The Passing of Mrs. A. M. McQueen

TRDINGS of the death of Mrs. McQueen, wife of Mr. A. M. McQueen, vice-president of Imperial Oil Limited, and the International Petroleum Co. Limited, flashed throughout the organization in this country and South America on Saturday, September 11th, and were received with universal mourning and a sense of personal loss on the part of hundreds in the service of the several corporations. The ties which bound those in the centres of the company’s activities, as well as those of the far outskirts, and their wives and families, to Mrs. McQueen were indissoluble but the loss was deep and lasting, and the influence which she wielded in promoting the happiness of the personnel and those dependent upon them was none the less widely spread because it was spontaneous and unconsciously exerted.

Mrs. McQueen left Toronto early in August to visit her daughter, Mrs. S. F. Heard of Negritos, and had planned to return in November. In the second week of September, word was received that she had suffered an infection of the blood and was a patient in the Imperial Hospital there.

Although her illness was first reported as being of a mild character, Mr. McQueen, who was in Edmondton attending a conference called by Premier Brown of Alberta, left for the east and arranged to sail at once from New York for Peru. His journey had scarcely begun before cables from Negritos reached Imperial headquarters indicating the condition of Mrs. McQueen was as serious that specialists were being hurriedly summoned from Panama and a diagnosis of her case was called to this country to obtain the advice of specialists here. All efforts were unavailing.

Mrs. McQueen, in company with her husband, had made a number of trips to Peru, and by reason of her unfailing and gracious interest in the welfare of the several Canadian colonies there, and her wide acquaintance with Peruvian social and administrative circles, was a unique and greatly beloved figure in that Republic. In Toronto, where she resided for the past ten years, and in Petroleum, her birthplace, Mrs. McQueen exerted a similar intellectual sway, and held a host of friends by her warm hospitality and her unbounded sympathy with all of those whose love she touched. She was a Presbyterian in religion, and attended St. Andrew’s Church, and her philanthropic activities were enlisted by many social welfare organizations.

In September, eight years ago, Mr. and Mrs. McQueen received in the staff house of the company at Negritos the news of the death of their son, Murray, who was killed in action in the Second Battle of Cambrai.

Mrs. McQueen leaves her husband, two daughters, Mrs. Heard, wife of Mr. S. F. Heard of the International Petroleum Co. staff at Negritos, Miss Jean, at home, and a son, Mr. Neil McQueen.

As a tribute to her memory, operations at Negritos were suspended on Saturday, September 11th and a simple funeral service was conducted on the following Sunday. Under instructions from the president and board of Imperial Oil Limited, a steamer was placed at the disposal of the family, and the remains were conveyed to Canada. Before this issue of the Review reaches all of its readers, interment will have taken place in the family plot at Petrolia.
PETROLEUM TRANSPORT IN THE TROPICS

Last Step in the Development of a Commercial Oil Field in the Tropics Was Completed by the Andian National Corporation

DRESSED in his gayest flags, the good ship Albionite, of the Imperial Oil fleet tied up at the dock of the Imperial Oil refinery at Montreal one day last month. No unusual incident had transpired, but, nevertheless, there was waiting to greet the boat and its captain a group of representatives of the largest financial and commercial interests of the country. The occasion was the delivery of the first cargo of Colombian crude to reach this country. Its significance lay in the fact that under Canadian direction and through the agency of Canadian organization, a new source of supply for Canadian requirements of petroleum products had been opened up and that for the future these supplies would be under Canadian control. In the waiting group, among many others, were Sir Herbert Holt, president and C. E. Neil, general manager, Royal Bank of Canada and chairman of the board and director respectively of the Andian National Corporation; Great Hall, vice-president of the Canadian Pacific Railway; Gerald Riel, vice-president of the Canadian National Railways; G. T. Bell, representing J. E. Dalrymple, president of the Canadian National Railways; E. R. Decary, director of the Canadian National Bank of Commerce; L. S. Smith, consul general for Colombia in Canada, H. T. Dickson, president of the Imperial Oil and International Petroleum companies; Captain J. W. Flanagan, president of the Andian National Corporation; Col. Robert Stark, president of the Board of Trade; P. E. Joubert, president of the Chamber of Commerce; B. B. Bourgouin, president of the Sun Life Assurance Company; Col. W. K. Lees, Hon. Susannah White, Joseph Versailles, Alexander Gray, Norman Holland, R. W. Reford, and Arthur Wood. The Imperial Oil Company was also represented by W. R. Eimmart, general manager of the marine department; F. C. Metchum, superintendent of the Imperial Oil refinery at Montreal, and Major E. T. McIntyre, Sales Manager at Montreal.

A battery of cameras took moving pictures and "still" as the visitors in turn shook hands with Captain Rowley of the Albionite and congratulated him on being the pioneer in bringing a Colombian oil cargo to Canada. Mr. G. Harrison Smith, president of the International Petroleum and vice-president of the Imperial Oil Limited, followed up with a cordial greeting, and added that the arrival of the Albionite and the reception accorded by the Canadian Government, Faith in the integrity of Colombian legislative and administrative procedures, as well as the spirit of the huge investments involved and the observance of the agreements affecting the rights of the corporations and the Government and the people of Columbia, were necessary to the successful culmination of both plans. The result has been the creation of an oil field which not only renders the country independent in respect to this vital commodity but which will make an important contribution to its export trade. In addition, there has come into existence a great petroleum transportation system, the construction of which was assisted by the crude production of the Tropitl Oil Company, but which will also provide an outlet for that of other fields when they are developed in the territory traversed by the pipe line.

Colombia is a prolific country. From tidewater to mountain summit it embraces every known climatic variation. On the coast the waving palms, the arborescent fragrance, the lawn of the Caribbean, the richness of the tropics; on the peaks the stark and terrible rage of an ice-bound Andian wilderness. At some point in the mounting altitudes is to be found the natural environment for flora and fauna of every latitude and climate. Under foot is every geologic formation, from the latest terrains of the coastal region to the oldest genesis of the mountains, with conditions between these two geologic end-points, which invite search for every economic product of the effective industries.

COLOMBIA DEVELOPING RAPIDLY

Three chains of the Andes mountai

Life is a great crosseyed study the pipe line sends its way through the chained plates.

Floating the line across the rear on pontoons.
facilities for internal commerce and to afford a more certain and expedient outlet for Colombian products. Towards this objective the results obtained by the Tropical Oil Company are contributing in a marked degree and the people of Colombia are not slow to take advantage of these possibilities. Many of the railways now burn fuel oil; the highways now constructed and being constructed are every day more and more utilized by automobiles, busses and lorries which the cheapening of gasoline has made possible; fuel oil is now adopted as practically all of the steamers which handle the immense commerce of the Magdalena River. 

Queens among the rivers of Colombia is the Magdalena. It has its source in the Andes adjacent to that of the majestic Amazon and flows for a thousand miles to its outlet in the Caribbean near Barranquilla. Cartagena lies within fifty miles of the mouth of the river. For a time the Spaniards of the sixteenth century found this wonderful waterway and came to comprehend the vastness of its tributary territory which they established their Caribbean capital as a fortress to command its basin. The Spaniards explored the valley of the Magdalena and at Itanitas they found a substance identified as oil. To them petroleum meant little. It was at that time a phenomenon noted among the many natural wonders of the country, worthy of mention but not of serious moment. As a convertible resource it held then no place in the scheme of existence and so through the changeable and dramatic history of the country it lay, unattended and ignored until, when the demands of this unfolding twentieth century sent men into the remote regions in search of oil, attention was again directed to the centuries-old discoveries in the up-river regions of the Magdalena.

The proved oil fields of the country lie about midway, as to mileage, between the coast and the Andes. Climatically, they are in the tropics. Topographically they are close to sea level. As has been said, access to the interior is by way of the rivers. But because of the immense amount of folk that is annually brought down the Magdalena from the rapidly eroding alluvial regions above, immense bars form at the mouth, which make it impassable for ocean steamers to enter the river. To reach the interior, waterways system from the tide-water, one must proceed by a narrow gauge railway from Puerto Colombia to Barranquilla or by a three-foot gauge railway from Cartagena on the coast, to Calamar, on the Magdalena, a distance of about sixty miles. Following the sinuosity of the river, from Calamar to Barranquilla—the railway town and disembarking point for the oil fields—is three hundred and seventy-five miles. From Barranquilla inland to the oil fields the distance is greater by sixteen miles and to the farthest known limit of the field is another thirty-five miles. When the Tropical Oil Company came into this region some twelve years ago, population in the oil territory which it prepared to develop with capital provided largely by the International Petroleum Company, was confined to the river front. Behind the area was trackless tropical forest and jungle and, except along the streets, where elephants and camels were used for transport. Roads into the interior and druning camps were obtained by literally chopping them out of the tangled forests. The concession was supposed to embrace three million acres. The fact that the area was actually surveyed, some years later, only contained approximately one and one-third million acres, indicated the state of knowledge of its size and content. It is safe to say that no accurate surveys of this area which is some seventy miles long by about thirty miles wide, had previously been possible.

The largest settlement on the concession was Barrancas-Bermuè, a village composed chiefly of Indians, but with a small element of Spanish. Only one trail, over which it was at all possible to travel on muleback, crossed the northern part of the concession from Barrancas to the mountains beyond. Over this trail many pack trains passed carrying coffee and hides for export. The entire concession was covered with dense virgin forest, which made movement from impossibly without a hired effort. A few foot paths were made here and there along the streams courses by the natives hunters for cherry gum and "ambre.

CONSERVATION WAS VITAL FOR MANY

In 1920 there were two ways of getting from Barrancas to Infantares—one was the log-choked Colorado River and the other over a narrow trail on muleback through the jungle. By either route it was a hard day's journey, if this could be made in one day. Now with the railway and the automobile road, it is a matter of a comfortable journey of an hour and a half. From Infantares to the location at Boca Cesar, it required four days' journey on muleback over an indescribable trail in wet weather, whereas now one can easily motor it in an hour and a half. This transformation and its equally difficult maintenance was only assured as the result of huge expenditures, hard and well-directed work and efficient administration.

Operations in an oil field are absolutely dependent upon transportation; and this had to be established from the coast four hundred miles inland to Barrancas and thence through forest and jungle to the field itself.

River transportation available was by no means sufficient for the tremendous needs of the Tropical Oil Company and this lack of adequate facilities necessitated heavy expenditures. The Company has built and operates a river fleet with five power boats and a dozen or more barges and has organized a system of land transportation embracing twenty miles of railroad, a hundred or more miles of automobile roads and a fleet of trucks, tractors and passenger cars. This equipment is paying dividends every day in wells which are being completed at the rate of more than one a week.

Linked up with this transport system is a series of distributing stations along the Magdalena River and elsewhere which, in addition to carrying on its huge exploratory program at Infantares, the Company constructed for the purpose of giving the consumers of its products in
Colombia a more efficient service as well as cheaper gasoline, kerosene and fuel oil. In this, as in other matters, it enjoyed the cooperation of the Colombian Government and people who have throughout endeavored to make the task as easy as possible. They recognized that the success of the Company's efforts meant the advancement of the country and that the only logical spirit was one of equitable and reasonable team work between all parties for the general good. In this internal distributing system, the Compagny has erected a dozen or more tanks and warehouses at strategic points along the Magdalena River and in various cities of the Republic where ample supplies of fuel oil, gasoline and kerosene are stored. These deposits are maintained at all times and increased somewhat at the beginning of each dry season when transportation by river becomes precarious and sometimes impossible. By means of these stations and its fleet of river steamers it now supplies the Tropical Oil Company, and it appears that the Company has thus been able to efficiently supply the rapidly increasing demands and needs of the Colombian public and to take its part in the advancement of the country.

Sanitary Staff was Efficient

Assembly yard at Cauca showing type of shale drill large scale

The most essential factor in the sanitary program was the provision of adequate hospital accommodations in order that all sick might be properly treated and isolated. These hospitals were far from the ordinary construction camp type. There were hospital ships on the river and hospital buildings at the centres, admirably equipped.

and medical attention was not only available but with the support of the Government authorities it was made compulsory. In this way infected persons were removed from contact with the healthy and convalescents were given proper treatment in order that they might not become disease carriers. All applicants accepted were given booster treatment.

In addition, it was assumed that all workmen from the lowlands had chronic malaria and compulsory treatment for this condition was instituted, thereby greatly increasing their efficiency and their enjoyment of life. Inasmuch as malaria brought about the highest sick rate, it was necessary to protect employees from mosquito bites. This was accomplished by proper screening of quarters and insistence on the use of mosquito nets. The next step in the malaria preventive program was an effort to eliminate breeding places of mosquitoes and to destroy their larva. In locations where it was not possible to entirely eliminate mosquitoes, the prophylactic use of quinque was made compulsory. The enforcement of these and other necessary measures mitigated many difficulties of construcion and made success possible even in the midst of a pestilence.

Pipe Line Company Organized

Practically all of this had already been accomplished by the Tropical Oil Company, and the steps appeared in the Review, before the era of pipe lines in Colombia arrived. To transport fuel, equipment and materials the construction camps required the installation of a transportation system somewhat similar to the craft that pld the Red River in Manitoba in earlier days. These tropical craft were necessarily, however, lighter of draught, more strongly engineered and of stouter construction. Before the pipe line was begun steel steamers, powerful and magnificient were plying the river, the jungle was pierced with a system of wagon roads and meter-gauge railway, the refinery and a model town already in existence, the oil field explored and drilled to a stage at which there was in sight a shutting down production of 9,000 barrels a day with potentialities for a much greater production throughout a large area now known to be oil-bearing.

Forced by the success of the operations of the Tropical Oil Company, and the possibility of other oil fields adjoining or even more distant from the coast, the Andian National Corporation was organized by Canadian and European interests to construct the necessary pipeline system to carry the production of such fields to sea. The board of the Andian National Corporation, at the time of incorporation, was Sir Herbert Holt, president of the Royal Bank of Canada, which had already established a number of branches in South America and which was closely in touch with the commercial and financial affairs of several South American republics—among them, Colombia. Through the purchase of the Bank of Central and South America the Royal Bank further enlarged its sphere of influence in these republics and the effect will undoubtedly be a more rapid development of their natural resources. The Andian National Corporation was financed by the sale of bonds and stock in Colombia, Great Britain, Europe, the United States and Canada and its board of directors is representative of its broad international character. The personnel of the board includes The Honourable Hugh Boring, O.B.E., of Baring Brothers, London; M. Maurice Boyer, sous-Directeur, Barque de Paris and des Pays-Bas, Paris; C. E. Neill, general manager, Royal Bank of Canada, Montreal; G. Harrison Smith, president, Inter-national Petroleum Company; J. C. Dornell, president, Ontario Oil Company; Captain J. W. Flanagan, Toronto; D. O. Towel, Toronto; G. W. Carpenter, New York. The death of Sir Augustine Nanton, president of the Dominion Bank of Canada, one of the early directors, occurred last year and among other changes on the board was the creation of the office of chairman which is now occupied by Sir Herbert Holt, whom Captain James W. Flanagan succeeded as president.

Captain Flanagan possesses a varied and extensive experience in Mexican, Central and South American affairs. He has been in command of operations since the inception of the Andian project, in association with the group of able Colombians who constitute an invaluable part of the administrative staff, and he represented the Company in the negotiations which culminated in the agreement between the Colombian Government and the Andian National Corporation respecting the corporate powers and concessions conferred upon the latter.

D. O. Towel, an outstanding member of a famous family of pipe line
to this a terrain that is worn away to no systematic plan whatever, into a series of precipitous bluffs and yawning gashes, jungle screened so completely that the explorer finds them most often by falling down of their slopes. Nor did those optimists enjoy the comparative plenitude of abode that disgraced the later con-
struction camps. On the river they had house boats that moved down stream as the survey progressed. Ashore they used tents. From day to day they were on the march. For the first one hundred and fifty miles the country is jungle in the tropic sense of the word. After that, for the next one hundred and fifty miles it is in some places tropic swamp but easier going and, after leaving the river at Calmar it is, as stated, comparatively
a century has developed in this country, settlement in any case had to be by personal treaty.

Construction of the Pipeline

The order for the pipe was placed January 1, 1923, and the first ship-
ment left the mills on February 3rd. Pumping equipment included, 60,000 tons of material went into the construction of the line. The pipe is 10-inch, 41 pounds, with a tested pressure of 3,000 pounds running 110 tons to the mile. There are eight pumping
stations on the line with suitable tankage at each station. Coupled joints were used throughout, as welding them would have called for a much larger importation of labor. The entire line is built of 20-foot lengths instead of the 40-foot pipe usually employed in pipe lines on this continent.

The first cargo of pipe arrived in Cartagena in March 1924, and con-
struction was commenced from the coast end without delay. On April 4, the first joint was laid. Starting from the terminal, construction was car-
ered out in sections and as each one was completed the gang moved to the head end to start on another. The sixty miles from Cartagena to Cal-
mar, on the river, presented no great difficulties. The country was not complicated. However from Calmar up the river, the country especially the last one hundred and fifty miles through the jungle country, many obstacles were encountered.

The Aridion operators charted some of the available river steamers. Barges for floating the pipe were built, each with a capacity of 300 to 500 tons contingent upon the state of the water in the river. Two barges to the steamer was the usual way and in
open country. Following the recon-
naissance came the location surveyors who, with their helpers, plotted and
cross-sectioned the country, cut the line, drove the stakes and put the details down on graphic and methodical blueprints for all sufficiently educated to understand.

In the latter part of 1922, just about a year after commencement, the sur-
vey had been completed. Then there came a halt in the field operations while the diplomatic corps was en-
gaged and the questions of property rights and damage were being ad-
sisted. By its corporate powers the Company had something similar to the right of eminent domain under which railways and other public utilities operate in North America, but lacking the system of settlement by arbitration which the experience

Grove traveling crane raising pipe ashore

stated, comparatively

that fast-running and ever-changing river careful and competent naviga-
tion was required to get the material to the desired point up stream. Sta-
tions, or "depots" as they were termed in that country, at the most convenient points along the river were designated by the engineers and at these the pipe and supplies were put ashore. At some points the banks were steep and the job of elevating the lengths to the bench-land was strenuous to a degree. From the "de-
posts" the pipe was freighted on eight-wheeled or truss-wheeled wag-
ons, by tractors usually over roads built for the purpose, to the places along the right-of-way where it was
strung out for coupling as part of the line.

Taking into consideration the cost of transporting, trenching machines to the scene of operations and the additional cost of moving in a dif-
cult country, it was estimated that hand work would have been plentiful and willing. Dry labor was employed to some extent but, generally speaking, the system adopted was something more like the main
work in use on railway construction in the Canadian west.

For a certain piece of work a certain price was paid. The workman was, in a small way, a contractor and his own boss.

C. D. R. T. General Manager Royal Bank of Canada, Director Aridion National Corporation

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sure that the mosquito guards were efficient and in working order.

The various croosings of the Mag-

dalena and other streams presented unbelievable problems. At some points it was possible to couple up the pipe and tow it across stream, but in the wide reaches where this was not of the question a specially constructed barge, was brought into operation. The barge was towed across stream, the pipe coupled a length at a time and the completed line dropped astern as the barge progressed. In a treacherous stream, half a mile wide and running five to six miles an hour, this was a pre-
carious experiment calling for the highest mechanical skill, but it was accomplished without mishap.

The swamps encountered in the lower sections constituted another problem which demanded hard work

O. D. Tovill, Vice-President, Aridion National Corporation

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Taking into consideration the cost of transporting, trenching machines to the scene of operations and the additional cost of moving in a difficult country, it was estimated that hand work would have been plentiful and willing. Dry labor was employed to some extent but, generally speaking, the system adopted was something more like the station work in use on railway construction in the Canadian west.

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The various crossings of the Magdalena and other streams presented unbelievable problems. At some points it was possible to couple up the pipe and tow it across stream, but in the wide reaches where this was out of the question a specially constructed barge, was brought into operation. The barge was towed across stream, the pipe coupled a length at a time and the completed line dropped astern as the barge progressed. In a treacherous stream, half a mile wide and running five to six miles an hour, this was a precarious experiment calling for the highest mechanical skill, but it was accomplished without mishap.

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...
and plenty of ingenuity. Wherever possible the pipe was coupled and flanked into place by a pull from the other side of the swamp, but approaching Calamar where the Spaniards in ancient days had dug a canal from the Caribbean to the Magdalena so that their little caravels might avoid the dangers of its treacherous mouth in reaching the river there were always little dikes to slow it down. Posterns, the boats being sighted with steel cylinders, were used to break up the head end of the pipe line and hold it off the bottom while the line was being flanked across the swamps. The last joint of pipe was connected up on the sixth of March, 1926, at least six months ahead of the most optimistic prediction of the prospective date of completion. Official of the Colombian Government completed their final inspection and gave the line official authorization on May 26th.

**Canadian Petroleum Supply Aborted**

With the eight pumping stations in operation, the line is delivering about 30,000 barrels of crude oil per day of 24 hours. The present potential production of the Tropical Oil Company is about twice the capacity of the pipe line. The Andian Company begins operations with a contract for the transportation of the first 40,000,000 barrels of oil from the Infantas field, or about five years' run.

Plans to increase the capacity of the pipe line to fifty thousand barrels per day are now in progress. At the terminal there have been constructed eight 50,000 barrel tanks, affording a total storage capacity of almost a million barrels. Cartagena Bay, 35 miles in circumference, is deep water, land-locked and naturally protected from the constant swell of the Caribbean Sea.

The development of the production of the Tropical Oil Company, the operation of the pipe line of the Andian National Corporation and the receipt at Montreal of the first tanker with a cargo of Colombian crude are tangible proof that the Canadian requirements of crude petroleum are safe guarded for a generation.

Contributory to this development with its accompanying construction of new railroads and highways will be the opening up to usefulness of an area as large as many European principalities and much more bounteous in response to human effort.

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**The Reward of a Petroleum Adventure**

When Imperial Oil Limited, through its subsidiary, the International Petroleum Company, Limited, became a pioneer in the Colombian oil fields, it was still engaged upon a similar undertaking in the Canadian West. The Colombian development and similar adventures in Peru and Ecuador were in fact the outcome of the indecisive results attending the exploration activities of the company in this country. Being the largest petroleum organization in Canada, Imperial Oil Limited realized that a responsibility rested upon it to provide the country, if possible, with an ample domestic production of that most vital of modern commodities, crude petroleum, or failing this to ensure a continuity of supply under Canadian control from foreign sources. Accordingly a number of years ago a program of petroleum development was initiated in the Province of Alberta, where geological conditions were more favorable, and consequently a string of wells extending from the international border north to the Arctic Circle came into existence. It is of the fact that there was applied to this effort the best technical opinion open to the petroleum industry and that the capital investment run into millions has failed as yet to demonstrate a commercial production of crude. There has been, however, no relaxation of this effort, but in the meantime similar development operations have been actively prosecuted in other lands and with a considerable measure of success.

The story of Peru, in which country are probably less familiar with the more recent but more picturesque story of Colombia, that story begins in 1910 when the International Petroleum Company came into possession of a petroleum concession in Colombia. Outside of its oil possibilities knowledge of the area acquired was meagre. The concession itself was a wilderness. To the east and south lay upland country, healthful and salubrious, inhabited for generations by a comfortable and more or less prosperous people; but the valley lands, with their steaming temperatures and unbelievable rains, lay tenanted except for the remnants of some or less hostile Indians. Transportation facilities consisted of river boats and canoes, and the capricies of the Magdalena made river navigation a long struggle against nature. However the presence of oil had been definitely established. Back in the days of the Spanish conquest the existence of petroleum had become known, but until the early years of the present century the resources lay neglected. Then into the picture stepped the romantic figure of Roberto De Matos, a French engineer who had made Colombia his adopted country and dealing in coca-ethylene had acquainted him with the oil resources of the territory tributary to the Magdalena River. Having satisfied himself of its oil potentialities, Seror De Matos secured from the Colombian Government, in 1905, a concession covering an area which is now a very important part of the oil holdings of the Tropical Oil Company.

With the concession, Seror De Matos set out with capital for development. Partly because he anticipated the expansion which took place in the petroleum industry during the war years and also because of the inaccessibility of his concession, De Matos met only refusal for ten long years. Then, in Pittsburgh, he found a corner of business men sympathetic to his project. One of these, George W. Grau, president of the Ohio Fuel Corporation, one of the largest natural gas concerns in the world,
possessed much pioneering experience in oil. Associated with him were Meneses, Benjamín, and Torres, whose names have ever been synonymous with daring and adventure in the pursuit of oil. Incredulity had no terrors for them and they launched into the Colombian proposition upon the representations made to them by Roberto de Mares. Joining them in the venture are J. S. Weller and John W. Leonard, known throughout the United States wherever oil is gathered. In 1916, under the laws of Delaware, they incorporated the Tropical Oil Company, a two million share corporation, into which in a very short time it was said to have thrown more than two millions of dollars.

**DIFFICULTIES ON EVERY HAND**

Their first difficulty was a rather discouraging one. They found it impossible to obtain drilling equipment. The world was at war and the United States government had placed an embargo on oil-drilling equipment and casing. Finally, the group discovered what, as a make-shift, would serve their purpose right in Colombia. Another oil company, some time previously, had taken a flyer on Colombian oil possibilities and had tested some coastal territory not far from the point where the product of the De Mares company was now being drilled. Three rigs still lay on the ground, none of which, was particularly complete, but by combining the three, one workable rig was possible. The Tropical acquired the three rigs.

Then there was the problem of transporting the rig to the Tropical Company's concession. The Interntire structure, as all who have followed the fortunes of International Petroleum know, is 400 miles up the Magdalena River, and 18 miles in the interior from a landing place at Barranquilla. A side stream flowing into the main river close to Barranquilla makes the productive area. To move the drilling equipment up the river was tedious and difficult enough, but to float it up the branch, according to whose whose job it was, proved to be the closest to impossible that has ever been accomplished in river navigation. Delivered by river steamer at Barranquilla, the drilling rigs were despatched into the smallest possible units, loaded into dugout canoes equipped with small gas engines and, with the help of expert river men, these crafts were worked up stream until, at a piece at a time, they had finally been delivered on the ground a more or less complete drilling rig. After that, it remained to be established whether or not the Tropical Oil Company had lost its money. The well was finally put down and production proved. Two rotary rigs were delivered on the ground. Each brought in its well. The well, which was abandoned, in 1920, the entire concession passed into Canadian hands.

The development of the field by the Tropical Oil Company began with the drilling of three wells which, while productive, afforded no evidence of the extent of the oil bearing area or of its probable production. A geological survey had demonstrated the existence of four structures within a radius of fifty miles. The Cienaga structure, which is the one first developed, has been since proven to have an area of more than four thousand acres. One hundred wells have already been completed, with a potential capacity of 70,000 barrels a day, and, in the judgment of the geologists, this area will permit of the drilling of three hundred additional wells without over-taxing the territory. No well has yet reached the bottom of the potential oil horizon. The last showed a flash production of 9,000 barrels a day.

Two other structures, the potentialities of which are not yet definitely defined, have been located. La Ciona structure, approximately 18 miles to the west of Infantas, was proven in 1925 by drilling and there are now free wells in this area averaging 136 barrels per day. The Sun Louis structure, 24 kilometer to the south-west, was proven in 1926 this year. At present there are sixteen rotary rigs working in the field with a constant procession of equipment and material going up stream.

At Barranquilla, 400 miles from the Caribbean coast, where the jungle has been tamed back to make room for a modern town, a modern refinery of two thousand barrels daily capacity is in operation, supplying the petroleum requirements of Colombia. The rapid expansion of the Colombian market has demonstrated that the first and chief value of the new oil fields has been to Colombia itself and that the ready availability of a domestic supply of petroleum has proved a very distinct stimulus to Colombian commerce.

The Atlantic coast has been developed up to Barranquilla, Calamar, Yari, Sin Bernardo, Puerto Berrio and La Dorada on the Magdalena River, at Cartagena on the Caribbean coast and a 100 miles of railways have been provided at Mantales, Girardot and Medellin in the coffee country as well as at Bogota, the capital. At Barranquilla, the refinery town, is also a central station, and from all these stations, placed at strategic points on the transportation arteries of the country, case and can goods are distributed to interior points, usually by the short-line railways which operate the upper country, but quite frequently by pack-train, over the mountain trails.

**DEVELOPMENT IN TRANSPORTATION**

From a transportation standpoint, Colombia is just on the eve of an epochal development. The Magda- lena River, with its mouth at Barranquilla, on the Caribbean, is and has always been the highway of travel. The mouth of the river is so shallow that it is impossible for ocean steamers to go above or river steamers to go below the estuary. A large program of dredging is now under way and this bar to cheap transpor- tation is hoped to be removed in the not distant future. Meanwhile, and for many years past, all freight for up river and for export is portaged across country between Cartagena, on the Caribbean coast, and Calamar, a point about 50 miles up the Magda- lena River and from Puerto Colombia and Barranquilla, a distance of about 12 miles, also on the river. Another portage railway is that between La Dorada and Beltran, on the upper river, where a short stretch of track has been constructed to connect the navigable stretches of the river above and below a set of rapids which constitutes an otherwise insurmountable barrier.

Railway transportation consists of a set of short lines operating independently, which serve to bring the products of the highland country, principally coffee and hides, to the Pacific Ocean, the Caribbean Sea and the Magdalena River. Several efficient railways are connected with the national government. The high mountain ranges and difficult construction have been responsible for the slow nature of these various railroads.

Below at the river steamers sailing down in Barranquilla. The river is divided as the upper and lower Magdalena, with navigation broken by rapids at Honda. The upper Magdalena as shown in the picture is entirely a small frigate stream, an easy stream along the edge of two sources of navigation. The Company's building has been dry and dry by recent water. Bagoza, the capital, for instance, being reached on a plateau 9,000 feet above sea level. The present objective of the government is to coordinate the disconnected sections into one unified system giving through connection from Cartagena on the Caribbean to Buenaventura on the Pacific.

Not the least important factor in being delivered is the present availability of oil due fuel, due to the operations of the Tropical Oil Company. Formerly all railways and steamboat lines in Colombia were dependent of wood for fuel. Its inefficiency on the heavy mountain grades and against the swift currents of the Magdalena made transportation of the country's products an expensive and precarious undertaking and fuel oil has done much to solve freight costs. Transportation is, however, still one great problem of Colombia. It has been estimated by Government officials that at least one third of those gainfully employed in that country are engaged in moving from one part to market or bringing imports back to the con- sumer. Oil is very rapidly changing all this. Not only has oil fuel made the railways vastly more efficient but it has materially increased the carrying capacity of river transportation. Gasoline in passenger cars and trucks throughout the country has set an entirely new standard of travel and haulage and has generated a new era of highway construc- tion to serve plantations and beneficio operations, with auto- motive communication as a mere frac- tion of the cost of the slow-footed male. There are at present about 20,000 automobiles and trucks in Colombia and their number is being rapidly multiplied.

**COLOMBIANS ARE APT STUDENTS**

On the river, the Tropical Oil Company owns and operates five river steamers—the largest modern fleet—and a sixth is now being built for the company.
Stock Quotations

The latest stock quotations before going to press are given in the following table as on Imperial Oil (new issue) 361-37 and International Petroleum 31-34.

Colombian Prelate BlesseS Pipe Line

The opening of the pipe line of the Andian National Corporation at Mananan, South America, was the occasion of an exceedingly interesting ceremony. A picture of a group of important personages present is presented in this issue of the Review. Among these prominent Colombians were the Governor of the Department of Bolivar, His Excellency, the Archbishop of Cartagena, Mgr. Briachi, National, Departmental and Municipal authorities, representatives of the Andian National Corporation, Limited, and many of the leading citizens of Cartagena. The inaugural exercises were conducted by an official party leaving Cartagena at 3 p.m. on board the Andian launch "Rusena" and the motor launch "Elena," owned and leased by Don Fernando Velez. About fifty people were officially invited as guests of the company. On arrival at the camp, automobiles were waiting to conduct the party to inspect the pumping station at tank farm. After the tour of inspection the Archbishop called the gathering to attention, and gave his benediction to the pipe line with thanks for the satisfactory conclusion of the work and prayers for its continuance and successful operation and a special prayer for those who had contributed in making the pipe line a reality. Benediction and prayers were followed by an address from Dr. Carlos A. Bravo, Minister of Public Works, and responded to by a very eloquent address from Archbishop Briachi.

The address by Dr. Bravo was as follows:

The event that brings us here should not go unrecognized, and it is right that the authorities of the Republic, of the Department of Bolivar, and the inhabitants of the Heroic City (Cartagena) should witness, as in the past they have witnessed so many heroic feats, and give notoriety by their presence to so simple an event as the inauguration of an enterprise that goes beyond the limits of the ordinary. The pipeline, which, starting from the virgin forests of the Department of Santander, only stops on the shores of the Caribbean sea with the flow of oil that centuries past were hidden away by mother earth.

It is only proper that the National Government should express the silence that has characterized construction of this pipeline across immense uninhabited regions, where no other language had been heard but the rolling on of a dozen months, the clash of working instruments, the vibrations caused by immovable engines, and the hurried going and coming of the network of laborers bent on termination of pipeline. It is our national enterprise, yes, for it represents one of the greatest efforts, today crowned in this country, in record time, in which capital was managed efficiently, due to the diplomacy and ability, tactfulness and constancy that carries it with everything that might obstruct it, through forests and valleys, rivers and swamps, in the midst of splendid and magnificent scenery contributed by nature.

The pipeline represents progress for Colombia. It has decisively speeded the work of the silent hunters of past history, who constantly in open war, cruel and rude with mother earth, surprised its secrets and treasures, carefully hidden for centuries in the most inaccessible places imaginable, always following the rules prescribed by the Sovereign Maker.

From today on Colombia will not only be the country of rich possibilities, of the beginning progress patriotically referred to by Vice President Zia; Colombia will also be the country of realizations, where foreign capital with decided goodwill and good faith, is welcomed with open doors and receives the protection of the laws of the Republic as administered not only for natives but foreigners as well.

The event we are celebrating today is the result of a contract entered into between the Government and the National Corporation Limited, October 21st, 1923, which contract was carefully made up and was the object of many opinions, most of which were endorsed to such contract. It has been constructed to the surprise of everybody in general, several years before the time stipulated in the contract. The agreement referred to fixed a maximum limit for termination of pipeline in four years, and the company counting from...
date of approval of the maps, has concluded, some eighteen months. It starts from El Centro where Tropical Oil Company's wells are to be found, continues to Barrosa Borrero for a distance of 26 kilometers which is what is called the "connecting line," then it follows almost in its entirety the deserted banks of the Magdalena River for a distance of 527 kilometers till it reaches this beautiful city and its splendid harbour, where the terminal station has been constructed.

How marvelously easy does the thought travel those one hundred and two leagues ... With so much liberty of action, the pipeline passes through forests, precipices, rivers, swamps, most of which are unhealthy, and as it obviates it repeats the same over, time and again, only stopping at its destination. That's the pipeline, colossal enterprise, daughter of labor, perseverance and tenacity, one of an unbelievable promise, reflection of the power of a race of people who practice the motto "To wish is to have." On the other hand it simulates similar enterprises of progress. This stimulation will not be disregarded by us, President Colombianus, heirs of unsurpassed greatness, accustomed to what surrounds us, we know how to appreciate and even better, we are disposed to sacriify it. Cartagena, the House Capitol of a national event, her testimony cannot be questioned.

The Archibishop of Cartagena, Mgr. Adrian Brucio, spoke, in part, as follows:
The most distinguished and prolific writer of the country says in one of his immortal productions "Barrero polon." Using this sentence of this wonder of the pen, we report "Barrero polon." Let us observe the ways of the people from the north, of that people who conceive the most audacious projects and carry out the greatest undertakings of the world, that we may learn something on practical life. At the beginning of each year we make our pastoral visit to some of the rural towns of our diocese and we almost always spend two or three months in the performance of this duty. On the 30th of December, 1924, we left our residence, and after spending a few days in Barranquilla, proceeded on our trip visiting quite a few towns on the Magdalena. At the time of our departure we learned that the contract between our government and the powerful company The Andin, for the construction of a pipeline, had been approved and definitely accepted by both parties. We acquired this information through the kindness of one of the high employees of the company, who presented us with a copy of the contract. But as the option that the company had for the construction of the line was for four years, we thought that we would not find anything new on our return to this capital. However, when reaching Calamar, at the beginning of April, that is, three months after our departure, we received a most pleasant surprise: this news on the Magdalena was literally flooded with pipe. This was also the case at the different stations of the railroad in the capital. We witnessed wonderful manifestations of activity everywhere: pipe piled on railroad, sand scattered on the ground, pipe being carried by tractors to the right-way-of-the-pipeline, hoppers unloading cars and loading trucks: engineers directing laborers, and in short, a real human hive preparing the product and endeavoring to do it in the shortest possible time.

But the perseverance and diligence of these men removed all obstacles, conquered all oppositions, large and small, physical and moral.

And, do you realize the greatness of their splendid achievement? We will give you here a few of the details. The line built is 554 kilometers long from the wells at Barranquilla to this point of Magdalena where we are now. The number of lengths of pipe employed is 87,826. When the line is full it contains 184,973 barrels of oil.

The first lengths of pipe were connected by hand at this point on the 4th of April, 1925, and the last one, to the rest of the line, with special machinery, on the 6th of March, 1926, so it may be said that the pipeline was built in eleven months and two days. H. E. the Minister of Industry and Commerce was quite correct in his statement of a few moments ago that "this splendid undertaking has been carried to completion more rapidly than any other in the country, and represents one of the great achievements that capital efficiently handled with intelligence and ability, with tenacity and constance, could produce in the least time, climbing mountains, crossing rivers and swamps, in the midst of Nature, gorgeous and magnificent, but overwhelming in its grandeur."

Gentlemen: Let us not content ourselves with admiring these brave promoters of the welfare of Colombia, let us endeavour to imitate them.

[Imperial Oil Review]

JOINT COUNCILS, 1926

Elected and Selected Representatives for the Year

MANUFACTURING DEPARTMENT

DELEGATES

Montréal

Elected

L. I. McClellan
A. H. Maclean
A. F. D. Roche
A. C. Pechey
F. F. M. Doherty
C. G. Steuart
A. E. McLeod
W. W. Pemberton
J. C. M. Robertson

Refinery

Elected

G. C. H. Miller
A. H. Maclean
W. H. M. Lamont
R. A. McCaffrey
W. H. Maclean
A. E. Maclean
W. W. Pemberton
J. C. M. Robertson

DELEGATES

Sarnia

Elected

T. Montgomery
G. C. Steuart
W. H. Lamont
W. H. Maclean
W. W. Pemberton
J. C. M. Robertson

Refinery

Elected

A. W. S. McLaughlin
A. H. Maclean
W. H. Lamont
W. H. Maclean
W. W. Pemberton
J. C. M. Robertson

Regina

Elected

J. T. Young
A. H. Maclean
W. H. Maclean
W. W. Pemberton
J. C. M. Robertson

Refinery

Elected

J. T. Young
A. H. Maclean
W. H. Maclean
W. W. Pemberton
J. C. M. Robertson

Halifax

Elected

P. S. Falconer
G. W. Maclean
J. C. M. Robertson

Refinery

Elected

W. C. Maclean
G. W. Maclean
J. C. M. Robertson

Calgary

Elected

T. W. McLean
J. H. Lamont
E. W. Buxton
J. C. M. Robertson

Refinery

Elected

T. W. McLean
J. H. Lamont
E. W. Buxton
J. C. M. Robertson

Trading Divisions

DELEGATES

Montreal

Elected

A. F. D. Roche
J. C. M. Robertson

Refinery

Elected

A. F. D. Roche
J. C. M. Robertson

Toronto

Elected

H. W. Ford
J. T. Young
E. W. Buxton
J. C. M. Robertson

Refinery

Elected

H. W. Ford
J. T. Young
E. W. Buxton
J. C. M. Robertson

Winnipeg

Elected

J. T. Young
E. W. Buxton
J. C. M. Robertson

Refinery

Elected

J. T. Young
E. W. Buxton
J. C. M. Robertson

Edmonton

Elected

J. T. Young
E. W. Buxton
J. C. M. Robertson

Refinery

Elected

J. T. Young
E. W. Buxton
J. C. M. Robertson

Quebec

Elected

A. A. Lantier
Theodore Cantin
John Laird
(Chairman)

Refinery

Elected

A. A. Lantier
Theodore Cantin
John Laird
(Chairman)

ANNUITIES AND BENEFITS COMMITTEE

P. F. Sinclair (Chairman)
C. D. Dean
E. W. Buxton
G. W. Pemberton
(G. T. Pemberton)

E. W. Buxton
G. W. Pemberton
(G. T. Pemberton)

David Kerr
(Chairman)
Prosperity

EVERY employee of Imperial Oil, Limited, after one year’s service, is eligible to purchase stock in the company under the terms of the Second Co-operative Investment Trust. Over seventy-seven of every hundred eligible employees are saving nine dollars of every hundred dollars they receive in wages in order to increase their holdings in the company. Fifty per cent of the employees have been shareholders for five years.

At present the employees’ deposits with the trustees of the Co-operative Trust represent monthly what would ordinarily be considered a large payroll. To this amount the trustees add, from the funds of the company, fifty cents for each dollar credited to a depositor’s account.

The stock acquired by the employees under the first Co-operative Trust and distributed to them last year represented at that time a market value in excess of $10,000,000 and it has a higher market value today. The scale of wages received by Imperial Oil employees enables them to systematically put something aside for a rainy day and they are utilizing these savings under probably the most favorable conditions open to any Canadian investor.

The accumulation of capital now in progress is neither at the expense of low wages nor is it made possible by large profits. It is entirely the fruits of the elimination of waste and the perfection of economies of operation.