The World's Largest Oil Tanker

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The Oil Geology of Alberta
By Theo. A. Linn, Geologist, Imperial Oil, Ltd.

Part I

The Province of Alberta is divisible into three physiographic units: the Rocky Mountains, the Foothills and the Plains. The Plains may again be divided into three types: the treeless plains of Southern Alberta which lie in a semi-arid belt, the central plains which support more vegetation such as scattered poplar and birch trees, and the northern plains which are covered by conifers such as scrub-pine and jack-pine. Like the surface, the bed-rock underlying the plains of Alberta is essentially flat, although when considered in a broader sense it exhibits a general north-eastward dip on the one flank, and a slight south-western dip on the other flank of what is generally known as the Alberta Syncline—the northward extension of the Laramide Syncline. The continuity of the Laramide Syncline is interrupted slightly by the igneous intrusions forming the Sweet Grass Hills just across the Border to the South. Glacial drift deposits on the plains also tend to relieve the monotony of plains of Alberta. The northern part of Alberta is drained by the Mackenzie River system, the central and a greater part of the southern area contributes to the Hudson's Bay drainage, while the extreme southern part pays tribute to the father of North American waters, the Mississippi River.

The eastern slope of the Rocky Mountains overlaps the south-western border of the Province and then, from the point where the Provincial boundary strikes due north, the Rockies continue north-westernly and lie wholly within British Columbia.

Sandwiched between the Rocky Mountains and the Plains of Alberta is a narrow belt of very much disturbed sedimentary rocks, closely folded and highly faulted, which is called the Foothills Area. This structural unit lies very much in common with the Jura Mountains of France and Switzerland, and bears a relationship to the...
Rocks very much the same as the Jurassica do to the Alps. For the most part the Foothills are entirely clothed with a growth of coniferous trees in sharp contrast with the treeless summits of the mountains to the west. As in the Plains area, so also in the Foothills belt, vegetation becomes denser northward.

**Stratigraphy**

The Province of Alberta presents an interrupted section of rocks from the Pre-Cambrian up to the Quaternary. The Pre-Cambrian Shield extends into the northeastern corner of the Province where Devonian and Silurian limestones overlie it unconformably. The Rocky Mountains is exposed a section of some members of all the Paleozoic divisions and part of the Mesozoic, while the Foothills belt and Plains area exhibit the remainder of the Mesozoic and Tertiary.

**Pelecozoic Devonian**

In the southwestern corner of Alberta in the Rocky Mountains are a few hundred feet of buff-colored dolomites and quartzites which are doubtfully correlated as Lower Devonian. For simplicity's sake, we may begin this historical sketch with the Lower Devonian, a period of erosion throughout the greater part of the Province during which time no deposition was taking place. Possibly in a slight embayment extending northward from Southern California as shown on the map. During Early Middle Devonian time there occurred an encroachment of the seas from the Arctic and the Pacific, the minding of the faunas of these two seas apparently taking place in the areas now in part occupied by British Columbia and Alberta. This sea is generally known as the Western Ocean, and probably covered the areas indicated on the Paleozoic map, Figure 2. As time went on this encroachment of the epi-continental seas became even more widespread until finally advancing waters from the Gulf of Mexico and the Atlantic mingled with the western sheet of Arctic and Pacific waters, giving rise to what is generally known as the Lower Devonian.

**Permian Revolution**

The existence of Permian sediments in this Province is doubtful although one might venture that the later Pennsylvania Sea lingered into Early Permian times. The Appalachian Revolution, during which time the Appalachian geopler were thrown up into mountains, commenced in Permian time, and caused a considerable uplift of the Paleozoic epi-continental seas. A long period of erosion set in, and the heaving of the uplifted land masses was profound before the next sea invasion. In many places the Madison Limestone was the surface bed-rock and locally developed "kauri" topography. I. e. limestone-sinks and caverns similar to those found in Kentucky and Southern Indiana. Evidence in favor of this notion is abundant in the Sweet Grass Arch oil fields where the drill often encounters hollow caverns of considerable proportions near the top of the Madison Lime. The Mesozoic

**Triassic and Jurassic**

This inter-era period of diastrophism and erosion then led to considerable volcanic activity during the Triassic. An invasion of the sea from the Pacific extending to southwestern Alberta, (see Fig. 5) gave rise to sedimentary deposits which are called the

**Mesozoic**

**Jurassic**

The Triassic formations, transgressions, known as the Kins-berhook and Burlington invasions, then spread as indicated on the chart. (Fig. 3). Part of these sediments are known as the "Madi-son Limestone." It is in this formation that the wonder well "Royalty 6" is regarded as having encountered its production of gas and crude naphtha. **Pennsylvanian**

The presence of Carboniferous (Pennsylvanian) rocks in the Rocky Mountains lost their existence in the Plains of Alberta and extreme northern Montana, suggests a Pennsylvanian invasion of the sea as indicated in Fig. 4. I need only to call your attention to the pitching out of the Quadrant to the north to bring this idea to your mind.

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but in the Kenis-Sunbur Pass it is gray in color and greenish black.

LOWER Cretaceous (Kootenai & Blairmore).-After the recession of the Fernie seas deposition of continental deposits of the Lower Cretaceous was inaugurated. (See Fig. 7). These variously colored sandstones, siltstones, and conglomerates are called the Kootenai and Blairmore. Continental coal seams and the lowest member of this series is oil-bearing in Turner Valley as well as in the Flat Coulee well of northern Montana.

Continental deposits continued to accumulate and gave rise to the Blairmore section of light greenish shales and sandstones. A sand locally termed the McDougall sandstone in the Segur is productive in the Upper Blairmore of Turner Valley. A time break between the Kootenai and Blairmore is recognized, and easterly records, called the Crownest Volcanics, lie over the Blairmore in the Crownest Pass. Many operators call the Blairmore the "Dakota." The Upper Cretaceous Sea.-The widespread marine shale deposits of the Benton or Colorado are evidence of one of the greatest epicontinental sea invasions in geologic history. (See Fig. 8) in which were deposited several thousand feet of blue-gray shales. During the existence of this sea there were minor fluctuations of the strandline which gave rise to an interlocking series of sandstone and brackish deposits with the true marine shales and limestones. A diagrammatic illustration shows such interfinger is shown in Fig. 9, together with the nomenclature as applied on the American Geophysical Union Chart.

Gas and a little oil is usually encountered in the sandy members of the Benton while the Virgin Sandstone (Lower Eagle) is the best gas horizon in the Medicine Hat field. The Foremost Gas field produces from the Benton.

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The Upper Cretaceous (after Schuchert). The upper Cretaceous deposits of Colorado and its time are important in the history of this section. The advanced and partial retreat of the Benton Sea gave rise to three marine units in the western part of Alberta-namely: The Colorado, the Claggett, and the Bearpaw. These shales are regarded by many as a possible source rock for Alberta gas. Our efforts to prove it have thus far been unsuccessful. The oil in the hard floor region and the overlying oil shales is characteristic of a highly competitive environment.

On October 24th at 6 a.m. Albert Wright, Gilbert Newby, and I left Laculito in a Peruvian boat, came across the river in a motor boat, and were accompanied by a cabin and commercial travelers of various degrees, we left Peru. The boat, an eighteen-year-old Peruvian built in France, traded up and down the west coast. Rats were nuisances but after a short battle I slept soundly, waking at dawn with a blessed smell of jungle in my nostrils. I saw we were going up the river with dense jungle on either side and I feasted my eyes on the river.

Guayaquil is a town at the bend of the river. One long street of about a mile in length with a fine plaza at the end, is lined with various fine shops containing first-class English and American goods; and the prices are quite reasonable. We spent a long time visiting these shops, executing orders for Negritos and reclaiming ourselves, which as far as I was concerned was a necessity.

The Ecuadorian men are very similar to the Peruvians but the girls are dressed as though they were exhibits from Paris and to watch them in the evening returning from their respective shops is like viewing a minuet parade. Through the red flag, we sound a distinctly modern color note.

Outside the hotel where you emerge in the morning, shoeshine boys and taxicabs will get you from across the road and advertise the qualifications of their cars and the merit of their shine, but, as there were no places to drive to, the taximen did not do a very good trade with the three new arrivals in Guayaquil. There is very little done there besides sitting at small tables on the street, lapping beer. The Gringo population consists of about ten English, twelve Americans, twenty Germans and a few others. I learned at 6 a.m. on the boat that we had crossed the river without a y station on the railway side of the river. An antiquated observation car at the end of the train contained the following notifications besides ourselves: The American minister for sanitation, the Argentine minister for the same thing, also the Chilean minister; three doctors and a surgeon. One of these doctors was Ian MacKenzie, late of Negritos, who was accompanied by his wife and who had come down from New York to take charge of a clinic in Guayaquil, and, at the request of the Ecuadorian president, was proceeding to Quito to operate on the Minister of Finance.

After a little jerking and jolting we started off on this very interesting river. A street in Quito, Ecuador, with the Aude Mountains rising in the distance.

Page Four
visiting trip at 7:30 a.m. We went for perhaps two hours along the bank of the river through dense vegetation, and catching along the trail behind, the train gradually began to climb. The trees were allodcast to the shoulder. The above ground, where the bank is low, it is covered with black hair which hangs down to the shoulder. The above ground is covered with large plants, and the shops are small and not so attractive as those of Guayaquil. We arrived at a place called El Robamba, at 12:40 p.m. It was very cold, beautiful fresh and the air pure and nippy.

The hotel was very cozy and warm and after a bath and a very good dinner we took a stroll down through the little town under a full moon, knowing we would find in the morning that the hills around us were covered with snow. Early on the Tuesday we started off in an eight-cylinder Hupmobile for Quito.

The train leaves Robamba, where it stays all night, at 4:30 a.m. and reaches Quito at 5 in the evening. But there is a road to Quito, and it is preferable to take it. We were six hours on the road, going over three ranges of the Andes and winding through rich valleys, up to the snow line where we immediately above us is towered the mountain of Chimborazo, 20,000 feet. The whole country is farmed by the Ecuadorians with Indian labour. There are fields full of barley, wheat, maize, flax, potatoes and beans of Friesian cattle feeding on beautiful green grass, and puffy pigs running through the ditches which are rich with arums lilies, wild roses and honey-suckle. Cacti, acer, agave, and aspens are seen. Lilies, geraniums, grass, tall stately poplar trees, wild geraniums growing six feet high, carnations, heliotrope, and lots of lilies (red) hanging down from small trees, wild thyme, and all kinds of other flowers were all over the place.

We reached Quito at 1:30, leaving Robamba at 7. A very busy train station welcomed us. Not having seen any rain for nearly a week we rather liked it. The town of Quito, capital of Ecuador, is about 11,000 feet above sea level. It is built on a valley with a volcano beyond it. It has narrow streets, all covered with flowers, and the houses are small and not so attractive as those of Guayaquil. It has its statues to various warriors who have in the past ages delivered its people from the Spaniards. Churches, some three hundred years old, are everywhere, and the interiors of some of them are quaintly interesting.

Street cars and taxis and modern flappers rush up and down the streets, but apart from these the city is more or less untouched by modern ideas and the old Spanish houses with their centre courts look very picturesque.

Outside Quito are the modern residences built on the latest American and English villa style. Gardens with every flower imaginable seem to thrive on the peaty soil. There is a race course, a tennis club and a small golf course. The local play "Soccer" and play pretty well too, while the children and as far as I could make out, the "grown-ups" play marbles.

The hotel Metropolitano run by an Englishman, Isaac A. Atwood from Gibraltar, is the last word in modern hotels, even to the morning papers slipped under the bedroom door. We spent four days there going round and seeing everything and taking trips outside the city. I bought a few curios and the locals as well as taking some photos.

We left Quito on the Friday and reached Robamba in the evening, staying there the night and catching the train for Guayaquil in the early morning. There we had to have our passports fixed up and various forms filled in. We boarded a Chilean boat in the morning, it contains at one end, a tank room in which are installed 29 tanks, giving ample capacity for the bulk storage of all kinds of produce. In the basement of the warehouse is the cooperage and painting shop, pump room and general storage space for oil in packages. Immediately north of the east end of the Warehouse, and connected by way, is the barrel washing and drying plant. The first or ground floor is used for wholesale for storing and shipping. The second floor is by a large elevator, capable of handling the largest truck operated by the company. On this floor, for the convenience of the men working at the plant, there is a large, comfortable lunch room, lockers and wash room. This garage, which has the fireproof garage which was erected some time ago, gives a total storage capacity for 46 trucks, which is ample room for all operating equipment.

A separate boiler room with two large steam boilers gives sufficient capacity for heating all of the buildings and supplying steam necessary for carrying on all operations.

As a large percentage of the minute. This arrangement will enable the Company to speed loading and deliveries by twenty per cent, which will effect, during the year, a considerable saving in the cost of this particular phase of the work.

In a general way, the plant is constructed to eliminate all lost motion, or extra handling of products. The plan as conceived and worked out has exceeded expectations in this respect and special credit must be given to those who designed the buildings and standardized the construction.
A PHALT, IT'S DEVELOPMENT AND USE

PART I

C. M. BASKET, ASS'N. SOFT., MONTRIAL. East Refinery

THESE are 2 important factors in the history of asphalt. One that has of immense importance to us in recent years is the asphalt that has gradually forced itself on the public mind through the medium of its application and use, one of the principal uses being in road construction. The extent of the application of asphalt has become widespread and has spread over practically the whole of our industrial system. There is not a yard of a modern highway in which this black sticky material is not used. It is not in one form or another, in other words, asphalt as a subject is as broad as industry itself. It would therefore be futile to expect anyone as this subject within the limited space of one article. It will well serve our purpose if we point out the historical significance of our subject, the purposes set and the plan we have taken in our commercial world, so we shall start with a few words on its history.

ASPHALT IN ANTIQUITY

Asphalt, although a most unpretentious looking substance, has a history that stretches back to the dawn of recorded time. Its name is of Greek origin meaning "to join together" or "to put together." The discovery of its utility was made by the ancients inhabiting the valleys of the Tigris and Euphrates rivers, the country now known as Mesopotamia. In the time of the Sumerians, the use of asphalt for sealing and waterproofing was known. However, asphalt was not used for its present-day purposes of transportation, until the development of asphalt concrete in the 20th century.

Basic Discoveries in Asphalt on Utility of Asphalt

The ancient inhabitants of Mesopotamia have made some interesting discoveries that might be considered as万科. One of these is the use of asphalt in the construction of buildings. The Sumerians used asphalt to seal the joints between the bricks of their buildings, preventing water from entering the structures. This was an important discovery, as it allowed for the construction of permanent buildings in a region prone to flooding.

From a scientific perspective, asphalt was used as a sealant for leaky walls in ancient Egyptian tombs. The Egyptians also used asphalt in the construction of their temples and pyramids, where it was used to waterproof the stone blocks and prevent water from seeping through the walls.

Limitations of the Use of Asphalt in Antiquity

The extension and development of the use of asphalt in antiquity was limited due to the geographical and technological limitations of the time. The use of asphalt was primarily confined to the Near East, where it was readily available. The lack of a suitable transportation network made the distribution of asphalt difficult, and the technology to make asphalt concrete was not developed until later.

In summary, asphalt has a long history of use and development. From its discovery in ancient Mesopotamia to its modern-day use in road construction and paving, asphalt has played a significant role in human history. The advancement of technology has allowed for the continued development of asphalt, making it an essential material in the modern world.
even upon hardening is over 90 percent pure. Furthermore, the very phenomenon of an oil exuding from a rock in the ground is sufficiently impressive to rouse the inquisitiveness of even the most primitive mind.

The European material, on the other hand, was in a wet or brown powder impregnated and cemented together with asphalt. The general area of distribution is very limited. The industrial technique of the 19th Century A.D. naturally was vastly superior to that in the 18th Century B.C. Yet with all this technical superiority the utilization of this material as asphalt was restricted to few lines and a limited area on account of its decidedlyalaterable properties by available means.

The native Eastern asphalt as pointed out above was a more flexible material. Its properties such as hardness could be varied to a considerable degree depending on how long it was exposed to the air or heated. The ancients acquired asphalt depended on blind chance the extent and variety of its use remained limited.

The Demand for Asphalt

As might be imagined from the preceding, the outstanding characteristic of this substance in Greek and Roman society was its use in waterproofing. A large scale demand for asphalt would therefore be expected. Moreover, and the necessity for greater means of inter-communication. The one would involve building and the other construction of highways. In either case a cementing and waterproofing material would have great scope and would be of general demand.

During the early industrial development of Western Europe, the utilization of waterproofing materials was in part supplied from distillation of coal (coaltar) and from vegetable and mineral oils, resins, wood pitch, etc. Native rock asphalt began to figure considerably in pavements, particularly within its shipping radius. The bulk of paving, however, was of straight mineral materials such as water-hardened macadam, granite blocks, brick or levellled pavement.

In the United States the situation was very much the same in respect to both waterproofing and paving. The ever-increasing movements and the demand for it became necessary to supply the market and the pressure of time. Exposure to the air would be an altogether impracticable means of hardening semi-liquid asphalt to a degree that would make it a suitable material for the industries as we know it today.

A partial knowledge of asphalt mixtures and oxidation which was apparently sufficient for their purposes. Considering, however, modern requirements, the quantity of asphalt necessary to supply the market and the pressure of time, exposure to the air would be an altogether impracticable means of hardening semi-liquid asphalt to a degree that would make it a suitable material for the industries as we know it today.

It is therefore evident that the extensive use of asphalt in the industries depended on the discovery of a source from which asphalt could be obtained in any consistency or degree of hardness.

The introduction of the following new factors: wear of abrasion of surface by rub and suction of passing tires and resilience to withstand sudden and rapid shocks. If we, therefore, consider the basic requirements for a modern highway it would be something as follows:

1. A modern highway shall be waterproof (good drainage although of primary importance is only a partial remedy)
2. It should have some resilience to withstand shock.
3. Its surface should be more resistant to abrasion.

At present we know that asphalt has certain characteristics when mixed with graded mineral matter (mineral matter consisting of fine in proportions according to size of particle) will make the whole waterproof, impart to it high wearing qualities and give it a certain amount of pliability. These qualities such as adhesion and cohesion, its being impervious to water and oxidation, and its resilience make it a product required in numerous fields, especially in road construction.

The development of the petroleum industry while supplying fuel and lubricants for the motor also serves as a source from which asphalt of varying consistencies and different properties are being produced.

Thus the petroleum industry in a way rounded itself out by supplying the asphalt cement for road construction and maintenance.

This preliminary survey brings us to asphalt as we know it today. At present a considerable portion of crude petroleum goes into the manufacture of asphalt, and it is used in a great measure replaced all the asphalt used for waterproofing and insulation. In succeeding articles we will explore the technical requirements of asphalt and briefly sketch the methods used to accomplish same.

LIMA, Peru can boast of a motor equipment that is equal to any serving the needs of the large gasoline-consuming public.

Here are pictured five of the gasoline tank wagons operate by the International Petroleum Company in Lima. Three of these cars are on the main line between Callao and Lima, which is being impervious to water and oxidation, and its resilience make it a product required in numerous fields, especially in road construction.

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Servicing Lima
IMPEROIL PERSONALITIES

THE curator of this gallery of Imperial personalities has conferred himself for the first time on a mission of considerable interest to the executive officers at Toronto, where he has a little further afield and stops off at Montreal, where he met many other Canadian scenes, the activities of a large Imperial organization unite many interesting figures in the common cause of company business. Inevitably other points east and west will be visited for the purposes of this Personalities' Gallery, but well-advisedly the present requirements are the active and genial E. J. G. (Edfin) Finch, who presides at the traffic desk at Montreal office. Mr. Finch is in the fourteenth year of Imperial service and in that period has become known to circles far broader than the confines of Montreal office alone.

The evolution of a traffic man is a process that has yielded a treasure of information to the debaters of business and other scientists. Two schools of thought debate the question of the traffic expert, one contending that he is born and made and another, with equal plausibility and validity, that he is made and not born. Edwin Finch confounds both schools for he is a traffic man who was born and made. Even in his tender years he evinced a deep interest in the juggling of the steel road which, at the time, he designated as "choo-choo," and as he passed from infancy to boyhood this interest took a deeper hold and was supplemented by a passion for keeping things moving, which passion is not the one the rine qua non of a real traffic man.

This passion for keeping things moving is of broad application and does not concern itself with tank cars. There is nothing that comes closest existing from the diminutive and elusive hockey puck up.

Mr. Edwin Finch

which have honored him and testified to his ability, knowledge and popularity, by electing him to the presidency of the Canadian Industrial Traffic League.

The Canadian Industrial Traffic League is an organization which, as the curator of this picture gallery understands it, embraces practically all large Canadian industries, including the railways, and which has become to a considerable degree the arbiter of traffic organization and control throughout the Dominion. It is a semi-official body which has as its objective to promote a better understanding of the needs of the traffic world, to secure modification of laws restrictive of free interchange of commerce, to promote, conserve and protect commercial and transportation interests and to cooperate with the Board of Railway Commissioners for Canada and other regulating bodies and the transportation companies, to improve transportation conditions generally.

The League today is a recognized power and authority in traffic matters and one of its most important functions is the speeding of satisfactory adjustment of railway tariffs. The League, in its several conferences, which, in the case of the Canadian Railway, was only known to the public, would have been submitted to the lengthy and often costly process of action by the Board of Railway Commissioners. To be president of the Canadian Industrial Traffic League is an honor, and in traffic parlance, to have arrived.

It also confers diplomatic achievement.

Mr. Finch was born in Ontario in 1903 but deserted the legislative precincts in 1905, removing to Toronto, where he was educated and where he matriculated to McGill University in 1908. His first business experience was gained with the Grand Trunk Railway - the traffic man coming to the fore - where he served for a year, resigning to associate himself with the Federal Life Assurance Company. After three years in the insurance business the traffic signal again beckoned him and he joined the purchasing agent's staff of the Canadian Pacific where he served until 1914 when he became a member of the Montreal staff of Imperial Oil Limited. From the very beginning he completed his scholastic course he has never known a day of unemployment.

Next to traffic, Mr. Finch's greatest interest is in the question of amateur sports, Long distance running and hockey particularly claim his attentions and here again he has kept things moving and has been rewarded for his efforts, being for three years president of the Quebec Amateur Hockey Association. During his term of office he inaugurated a movement to encourage invention and to cooperate with the Board of Railway Commissioners for Canada and other regulating bodies co-operated with him and the association to provide an adequate number of regulation

FIFTY YEARS IN THE OIL BUSINESS

By James Boyd

Recently Mr. James Boyd, who had been associated with the oil business in Canada since 1883, when he was appointed manager of the Canadian section of Imperial Oil Limited, paid a well-deserved visit to the city of his birth. During his visit he discussed with the Board of Directors the present state of the business and the future prospects of the company.

Mr. Boyd's career in the oil business dates back to 1883, when he joined the Imperial Oil Limited as a junior partner. From that time until his retirement in 1930, Mr. Boyd was a leading figure in the company. He was instrumental in the establishment of many of the company's most important operations, including pipelines, storage tanks, and the distribution of petroleum products.

In 1900, Mr. Boyd was appointed manager of the company's Montreal office, a position he held until 1910. During this period, he played a leading role in the growth and development of the company's business in Canada.

Mr. Boyd was also a prominent figure in the oil industry, serving as a director of several major companies, including the Canadian Petroleum Company and the Canadian Refining Company.

Mr. Boyd retired from active business in 1930, but continued to be an active participant in the affairs of the company until his death in 1950. He is remembered as a man of great integrity and vision, who played an important role in the development of the Canadian oil industry.

In 1930, Mr. Boyd was awarded an honorary degree of Doctor of Laws by the University of Toronto in recognition of his contributions to the oil industry and to education.

Mr. Boyd's influence and leadership in the oil industry have left a lasting legacy, and he is remembered as one of the great pioneers of the Canadian oil business.
Duncan Clark refinery at Eastern Australia, it was working in Toronto and he was, as I said, considerably behind in demand for its Triple X machine oil, he called it, and it was a superior oil made by secret process and employed itself an oil business that was working very nicely because it sold at 86 c a gallon and you could buy the oil by the barrel and I don't think you get any more than about 35c. Anderson had worked two years to perfection this oil and it was made of fish and animal oil thinned down with mineral oil. The mineral oil used to come in from Petrolia over the old Grand Trunk line in barrels of barrels and it would be treated a mile and a half over a muddy road to Anderson's place.

Animal and fish oils are an odorous combination, particularly when you put them in a vat with a steam coil in it and heat them up, and treat them with chemicals. Anderson, as I said was the business. He used to hustle out and get the orders. Most of the time he was away from the plant, while the factory personnel, the man and the boy, took care of production. There was an office that Anderson used when he was there. It had a wooden desk and a stove and a coal-oil lamp by way of furnishings and it must have been ten feet square. Whether Anderson was there or not the office was generally occupied—by what might come along. There was nothing else to do. It was just a place to save money in those days—almost never.

But while the office was un guarded, the factory or compound room was always watched. For we had a security system. Anderson's compound and there were payment men coming and going, I'd like to have known what that secret was. I've had them try to break it, by putting in a bigger scale, for Queen's Park, but Anderson was handling coal oil and general lubricants. Coal oil was the principal product. The end of the business. Queen's Park was the biggest user of coal oil, and that was considered quite a task for us in those days. Queen's Park's trade was principally in coal oil. The compound room, without lights, was lit by warmers. I'll always remember that to see it if was ready to be drained out as the twelve o'clock.
COLONEL LINDBERGH AT BOGOTA

A MERICAS youthful ambassador of good-will, Col. Charles Lindbergh, paid a visit to Cartagena and Bogota while on his South American tour. As the distant boom of the engine announced the approach of the plane a cheer rose from the crowd and it surged around the area fenced off for the plane. Following a series of skillful maneuvers the "Spirit of St. Louis" glided gracefully to earth and the young pilot stepped out to be received by the committee composed of Father de Heredia, U.S. Commercial Attaché Ellis, Mr. Fawcett, U.S. Military Attaché Major Gillespie, Mr. Thomas Palmer Jr., executive representative of the Tropical Oil Company and the Panamanian Minister LeFevre.

Speaking of his journey, Col. Lindbergh said the trip from Cartagena to Bogota was made without difficulty of any kind and presented no obstacles to regular air transport. He flew at a height of 9,000 feet most of the way.

The Tropical Oil Company tendered Col. Lindbergh their services and he took on five gallons of oil and forty gallons of gasoline.

MARVELUBE MOTOR OIL HIGHLY ENDORSED

MANUFACTURERS of the world's most famous aero-engine motor, the "Wright Whirlwind," which flew Commander Byrd over the North Pole, and Lindbergh, Chamberlin and Byrd across the Atlantic, as well as establishing many other records for reliability and performance in all parts of the world, have unreservedly endorsed Marvelube, made by Imperial Oil Limited, from petroleum crude petroleum, for lubrication of their motors.

Marvelube is the only Canadian oil that has won such a recommendation and is one of only a few brands of oil endorsed by the Wright Aeronautical Corporation.

All the oils recommended for this superb motor are straight petroleum oils, having no vegetable or animal oil content to cause disintegration.

Approval of an oil by the makers of the Wright Whirlwind motor is regarded as the highest testimony to its superior quality.

CHIEF CLERKS IN CONVENTION

A MEETING was held of the chief clerks of all the Company's marketing divisions in the Dominion and Newfoundland. The session was convened at Sarnia on March 5th by Mr. T. C. McCobb, Secretary-Treasurer, and for four days matters pertaining to the accounting of the Company's business were thoroughly discussed.

On Thursday evening the party left Sarnia for Toronto, where they were presented to the directors of the Company on Friday morning.

Mr. H. F. Mellhines of New York and Mr. R. G. LaMar of Baltimore were guests at the meeting.

Remembering the old adage "All work and no play makes Jack a dull boy" the party while in Sarnia were entertained by Mr. T. C. McCobb, Mr. Gabler and Mr. Scott. In Toronto Mr. Wolfe entertained at a luncheon at the National Club, and the meeting ended with a banquet given by the Directors at the King Edward Hotel, followed by a theatre party.

A record trainload of crude for Regina Refinery

THE above photo shows a trainload of crude oil crossing the prairies on its way to the Imperial Oil Refinery at Regina to supply the consuming needs of southwestern Canada.

These trains are given the train schedule of fifty-one hours between terminals of 954 miles. Actual running time of a passenger train over the same route is forty-one hours and ten minutes, add to this the time lost in changing trains and the average time is greater than that of the oil train.

This is considered exceptionally good time.

The capacity of the tank cars varies 8,000 to 20,000 Imperial gallons are carried, making the average car load about 9,000 gallons of crude.
In Passing!

Spring came over the hill to-day,
Over the dark hill, seamed by frost,
Out from the pines by the wild winds tossed,
Came in the most surprising way!

I looked for a maiden in wispy green,
With delicate buds in her joyous wake,
With golden tresses to twine and shake—
A vision, in short, of a fairy queen.

But, Spring wore smock and overalls blue,
And his plow left furrows of shining loam;
Encrusted with cowbirds like dusky foam,
And his whistle was glad and his eyes were, too!

MARY ISABEL NEWBERY.
General Sales Department

Toronto.