PROVINCE OF BRITISH COLUMBIA

DEPARTMENT OF COMMERCIAL TRANSPORT

HON. R. W. BONNER, Q.C., *Minister* A. J. BOWERING, B.A.SC., P.ENG., *Deputy Minister*

REPORT OF THE

Department of Commercial Transport

containing the reports on

RAILWAYS, AERIAL TRAMWAYS, PIPE-LINES,
INDUSTRIAL TRANSPORTATION,
AND COMMERCIAL VEHICLES

YEAR ENDED DECEMBER 31

1964

Printed by A. SUTTON, Printer to the Queen's Most Excellent Majesty
in right of the Province of British Columbia.
1965

VICTORIA, B.C., January 21, 1965.

To Major-General the Honourable GEORGE RANDOLPH PEARKES,
V.C., P.C., C.B., D.S.O., M.C.,
Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

The undersigned respectfully submits the Annual Report of the Department of Commercial Transport for the year ended December 31, 1964.

R. W. BONNER, Q.C.,
Minister of Commercial Transport.

VICTORIA, B.C., January 14, 1965.

The Honourable R. W. Bonner, Q.C.,
Minister of Commercial Transport.

SIR,—I have the honour to submit the Annual Report of the Department of Commercial Transport for the year ended December 31, 1964.

A. J. BOWERING, B.A.Sc., P.ENG.,
Deputy Minister of Commercial Transport.

Report of the Department of Commercial Transport, 1964

A. J. Bowering, B.A.Sc., P.Eng., Deputy Minister

INTRODUCTION

During the past year we have witnessed a steady and continuing growth in the sphere of industrial development in British Columbia. This accelerated rate of development of the vast resources of this Province can only be interpreted as an indication of what the future holds for British Columbians, if the present forthright policy is continued.

The Department of Commercial Transport, in its relationship with the many fields of industry, is keeping pace with the demands and looks forward to the future with renewed interest.

Foremost among the Department's accomplishments was the finalizing of reciprocal agreements between the Province of British Columbia and the Provinces of Ontario, Manitoba, and Saskatchewan respecting the licensing of commercial vehicles. These agreements came into effect during 1964, bringing some financial relief to British Columbia's commercial-vehicle operators and providing a greater degree of flexibility to those commercial vehicles operating on an interprovincial basis.

It is of interest to note that many basic principles of operation are giving way to more modern and advanced methods in the use of specialized equipment. This is particularly evident in the field of timber and lumber production and hauling. Mobile telescopic spar equipment is now replacing the old natural spar tree, and truck and multiple-trailer units capable of carrying 30,000 board-feet of timber with gross loads of up to 200 tons of logs are now in use in industry, particularly on Vancouver Island. Our Enginering Branch has assisted industry in the design of these large and heavy units to reduce maintenance costs and to add safety to the operation.

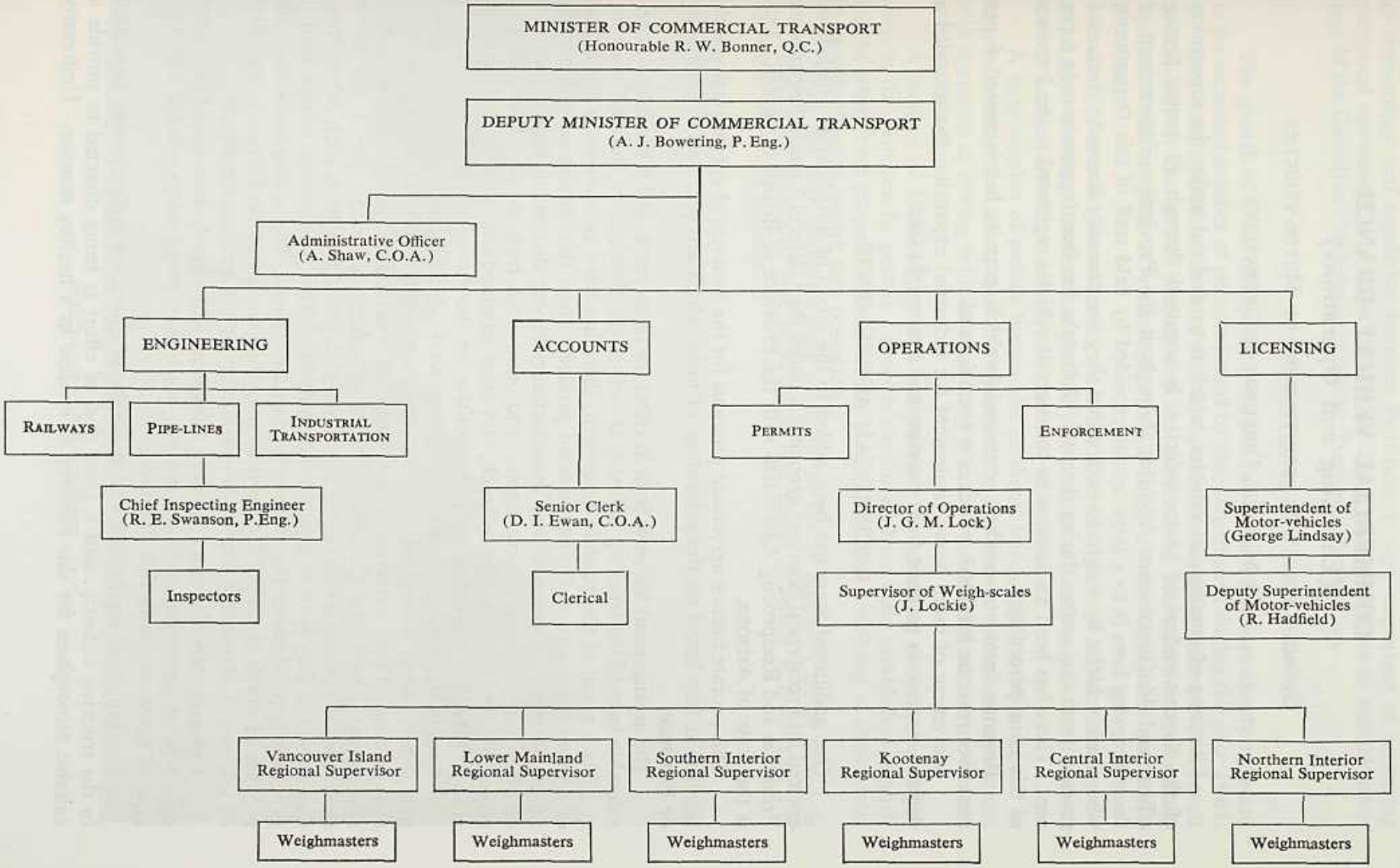
Aerial-tramway construction has shown significant advancement during the year, more in the field of recreational use rather than industrial use. With the addition of six new aerial tramways this year, the Province is now gaining prominence as one of the better ski-ing areas of the North American Continent. Many of the ski slopes and the facilities provided can be compared favourably with nationally recognized ski-ing areas. In line with this active development, our Department is co-operating with other Canadian Provinces in the preparation of standard specifications for aerial-tramway construction and maintenance under the Canadian Standards Association. Our Chief Inspetcing Engineer is chairman of this committee, which expects to produce a suitable code in 1965.

Activity in the pipe-line field was normal during the year, with increased activity in the Clarke Lake and Apache fields due to the extension of Westcoast gas pipe-line system from Chetwynd to Fort Nelson. The completion of this 30-inch-diameter natural-gas transmission pipe-line between Chetwynd and Fort Nelson will prove to be an incentive for an intensified drilling programme in North-eastern British Columbia. It is essential that continued development of the Province's

natural-gas reserves be encouraged, and this can only be accomplished by providing transmission facilities and a market for the abundance of gas available.

Major expansion of the pulp and paper industry in the Province will provide an industrial atmosphere for increased trucking activity, and we look forward to a progressive operation in the hauling of timber for wood pulp and chips for these mills.

ORGANIZATION CHART



COMMERCIAL VEHICLE BRANCH
(Licensing and Operations)

GEORGE LINDSAY, SUPERINTENDENT OF MOTOR-VEHICLES

J. G. M. LOCK, DIRECTOR OF OPERATIONS

Licensing of commercial vehicles, which is carried out under the supervision of the Superintendent of Motor-vehicles, is arranged through 13 motor licence offices and 46 Government Agencies throughout the Province. Enforcement of these licensing laws is to a large extent provided by field staff of this Department, who check vehicles by weight to ensure that they are correctly licensed. Increased revenue from this source during the past 12 months has been approximately 8 per cent. There has been an increase in commercial vehicles registered in the Province of this same percentage.

Revenue from non-resident commercial-vehicle permits has increased 6 per cent over revenue for 1963, which is a normal trend.

Movement of more heavy equipment for industrial expansion has provided a definite increase in revenue from oversize and overweight fees.

RECIPROCAL AGREEMENTS

One additional State has been added to the group of jurisdictions which have entered into reciprocal licensing agreements under the Uniform Vehicle Registration Proration and Reciprocity Agreement with the Province of British Columbia. This is the State of Arizona.

This prorate licence agreement provides for the issuance of commercial-vehicle licences at fees based on the percentage of miles which are operated in each State or Province.

The arrangement has now been in effect for three years, and it has been of considerable help to the trucking industry as well as the Province of British Columbia.

As a result of this prorate agreement, there has been an increase in the export of natural resources and manufactured products from this Province to American States by truck. Operators and manufacturers report that much larger quantities of peat, lumber, fish products, apples, and other fresh fruit are now being shipped across the American Border by truck, and other commodities, such as furniture and copper wire, are becoming more competitive on the American market.

During the 1964 calendar year, commercial-vehicle licence reciprocity agreements have been completed with the Provinces of Ontario, Manitoba, and Saskatchewan. These agreements are based on a different formula to the prorate agreement. Under the Canadian type of agreement, operators pay a full fee in their home Province and $10 per gross ton of licensed weight in each other Province in which they wish to operate their vehicles. This is a heavier charge than is generally applied under the mileage type of agreement. The arrangement does not provide as much flexibility for operators, as they are unable to license a large fleet of vehicles at reasonable cost as is possible under the prorate agreement.

Unfortunately the other Western Provinces had already established this more rigid type of agreement and were not in a position or prepared to arrange a prorate type of agreement with this Province.

Uniformity of regulations and flexibility of operation are extremely important in the trucking industry, and a great deal of effort is being directed to provide a suitable atmosphere for this industry to operate in a healthy manner. Uniformity

of terminology and regulation between Provinces is very important in arranging reciprocal agreements, and these matters are being given attention at annual meetings of the Canadian Conference of Motor Transport Authorities.

OPERATIONS

The growth of truck transport operations in the Province was clearly reflected in the increased number of permits issued by this Department during the year 1964.

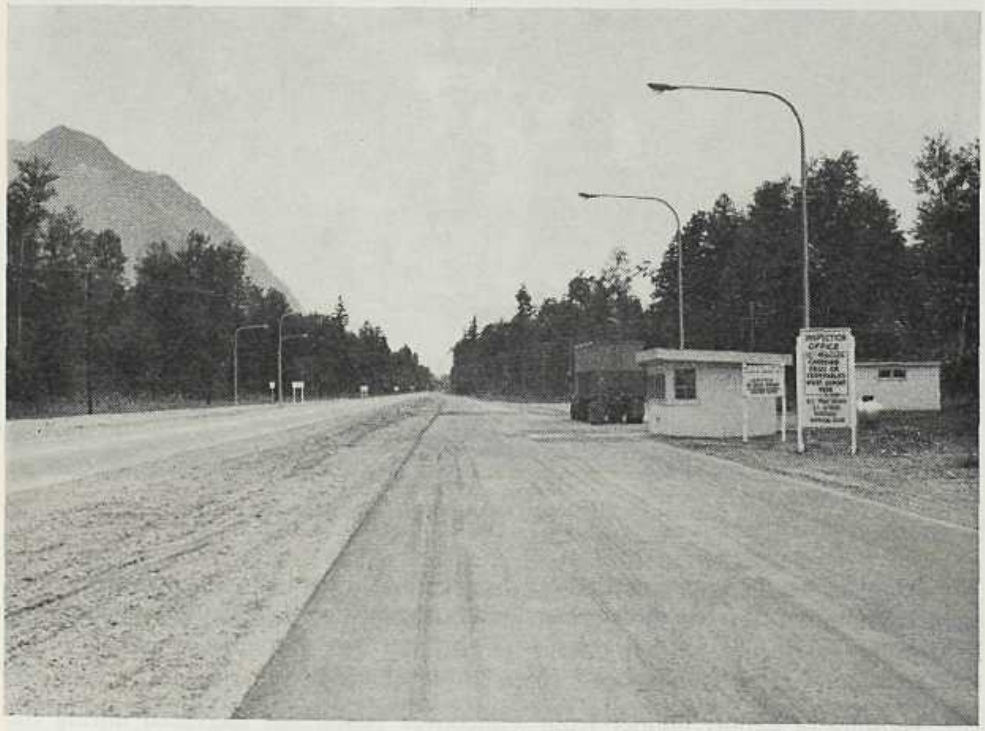
Line-haul operations in the Peace River area continued to increase as a result of activities at the power project and the tremendous movement of emergency equipment and supplies to Anchorage, Alaska, following the earthquake on March 27, 1964.

Activity at other dam-sites in the West Kootenay, Arrow Lakes, and Revelstoke areas continued to increase gradually as additional heavy earth-moving units, such as cranes, shovels, scrapers, and tractors, were required.

A large number of mobile homes and sectional buildings have been moved to various construction areas, and this operation is continuing. A recent agreement with operators of towing-vehicles respecting pilot cars has facilitated the movement of these vehicles.

A number of 45-foot-long semi-trailers are now operating on principal highways in the Province by permit. Specific conditions have been established regarding the wheel-base projection ahead of the kingpin and rear overhang of these units in an endeavour to assure safe operation.

During the year, additions were made to the list of highways under Schedule 1 respecting the allowable size of vehicles, and under Schedule 8 respecting the allowable weight of vehicles.



Weigh-scale at Hunter Creek.

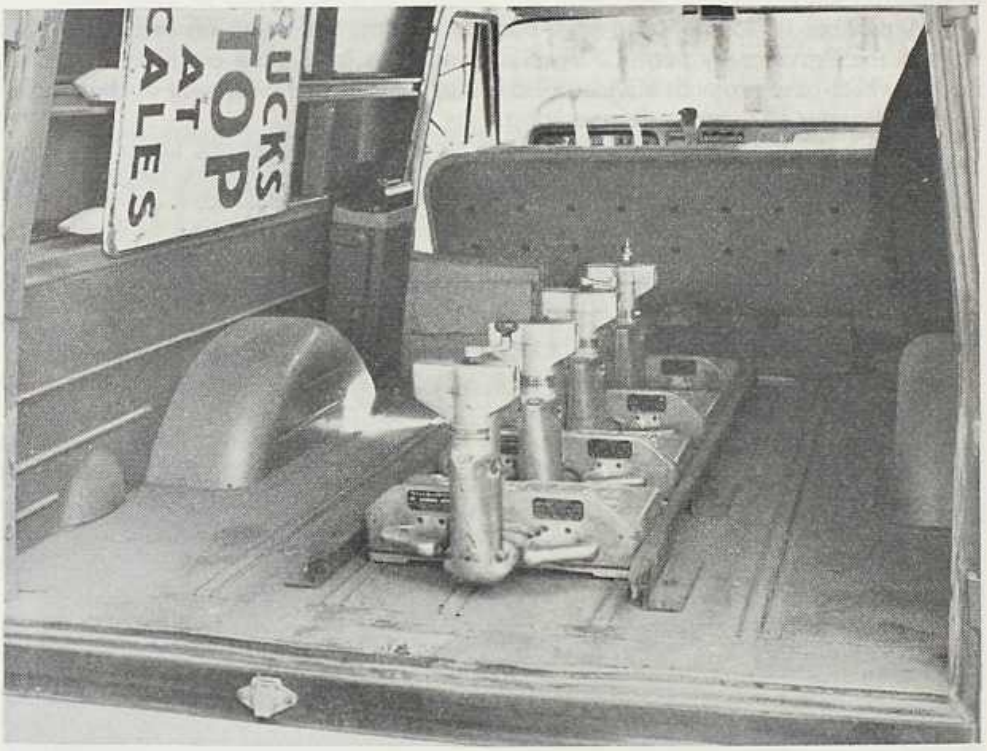
Regulations were also amended to permit weight allowance to be granted for all types of vehicle retarders under the heading of safety equipment.

Logging operators continued to employ the " block load " formula, and find that this method of loading is to their advantage.

New weigh-scale stations were opened this year at Hunter Creek and in the Port Mann area, providing better control and additional offices from which the public can obtain information and permits.

Field staff continue to assist other departments of Government, including the Department of Agriculture, British Columbia Forest Service, Department of Finance, Department of Highways, Department of Municipal Affairs, and the Motor Carrier Branch of the Public Utilities Commission.

Special attention is given to the *Stock Brands Act* requirements, checking of lumber shipments, checking of machinery brought into the Province, and licensing of vehicles under the *Motor Carrier Act*. In addition, weighing of trucks for the protection of highways and control of large and heavy loads for safety on our highways is a continuing task.



Scales carried by all Department portable weigh-scale units.

The various duties are carried out by personnel at weigh-scale stations, which have become centres for information and assistance to industry throughout the Province.

Region 1 (Vancouver Island)

Hauling of export lumber from Vancouver Island has increased during the past 12 months, particularly from the Lake Cowichan area.

Truck logging around Parksville, Sooke, and Port Renfrew has increased to some extent during the same period.

Hauling of chips from Cowichan Lake mills to tidewater has continued at the same level as in former years.

Transportation of ore concentrates on Vancouver Island has shown an upward trend in 1964. This is due to new mines being opened on the west coast and in the Courtenay area. This should create greater activity in transport of ore by truck during the coming year. The Jordan River mine of Cowichan Copper Mines is expected to be in operation again early in 1965, and there is every indication that it will be in full production later in the year.

No change is anticipated in our field check points in this region at present.

Region 2 (Lower Mainland)

Close liaison has been maintained by our field staff with the trucking industry in the Lower Mainland area by assisting operators and by keeping them advised of changes in regulations pertaining to truck operations. New weigh-scales were installed on the Port Mann freeway section of the Trans-Canada Highway. This has relieved congestion at the Pattullo Bridge weigh-scales, which has been beneficial especially for line-haul freight transport.

The two new weigh-stations at Hunter Creek were completed and opened in August, 1964. These new stations eliminated cross-traffic movement of trucks at the old Flood weigh-scale, where there was an increasing danger of serious accidents.

Truck-logging operations in the Squamish, Pemberton, and Hope areas enjoyed a high level of activity in 1964.

Giant Mascot Mines continued to transport ore from the Choate area to Vancouver on a daily basis, using truck-trailer combinations with a gross weight of 76,000 pounds.

Region 3 (Southern Interior)

The economy of the Southern Interior of the Province has been aided by a steady increase in truck logging in many areas of the region. The most active areas include Lumby, Vernon, Kelowna, Penticton, Kamloops, Salmon Arm, and Shuswap.

Completion of the new pulp-mill at Kamloops early next year will see the start of hauling of pulpwood and pulp-chips in the adjacent areas. It is expected that chips will be hauled from Merritt and Salmon Arm areas to the new mill in Kamloops.

Movement of fruit to Alberta and Saskatchewan by truck has increased during the past year. This trend is expected to continue through 1965.

Region 4 (Kootenays)

During the early part of 1964, truck traffic through weigh-scales in Region 4 was normal for winter conditions; however, when winter road restrictions were lifted, truck traffic increased considerably. This was due partly to the opening of the Salmo–Creston section of the Southern Trans-Provincial Highway.

The Department of Highways reconstructed a large portion of Highway No. 95 between Cranbrook and Golden during 1964, with the result line-haul truck operation increased in this area. During the month of June, as a result of floods in the State of Montana, arrangements were made between that State Highway Commission and this Department for the emergency operation of United States registered vehicles in British Columbia. Emergency supplies were transported into the Libby area by rerouting these vehicles through this Province from Crowsnest to

the United States-Canadian customs at Roosville. The Highway Commission in the State of Montana was very appreciative of the co-operation extended in this connection.

During the month of November, 61 truck-loads of apples were hauled from Creston to Alberta through the Crowsnest Pass route. This is an increase in the shipment of apples by truck over previous years.

Truck logging in this region has remained relatively steady during the past 12 months, with a small increase in some areas.

Lumber shipments by truck to Alberta through the Crowsnest Pass and through Rogers Pass have remained heavy during 1964. The Fernie weigh-scale recorded 3,080 truck-loads of lumber, amounting to 45,400,000 f.b.m., and an additional 3,790 truck-loads, carrying 64,030,000 f.b.m., were checked through the Golden weigh-scale. This total of 109,000,000 f.b.m. compares favourably with the amount shipped during 1963 by truck.

Region 5 (Central Interior)

Truck logging in the Central Interior has been heavy during 1964, particularly in the Williams Lake, Quesnel, Prince George, and Terrace areas.

As a result of the relocation of Highway No. 97 at Prince George, this Department arranged for the construction of a weigh-scale in the South Fort George area to accommodate the trucking industry. This scale, which is expected to be opened early in June, 1965, is located adjacent to the new industrial area presently being established by the Pacific Great Eastern Railway and will be available for the movement of heavy loads of equipment from that area by truck.

As there are two pulp-mills presently being built in the Prince George area, there has been an increase in the movement of heavy vehicles into this location to supply necessary materials for construction. Upon completion of these pulp-mills, there will be an increase in trucking in the district to supply the mills with pulpwood as well as pulp-chips. Stockpiling of pulp-chips was started in the latter part of the year.

During the year the Regional Supervisor maintained close contact with lumber and logging companies in the area and assisted heavy-hauling contractors where necessary.

Region 6 (Northern Interior)

In the Northern Interior area of the Province there has been an increase in heavy truck transportation. This has been caused by activity in the oil and gas industry and by construction of the new Peace River dam. A great deal of construction equipment and structural material has been moved by truck for this project both through Fort St. John and by way of Chetwynd. Since the new highway bridge over the Peace River was completed in November, most of this equipment and heavy loads of supplies are now being moved into the area through Chetwynd. Heavy equipment arrives at Chetwynd by Pacific Great Eastern Railway and then it is moved over the highway, a distance of 41 miles, to this new bridge.

To accommodate this heavy hauling and to take care of future through trucking to the north, a new scale is planned for Chetwynd. This will be built as soon as weather permits in 1965.

In the early part of 1964 a state of emergency was declared in the State of Alaska due to an earthquake. At the request of the Governor of Alaska, and with the approval of the British Columbia Government, a very close co-operation was extended to American-registered vehicles transporting emergency equipment to Alaska. This assistance was appropriately acknowledged by the American officials.

During the early part of the year the Alaska Highway situated within the boundary of this Province was controlled and maintained by the Canadian Army. The responsibility for maintenance and control has now been vested in the Federal Department of Public Works, and the same degree of co-operation which existed between the Army and this Department is continuing with the new Federal authority.

There was a reasonably great number of commercial vehicles transporting pipe and construction materials for pipe-lines and well-drilling within this region, particularly for the construction of the new 30-inch-diameter pipe-line being installed between Chetwynd and Fort Nelson.

During the year Regional Supervisors in all parts of the Province maintained a close liaison with the truck transport industry, with the result that very few complaints were received.

ENGINEERING BRANCH
(Railways, Aerial Tramways, Pipe-lines, and Industrial Transportation)

R. E. SWANSON, P.ENG., CHIEF INSPECTING ENGINEER

The programme of developing Northern British Columbia is having its effect upon all industries throughout the Province. The transportation industry in particular has felt the full impact generated by the construction of the Peace River project and the Columbia River developments. In addition, mining has evidenced a great upsurge, especially in the past two years, which in itself has increased transportation facilities in this specialized field.

The forest-products industry in past years was inclined to be seasonal, but with the advent of so many new pulp-mills now under construction, the forest industry has passed into a large integrated complex and its transportation facilities have grown up with the parent industry.

The oil and gas industry started in British Columbia only recently, but already it is fast becoming one of the major components of British Columbia's expanding economy. Pipe-lines are an outcome of this new and dynamic industry, and they provide the means of transport from the well-head to the refinery or to the consumer. Railway and truck lines are a subordinate means of transport in the gas and oil industry, as the product itself is moved by pipe-line.

The Branch has been actively engaged in all means of transport throughout the entire economy of British Columbia during 1964. New railways are being built or extended. New pipe-lines are being constructed to serve the new gas and oil fields. New industrial roads are being built to serve the new pulp-mill expansion and to accommodate drilling in the expanding oil and gas fields. The public highway system is being expanded, and truck lines are increasing their ton-miles of haulage both on highways and on industrial roads serving industry.

In addition to the conventional modes of transportation, the use of aerial tramways has increased tremendously during 1964. Aerial tramways were built during 1964 for two main purposes: (1) to facilitate and service microwave communication reflector stations located on strategic mountains in British Columbia, and (2) to serve the public in winter playground areas throughout the Province. Ski lifts, T-bars, and J-bars fall within this latter category.

Plans were approved during 1964 for a large gondola-car aerial tramway to transport the public to the Grouse Mountain Chalet in the North Vancouver area. This tramway is to be operating by the end of 1965.

In order that Canada may keep abreast of the world market on aerial tramways, it was felt that a Canadian standard tramway code should be brought into being, and consequently the Canadian Standards Association approached the Department in this regard. In recognition of this Department's work in this field, one of the Department engineers was appointed Chairman of the Canadian Standards Aerial Tramway Code Committee, and meetings have been convened in Vancouver, Banff, and Toronto, with over 40 delegates attending from across Canada, the United States, and Switzerland. The new code is now in its third draft and should be published in late 1965.

The gas and oil industry approached the Department in late 1962 with respect to a uniform code to govern gas and oil pipe-lines throughout Canada. It was felt uniformity was necessary as several of the Provinces, including British Columbia, had adopted the American Standards Association B-31.8 Code, and these Provinces

were well versed in the requirements. It was the feeling of the newly formed National Energy Board that special requirements should be set forth to take care of the special conditions peculiar to Canada. It was therefore the unanimous opinion of all concerned that, if possible, a uniform code should be brought about acceptable to all Provincial authorities as well as the Federal authorities whose jurisdiction is limited to pipe-lines of an interprovincial or international nature.

Meetings have been convened in Vancouver, Calgary, and Toronto, and final drafts of two codes have been brought about as follows: (1) "Gas Transmission and Distribution Pipe-lines" and (2) "Oil Pipe-lines." One of the engineers from the Department is a vice-chairman and reports the new codes might well be published in first editions in late 1965. He also reports that over 90 delegates have attended the meetings, and many problems with respect to special Canadian conditions in pipe-lining have been resolved, or are in the process of being better understood by the industry as a whole.

During 1964 a 220-mile extension of Westcoast Transmission Company's pipeline, from Fort Nelson to Chetwynd, was being constructed by its subsidiary company, the Gas Trunk Line of British Columbia Limited. All the engineering, the route, pipe, valves, compressor-stations, and all ancillary equipment were checked and approved by the Department engineers. The line was cleared and a considerable section laid by midsummer of 1964, when Westcoast Transmission Company Limited applied to the National Energy Board to have the ownership and the operation of the line transferred to the parent company. After a public hearing, the application was granted by the National Energy Board. The inspection and certification with respect to the completion of the line has therefore been transferred to the National Energy Board, but all matters concerning Provincial jurisdiction remain with the Province. Such matters include pressure vessels, fire prevention and fire hazard due to explosion, safety of workmen, certification of engineers, welders, and other workmen. These matters are being taken care of by our Inspecting Engineers.

The new pipe-line has opened up new gasfields, such as the Clarke Lake field and the Apache field, and our Inspecting Engineers have approved the new gathering systems in these fields.

In older fields, compressor-stations and injection systems have been added to aid in natural-gas recovery. Branch engineers have therefore been kept busy in the field on these matters.

The full impact of the new 100-mile extension of the Pacific Great Eastern Railway to Stuart Lake will not be felt in the Department until late 1965. Plans have been filed and approved, and the project is under way, and after the spring break-up our engineers will be required to make periodic inspections.

Various facets of each phase of the functions of the Engineering Branch for 1964 are set forth in the following reports and appendices.

RAILWAYS

Continued industrial expansion within the Province intensified the activities of the Department with new transportation installations being made pursuant to the *Railway Act*.

Railways under the jurisdiction of the Department include common carriers, industrial railways, and facilities used in conjunction with industrial transportation.

Inspecting Engineers perform inspections of the road-bed, track facilities, maintenance-shops, mechanical supervision, and equipment of all the railways and other methods of transportation.

Inspecting Engineers are responsible for approving plans in all phases of construction and operation of railways.

All operating procedures, such as dispatching and operation of trains with regard to safety, must be certified in detail by Branch Inspecting Engineers.

Operating personnel certified by the Department include locomotive engineers, conductors, power-car operators, dispatchers, and crane operators. Safety lectures have been conducted for all operating personnel, with the gratifying result that no accidents involving personal injury were reported on industrial railways.

Existing pulp-mills have increased their railway facilities, and plans have been approved for switching facilities in pulp and paper mills now under construction.

Wharves which have their own railway installations and locomotives include Vancouver Wharves in North Vancouver and Johnston Terminals Limited Fraser-Surrey Railway in South New Westminster. Both installations were approved by the Department, and operating personnel were examined and certified.

The two remaining main-line logging-railways operating in the Province are the Canadian Forest Products Limited (Englewood Division) and the Ladysmith–Nanaimo Lakes line, which is jointly operated by MacMillan, Bloedel and Powell River Limited and Comox Logging & Railway Co. Englewood Logging Division of Canadian Forest Products Limited presently maintains five camps. The headquarters camp and main repair-shops are located at Nimpkish, at the north end of Nimpkish Lake. Logging camps are located at Woss Lake, Camp "A," and Vernon Lake, and the booming-ground camp is at Beaver Cove.

One of the unique features of this operation is the use of the main-line railway in conjunction with a truck feeder system. This main-line railway extends from the salt-water booming-grounds at Beaver Cove up the Nimpkish Valley to the headwaters of the Oktwanch River, a distance of 74 miles. Logs are transferred from trucks to railroad cars at Camp "A" siding, Woss, Stuart, Croman, Sutton, and Duncan reloads. Approximately 1,000,000 feet of logs are transported on the railway each working-day. An efficient system of radio communication is used to dispatch the trains and also for switching operations at the reloads and the dump at Beaver Cove.

Narrow-gauge mining-railways in British Columbia are operated by the Consolidated Mining and Smelting Company of Canada, Limited, at Kimberley and Trail, and the Crow's Nest Pass Coal Company Limited at Michel.

The narrow-gauge railway at Kimberley was inspected and found to be in good operating condition. The remote-control operation with respect to the dumping of the ore-cars at the concentrator has not yet gone into operation. Some modifications have been introduced, and it is expected that the remote-control system will be in operation by early 1965.

At Trail the tramming operated within the smelter was inspected and found to be in order. It has been indicated that the locomotive tramming will be dispensed with in favour of a complete monorail system.

Ten air locomotives operated by the Crow's Nest Pass Coal Company Limited at Michel were hydrostatically tested, and the locomotives' running-gear inspected, with certain recommendations made with respect to maintenance methods.

Railways in the shipyards, steel plants, and scrap docks in Vancouver and Victoria were inspected. Motive power, such as locomotives, cranes, etc., has been in great demand due to increased activities in these plants. We are pleased to report that all equipment is being properly maintained.

Separate Inspecting Engineers' reports covering certain railways are included in this report—namely, British Columbia Hydro and Power Authority, Canadian Forest Products Limited, Comox Logging & Railway Company, and Pacific Great Eastern Railway Company.

British Columbia Hydro and Power Authority

Inspecting Engineer's Report

On October 20, 1964, the annual inspection was made of the above railway from Mile 0, New Westminster, to Mile 63.92, Chilliwack.

The inspection was made by track motor in company with Mr. W. Alcock, roadmaster, Fraser Valley lines.

The railway is in good condition throughout its entire length, with ballast, ditching, and general maintenance well in hand. All sidings are in good order and protected with locked derails. Spur tracks into the different industrial plants and warehouses are properly maintained and free from debris and unsafe conditions. Highway, farm, and private crossings over the railway in general are in good order. Traffic signals at the Trans-Canada Highway, Scott Road, and King George VI Highway crossings were inspected and found to be working properly.

The Vedder River bridge between Mile 56 and Mile 57 has been reconstructed and strengthened to enable the increased weight standard of locomotives and rolling-stock to be handled with safety over the span.

The Central Park branch, which serves industry in the Burnaby area, was found to be in good order, with maintenance and safety conditions properly maintained.

Motive power for the railway consists of 10 General Motors 900-horsepower diesel-electric locomotives and four 600-horsepower diesel-electric locomotives, maintained and serviced at the New Westminster shops, one new 900-horsepower locomotive being added to the roster in 1964. The Kitsilano shops handle all heavy repairs and overhauls on locomotives. Both shops were inspected, and tracks and facilities were found in good order and in keeping with safe practices. All locomotives were given periodic inspections during the year by inspectors from this Department.

A new marshalling yard and facilities is being constructed at New Westminster. Plans have been filed in this office, and a preliminary inspection was made of the project.

A very extensive increase in traffic over the past year, especially from the Huntingdon interchange with the Milwaukee and Northern Pacific lines, justifies the importance of adequate facilities and a good maintenance programme with regard to both track and motive power in order that this increased tonnage can be handled efficiently and without delay.—*J. H. Carmichael, Inspecting Engineer.*

Canadian Forest Products Limited

Inspecting Engineer's Report

During the period October 27 to 31, 1964, inspections were made of the railway track, bridges, equipment, and installations on the above company's Englewood Logging Division.

In company with General Superintendent Howard Elder, Roadmaster M. Solecki, and Railway Superintendent G. Lutz, a trip was made on the railway between Beaver Cove and the end of track in the Vernon Lake area. The track is in very good condition, well ballasted throughout most of the line. Some 80-pound rail is being land on the Beaver Cove line, replacing 72-pound rail. Seven thousand yellow cedar ties were renewed in 1964, and, as the ties are replaced, tie plates are used. Mile-posts and whistle and derail signs are clearly indicated. The diversion and bridge at Mile 41.2 is almost completed. It is expected that the span will be put in during the Christmas shut-down. Six miles per hour speed-limits are in effect

on the bridges at Mile 40 and Mile 23, which are being replaced by a diversion and fill respectively. A complete survey of the bridges was made by the company engineers. In addition, the following conditions were noted:—

Renew packing in frogs and guard-rails as required in the yard tracks at Beaver Cove, Nimpkish, and Woss.

Bridge Mile-post 12.9: Check cap at tower bent for rail sag.

Bridge Mile-post 23: Stabilize outside pile No. 2 bent "N" end (being replaced by fill).

Clear brush from around piling of all bridges. Angle bars require tightening on B.C. line.

Switch-stand targets require painting on entire installation.

Renew telephone-poles as required between Woss and Vernon.

Move any loose material lying closer than 6 feet from the gauge side of the nearest rail. This particularly applies in the yards at Nimpkish and Woss.

Rail Cars 121, 124, 125, 129, and 130 and Diesel Locomotive 252 were inspected, reservoirs tested, and certificates issued to cover the inspections.

George Lutz and Allen Kollman were examined as dispatcher and conductor respectively.

Air-brake lectures were conducted at Woss for the benefit of the drivers and mechanics from various points on the division.—*W. F. Thomas, Inspecting Engineer.*

Comox Logging & Railway Company

Inspecting Engineer's Report

On October 6, 1964, an inspection was made of the railway track and equipment owned and operated by the above company at Ladysmith and Nanaimo Lakes.

Generally the trackage and bridges are in good condition, and the following was noted:—

Nanaimo Lakes Loading-works: Good. Spare rail and material too close to the track at the speeder spur.

21 Mile Spur: Some new ties required.

19 Mile Spur: Spare rail piled too close to track.

Deadwood Creek Bridge: Cross-brace to renew No. 3 bent.

Nanaimo River Camp Turn-off: Old material too close to track.

Boulder Creek Bridge: Shims loose, No. 1 and 2 bents north end. Test water piling at base, appears to be cracking.

Nanaimo Ridge Bridge: Mud sill and piling under same at upper end of bridge is rotting.

Haslam Creek Bridge: Good condition.

Ladysmith Yard and Dump: Replace switch-stand target at lunchroom switch.

The dispatching system was examined and found to be in order. It is felt, however, that the appearance of the semaphore masts and arms would be greatly improved if they were painted.

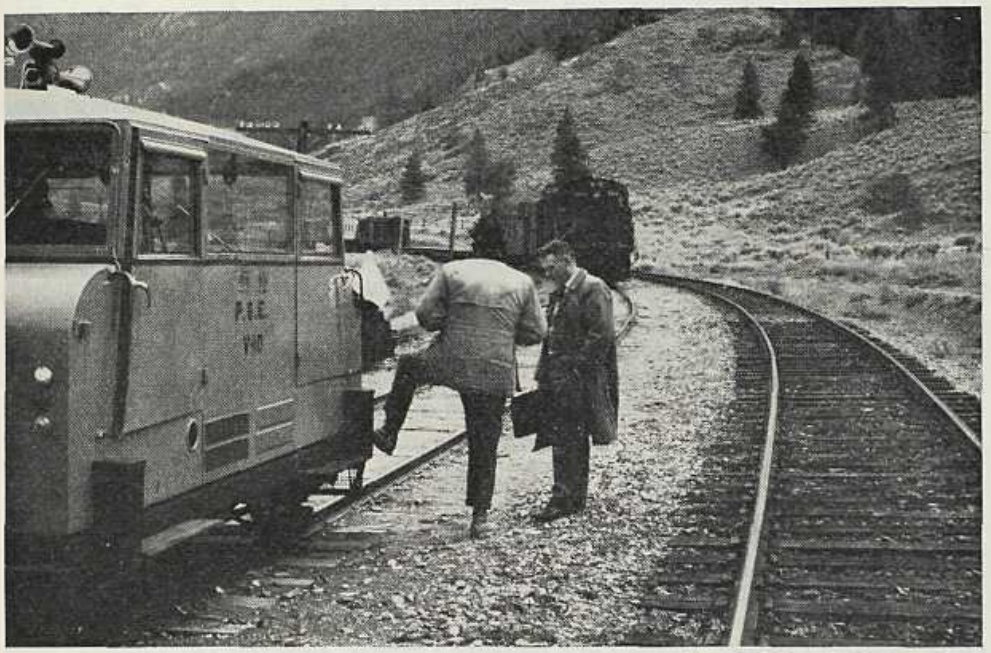
Roadmaster John Tomsett was instructed to remove any material that is lying closer than 6 feet from the gauge side of the nearest rail.

Rail Car 104, Switcher 107, and Unloader No. 3 were inspected, reservoirs tested, and certificates issued.—*W. F. Thomas, Inspecting Engineer.*

Pacific Great Eastern Railway Company

Inspecting Engineer's Report

During the week of October 11 to 17, 1964, the annual inspetcion of the Pacific Great Eastern Railway was conducted by track motor. In addition to officials of the railway company, officials of the Workmen's Compensation Board also accompanied me in the interests of general safety to workmen.



(Photo by Robert E. Swanson.)

The inspection car and a work train making a meet with passenger train No. 1 at Fountain on the Pacific Great Eastern Railway.

The road-bed on all new construction is now well consolidated, so that sloughing and soft-shoulder conditions, inherent in new construction, are largely eliminated, and the railway's policy of replacing all main-line ties with winter-cut creosoted ties is in evidence throughout the line. In many locations more than 50 per cent of the ties are now creosoted, with a life expectancy of 30 years as against 8 years for white ties.

It was noted during the inspetcion that 100-pound rail is being laid on the Squamish and Lillooet Subdivisions to replace the 85-pound rail presently in use. The 85-pound rail is being reworked and is to be used for re-lay on the Stuart Lake extension now under construction at the north end of the line. The riding stability of the 100-pound rail was quite noticeable, and fewer derailments are evident where the heavier rail has been laid. It is also worthy of note that the 100-pound rail shows less rail wear than the 85-pound rail under the same traffic conditions. A total of 32 miles of 100-pound rail has been re-laid on the Squamish Subdivision, with 27½ miles completed on the Lillooet Subdivision—namely, between Fountain and Kelly Lake on the Pavilion Mountain Hill.

Crushed-rock ballast is now replacing pit-run in most places, especially where the new heavier rail is being laid. This is a great improvement over former years,

as adequate drainage is provided and track becomes much more stabilized due to the sharpness of the ballast material. In addition to the upgrading of ballast, the company has recently acquired two electronically controlled levelling-machines with vibrating equipment to tamp ties. This, in a large measure, replaces hand-work and accurately aligns track on both tangent and curved sections. This equipment has done an excellent job during 1964.

The ditching done in 1962 and 1963 has done much to eliminate churning in wet cuts, and considerable ditching has been completed during 1964. In many places the shoulder has been brought up with the Jordan spreaders, so that the line is now taking on the general appearance of a Class 1 railway.

Over the entire line there has been a programme of eliminating numerous short sidings, used in the old days of steam and short trains. New 112-car sidings have been relocated and built throughout the entire line to accommodate the new diesel-electric motive power capable of hauling 100-car trains throughout the entire system.

During the inspection of sidings it was noted in a number of cases that trader sidings were not being kept clean in keeping with safety. This matter had been brought to my attention prior to the annual inspection. The housekeeping on trader sidings, it was pointed out, is a matter for the industry being served to attend to, and if conditions are not safely maintained, it would be proper for the Pacific Great Eastern Railway to refuse switching service until the hazards are removed and safe working conditions are restored. This was pointed out to all parties concerned, and each company was written a letter instructing it to clean and maintain its siding in a safe and proper manner. The following companies were notified by letter: Canim Lake Sawmills Limited, Clinton Saw Mills Limited, Creek Side Logging Company Limited, Green Lake Timber Company, Metropolitan Trading Company, Northwood Mills Limited, Prince George Pulp Mills Limited, Weldwood of Canada Limited, and West Side Planing Mills.

The following oil companies were notified with respect to special conditions concerning the storage of inflammable liquids adjacent to railways: British American Oil Company Limited, Home Oil Company Limited, Imperial Oil Limited, Shell Oil Company Limited, and Standard Oil Company of British Columbia. These companies promptly responded, and conditions with respect to the special matters were corrected.

The following companies were notified by letter regarding safety conditions and the safety of trainmen with respect to storage and unloading of propane: Canadian Propane Consolidated Limited and Kahl Propane Company Limited. The matters referred to are being taken care of, and a follow-up inspection is to be made.

The British Columbia Hydro and Power Authority was notified by letter to clean up site lines at certain Pacific Great Eastern Railway crossings. This was done in the interests of safety to the general public and safety to workmen on the railway. The matter is being given attention, and a follow-up inspection is to be made upon completion of the work. In addition, discussions have been held with the British Columbia Hydro and Power Commission with respect to proposed crossing of the Pacific Great Eastern Railway by the new 500-kilovolt transmission-line from the Peace River project.

Pacific Great Eastern Railway Yards

During this inspection the condition of yards and switching areas was checked. The following yards of the company required minor repairs and attention with respect to safety: North Vancouver yard, stockyard area in North Vancouver, the approach to the Island Tug & Barge Company's barge slip in North Vancouver, and a private crossing in the Chetwynd yard where oil trucks from Imperial Oil Limited's plant cross the railway.

Stations

An inspection was made of all stations. Good housekeeping was evidenced. Washrooms were being properly maintained, and waiting-rooms were clean and orderly. Platforms adjacent to stations were found to be in accordance with regulations. Platforms were clean, and freight-handling wagons were placed at the prescribed distance from the edge of the platforms.

Terminals

A check was made at terminals. The required booking facilities for trainmen are being properly maintained as required in the regulations. Train orders with respect to dispatch are being properly handled in the prescribed manner.

Railway Crossings

Approximately 450 railway crossings of the Pacific Great Eastern Railway were checked. A number of crossings required attention, and the status with respect to some of the crossings is to be better established, both with respect to the railway company and to this Department. A programme has therefore been set up, and the appropriate officials of the Pacific Great Eastern Railway are processing a number of these crossings each month so that the necessary changes and betterments will be brought about in an orderly manner.

Microwave Radio System

During the inspection trip particular attention was paid to the working of the microwave system, which not only controls all train dispatching on the Pacific Great Eastern Railway, but also handles the traffic for telegrams and telecommunications throughout the entire system. It must be recognized the Pacific Great Eastern Railway was the first to adopt a system of train dispatching entirely employing the use of microwave radio. In fact this railway is the only one in Canada so equipped. It was noted throughout the system that telephone wires have been entirely removed, except in locations where they have been leased to telephone companies. The microwave system is well organized, handled, and maintained by the company's communications department. The system incorporates remote reflector-stations and power-stations, in some cases located on the tops of mountains. These were not inspected, but it was evident the system was in proper working order as checks were made on audio messages as well as by the use of teletype messages, both of which are handled entirely by the microwave system.

Traffic

Passenger traffic is handled by the use of six R.D.C. rail cars of the Budd design, and daily passenger service operates between North Vancouver and Prince George. This service was checked from time to time during the year. Meals are served on the Budd cars and handled in the same manner as meals on the transcontinental air lines. Stewards are engaged on each train to take care of the comforts of passengers. Equipment was checked from time to time and was found to be clean and sanitary in all respects.

Freight traffic has continued to expand and increase due to the industrial development in the north country. In this regard, five-unit locomotives are employed, and trains run right through from North Vancouver to Fort St. John, with a local transfer service between Chetwynd and Dawson Creek. At the time of the inspection, trains of 75 cars each were being handled with five units of motive power.

Inspections were made on the road of motive power and of trains, which were found to be in order and in accordance with the standards as maintained on the transcontinental railways across Canada. However, the standards on the Pacific Great Eastern Railway were in some cases better than those on the two transcontinental railways, as the trainmen and the enginemen are equipped with radiotelephones so that crews can converse with each other en route and also during the time trains are being made up or are switching between terminals. This, of course, is an added safety feature with respect to the safety of crews operating on this railway.

It was also noted the consist of trains has changed considerably over the past few years. Trains serving the north are now made up to a large extent with piggyback cars hauling highway trailers, so that a fast service by tractor-trailer is now possible between Vancouver and parts north of Fort St. John. These trailers are hauled by the Pacific Great Eastern Railway, and considerable time is saved, especially on perishable commodities.

It was also noted that the movement of forest products has increased, and the movement of pulp-chips and pulpwood is now a considerable percentage of the forest products being hauled. A good percentage of the consist of trains moving south is now oil products, propane, butane, etc., from the McMahon plant at Taylor, which is served entirely by the Pacific Great Eastern Railway.

New Equipment

A number of new locomotives were delivered during the latter part of 1964. These locomotives are of the 1,800-horsepower class and are equipped with modern appurtenances, including dynamic braking. This equipment was inspected and certified, and a number of the units were inspected under operating conditions during the annual inspection. It was noted the new equipment is coupled in with the older equipment, and the units are working in multiple and giving satisfactory over-all performance.

In addition to motive power, the company has procured considerable rolling-stock during the year, such as flat cars, box cars, gondola cars, piggy-back cars, etc. This equipment was inspected and found to be in order.

In addition to the foregoing, the company has ordered 190 high-side gondola cars, known as chip-cars, from the Vancouver Iron & Engineering Works Limited in Vancouver, where the cars are being built. Departmental engineers are making inspections with regard to the safety appliances being installed on this equipment, and in a number of cases our engineers have advised manufacturers as to the best methods of applying the safety appliances so that the rolling-stock will meet the requirements of the Board of Transport Commissioners for Canada, the Interstate Commerce Commission of the United States, and the Association of American Railroads. This is being done to assure that the cars will interchange with all railways in North America, and in this regard our engineers have held discussions with engineers from the Board of Transport Commissioners for Canada, and agreement has been reached as to the uniform application of safety standards.

Bridges and Structures

During the annual inspection by track motor, all bridges were observed, and a number of them were given detailed inspection. The footings and the north abutment of the Cottonwood Bridge were inspected in detail. The north abutment anchor pier was found to be solid, and no movement was evident. The ground is well consolidated, and vegetation has taken care of absorption and water run-off. The system of drainage on the north bank was found to be in order and properly

functioning, and no slippage or sloughing has occurred over the past few years. The north abutment anchor pier shows some evidence of spalling due to frost, and this should be given attention during 1965 by the company's forces. Also a safety inspection ladder has been somewhat damaged, and this should be properly and permanently repaired.

A new bridge in the Clinton area has been completed and put in service during 1964. This is a tower aqueduct type of bridge, and it has replaced a large wooden trestle. An excellent job has been made of construction and alignment, and the bridge has been painted, so that it presents a pleasing and attractive appearance.

A check was made with company forces with respect to tie renewals on bridges, and it was found bridge ties are being renewed with creosoted timber and that a special treatment of sand and non-flammable material is being applied to bridges so as to eliminate the danger of fire due to brake shoes. This programme is well advanced throughout the entire system.

General Maintenance, Permanent Way

It was noted company forces had almost completed the 1964 programme of maintenance at the time of the annual inspection. In this regard ditching was nearing completion and provision for winter freeze-up and spring run-off was being taken care of at various locations on the line. New sidings were being ballasted and the main-line ballast programme was nearing completion. It this regard it was noted the new electronic equipment had done an excellent job as curves and tangent track were in much better alignment than in previous years.

Shops and Repair Facilities

Inspection was made of all shops and maintenance facilities at various times during 1964. The new locomotive shops at Squamish, which were built in 1958, are now becoming inadequate due to the expansion of the railway and the procurement of additional motive power. It is understood the Squamish shops are to be enlarged during 1965, and a transfer table is to be installed to take care of engine trucks, so that the trucks may be reversed to obtain additional wear from the wheels. This is most urgently needed, as with additional motive power such equipment is an absolute necessity. The maintenance-shops for rolling-stock are also becoming inadequate, and it is understood the company is giving consideration to enlarged facilities in this regard to cope with the normal requirements of a railway of this magnitude.

Conclusion

In conclusion, it can be stated the railway is in safe condition, it is being properly maintained, and the public is being properly served. Certain aspects of a minor nature require attention with respect to the safety of workmen both on company property and on property served by the railway where the railway employees switch and operate railway equipment. Safety programmes are beng initiated on the part of the company, and the company has been assured of the co-operation and assistance of the Department engineers in this regard.—*Robert E. Swanson, P.Eng., Chief Inspecting Engineer.*

STANLEY PARK MINIATURE RAILWAY

The Vancouver Board of Parks and Public Recreation has operated a miniature railway in Stanley Park since 1947.

Track installation and equipment were approved by the Department and registered by certificate under the *Railway Act*. Motive power consisted of a steam

locomotive and three railway cars of 7½-inch gauge, which ran on approximately 600 feet of track. This installation was inspected by Department inspectors, and the locomotive boiler is hydrostatically tested annually.

The devastation caused by typhoon "Freda" in 1962 made open areas available in the vicinity of the miniature railway, which gave the Parks Board some thoughts toward a more scenic and spacious installation. The outcome was the laying of approximately six-tenths of a mile of scenic railway in a story-book setting.

The steam locomotive was replaced by an internal-combustion locomotive of a design copied from the famous "C. P. Huntington," which is historical from the American Civil War days and is now on display in Sacramento. The original is owned by the Southern Pacific Railroad. The miniature replica in Stanley Park is of steam-engine design, though it is powered by a gasoline-driven industrial Ford engine through a transfer gear-case to the drive axles. The braking system is a duplication taken from a G.M. Series F standard locomotive. To further simulate the steam-locomotive characteristics, black smoke is emitted from the smokestack, using the fuel-injection system as a smoke medium. Five cars, carrying 14 passengers each, are used, and each car is equipped with air brakes.

Regulations for the operation of the train were approved by the Department in the interest of public safety. The popularity of this miniature railroad is indicated by the fact that the railway now operates through an extended season and earned considerable revenue during its first nine months of operation. The passenger tariffs are approved by the Department at 10 cents per ride for children and 25 cents for adults.

The special regulations governing this operation set forth safety rules for handling the public and also for the protection of workmen concerned.

Equipment Inspections during 1964 under the Railway Act

Following is a list of individual inspections carried out by Department engineers:—

Hydrostatic tests applied to boilers	46
Internal-combustion locomotives and cranes inspected and certified	30
Air locomotives inspected and certified	10
Electric locomotives inspected and certified	6
Self-powered rail-cars inspected and certified	15
Diesel-electric locomotives inspected	95
Air reservoirs tested and inspected	312
Railway cars inspected on industrial railways	390
Railway cars inspected on common-carrier railways	230
Miles of railway track inspected	1,800
Aerial tramways inspected and certified	29
Railway conductors examined and certified	6
Power-car operators examined and certified	8
Locomotive-crane engineers examined and certified	5
Steam-locomotive engineers examined and certified	3
Motormen examined and certified (Consolidated Mining and Smelting Company of Canada, Limited)	6
Accidents on logging and industrial railways	2
Accidents investigated, British Columbia Hydro and Power Authority Railway Division	.....
Accidents involving automobiles at crossings, etc., of Pacific Great Eastern Railway	15

Number of persons injured at crossings of Pacific Great Eastern Railway	11
Number of persons hospitalized as a result of crossing accidents	6
Number of fatalities at level crossings	----
Passengers injured (none seriously), Pacific Great Eastern Railway	3
Fatal accidents to employees, Pacific Great Eastern Railway	2
Fatal accidents to non-employees, Pacific Great Eastern Railway	----

List of Railways and Summary of Mileage

Industrial Railways

No. and Owners/Name of Railway	Head Office	Operating	Mileage			Gauge
			Main	Sidings, etc.	Total	
1. *Aluminum Company of Canada* Ltd.	Montreal	Kitimat	2.90	3.19	6.09	Standard.
2. Arrowhead Wood Preservers Ltd.	Revelstoke	Revelstoke	0.92	----	0.92	,,
3. British Columbia Forest Products Ltd.	Vancouver	Crofton	1.50	2.50	4.00	,,
4. Canada Creosoting Co. tLd.	Montreal	New Westminster	3.00	3.00	6.00	30" and standard
5. Canadian Forest Products Ltd.	Vancouver	Nimpkish Valley	91.00	19.10	110.10	Standard.
6. Canadian Forest Products Ltd.	Vancouver	Port Mellon	0.50	0.50	1.00	,,
7. Canadian Industries tLd.	Montreal	James Island	6.25	1.25	7.50	30" and standard
8. Columbia Cellulose Co. Ltd.	Montreal	Watson Island	----	7.01	7.01	Standard.
9. Comox Logging & Railway Co.	Vancouver	Ladysmith	21.80	4.02	25.82	,,
10. Consolidated Mining and Smelting Co. of Canada, Ltd.	Trail	Trail	19.00	----	19.00	18".
11. Consolidated Mining and Smelting Co. of Canada, Ltd.	Trail	Kimberley	9.00	33.01	42.01	18", 36".
12. Crow's Nest Pass Coal Co. Ltd.	Fernie	Michel	1.53	----	1.53	30".
13. Elk Falls Co. Ltd.	Vancouver	Duncan Bay	----	3.00	3.00	Standard.
14. Hillcrest Lumber Co. Ltd.	Mesachie Lake	Mesachie Lake	6.00	1.50	7.50	,,
15. Hooker Chemicals tLd.	North Vancouver	North Vancouver	0.10	1.90	2.00	,,
16. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Chemainus	1.58	3.81	5.39	,,
17. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Dunsmuir District	1.00	3.10	4.10	,,
18. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Harmac Pulp Div.	2.20	----	2.20	,,
19. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Port Alberni	----	1.00	1.00	,,
20. MacMillan, Bloedel and Powell River Ltd.	Vancouver	Powell River	1.50	----	1.50	Narrow.
21. Osborne Bay Wharf Co. Ltd.	Mesachie Lake	Crofton	0.33	----	0.33	Standard.
22. Pacific Coast Terminals Co. Ltd.	New Westminster	New Westminster	5.20	----	5.20	,,
23. Pacific, Jefferson Lake, Westcoast (Pacific Petroleums Ltd.)	Calgary, Alta.	Taylor	3.05	0.71	3.76	,,
24. Rayonier Canada (B.C.) Ltd.	Vancouver	Woodfibre	----	(1)	----	,,
25. Vancouver Steel Co. Ltd.	Vancouver	Twigg Island	1.25	----	1.25	,,
26. Vancouver Wharves Ltd.	Vancouver	North Vancouver	2.00	----	2.00	,,
27. Western Forest Industries Ltd.	Honeymoon Bay	Honeymoon Bay	7.00	0.60	7.60	,,
28. Western Plywood (Cariboo) Ltd.	Quesnel	Quesnel	0.95	----	0.95	,,

Common-carrier Railways

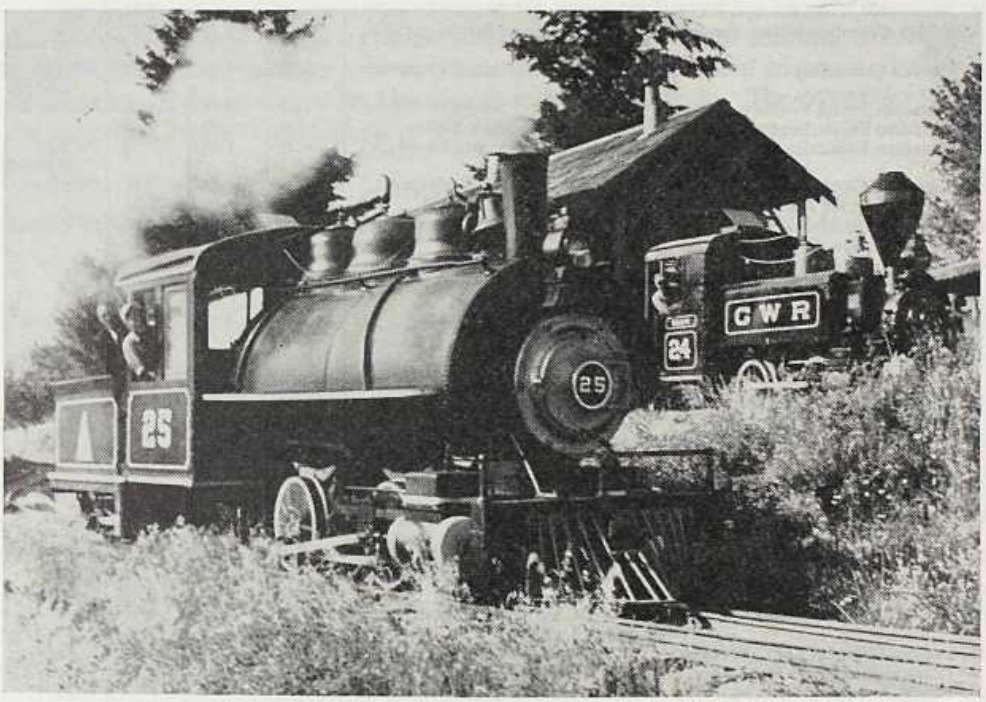
29. British Columbia Hydro and Power Authority	Vancouver	New Westminster-Huntingdon-Chilliwack	76.58	25.29	101.87	Standard.
30. Pacific Great Eastern Railway Co.	Vancouver	Vancouver to Fort St. John and Dawson Creek	788.60	146.10	934.70	,,

[1] Ferry slip.

COWICHAN VALLEY FOREST MUSEUM

It is a changing world we live in, and methods of logging and transport change so fast that suddenly we realize the relics of the ox-team days and skid-road logging become museum pieces. During the transition period from " bulls to cats," very few people thought of preserving those old relics so they could be looked upon with wonder by a new generation of people.

Vancouver Island is fortunate that one, Jerry Wellburn, had the foresight, the ambition, the opportunity, and the money to collect and preserve a 20-acre farm full of old relics from oxen yokes to steam locomotives. He even laid rail on his farm so that two of the old steam locies could chug around on a half-mile-long track and emit beautiful nostalgic sounds so as to attract rail fans such as Walt Disney from far-off Disney Land. But Jerry was worried about the final outcome of his cherished collection of puffing billies and old steam pots. He worried what would happen to the old stage-coaches and Model T Fords when he himself passed on to the " land of the heavenly timber." Would they be sold for junk, or would they just rot away at the old Wellburn farm out at Deerholme?



(Photo by Robert E. Swanson.)

Narrow-gauge steam locomotives being put through their paces at the new Forest Museum at Duncan.

It was in the spring of 1964 that Jerry Wellburn promoted the Cowichan Valley museum scheme. Several of the large lumber operators were approached, and donations of substantial amounts were made to the project. Fifteen or more acres of land were purchased a mile north of Duncan, between the Trans-Canada Highway and Somenos Lake. Seven-eighths of a mile of 3-foot-gauge railway track was laid. A bridge carrying the railway was constructed over an arm of Somenos Lake. Authentic cuts and fills were made as the narrow gauge wound

around on 25-degree curves. Roundhouses were built, and a water tank, served by a windmill of old vintage, was erected. And one day in August, Jerry's equipment was landed at the new site, where it is now on public display for all to see and enjoy.

Hector Stone, of the Hillcrest Lumber Company Limited, one of the oldest firms in the district, made a real contribution. They had preserved their original Shay locomotive, and Hector had it converted to narrow gauge to fit Jerry's tracks and presented it to the new museum, steamed up and ready to run. Jerry was jubilant, as this locie had been the subject of one of his fondest dreams, and now he had it in his museum, steamed up and running on rails rolled in 1882 which had served on the earliest logging-railways in British Columbia.

Relics of bull-team logging, horse logging, and early steam logging are preserved and displayed in the new museum. One of the earliest steam spool donkeys is on display alongside an early steam donkey made in Victoria at the turn of the century. In another location an old steam tractor which hauled a log train on pole rails, with the use of bell wheels, is poised as though it were ready to start all over again once the second-growth firs were big enough to be logged again in the Duncan area.

There are old bunk-houses and triangular dinner gongs, log cabins with horseshoes and oxen-shoes nailed over the door, but the narrow-gauge railroad, with its three steam locomotives all in working order, steamed up and operated by a mustachioed old-time engineer, is the item that fascinates tourists as they see how logging was done in pioneer days of British Columbia.

AERIAL TRAMWAYS

The use of aerial tramways for uphill transportation in winter playgrounds, including T-bars, J-bars, and rope tows, has become more popular than ever before, resulting in the construction of several new T-bar installations and additions to others. Six new lifts were installed this year.

The Mount Jarvis aerial tramway, built to serve the Canadian National Telecommunications microwave station on Jarvis Mountain, was completed during the year. This is a single-car double jig-back type of tram using two parallel track ropes and an endless traction rope. The total length of the tram is 8,500 feet with a total rise of 4,778 feet, with radio communication between car and hoistman at the lower station. This tramway was thoroughly tested out, especially with reference to all safety features, by our Inspecting Engineers and approved for operation in June, 1964.

The two tramways on Grouse Mountain and the T-bar lift were inspected during the year. It was noted during the inspection that the traction cable on the upper lift was badly worn in several places. As a result, a new traction cable was installed. This was tested out and went into operation in October.

The Dog Mountain industrial tramway was inspected and certified in good condition. This tramway provides access to the British Columbia Telephone Company's microwave station on Dog Mountain.

The industrial tramway of the Aluminum Company of Canada at Kemano was inspected and found to be in satisfactory condition. This tramway is used to haul machinery and equipment used in the maintenance of the water-tunnel and penstocks.

The Seymour Park aerial tramway was inspected and has been operating well during the year.

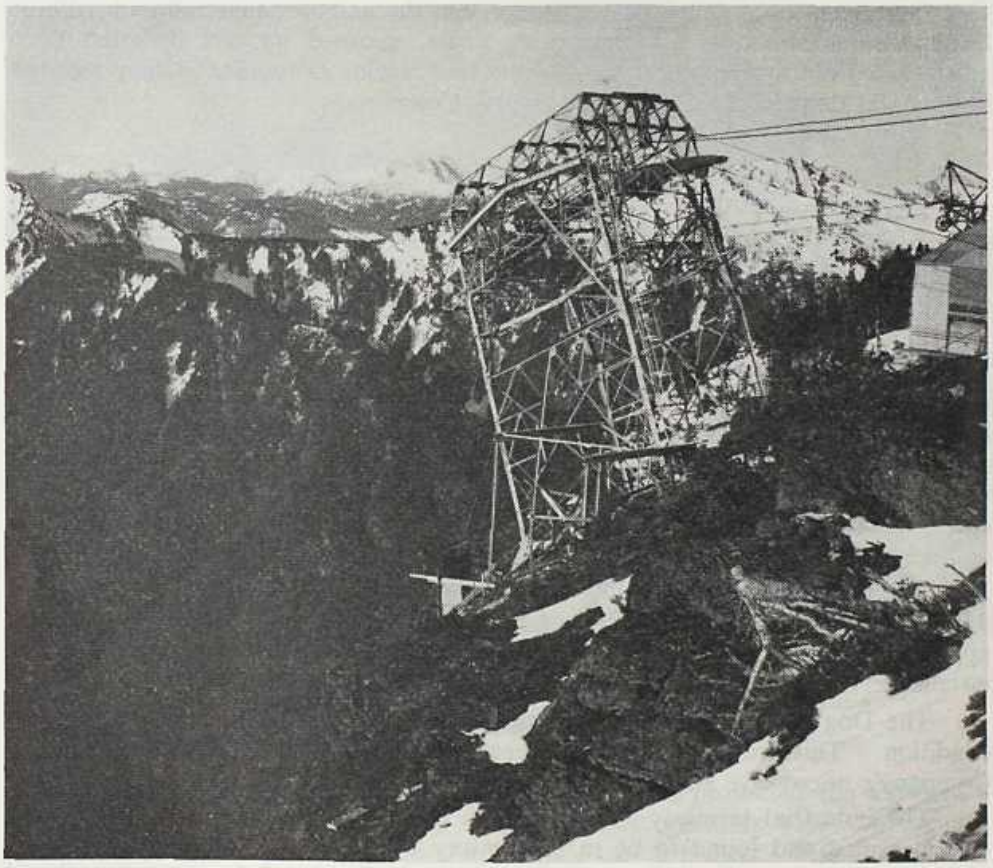
Tod Mountain tramway, in the vicinity of Kamloops, was inspected and certified in good condition.

Hollyburn Mountain tramway had several operating problems during the year. These were attended to by our Inspecting Engineers, and the tramway is now in satisfactory condition.

Red Mountain tramway at Rossland was inspected and found in good condition. The upper terminal was rebuilt during the year, resulting in a much-improved operating condition of the lift.

Rope tows and T-bar installations at Garibaldi Park, Grand Forks, Manning Park, Penticton, Kelowna, Fernie, Vernon, Nelson, Salmo, and Osoyoos were inspected and certified during the year.

A trend of future devlopment of aerial tramways has been established during the year as several multi-million-dollar projects are either building or are projected for 1965. In particular, the Jarvis Mountain project cost $1,700,000, and a large tramway is projected for 1965 to serve the Grouse Mountain area. This new tramway is to employ two 50-passenger gondolas and will transport passengers and their baggage from North Vancouver to the Grouse Mountain Chalet on top of Grouse Mountain. This project will exceed a million dollars in cost.

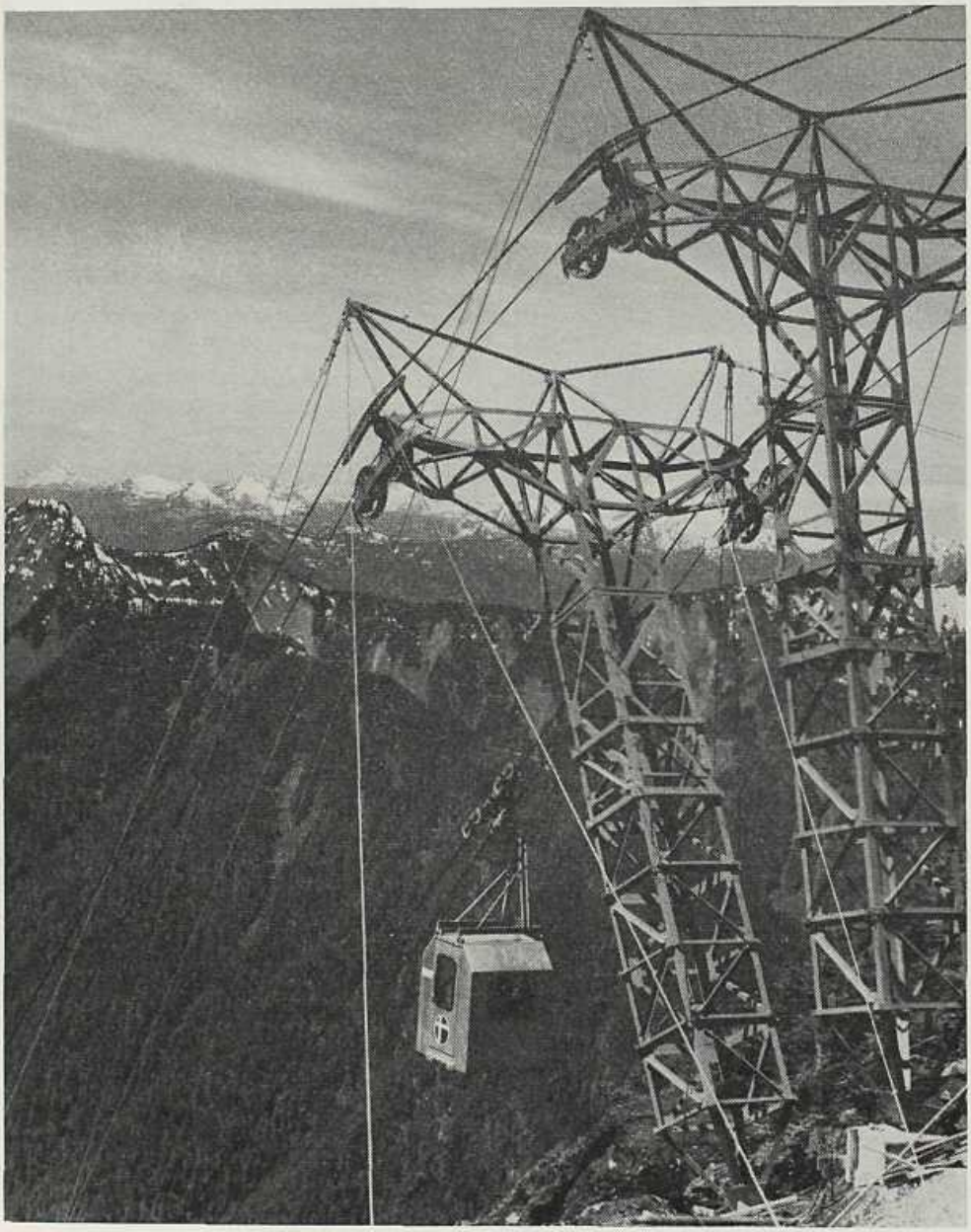


(Photo by Robert E. Swanson.)

The upper tower of the Mount Jarvis Aerial Tramway. This tower is 4,778 feet above the lower station, and a 7,000-foot span exists between this tower and the next one down the mountain.

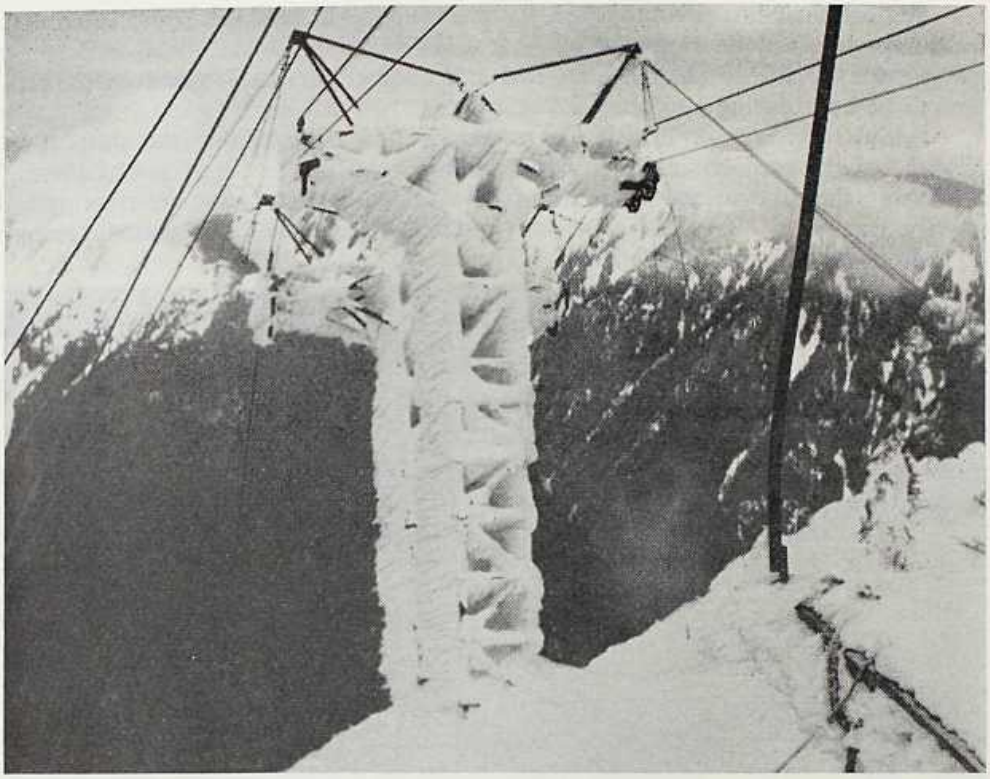
Several chair-lifts are projected for the future. Details are being submitted for a large tramway development on Mount Garibaldi in 1965. Another is being planned for the Prince George area, and still another for the Prince Rupert area, both to be built during 1965.

Aerial tramways in British Columbia are now approaching the proportion of some of the projects in Switzerland, France, and Italy. In fact, engineering firms from those countries, as well as from Sweden and Norway, are quoting on the new tramways to be built in British Columbia during 1965. It must be recog-



(Photo by Robert E. Swanson.)

A typical scene during construction on the Mount Jarvis Aerial Tramway.



(Photo by Robert E. Swanson.)

Icing conditions on Mount Jarvis Aerial Tramway upper station. Conditions such as these are a problem to engineers who design aerial tramways.

nized, therefore, that tramway design should be viewed as a world standard rather than a local building requirement, and to this end Department engineers and design engineers across Canada must orient themselves.

With the recognition of world standards being required in the construction of aerial tramways in the immediate future, a Canadian Standards Committee has been set up to establish a uniform Canadian standard for aerial tramways. One of the Department engineers is chairman of this committee, and the leading tramway engineers in Canada are vice-chairmen of the main committee or are serving on sub-committees, and it is expected the new code of standards will be available to the tramway industry by late 1965.

Following is a list of aerial tramways now operating in British Columbia:—

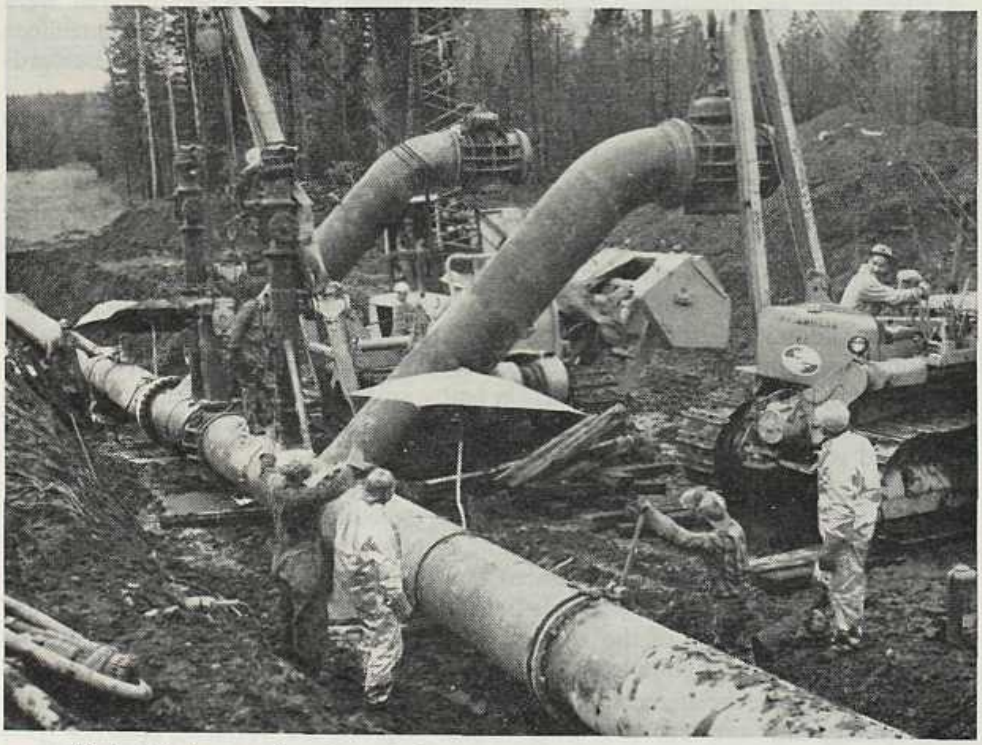
Aluminum Company of Canada Ltd., Kemano.
Apex Alpine Recreations, Penticton.
Big White Ski Development, Kelowna.
Borderline Ski Club, Osoyoos.
C.N. Telecommunications, Hope.
Cassiar Asbestos Corporation, Cassiar.
Dawson Creek Ski Club, Dawson Creek.
Dog Mountain aerial tram, Hope.
Grouse Mountain Resorts, Vancouver.
Hollyburn aerial tram, Vancouver.
Kimberley Ski Club, Kimberley.

Lifts Limited, Vancouver.
Mount Seymour aerial tram, Vancouver.
Paradise Basin Resort, Invermere.
Phoenix Ski Club, Grand Forks.
Pine Woods Lodge, Manning Park.
Prince George Ski Club, Prince George.
R.C.N. aerial tram, Kamloops.
Red Mountain Ski Club, Rossland.
Salmo Ski Club, Salmo.
Silver King Ski Club, Nelson.
Silver Star Ski Club, Vernon.
Snow Valley Ski Club, Fernie.
Tod Mountain Ski Resort, Kamloops.

PIPE-LINES

The petroleum industry was active during 1964 in the field of gas- and oil-gathering systems constructing numerous pipe-lines connecting into major transmission-lines. There were more than 44 pipe-line projects approved, tested, and certified for gas- and oil-gathering systems during the year. The co-ordination, inspection, and approval of plans, specifications, and installations for these projects is one of the major functions of the Engineering Branch of this Department.

All compressor and pumping stations in British Columbia have been inspected and certified by engineers from this Branch. This included seven newly constructed compressor-stations and four new pumping-stations approved during 1964. In



Typical tie-in operation of two 30-inch-diameter pipes for connection with a large compressor-station.

addition, inspectors are covering compressor and pumping stations on injection systems, pressurizing oil and gas fields. Certain components and phases of operation, such as pressure vessels, conditions related to workmen's safety, and fire prevention, which are Provincial matters, are being inspected through co-operation with other Provincial departments, and each station is certified after inspection.

Water- and gas-injection systems, previously employed only after a heavy drop in field pressure, are now being used during earlier stages of field production. Several such systems have been completed, approved, and put into operation during the past year. One of the major water-flood systems serves the Boundary Lake field. Low-head pumps pick up water from wells on the Peace River north of Dawson Creek and discharge to a high-pressure pumping-station, which pumps the water to the final injection system in the Boundary Lake field at a distance of 50 miles from the source.

Other water-supply systems employ deep wells or creek dams and storage reservoirs. The extensive oil and gas fields in Milligan Creek and Beatton River area are flooded by such systems. These installations are located adjacent to the injection pumping-stations, which minimizes the problems of lengthy high-pressure transmission-lines but involves elaborate water-filtering systems.

Gas-injection systems are, in effect, compressor-stations injecting gas into oilfields at strategically located well-heads. These stations will increase in number due to the policy of pressurizing fields prior to a heavy drop in well-head pressures.

High-pressure pumping-stations, water-source pumps, and auxiliary equipment on the Boundary Lake system and similar equipment, together with extensive filtering systems at Milligan Creek, were all inspected and approved during late September.

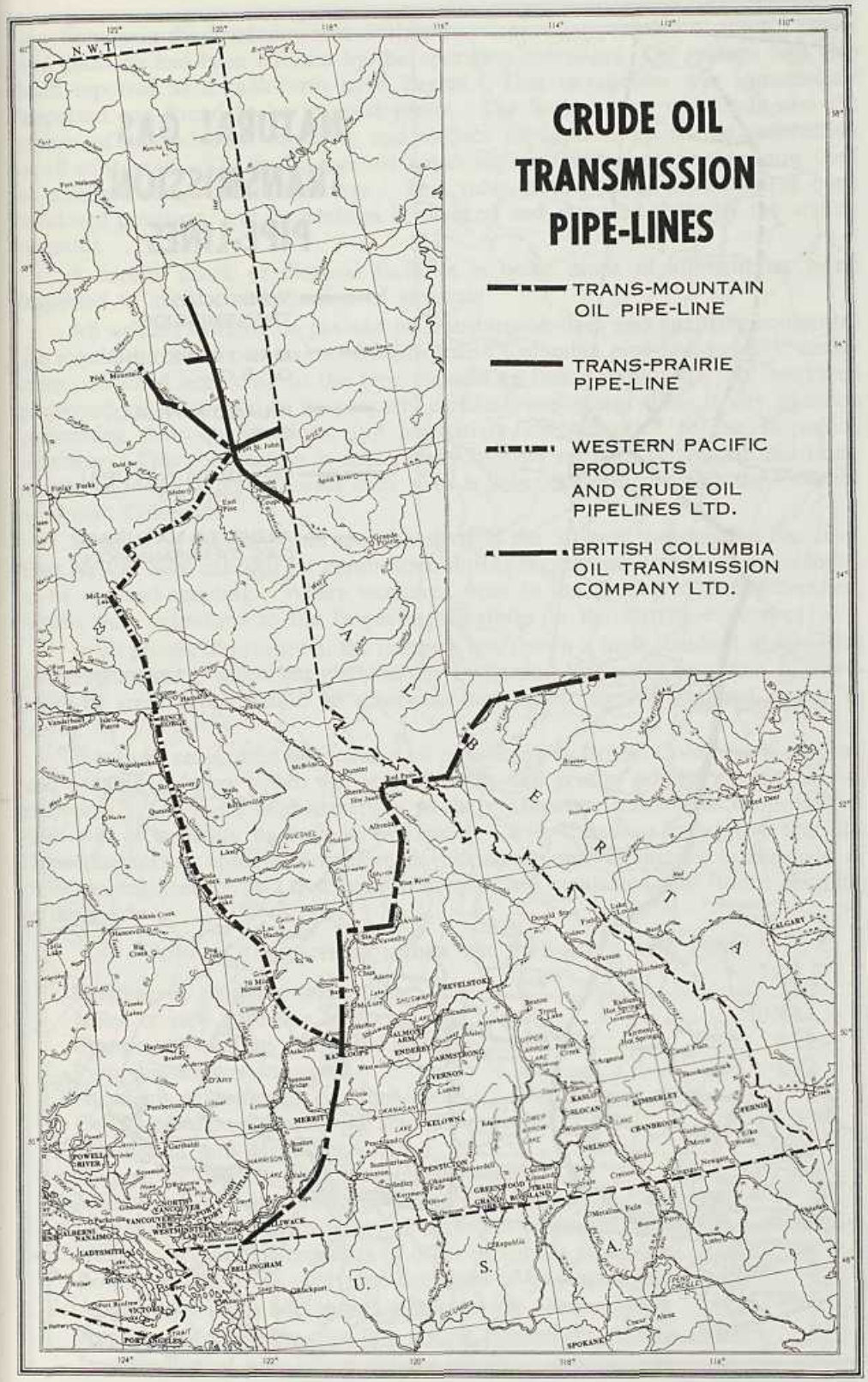
Two new gas-injection stations in the Milligan Creek Wildmint area were also certified during the same period. The design, installation, and maintenance of all flood systems have been found to incorporate the same high standards common to conventional compressor and pumping stations.

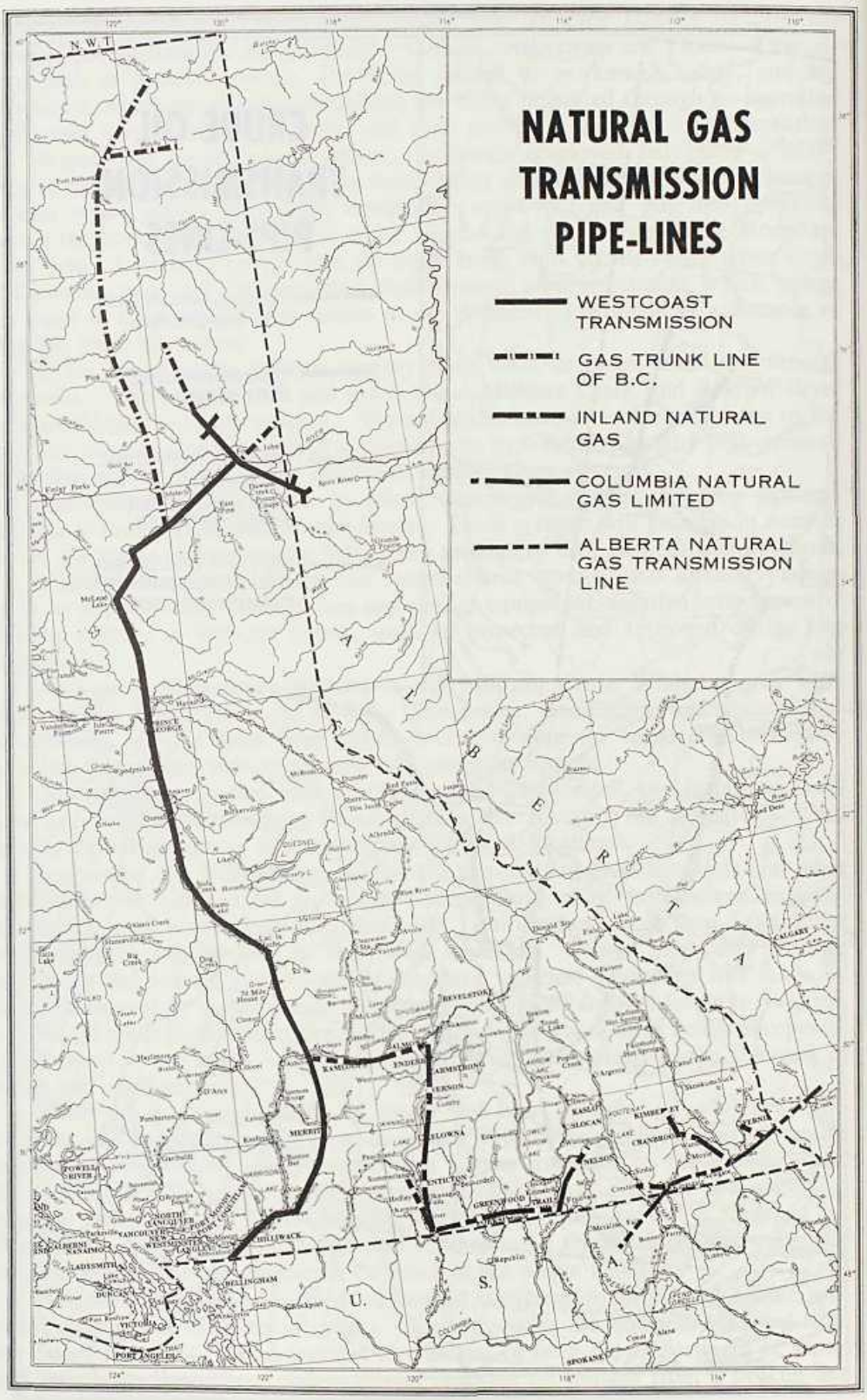
Through co-operation with the Provincial Fire Marshal, our inspectors, who have been appointed Assistant Fire Marshals, are covering fire regulations at all installations, tank-farms, and numerous well-head locations.

Inspection and recording of data on the hundreds of pressue vessels and other components at gas and oil well-head batteries and allied installations required correlation in all areas of the northern fields. During June more than 3,000 miles in the general area of Fort St. John were travelled. Where roads and weather conditions did not permit the use of standard vehicles, advantage was taken of company operators making their routine inspection in four-wheel-drive vehicles. Additional batteries are being installed in many areas where oil is being discovered. In all cases it was found a high standard is being maintained in the interests of safety and good economy.

Sour gas is being handled by many well-head vessels and auxiliary components, and inspection procedures are being expedited in these areas. Portable equipment operated by skilled technicians is now available to the industry, and the flexibility of this modern equipment is ideally suited to handle the numerous types of units requiring tests. Modern testing techniques are being arranged for through the co-operation of the various companies in the industry, and ultrasonic tests have already been completed on some of the above vessels.

Requests have been received on several occasions to investigate oil or salt-water spillage into muskegs or creeks. These requests are normally received from the Department of Conservation and Recreation, or from the Department of Mines and Petroleum Resources. Inspection of reported oil spillage from a broken line


CRUDE OIL
TRANSMISSION
PIPE-LINES
TRANS-MOUNTAIN
OIL PIPE-LINE
TRANS-PRAIRIE
PIPE-LINE
WESTERN PACIFIC
PRODUCTS
AND CRUDE OIL
PIPELINES LTD.
BRITISH COLUMBIA
OIL TRANSMISSION
COMPANY LTD.
N.W.T.
ALBERTA
U.S.A.
PRINCE RUPERT
PRINCE GEORGE
EDMONTON
CALGARY
KAMLOOPS
PENTICTON
KELOWNA
VERNON
TRAIL
CRANBROOK
KIMBERLEY
NELSON
VANCOUVER
VICTORIA
BELLINGHAM
SPOKANE


NATURAL GAS TRANSMISSION PIPE-LINES
WESTCOAST TRANSMISSION
GAS TRUNK LINE OF B.C.
INLAND NATURAL GAS
COLUMBIA NATURAL GAS LIMITED
ALBERTA NATURAL GAS TRANSMISSION LINE
N.W.T.
ALBERTA
U.
S.
VANCOUVER
VICTORIA
CALGARY
SPOKANE

at a battery in the Wildmint area during late September revealed a prompt repair and clean-up had been effected by the operating company. Oil spillage had also been reported at a tank-farm near Taylor. This installation was immediately inspected and found to be in good order. The faulty valve which allowed the escape of oil had been replaced, and surface oil cleaned up to the satisfaction of all concerned. The faulty gate valve was replaced with a plug valve, now used as standard equipment in this area. This valve gives positive indication of open or closed positions, and its position is checked and recorded daily by the station operator.

A careful check of disposal facilities is being made at all batteries being inspected to avoid contamination of streams.

All welders working on gas and oil transmission-lines and auxiliary equipment are required to be in possession of valid British Columbia pipe-line welders' certificates, classified according to the type of welding being employed. All workmen employed are confirmed to be properly certified, and where there is any question concerning their qualifications, full particulars are submitted to the Inspecting Engineer. This certification is required by welders on both provincial and interprovincial installations whenever such work is being performed within the Province of British Columbia.

Welders on the north and south sections of the 30-inch transmission-line from Fort Nelson were checked for certification during September, and in all cases found to be in good standing. Where workmen were in the process of being certified, details were submitted to the Inspecting Engineer in the district concerned.

In all phases of operation, the industry has shown a high standard of initiative and responsibility, which has enabled our Inspecting Engineers to obtain full coverage of areas which would be otherwise inaccessible by conventional means of travel.

It is to be recognized the gas and oil pipe-lining in British Columbia is a sound and dynamic industry which will grow as more and greater oil and gas discoveries are made. The trend of discovery is to the north-west, and longer transmission-lines will of necessity be built in the future. It is therefore imperative that the Department keep abreast of modern developments and techniques in the field of pipe-line engineering, and that such techniques are inculcated into future planning in this field.

Annual Inspections under the Pipe-lines Act, 1964

Number of pipe-line inspections	110
Miles of new pipe-line inspected and tested	95.44
Compressor-stations inspected	29
Pumping-stations inspected	12
Accidents investigated on pipe-lines	0
Gas distribution and metering stations inspected	13
Number of tank-farms inspected	5
Number of new pipe-line projects approved	44
Number of pipe-line crossings of railways inspected	3
Number of pipe-line crossings of highways inspected	6
Number of pipe-line crossings of other pipe-lines approved	18
Power-line crossings over pipe-line right-of-way approved	9
Approval of plans and specifications for pipe-line projects	44
Approval of company pipe-line testing procedures	5
Investigation of pipe-line problems involving subdivisions	2

Certificates issued under the *Pipe-lines Act* authorizing the construction of new pipe-lines 44
Certificates of inspection issued under the *Pipe-lines Act* authorizing the operation of new pipe-line projects 44

PIPE-LINES APPROVED, INSPECTED, AND TESTED, 1964

Name of Company	Oil or Gas	Project No.	Pipe-line Location
Altair Oil & Gas Co.	Gas	1243	Buick Creek.
	,,	1283	Buick Creek.
Amerada Petroleum Corp.	,,	1254	Laprise.
	,,	1256	Laprise.
British American Oil Co. Ltd.	,,	1259	Pocketknife.
British Columbia Hydro and Power Authority	,,	1245	Burrard Thermal Plant.
	,,	1247	Fort Nelson.
	,,	1263	Port Mann.
	,,	1265	Burnaby.
	,,	1274	Fort Langley.
Gas Trunk Line of B.C. Ltd.	,,	1250	Boundary Lake.
Imperial Oil Ltd.	,,	1251	Rigel Creek.
	,,	1253	Boundary Lake.
	,,	1275	Boundary Lake.
	Oil	1276	Boundary Lake.
	Gas	1277	Boundary Lake.
	,,	1278	Boundary Lake.
	,,	1280	Rigel Creek.
	Oil	Cert. 62	Flow-lines, Boundary Lake.
Inland Natural Gas Co. Ltd.	Gas	1248	Pine Pass.
	,,	1255	Prince George area.
	,,	1257	Prince George.
	,,	1262	Prince George.
	,,	1279	Oyama.
	,,	1282	Northwood Pulp Ltd.
Pacific Petroleums Ltd.	,,	1249	Beg field.
	,,	1252	Blueberry field.
	,,	1258	Jedney.
	,,	1271	Stoddart area.
	,,	1273	Fort Nelson.
Plains Western Gas & Electric Co. Ltd.	,,	1266	Fort St. John.
Tenneco Oil Co.	,,	1244	Peace River District.
Texaco Exploration Co.	,,	1264	Buick Creek.
	,,	1268	Buick Creek.
	,,	1269	Buick Creek.
Trans Prairie Pipelines Ltd.	,,	1267	Bounday Lake.
	,,	1281	Bounday Lake.
Triad Oil Co. Ltd.	Oil	Cert. 62	Flow-lines, Beatton River area.
Union Oil Co. of Canada Ltd.	Gas	1260	Milligan Creek.
	,,	1261	Wildmint field.
Western Natural Gas, Inc.	,,	1246	Blueberry field.
	,,	1272	Clark Lake.
Whitehall Canadian Oils Ltd.	,,	1270	Buick Creek.

INDUSTRIAL ROADS

Each year it becomes more evident that the lumbering industry is still not full grown within the Province. The expansion of the larger logging concerns and the building of new pulp-mills are creating a greater demand for logs than ever before. This demand has resulted in the building of hundreds of miles of new industrial roads to gain access to untapped forest areas. This, in turn, has created a demand for additional skilled drivers and log-hauling vehicles.

Logging methods have advanced greatly in the Interior of the Province over the past few years, and rarely does one see an example of the "haywire" trucker today. He has been replaced by modern logging-trucks similar in design to those used on the Coast.

Logging techniques have not stagnated in the latter area, however. The latest advent in log-hauling is the use of truck trains. This idea was advanced at Crown Zellerbach Canada Limited Ladysmith Division, and incorporated the use of multiple trailers. This enables a single logging-truck to haul up to three trailers and 175 tons of logs in a single trip. Department Inspecting Engineers were responsible to a great degree in finalizing the braking systems on these units.

Portable spars have, of course, been employed by the major logging concerns over the past few years, and it is interesting to note that almost 100 per cent of these are of local manufacture. As was the case of the truck trains, the braking systems were designed almost entirely by members of the Department.

(Photo by B. C. Jennings.)

A log train on rubber tires at Crown Zellerbach Nanaimo River operation. This load weighed 175 tons. At times four loads are hauled, with a total weight of 210 tons. Special air-brake equipment imported from Australia is used to control the brakes on these vehicles.

Because of the increase in the number of vehicles on industrial roads, one can expect an increase in the number of accidents. This has been only too evident in 1964, with a total of eight fatalities reported. Investigation has revealed, however, that these accidents were not caused through the malfunction of a safety device, but were rather caused as a result of driver complacency. To be specific, these accidents were generally occasioned through maladjustment of brakes or improper use of water for cooling the brakes themselves.

In the matter of accidents, members of the Department were called on to investigate eight highway transport accidents for the Royal Canadian Mounted

Police highway patrol. The results of these investigations appear to indicate that lack of driver-training could be responsible. In different areas of the Province, considerable time has been spent with the Royal Canadian Mounted Police checking highway transports for faulty brakes and also teaching the highway patrol the correct method of making the proper checks.

Truck-drivers employed by the Pacific Great Eastern Railway were instructed in the operation and maintenance of air brakes, and a repair logbook system was inaugurated as well with the company from which the trailers are rented. It is felt that this should go a long way toward preventing accidents which until now had been accepted as just " one of those things."

Under the sponsorship of the Fleet Supervisors' Association, lectures on proper use and operation of air brakes were conducted for a considerable number of transport drivers. The response to these lectures has been so great that the association has now introduced these lectures as part of its annual safety programme.

Once again this year extension courses on air brakes were made available for mechanics employed in the trucking industry. This course has been very highly regarded since its inception in 1958, and one major truck-manufacturer has included this programme as a must on its apprentice-training plan.

Students at the British Columbia Vocational Schools again were not overlooked. Basic air-brake instruction was given to all heavy-equipment operators before graduation.

The recent boom in mining has necessitated construction of a number of new industrial roads, and personnel and hauling equipment have been certified and inspected in the same manner as those hauling on logging-roads. It is thought that this has upgraded the industry safetywise, as only one fatality occurred on mining-roads in 1964.

Much new air-brake equipment was presented for testing and Departmental approval the past year before being presented for sale to the industry. While to some schools of thought the safety standards of the Department may seem too rigid, it is interesting to note that several devices rejected by test as being inadequate were subsequently accepted by the State of California. After a short duration it was found that these devices were indeed subject to failure, and California was forced to reject them also. This would appear to bear out the stand taken by this Department regarding safety equipment for heavy-duty vehicles.

More and more use of private industrial roads by the public has been encountered of late, and all-round co-operation has made available reaches of country heretofore unattainable.

It can be stated with certainty that the industrial roads in the Province are being well operated and are proving to be in many instances of great benefit to the sportsman and sightseer as well as providing connecting-links to remote communities.

ACCIDENT PREVENTION PROGRAMME

J. G. M. LOCK, DIRECTOR OF OPERATIONS

An active programme of safety education has been put into effect throughout the Department. In the Weigh Scale Branch the pattern suggested by the Co-ordinator of Accident Prevention, Civil Service Commission, was generally adopted. In the Engineering Branch the general pattern is varied to fit in with the industry concerned; for example, in the trucking industry educational courses are conducted for truck-drivers on the use of air brakes and general safety. This course is extended to the Royal Canadian Mounted Police and to city police so as to provide the enforcement bodies with the proper knowledge required in checking vehicles on public thoroughfares. In addition, a special course, sponsored by the Department of Education, is conducted to properly train heavy-duty mechanics in the maintenance of air brakes, steering-gears, and safety appliances. These courses are also conducted in the vocational schools throughout the Province, where the Inspecting Engineers give lectures and hold examinations.

The Department's safety programme is extended to railway safety both on main lines and on industrial trackage where the movement of railway equipment could present a hazard to workmen. Safety in the operation of railways is one of the prime concerns of our Engineering Branch, and Inspecting Engineers are actively engaged in reducing accident hazards.

Regulations governing aerial tramways incorporate safety rules both for workmen and the general public who use recreational facilities provided by the use of ropeways. Departmental engineers are responsible for the approval of the design

and inspection of aerial tramways for both recreational and industrial use. The safety of many thousands of passengers using the ropeways, chair-lifts, and tramways in the Province is the prime concern of our inspectors in the fulfilment of these duties.

In their inspection of pipe-lines, Departmental engineers stress safety of operation and only issue certificates of approval after complete inspections have been made.

Safety in operation of heavy equipment on private roads is a regular part of our Inspecting Engineers' work. Drivers must obtain an air-equipped vehicle operator's licence before operating vehicles equipped with air brakes. Prior to issuance of these licences, operators are required to pass tests and written examinations to prove they have adequate knowledge of the correct way to operate air brakes and drive heavy equipment.

The results of this general over-all safety programme have certainly been encouraging and have in a large measure contributed to the accident-free record of the Department. The British Columbia Safety Council awarded bronze certificate and silver certificate awards of merit to the Department as a result of an accident-free record over a considerable period of time.

The Department has been represented on the British Columbia Safety Council for a number of years, and meetings are regularly attended.

The emphasis on safety, ever present in the minds of all the staff of this Department, is a major contributing factor to our recognized achievements in the field of safety both within the Department itself and in the industries served throughout the Province.

ACCOUNTS BRANCH

D. I. EWAN, C.O.A., SENIOR CLERK

The increase in revenue derived from oversize and overweight permits during the past year in relation to the number of permits issued indicates the movement of greater loads throughout the Province. This is particularly evident in the Peace River area, where loads of machinery and equipment moving to the dam-site range up to 150,000 pounds.

While this increase in revenue presupposes a greater movement of oversize and overweight loads by the trucking industry, there has, in fact, been only a nominal increase in permits issued due to operators making greater use of restricted-route permits and monthly oversize permits, which obviate the necessity of obtaining a permit for every trip.

This office, apart from accounting for all revenues and expenditures of the Department, is responsible for various statistical surveys in connection with licence and permit revenues derived through interprovincial and international operations in the trucking industry. Additional surveys were carried out with respect to the number, type, weight, and class of vehicles operating within the Province and across Provincial boundaries. During the past year these surveys have been utilized in negotiations resulting in reciprocal agreements between British Columbia and other Canadian Provinces with regard to licensing, as outlined elsewhere in this Report.

Improved issuing and accounting methods adopted during the year with respect to oversize permits have assisted the industry without adding any additional work load to the Accounts Branch at headquarters. This increased flexibility provided to industry has been of help to a number of trucking firms.

Auditing of overweight statements submitted by operators for the movement of heavy loads under term permits is carried out by using reports submitted by field staff of movement of these vehicles at weigh-stations.

A survey conducted at border-point weigh-stations has provided information to compile a list of companies and vehicles operating between British Columbia and other Provinces. This information has been used in connection with reciprocity agreements, and it is the first time that a suitable list of these vehicles has been available.

Surveys on the impact of the prorate agreement between British Columbia and the American States continues to show a greater acceptance of its benefits and an increased flow of commercial vehicles across the border. It also indicates the tendency of some Canadian operators to favour an all-Canadian route where 60-foot-long vehicles are permitted over the Trans-Canada Highway. Some American States have a 50-foot over-all vehicle limit.

Relocation of the Southern Trans-Provincial Highway at various points necessitates an updating of mileage charts prepared in this office. These are now being revised, and it is hoped they will be ready early in the new year. It is interesting to note that the distance from Hope to Crowsnest via Richter Pass and the new sections of the Southern Trans-Provincial Highway has been shortened by approximately 48 miles, while the new highway from Vancouver to Hope has decreased this mileage by approximately 13 miles.

The following tables show the results of the activities of the Weigh Scale Branch during the past year. Other tables relating to the Engineering Branch are included elsewhere in this Report.

TABLE 1.—REVENUE FROM GASOLINE AND MOTIVE-FUEL USE TAXES FOR PASSENGER AND COMMERCIAL VEHICLES

Fiscal Year	Amount	Fiscal Year	Amount
1954/55	$17,455,000	1959/60	$28,582,000
1955/56	19,820,000	1960/61	30,093,000
1956/57	22,593,000	1961/62	39,262,000
1957/58	24,500,000	1962/63	43,129,000
1958/59	26,100,000	1963/64	46,420,163

TABLE 2.—SUMMARY OF COMMERCIAL-VEHICLE LICENCES AND PERMITS ISSUED, JANUARY 1, 1964, TO DECEMBER 31, 1964

Month	Number of Commercial Vehicles Registered and Licensed[1]	Number of Commercial Trailers Registered and Licensed[1]	Number of Non-resident Permits Issued	Number of Temporary Operation Permits Issued	Number of Oversize and Overweight Permits Issued	Number of Vehicles Checked at Weigh-stations
January	21,239	5,290	801	1,564	1,900	125,143
February	68,423	4,726	893	1,599	1,889	110,874
March	14,712	1,011	1,859	2,856	2,381	110,441
April	6,991	406	1,138	3,036	2,039	100,015
May	5,201	490	1,189	2,978	1,789	137,036
June	4,504	473	1,801	3,301	2,671	118,803
July	3,542	312	1,529	2,803	3,130	120,626
August	2,595	209	1,432	2,530	2,654	92,249
September	2,707	233	1,647	2,448	2,380	96,836
October	2,475	148	1,306	2,505	2,745	123,970
November	1,882	170	1,118	2,211	2,499	96,769
December	1,600	60	1,050	1,000	1,800	75,000
Totals	135,871	13,528	15,763	28,831	27,877	1,307,762

[1] Includes vehicles licensed under prorate agreement with American States.

TABLE 3.—SUMMARY OF PRORATE OPERATION, 1964

	Companies Prorated	Tractor Units	Trailer Units	Reciprocity Plates
British Columbia	75	296	264	—
United States	252	2,061	3,820	46
Totals	327[1]	2,357	4,084	46

[1] This represents an increase of 10 per cent over 1963.

TABLE 4.—COMPARISON OF GROSS REVENUE COLLECTIONS FROM COMMERCIAL LICENCE AND PERMIT FEES FOR FIVE-YEAR PERIOD 1959/60 TO 1963/64, INCLUSIVE.

Source	1959/60	1960/61	1961/62	1962/63	1963/64
Commercial motor-vehicle licences	$6,804,101.57	$7,541,536.02[1]	$7,938,605.82	$8,253,251.46	$8,910,152.29
Non-resident commercial permits	189,374.06[2]	401,976.11	478,156.17	381,673.01	404,410.49
Trailer fees	128,123.38	60,325.00[3]	57,452.34	61,408.52	74,298.71
Temporary operation permits	5,001.20	45,765.00	58,442.51	62,909.21	66,001.38
Oversize and overweight permits	276,741.12[4]	317,568.53	321,730.55	368,715.57	447,680.61
Totals	$7,403,341.33	$8,367,170.66	$8,854,387.39	$9,127,957.77	$9,902,543.48

[1] Commenced issuing licences on gross vehicle weight January 1, 1960.
[2] Department of Commercial Transport commenced issuing permits June 15, 1959.
[3] Licence fees collected on gross vehicle-weight basis charged to tractor unit and nominal $10 fee collected on trailer. This reduced trailer fees and transferred them to commercial-vehicle licences.
[4] Department of Commercial Transport commenced issuing permits July 15, 1959.

TABLE 5.—SUMMARY OF VIOLATION NOTICES ISSUED, JANUARY 1, 1964, TO DECEMBER 31, 1964

Licence and Permit Violations

Gross vehicle weight	2,006
Motor-vehicle registration	607
Licence-plates	920
Trailer plates	224
Quarterly licence	19
Non-resident permit	34
Temporary operation permit	17
Motive-fuel emblem	49
Overweight permit	12
Oversize permit	79
Restricted-route permit	313
Highway-crossing permit	19
Proration	9
Other	17
Total violations	4,325
Total number of vehicles checked	1,307,762

Motor-carrier Violations

Motor-carrier plates not displayed	491
Motor-carrier licence not carried	346
Conditions of licence not carried	343
Operating otherwise than permitted by licence	450
Total violations	1,630
Total number of vehicles checked	13,166

Weight Violations

Overweight	893

PERSONNEL

A. SHAW, C.O.A., ADMINISTRATIVE OFFICER

An active year in personnel matters was recorded, in which the following staff changes occurred:—

Resignations of field personnel	4
Resignations of headquarters personnel	3
Involuntary terminations	1
Transferred to other departments	1
New appointments, casual employees	5
New appointments, permanent employees	4
Temporary appointments	6

Replacement of field personnel was accomplished through the established open-competition system, and in this regard a total of 67 applications was received, of which 35 were called for interviews. Interviews were conducted at Dawson Creek, Chilliwack, and Prince George.

The resignations of field and headquarters staff listed above were all in the interest of personal advancement of the individuals concerned.

In the matter of staff education, I am pleased to report that several of the Victoria office staff have, on their own initiative, undertaken individual courses of study with a view to personal betterment in the field of office administration and accounting. Mr. W. Heagle, Clerk 3, Accounts Branch, is currently in the final stages of a correspondence course in advanced accounting sponsored by the International Accountants Society, Incorporated. Mr. D. I. Ewan, Senior Clerk, and Mr. A. Shaw, Administrative Officer, have recently completed a three-year intensive course of study in all phases of office management sponsored by the National Office Management Association and were awarded diplomas of Certified Office Administrator by the University of British Columbia.

The staff at the end of the year comprised the following: Civil Servants, 19; casual employees (weighmasters), 75; temporary employees, 2.

Printed by A. SUTTON, Printer to the Queen's Most Excellent Majesty
in right of the Province of British Columbia.
1965

360-165-1938