Railway Department

PROVINCE OF BRITISH COLUMBIA

ANNUAL REPORT

Year Ended December 31st

1952

VICTORIA, B.C.
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1953

To His Honour CLARENCE WALLACE, C.B.E.,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

I have the honour to present herewith the Annual Report of the operations and activities of the Railway Department for the year ended December 31st, 1952, with Appendices.

W. R. T. CHETWYND,

Minister of Railways.

Victoria, B.C., February 3rd, 1953.

VICTORIA, B.C., December 31st, 1952.

The Honourable W. R. T. Chetwynd,
Minister of Railways, Victoria, B.C.

SIR,—I beg to submit herewith the Thirty-fifth Annual Report of the Railway Department, covering the year 1952, together with Appendices.

Your obedient servant,

J. S. BROADBENT,
Assistant Deputy Minister.

Report of the Railway Department

The continued industrial expansion within the Province intensified the activities of the Department, with many new transportation installations pursuant to the "Railway Act."

The staff of the Department, as of December 31st, 1952, consisted of Deputy Minister, Assistant Deputy Minister, Chief Inspector, three Inspectors, two draughtsmen, secretarial stenographer—grade 2, and a senior clerk-stenographer.

The railways supervised by the Department include common carriers, industrial railways, and equipment used in conjunction with industrial operation of railways.

The head office continued in charge of the records of the Department, and in the studies relating to extensions of the Pacific Great Eastern Railway to develop the untouched natural resources of North-east British Columbia, and co-operated with the Construction Department of the Pacific Great Eastern Railway Company in the completion of the extension of the railroad from Quesnel to Prince George. The Inspecting Engineers continued the inspection of the road-bed, track facilities, shops, mechanical facilities, and equipment of all the railways operating under the jurisdiction of the Department.

With the increased use of the aerial tramway within the Province, further work was done with regard to the safety and operation of this means of transportation. The published report on Construction, Safety, and Operation of Passenger Carrying Aerial Tramways, along with rules and regulations as to their operation, received world-wide recognition and was in great demand.

In the field of diesel locomotives, studies were made with regard to axle loadings on light rail and the problem of excessive flange wear.

ANNUAL INSPECTION OF THE PACIFIC GREAT EASTERN RAILWAY, SQUAMISH TO QUESNEL

Road-bed and Track

The work as outlined in detailed reports of the company's Operating Department in 1951 covering betterments and replacements has been carried forward during 1952, and before the winter freeze-up all important projects which affect the safety of the railway were completed. Concrete cribwork along Anderson and Seton Lakes has made this section of the line much safer.

In several cases the Bridge Building Department of the company replaced wooden bridges, some of which are of creosoted-timber construction. In other cases they renewed many of the older types of bridges with steel-deck spans set on concrete abutments, with necessary river and creek diversions.

During the winter season of 1951–52 washouts occurred on the line, which were taken care of in the usual manner. At Whisky Creek (Mile 288.7) a washout occurred which necessitated a main-line diversion with a very heavy fill.

The tie-replacement programme for 1952 was carried out, and 100,000 untreated ties were installed. Studies were made regarding the economy of installing creosoted ties, and it was found that if they were installed, a considerable saving would be made over a period of thirty years.

The light rail (60 and 70 pounds) in use on the railway is now 35 to 40 years old. When light motive power, light equipment, and loads with small traffic were the order

of the day, 60-pound rail was considered adequate. However, with to-day's heavy motive power, heavy loads, longer trains, and increased traffic, this steel is not only too light but is fast becoming worn out, and, therefore, a programme should be instituted whereby so many miles each year would be relaid with 85- or 100-pound rail. The 70-pound rail on the Pavilion Hill is badly worn and should be replaced with at least 85-pound rail as soon as possible.

On the Cheakamus Hill, north of Squamish, 21 miles of light rail have been replaced with 85-pound rail. This rail is showing excessive wear on the curves, and a study attributes the cause of the wear to sharp flanges on the heavy diesel locomotives. It was recommended to the company that it should make modern facilities available to its Mechanical Department to efficiently take care of wheel-changing on its diesel locomotives. The initial cost of proper mechanical facilities to take care of this matter is only a small fraction of the cost of a few miles of ruined rail.

Switch-lamps have been installed on all main-line turnouts. Switch-targets have been painted, and, with few exceptions, all crossing signs are in order.

Motive Power and Rolling-stock

Over the past five years it has been the company's policy to replace steam-locomotives with diesel-electric motive power, and to this end the company is now operating fourteen diesel locomotives with a few remaining steam-locomotives. The first six diesel-electric units procured are 660 horse-power with two-axle trucks employing 18-ton axle loading. The last eight diesel-electric units procured are 1,600 horse-power with three-axle trucks employing 20-ton axle loading, with power on two axles of each truck, the centre axle being an idler. Inspections reveal that the 1,600-horsepower diesels show considerable flange wear, and it is evident when the flanges become worn, rail wear becomes very noticeable on curves, especially if such curves exist on heavy adverse grade.

In defence of the diesel it must be borne in mind that on a mileage or tonnage basis the 1,600-horsepower units obtain double or triple the mileage as do the steam-locomotives with the same amount of flange wear, but due to their high availability or greater hours in actual service the flange wear shows up in a shorter time. Flange wear on the company's units is comparable with that on units of other railways in mountain territory, and builders of diesel locomotives are studying the problem to reduce this wear. In the meantime, or until a type of wheel or truck is developed which will reduce flange wear, all that can be done is to maintain the flanges and turn or change wheels before they wear down to a limit where rail-cutting commences. It is believed flange oilers will help to reduce flange wear, and they should be given a fair trial. As previously stated, adequate modern machinery and handling devices are required by the Mechanical Department to handle this vital phase of operation.

With regard to axle loading, 20 tons per axle was considered the limit, but it has been shown in a report submitted by the Department that 60-pound rail can be loaded up to 30 tons per axle provided speed is controlled, and that speed is the major factor where heavy power is used on any rail below 100 pounds per yard.

With the exception of the problem of sharp flanges on the diesel motive power, motive power and rolling-stock was well maintained and is in first-class condition. Monthly reports are kept up by the company. Boilers and pressure-vessels are regularly tested and certified.

Stations and Terminal Facilities

Stations at Quesnel, Williams Lake, and Lillooet have been considerably improved, and concrete platforms now exist at these points. Other wayside stations have also been improved. Additional tracks and yard facilities are quite noticeable over the last two years.

At Lillooet the roundhouse has been revamped, with steam heat being installed. At Williams Lake the roundhouse has been improved, and modern steam heat added. At this terminal the trackage serving the roundhouse has been relocated, and oil-storage tanks are being permanently installed.

At Squamish shops a great improvement can be reported. Better tracks and fuelling facilities now exist, and the car-shop and woodworking-shop are improved. However, as outlined previously, improved facilities for wheel wear, machine tools, cranes, equipment, and housing to service the diesel locomotives are more necessary than ever at Squamish terminal, and a programme should be instituted with long-range planning to this end.

Squamish Car-barge Slip

This slip is in poor condition and should be replaced with a new slip. It is recommended that it would be more economical to build a new slip alongside the present one and, when completed, repair the present slip so it would be serviceable in case of emergency. It is necessary for the Bridge and Building Department to continue with necessary heavy repair on the present slip to keep it operating.

Summary and Conclusion

Provided the programme of maintenance of way and structures is continued and speed is properly controlled on light rail, the line is in a safe condition for continued operation.

A programme to replace the light rail with at least 85-pound rail should be instituted immediately.

Wheel-flange wear on locomotives must be taken care of before it reaches a point where rail wear occurs. Better shop facilities are required to take care of this matter.

The barge-slip at Squamish must be attended to immediately.

QUESNEL–PRINCE GEORGE EXTENSION OF THE PACIFIC GREAT EASTERN RAILWAY

Upon application an inspection was made of this extension, from which it was considered sufficiently completed to allow the operation of special passenger and a freight service. An order was subsequently passed authorizing same. On November 1st, 1952, an inaugural passenger-train was run to Prince George. Arrangements were made to commence a tri-weekly freight service on January 12th, 1953. Following are some of the highlights of the new construction.

Cottonwood River Bridge

This bridge employs a 700-foot continuous-deck span supported on four reinforced-concrete piers, the anchor pier being on the north end of the span, and three 80-foot deck-plate girders on the south approach and one 80-foot deck-plate girder on the north approach, all supported by reinforced-concrete piers. The bridge is well constructed and is in a safe condition for traffic. No movement of piers or abutments has taken place.

Ahbau Bridge

This bridge is a steel viaduct type with 100-foot spans and 60-foot tower spans with concrete abutments and concrete footings under the steel towers. The bridge is well constructed and in safe condition for traffic.

Canyon Creek Bridge

This bridge is a 150-foot through-truss supported on concrete abutments. The bridge is well constructed and in safe condition for traffic.

Track and Road-bed

The track is laid from Quesnel to a temporary interchange with the Canadian National Railways at the east end of the Canadian National Railways Fraser River Bridge at Prince George, a distance of 81.9 miles. The line is laid with 85-pound steel and is in good alignment. It is well ballasted with crushed rock, crushed gravel, and pit-run gravel, depending on the nature of the subgrade. Cuts are well daylighted, fills are properly sloped and drained, and ditching and other drainage is well planned. In all, considering the unstable type of country, an excellent construction job has been carried out.

Summarizing, the line is in a safe operating condition for freight-trains and special passenger-trains between Quesnel and Prince George, but until stations and facilities for passenger accommodation exist between these points, no regular passenger service can be inaugurated.

ANNUAL INSPECTIONS OF INDUSTRIAL RAILWAYS

MacMillan & Bloedel Limited, Copper Canyon and Nanaimo River.
British Columbia Forest Products Limited, Port Renfrew.
British Columbia Forest Products Limited, Youbou.
MacMillan & Bloedel Limited, Franklin River.
Comox Logging & Railway Company, Ladysmith.
Canadian Collieries (Dunsmuir) Limited, Union Bay.
Elk River Timber Company Limited, Quinsam.
MacMillan & Bloedel Limited, Port Alberni.
British Columbia Forest Products Limited, Bear Creek Bridge, San Juan Division.
Comox Logging & Railway Company, Headquarters Division.

In all cases the general condition of the track was good, and necessary replacements and repairs are being taken care of, for which follow-up inspections will be made.

INSPECTING ENGINEERS' REPORT

R. E. Swanson, *Chief Inspector.*
J. H. Carmichael, *Inspector.*
W. E. Tyler, *Inspector.*
W. F. Thomas, *Inspector.*

During 1952 the railways in British Columbia operated to full capacity. The common-carrier railways operated with freight traffic somewhat increased over previous years. The usual inspection and repairs to existing rolling-stock were made under the supervision of the Department Inspectors.

Logging, mining, and small industrial railways were periodically inspected during the year, with the usual follow-up inspections made of road-bed, bridges, and rolling-stock, with reports submitted to the Victoria office.

Logging-railways

On standard-gauge logging and mining railways, locomotive boilers and pressure-vessels were inspected and certified during the year, and the Inspectors supervised boiler repairs and replacements as well as repairs to motive power, rolling-stock, bridges, and structures. Passenger-carrying equipment on logging-railways continued to be improved during the year under the Inspectors' recommendations and supervision. Motor rail-cars on logging-railways which carry workmen were inspected and certified in accordance with the rules. All trackage and bridges were inspected, and reports submitted to the Victoria office.

Mining-railways

On mining operations where arrangements exist with the Chief Inspector of Mines, locomotives, rolling-stock, and surface trackage were inspected, and locomotives certified with reports submitted to the companies and copies to the Chief Inspector of Mines. Locomotive operators on this type of railway were examined and special permits issued. Safety meetings and safety talks regarding narrow-gauge operations and mining-railways were continued during the year, which had a tendency to reduce accidents on this type of operation.

Train-dispatch

Improvements continued to dispatch systems on logging-railways during the year. The radio-telephone communication system between dispatcher and train crews installed at Englewood continued to give exceedingly good results, and it is surprising that other logging companies have not adopted this system, which minimizes rail accidents to a great extent.

Grade Crossings

The department received plans during the year for approval of level crossings. The locations were inspected, and approval granted or refused. In some cases it was necessary for Department Inspectors to run levels and submit plans. Existing crossings were inspected in the interests of public safety.

A study covering level grade crossing protection started in 1951 was continued through 1952. In some cases automatic protection at level crossings was recommended, and at the present writing one such installation is being installed on the Elk River Timber Company's level crossing of the Island Highway at Campbellton, Vancouver Island.

Street and Common-carrier Railways

Street-railways and common-carrier railways under Provincial jurisdiction were inspected during the year. These were found to be in good condition, with replacements, repairs, and improvements being carried out by the companies. Locomotives were certified and rolling-stock periodically inspected. Considerable street-railway in the City of Vancouver was abandoned during the year. Where street-railways were abandoned, trolley-buses and gas-buses superseded the use of street-cars. In cases where persons have been seriously injured by street-cars or by other means on common-carrier railways, the rolling-stock or motive power involved was impounded by the police until inspected and released by Department Inspectors. In cases of fatal accidents, Inspectors made investigations, forwarding reports to the Victoria office for the Minister's attention. Where necessary, corrective measures were imposed upon the company to avoid recurrence of such accidents.

Industrial Trackage

The private industrial trackage serving the several pulp-mills and industrial plants in British Columbia was inspected during the year. It can be reported the trackage in these installations was in good condition. The locomotives were inspected and certified. In some cases it was necessary to approve close clearances where applications were made by the companies.

Pacific Great Eastern Railway

Regular periodic inspections were made of the rolling-stock and equipment of the Pacific Great Eastern Railway. All boilers and pressure-vessels were inspected and certified. A number of the steam-locomotives on the Pacific Great Eastern Railway have been taken out of service, and it was necessary to make special inspections to keep the existing steam motive power in operating condition. Two additional diesel-electric locomotives of 1,600 horse-power each were procured during 1952, making a total of fifteen diesel-electric units now in operation on this railway.

In accordance with the terms of the " Railway Act," the annual inspection of the Pacific Great Eastern Railway was made by track-motor from Squamish to Quesnel. All bridges, structures, station and terminal facilities, as well as mechancial facilities, were inspected, and a report submitted. This report covered the condition of the railway and replacements for 1953 in detail. It can be reported here the railway is in a safe condition for continued operation, and if the maintenance and replacement programme, as recommended, is carried forward in 1953, the future safety of the railway will be assured; however, it must be borne in mind the 60-pound rail in use on this railway is now 40 years old, and with increased traffic, together with the fact that heavy diesel locomotives are now operating on this rail, it becomes increasingly important that the speed of all trains be carefully controlled by the company. It is also recommended that a programme be instituted immediately whereby several miles of 60-pound rail will be replaced by at least 85-pound rail each year until the worn 60-pound rail is replaced by heavier steel. The worn 60-pound rail could be used for extensions and sidings.

Pacific Great Eastern Railway Extension

Acting in accordance with the Minister's instructions, an inspection was made of the Pacific Great Eastern Railway extension (under construction) from Quesnel to Prince George. This inspection was made by track-motor and was conducted in order that the new line could be opened for freight traffic during the latter quarter of 1952. A separate report was submitted covering this inspection. It can be reported here that the new line was in such condition by the end of October that it was declared safe for freight traffic and for special inaugural passenger-trains under restricted conditions. The line was officially opened on November 1st, 1952.

Fire Inspections

Four hundred and seventy-five inspections were made, covering fire-protective appliances of locomotives on the Canadian Pacific Railway, Canadian National Railways, and Great Northern Railway in British Columbia. Reports of these inspections were forwarded to the British Columbia Forest Service, and as each Department Inspector is appointed by the Board of Transport Commissioners at Ottawa as Board of Transport Commissioners Fire Inspectors, copies were also forwarded to the Board in Ottawa. The Inspectors acted with the full authority of the Board of Transport Commissioners on the transcontinental railways with respect to fire-protective appliances. Where defects were found, the Inspectors ordered the locomotives out of service. Sixty-one inspections were made of fire-protective appliances on steam-locomotives operating on logging and mining railways. The Forest Service received copies of these reports.

Dieselization of Railways

A study of dieselization of logging-railways was started during 1951 and was continued during 1952. This was followed up by actual operating tests on several of the logging-railways. The test locomotive built during 1951 for the Canadian Forest Products Limited has continued to give satisfactory service under logging conditions at Englewood during 1952. Certain of the companies are considering the use of diesel locomotives; however, the trend in many cases during 1952 was for the abandonment of logging-railways, to be superseded by the use of logging-trucks. In order to avail the Department with the best information possible regarding the maintenance and servicing of diesel locomotives, two Department Inspectors proceeded to La Grange (Ill.), Schenectady, Montreal, and Kingston where diesel-electric locomotive classes were attended. The two Inspectors received diplomas on the completion of the courses, and it is intended to have two more Inspectors attend the courses and classes during 1953.

Diesels on Light Rail

A study concerning the use of diesel locomotives operating on light rail was made during 1951 and carried forward during 1952. Reports were submitted to the Victoria office so that the information gathered may be made available to the Pacific Great Eastern Railway and other railways operating under the Department's jurisdiction. The study revealed that on certain railways in the United States and Eastern Canada, rail loadings of 31 tons per axle are being imposed on 56- and 60-pound rail by diesel locomotives where speeds do not exceed 20 to 35 miles per hour.

Certification of Logging-truck Drivers

During the first quarter of 1952 the management of the Canadian Forest Products Limited, Englewood Division, approached the Department with the request that Inspectors from this Department examine and certify logging-truck drivers. The company pointed out that on its rail operation, where all operators are certified, the accident-frequency rate was much lower than on the truck operation, where none of the drivers were certified. The rules and regulations made pursuant to the " Railway Act " permit the examination and certification of applicants in any specialized field of air-brake application; consequently, arrangements were made to prepare the truck operators of this company for examination and later to examine and certify them as to their knowledge of air-brakes and general truck safety. Air-brake and diesel educational films and slides were procured, and lectures conducted by the Inspectors at the Englewood operation so that the drivers who were to be examined could be properly educated as to the use of air-brakes and diesel engines. All drivers at Englewood operation were subsequently examined and certified.

The Comox Logging & Railway Company approached the Department during the second quarter of the year making the same request as did the Canadian Forest Products Limited, and, consequently, educational lectures were conducted at Ladysmith, and all operators of logging-trucks were subsequently examined and certified. Later the Harrison Lake Division of Canadian Forest Products Limited made the request for certification of operators, and lectures were conducted at these operations, and all operators examined and certified.

Air-brake Instruction Lectures

Requests for the certification of logging-truck operators have been received from the British Columbia Forest Products Limited, Port Renfrew and San Juan Divisions, where lectures were conducted and men instructed. Requests have also been received for this service to be extended to the Powell River Company and the Alaska Pine group of operators. Two lectures were given to the management personnel of the Powell River Company regarding safety of operation in air-brakes on logging-trucks. A lecture on bus and truck air-brakes was conducted in the Parliament Buildings, Victoria, for the benefit of the British Columbia Electric Railway Company, Vancouver Island Coach Lines, Island Freight Company, and the Commissioners of the Public Utilities Commission. In all, seventeen lectures were conducted at various points in British Columbia regarding safety in truck operation and the application of air-brakes.

Truck Air-brake Improvements

At the Englewood operation our attention was drawn to the fact that the air-brakes as normally applied on logging-trucks were not fool-proof, nor were they safe under all heavy-grade conditions. A study made by the Department resulted in improvements to the existing logging-truck air-brakes. These improvements, while simple in principle, utilize standard air-brake parts so installed that should the driver lose his air-pressure the truck will go into emergency and come to a stop and, further, should there be a lack

of compressed air to supply the air-brake system it becomes impossible to move the logging-truck into operation. Other added safety features were devised which have been applied to the logging-trucks at the Englewood operation, and it has been reported to this office that the safety of the logging-trucks has been very much improved by the application of devices recommended by the Department Inspectors. Englewood operation has co-operated with the Department to such an extent that whenever there was an accident with a logging-truck, the company enplaned an Inspector from Vancouver to make a thorough investigation of the conditions leading up to the accident. In this manner the Inspectors have been enabled to bring about the recommendations which have led to the improvement of the logging-truck air-brake.

Alcan Project

During the second quarter of 1952 it became necessary to extend the services of this Department to the Morrison-Knudsen Company of Canada Limited, contractors on the Alcan project, where a large power-development is being constructed. This company had constructed the largest aerial tramway in Canada to serve the various portals of the tunnels it is driving through the mountain for power-supply. This aerial tramway is over 1 mile in length and rises 2,600 feet up the side of a mountain. It employs a 300-horsepower hoist, which hauls a 10-ton skip up and down the aerial tramway so that seventy-five men can be conveyed to and from the various portals, and also so that locomotives, bulldozers, lumber, and other material can be taken up and down the mountain. The freight capacity of the aerial tramway is 28 tons, and the passenger capacity is 75 men. It was necessary to make two preliminary inspections of this aerial tramway before a final inspection was made and a certificate issued warranting its safe operation. In order that a certificate for operation could be issued, it was necessary that a safety-brake be constructed on the aerial tramway so that in case the haulage-cable broke, the skip would come to a stop automatically. This was considered necessary as men were being hauled up and down the aerial tramway. A type of brake was suggested by the Department which was later constructed and installed. This brake employs the use of standing cables and hydraulically operated brakes. It was tested in November, 1952, and pronounced satisfactory and safe for operation, and a certificate was issued authorizing the operation as an aerial tramway.

Several miles of underground tunnels, shafts, and raises are being excavated at Kemano Bay on the Alcan project. Underground and surface railways are employed in this operation as well as underground hoists, and as the operation did not come under the " Metalliferous Mines Act," it became necessary for the Department to draft regulations from the " Metalliferous Mines Act " and assist the Morrison-Knudsen Company of Canada Limited to formulate rules and regulations for safe operation of its aerial tramway, underground and surface railways, and hoisting operations. These rules and regulations, when drafted, were approved by the Minister and passed by Order in Council. It also became necessary for the Department to set up a system so that the company could examine its locomotive operators, hoist operators, and tramway operators at Kemano, and upon receipt of the completed examination papers the Department issued permits for the various employees who have passed satisfactory examinations to operate the equipment. In addition to setting up this system of examination by the company, the Inspectors from the Department conducted several safety lectures at the various operations of Morrison-Knudsen Company of Canada Limited on the Alcan project. This was done to familiarize the operators of locomotive equipment with railway operation.

Aerial Tramways

The three passenger-carrying aerial tramways in the vicinity of Vancouver and the passenger-carrying aerial tramway at Rossland were inspected during the year, and certificates of operation issued by the Department. These tramways continued to operate in a safe condition, and no serious accidents were reported during 1952. In certain cases,

however, accidents were avoided by the use of safety devices recommended by the Department. Several aerial-tramway engineers and designers consulted the Department during the year with respect to aerial-tramway design on projected aerial tramways in British Columbia and other parts of Canada. The report on construction and safety in operation of aerial tramways which was published by the Department in 1951 has been well received in all parts of the world, and, during 1952, copies were requested from New Zealand, Australia, England, and the United States.

WATERWORKS-CONSTRUCTION

During the year, inspections were made of the hoisting and skip equipment at the Cleveland Dam being constructed adjacent to Vancouver. An aerial tramway is employed on this project, which was surveyed and inspected by Department Inspectors.

At a tunnelling operation near Nanaimo Lake, Vancouver Island, an air-locomotive was hydrostatically tested and passed for safe operation.

SAFETY AND ACCIDENT-PREVENTION

The safety-first educational programme instituted in 1947 was stepped up during 1952, and safety lectures employing the use of educational safety films were shown at several of the logging operations. There was one fatal accident during 1952 on a logging-railway. This accident was the result of a log falling off a loaded logging-car while it was being unloaded at the railway dump. This accident was attributed to thoughtlessness on the part of the injured workman rather than a failure or misuse of equipment. One fatal accident occurred on the underground railway of the Alcan project prior to the time the Department made inspections and instituted its safety programme at this operation. This accident was attributed to thoughtlessness and ignorance on the part of an uncertified locomotive operator.

In order to intensify the competitive spirit for safety on the logging-railways, a safety trophy was suggested in 1950. It can be reported at this time that during 1952 the Englewood operation of the Canadian Forest Products Limited has been such that the safety award should be presented to this company for the year. On the mining-railways, the Morrissey, Fernie & Michel Railway was presented with a trophy in token of its outstanding safety record for 1951 and 1952.

Following is a report of the inspection work performed during the year 1952:—

Hydrostatic tests applied to boilers	146
Internal and external inspections of boilers	9
Internal-combustion locomotives inspected and certified	18
Internal-combustion locomotive cranes inspected and certified	8
Air-locomotives hydrostatically tested	10
Power rail-cars inspected and certified	47
Diesel-electric locomotives inspected and certified	21
Electric locomotives inspected on narrow-gauge electric railways	15
Electric locomotives inspected on Alcan project	12
Locomotives inspected other than hydrostatic tests	136
Number of cars inspected on industrial railways	1,062
Number of cars inspected on common-carrier railways	125
Miles of underground trackage inspected at Alcan project	8
Number of miles of track inspected	1,100
Number of aerial tramways inspected in British Columbia	5
Number of aerial-tramway inspections conducted	15
Locomotive engineers examined and certified	11

Conductors examined and certified	13
Power-car operators examined and certified	14
Locomotive-crane engineers examined and certified	7
Train-dispatchers examined and certified	1
Internal-combustion locomotive engineers examined and certified	2
Engineers examined and certificates issued, Pacific Great Eastern Railway	9
Electric-locomotive operators examined and certified, Consolidated Mining & Smelting Co. of Canada Ltd.	36
Underground hoistmen examined and certified, Morrison-Knudsen Co. of Canada Ltd. (Alcan project)	31
Logging-truck operators examined and certified	65
B.C. Electric Railway street and interurban cars inspected	12
B.C. Electric Railway diesel and electric locomotives inspected and certified	16
Accidents investigated on B.C. Electric Railway	14
Fatal accidents on B.C. Electric Railway	3
Accidents investigated on logging and industrial railways	6
Fatal accidents on logging-railways	2
Accidents investigated on Pacific Great Eastern Railway	2
Fatal accidents on Pacific Great Eastern Railway	1
Accidents investigated on logging-truck roads	4
Kemano project hoist designs approved	2
New diesel-electric locomotives imported	2
Inspections made of fire-protective appliances on industrial railways	51
Inspections made of fire-protective appliances on locomotives of C.P.R., C.N.R. and G.N.R. for Board of Transport Commissioners	475
Safety lectures conducted by the Department	5
Truck air-brake lectures conducted by the Department	17

LIST OF APPENDICES

A list of Executive Council certificates issued is given in Appendix A.

Accidents on railways under Provincial jurisdiction are shown in Appendix B.

Industrial railways operating during the year are shown in Appendix C.

A list of locomotive cranes in industrial plants inspected by the Department is shown in Appendix D.

A summary of the mileage of all railways operating in the Province is shown in Appendix E.

APPENDICES

APPENDIX A

CERTIFICATES ISSUED UNDER THE PROVISIONS OF THE "RAILWAY ACT"

APPENDIX B

Accident Report, 1952

	Killed	Injured
B.C. Electric Railway Co. Ltd.—		
Passengers	--	44
Employees	--	----
Other persons	2	15
Pacific Great Eastern Railway Co.—		
Passengers	--	----
Employees	--	----
Other persons	1	----
Industrial Railways—		
Employees	2	4
Other persons	--	----
Locomotive cranes—Employees	--	----
Totals	5	63

APPENDIX C

List of Railways and Summary of Mileage

Industrial Railways

No. and Owners/Name of Railway	Head Office	Operating	Mileage			Gauge
			Main Track	Sidings, etc.	Total	
Standard Gauge						
Mainland						
1. Begbie Pole-yard	Revelstoke	Begbie	0.92	.....	0.92[1]	Standard.
2. Crow's Nest Pass Coal Co. Ltd.	Fernie	Fernie, Coal Creek, Elk River, and Michel	7.15	.....	7.15	,,
3. Columbia Cellulose Co. Ltd.	Vancouver	Watson Island	.....	3.06	3.06	,,
4. Deeks-McBride Ltd./Deeks Sand & Gravel Co. Ltd.	Vancouver	Coquitlam	1.89	0.10	1.99	,,
5. Dominion Tar & Chemical Co. Ltd	Montreal	North Vancouver	1.00	7.00	8.00	,,
6. Morrissey, Fernie, & Michel Railway Co.	Fernie	Fernie, Coal Creek, Elk River	3.62	2.73	6.35	,,
7. O'Brien Logging Co. Ltd./Northern and Eagle River	Vancouver	Stillwater	4.50	0.63	5.13	,,
8. Pacific Coast Terminals Co. Ltd.	New Westminster	New Westminster	5.20	.....	5.20	,,
9. Kelley Logging Co. Ltd.	Vancouver	Aero	6.00	3.00	9.00	,,
Totals, Mainland			30.28	16.52	46.80	
Vancouver Island						
10. MacMillan & Bloedel Ltd.	Port Alberni	Alberni District, Ash River Division	62.40	10.20	72.60	,,
11. MacMillan & Bloedel Ltd.	Vancouver	Bloedel	59.00	7.00	66.00	,,
12. MacMillan & Bloedel Ltd.	Vancouver	Great Central	.....	0.50	0.50	,,
13. MacMillan & Bloedel Ltd.	Vancouver	Franklin River	53.00	5.00	58.00	,,
14. B.C. Forest Products Ltd.	Vancouver	Youbou	29.60	7.25	36.85[2]	,,
15. B.C. Forest Products Ltd./Renfrew Division, South	Vancouver	Port Renfrew	23.50	3.50	27.00	,,
16. B.C. Forest Products Ltd./Renfrew Division, North	Vancouver	Port Renfrew	19.50	1.50	21.00	,,
17. Canadian Collieries (D.) Ltd./Wellington Colliery Railway	Nanaimo	Union Bay to Bevan	13.00	9.50	22.50	,,
18. Canadian Forest Products Ltd.	Vancouver	Englewood	55.00	29.00	84.00	,,
19. Comox Logging & Railway Co.	Ladysmith	Ladysmith	22.00	3.24	25.24	,,
20. Comox Logging & Railway Co.	Ladysmith	Headquarters	20.22	4.15	24.37	,,
21. Elk River Timber Co. Ltd.	Vancouver	Campbell River	45.00	5.00	50.00	,,
22. Hillcrest Lumber Co. Ltd.	Mesachie Lake	Mesachie Lake	6.00	1.50	7.50[2]	,,
23. MacMillan & Bloedel Ltd./Copper Canyon Railway (Camp No. 1)	Chemainus	Chemainus, Seymour, Cowichan Lake District	38.20	10.50	48.70	,,
24. MacMillan & Bloedel Ltd./Nanaimo River Railway	Chemainus	Dunsmuir District	19.50	3.25	22.75	,,
25. Mayo Lumber Co. Ltd.	Paldi	Paldi	0.50	0.25	0.75	,,
26. Osborn Bay Wharf Co. Ltd.	Mesachie Lake	Crofton	0.33	.....	0.33	,,
27. Western Forest Industries Ltd./Gordon River	Vancouver	Cowichan Lake District	24.00	3.50	27.50[3]	,,
Totals, Vancouver Island			490.75	104.84	595.59	

[1] All leased.
[2] Includes 5 miles leased.
[3] Includes 13 miles leased.

APPENDIX C—*Continued*

LIST OF RAILWAYS AND SUMMARY OF MILEAGE—*Continued*

Industrial Railways—Continued

No. and Owners/Name of Railway	Head Office	Operating	Mileage			Gauge
			Main Track	Sidings, etc.	Total	
STANDARD GAUGE—*Continued*						
Queen Charlotte Islands						
28. Powell River Co. Ltd.	Vancouver	Cumshewa	7.00	15.00	22.00	Standard.
Totals, industrial railways, standard gauge			528.03	136.36	664.39	
NARROW GAUGE						
Mainland						
29. Britannia Mining & Smelting Co. Ltd./Tunnel Railway	Britannia Beach	Britannia Beach	3.17	1.79	4.96	36″
30. Consolidated Mining & Smelting Co. of Canada Ltd.	Trail	Trail	20.00	.....	20.00	18″
31. Consolidated Mining & Smelting Co. of Canada Ltd.	Trail	Sullivan mine	9.00	29.26	38.26	18″, 36″
32. Dominion Tar & Chemical Co. Ltd.	Montreal	New Westminster	3.00	.....	3.00	30″
			3.00	.....	3.00[4]	Standard.
Totals, Mainland			38.17	31.05	69.22	
Vancouver Island						
33. B.C. Cement Co. Ltd.	Victoria	Blubber Bay	1.00	2.00	3.00	36″
34. Canadian Industries Ltd.	Montreal	James Island	8.25	1.75	10.00	36″ and standard.
Totals, Vancouver Island			9.25	3.75	13.00	
Totals, industrial railways, narrow gauge			47.42	34.80	82.22	Standard and narrow.
Totals, all industrial railways in British Columbia			575.45	171.16	746.61	Ditto.
Common Carrier						
35. Pacific Great Eastern Raiway	Vancouver	Vancouver, Squamish to Prince George—				
		Main line	434.95	.....	.....	Standard.
		Siding	.....	21.76	.....	,,
		Spurs, wyes, etc.	.....	12.99	.....	,,
		Private spurs	.....	7.00	.....	,,
Totals			434.95	41.75	476.70	

[4] Leased.

36. B.C. Electric Railway Co. Ltd.	Vancouver	Vancouver and vicinity	152.45	44.12	196.57[5]	
Grand total					1,419.88	

[5] Includes 61.70 miles leased.

APPENDIX D

List of Cranes and Other Auxiliary Motive Power in Industrial Plants Inspected by Railway Department

Alaska Pine & Cellulose Ltd.	Crane No. D.R. 304.
Alberta Lumber Co. Ltd.	Crane No. 42998 B.C.
Anderson Bros. Lumber Co. Ltd.	Crane No. 11905 B.C.
	Crane No. D.R. 302.
Arrowhead Wood Preservers Ltd.	Crane No. D.R. 293.
	Crane No. D.R. 322.
	Crane No. 22633 B.C.
Associated Foundry Ltd.	Crane No. 21532 B.C.
Baxter, J. H., & Co. Ltd.	Internal-combustion Crane No. 1.
B.C. Cement Co. Ltd.	Crane No. 21439 B.C.
	5 narrow-gauge gasoline-locomotives.
B.C. Forest Products Ltd. (Sawmill)	Crane No. D.R. 320.
Britannia Mining & Smelting Co. Ltd.	6 narrow-gauge electric locomotives.
Burrard Dry Dock Co. Ltd.	Crane No. 50514 B.C.
	Crane No. D.R. 292.
	Gas Locomotive Crane No. 4.
Capital Iron & Metals Ltd.	Crane No. D.R. 295.
	Crane No. 44386 B.C.
Columbia Cellulose Co. Ltd.	Diesel-electric Locomotive No. 1.
Consolidated Mining & Smelting Co. of Canada Ltd.—	
Kimberley	Crane No. 12772 B.C.
	Electric Locomotive No. 1.
	Electric Locomotive No. 2.
	Electric Locomotive No. 3.
Trail	12 narrow-gauge electric locomotives.
Dominion Bridge Co. Ltd.	Crane No. 44129 B.C.
	Crane No. 44317 B.C.
	Crane No. D.R. 347.
	Derrick Crane No. 19.
Dominion Tar & Chemical Co. Ltd.	Crane No. 44441 B.C.
	Gas-switcher No. 1.
	Crane No. D.R. 283.
	Gas Locomotive Crane No. 6.
Esquimalt Dry Dock	Crane No. 22582 B.C.
	Portable Boiler No. D.R. 314.
Hillcrest Lumber Co. Ltd. (Sawmill)	Crane No. 40049 B.C.
	Crane No. 44315 B.C.
Jamieson Construction Co. Ltd.	Diesel-electric Locomotive No. 1.
King, M. B., Lumber Co. Ltd.	Crane No. 12430 B.C.
Lions Gate Lumber Co. Ltd.	Crane No. 12370 B.C.
Lumby Timber Co. Ltd.	Crane No. D.R. 343.
Mayo Lumber Co. (1943) Ltd.	Crane No. D.R. 321.
MacMillan & Bloedel Ltd.—	
Sawmill	Crane No. 40929 B.C.
	Crane No. 44666 B.C.
Pulp-mill	Gas Internal-combustion Locomotive No. 50.
	Diesel-electric Locomotive No. 1.
Northern Construction Co. Ltd.	Crane No. 43505 B.C.
Osborn Bay Wharf Co. Ltd.	Crane No. 21526 B.C.
Prince Rupert Drydock & Shipyard	Crane No. D.R. 290.
Robertson & Hackett Mills Ltd.	Crane No. 12545 B.C.
Sigalet & Co. Ltd.	Crane No. 21089 B.C.
Sooke Lake Lumber Co. Ltd.	Crane No. 22632 B.C.
Timber Preservers Ltd.	Crane No. 43807 B.C.
	Crane No. D.R. 288.
Timberland Lumber Co. Ltd.	Crane No. 12368 B.C.
Vancouver Steel Co. Ltd.	Crane No. D.R. 316.
Victoria Machinery Depot Ltd.	Crane No. D.R. 291.
	Crane No. D.R. 305.
Western Bridge & Steel Fabricators Ltd.	Crane No. D.R. 308.
	Crane No. D.R. 309.
Yarrows Ltd.	Crane No. 376.

APPENDIX E

Mileage of All Railways Operating in the Province

	Mainland		Island		Total	
	Main Line	Sidings	Main Line	Sidings	Main Line	Sidings
Under the jurisdiction of the Board of Transport Commissioners for Canada—						
Canadian Pacific Railway	1,858.31	514.21	210.76	44.49	2,069.07	558.70
Canadian National Railways	1,302.34	349.09	90.17	23.98	1,392.51	373.07
Great Northern Railway	140.77	37.44	.....	.....	140.77	37.44
B.C. Electric Railway (leased)	42.58	19.12	.....	.....	42.58	19.12
Totals	3,344.00	919.86	300.93	68.47	3,644.93	988.33
Under the jurisdiction of the Provincial Government—						
Pacific Great Eastern Railway	434.95	41.75	.....	.....	434.95	41.75
B.C. Electric Railway	109.87	25.00	.....	.....	109.87	25.00
Industrial railways—						
Standard gauge	30.28	16.52	490.75	104.84	521.03	121.36
Standard gauge, Queen Charlotte Islands	7.00	15.00	.....	.....	7.00	15.00
Narrow gauge	38.17	31.05	9.25	3.75	47.42	34.80
Totals	620.27	129.32	500.00	108.59	1,120.27	237.91
Grand totals	3,964.27	1,049.18	800.93	177.06	4,765.20	1,226.24

Total mileage of all railways in British Columbia, 5,991.44.

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