAVIES, S.S. "Sarnolite", awarded the Order of the British Empire. Captain Davies entered the Lake Service of Imperial Oil Limited as Seaman in 1907, becoming Master of one of the vessels of the Lake Fleet in 1922. Captain Davies has been on the dangerous Coastwise Service since 1919.

CAPTAIN JOSEPH E. FOURNIER, S.S. "Point Pelee Park", awarded the Order of the British Empire. Captain Fournier rose from Ordinary Seaman in 1923, in one of the ocean vessels of the Imperial Fleet, to Master of the "Point Pelee Park" in 1941. Much of his service during the war has been aboard the M.S "Trentolite" carrying casinghead gasoline to Halifax.

CAPTAIN CECIL R. TREWEEK, M.S. "Regolite", awarded the Order of the British Empire. Captain Trewick entered the service of the Imperial Oil Fleet as First Officer in 1910, becoming Master in 1921. At one time or another he has had most of the vessels of the Company Fleet under his command—including the "G. Harrison Smith" and the "C. O. Stillman". Since 1939, Captain Trewick has been almost continuously in the war zone.

CHIEF ENGINEER ALEX C. SMITH, S.S. "Wildwood Park", awarded the Order of the British Empire. Chief Engineer Park's extensive war service began in 1939 on the Maritime-Newfoundland run. In 1940 he became Chief Engineer on one of the Panamanian vessels operated by the Company in the Overseas Service. After 1942 he went to Vancouver as permanent Chief Engineer of the Park Steamers. Chief Engineer Smith joined the Imperial Oil Fleet in 1928 as Junior Engineer.

BRITISH EMPIRE MEDAL

CHIEF PETTY OFFICER WILLIAM CLIFTON PICKERING, R.C.N.R., awarded the British Empire Medal for "serving continuously at sea since October, 1940, for faithful and cheerful performance of duty, for outstanding skill and presence of mind under countless emergencies during air attacks and repeated U-boat attacks while escorting convoys in the North Atlantic."

William C. Pickering joined the Imperial Oil Fleet as a seaman in April, 1934, and he sailed in that capacity on ships operating the Great Lakes until December, 1938, when he became Watchman. In February, 1938, he was promoted to Wheelerman, and in 1940 to 2nd Officer. He joined the Royal Canadian Navy in September, 1940.
 Rolled-Up Runways... 

siderable information on this process. It will be of particular interest to the Canadian people to know that the greatest advocate of the idea of what might be called the "advancing air field fronts", culminating in the development of FBS, was the then Command-in-Chief, General McNaughton.

From the beginning the British Road Research Laboratory and the Ministry of Supply had ceaselessly experimented to produce the surfacing essential to the required operations. They followed through on the lines laid down by C. M. Harkin and now are turning out millions of square yards of prefabricated bituminous surfacing. The United States military authorities, too, have adopted FBS and are producing vast quantities for their own forces.

Great credit must be ascribed to Brigadier Sheras for his recognition of the possibilities of the uses of a prefabricated material in preference to all other methods recommended and for co-ordinating the efforts of the many persons in the armed forces in scientific circles and in industry who made this achievement possible.

C. E. YOUNG PASSES

WITH deep regret, his many friends in and out of the Company learned of the death of Clarence E. Young early in February.

Cy Young was born in Stratford, Ontario, fifty-two years ago. After serving in the first world war, he joined Imperial Oil Limited in 1921 and seven years later was sent to Calgary as Chief Clerk of the Royalite Company. Just before the war he was appointed Secretary-Treasurer, the position he held at the time of his death.

Long active in the work of the Sea Cadets, Mr. Young held the rank of Lieut.-Commander in charge of the two Calgary cadet ships—The Undaunted I and Undaunted II. Formerly he served as commander of the Calgary Special Coatsabury. He took a prominent part in church affairs both as lay reader and chorister. On behalf of the Company the Imperial Oil Review extends its sincere sympathy to the bereaved family of Cy Young.

The Great Central Plateau of Peru—elevation 32,000 feet. Quechua Indians, driving their llamas home from work at one of the great haciendas of the uplands. Beyond the hills lies Cuzco, the old colonial capital of Peru.