REPORT

OF THE

MINISTER OF PUBLIC WORKS

OF THE

PROVINCE OF BRITISH COLUMBIA

FOR THE

FISCAL YEAR 1917-1918

PRINTED BY
AUTHORITY OF THE LEGISLATIVE ASSEMBLY.

VICTORIA, B.C.:
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1919.

To His Honour Sir FRANK STILLMAN BARNARD, K.C.M.G.,

Lieutenant-Governor of the Province of British Columbia.

MAY IT PLEASE YOUR HONOUR:

Herewith I beg respectfully to submit the Annual Report of my Department for the fiscal year ending 31st March, 1918, in compliance with the provisions of the "Public Works Act."

J. H. KING,

Minister of Public Works.

Works Department,

Victoria, B.C., January, 1919.

PUBLIC WORKS REPORT.

REPORT OF PUBLIC WORKS ENGINEER.

VICTORIA, B.C., December 9th, 1918.

J. E. Griffith, Esq.,
Deputy Minister of Public Works, Victoria, B.C.

SIR,—I have the honour to submit the following general report on the operations of the Public Works Department for the fiscal year 1917-18:—

ORGANIZATION.

At the commencement of the fiscal year a radical change was made in the conduct of the outside affairs of the Works Department. In place of the Road Superintendents formerly in charge of almost every electoral district, eight District Engineers, two of whom had previously been Assistant Engineers in the Department, were appointed to take responsible control of the eight engineering districts comprising two or more electoral districts, depending upon area, geographical location, etc. These Engineers are capable, technically trained men and have had wide practical experience, and the reports submitted by them are based solely upon the individual merits of the case from an economic and engineering standpoint.

Few valid complaints as to the administration of their engineering districts having been recorded, it is to be concluded that the general public has approved of this change, and are, on the whole, satisfied with the work done throughout the Province.

As assistants to the District Engineers, twenty General Foremen, several of whom had been former Road Superintendents, and eleven Assistant Engineers, with practical experience in handling men, were appointed to take charge of the work in one or, in a few cases, more than one electoral district.

Generally speaking, we have been fortunate in the selection of the outdoor permanent staff. Since, however, many of these officials were previously unacquainted with the location, conditions, and requirements of their districts, naturally the most efficient results cannot be expected during their first year in office, but it is hoped that our anticipations for success of the reorganization will be more fully realized next year.

Local foremen directly in charge of all local construction and maintenance work, being appointed on a daily wage basis during the working season only, are naturally subject to considerable change. As it is recognized that much of the success of the new mode of handling the work depends upon these local foremen, it may take some little time to procure the right men and educate them along the proper lines. The Road and Bridge Bulletins now in course of preparation should materially assist in our educative aims.

Regarding indoor operations at headquarters, pending the return of the overseas military members of the Engineering staff, there had been for some considerable time insufficient technical assistance to properly undertake the routine work, particularly in the Draughting Department. Hence the additional work connected with the preparation of departmental forms, standard plans and specifications had perforce to stand in abeyance. However, towards the end of the fiscal year one of the District Engineers was transferred to the Victoria office, and an effort is now being made to cope with the arrears of such necessary work. Moreover, with the return to duty in March, 1918, of the Assistant Public Works Engineer from military service overseas, the handicap under which the Department was placed for lack of sufficient technical assistance will eventually be overcome.

SUPERVISION.

Chiefly due to the following reasons, the cost of supervision was higher than was anticipated: (*a*) Increased cost of living and meals at hotels, camps, steamboats, etc.; (*b*) increased cost of transportation in trains and boats; (*c*) the heavy cost of furnishing new automobiles for the Engineers and their assistants and repairing or renewing the existing cars; (*d*) the extensive travel that had to be undertaken by the new officials to familiarize themselves with their districts

and to investigate the accumulated requests for new work urgently required, in addition to looking into the multifarious matters of long-standing dispute left in abeyance or rejected by the previous Administration.

Much of the officials' time and interests were in this way and in similar other respects involved in straightening out more or less important matters which do not show tangible results, and cannot be definitely expressed on a percentage basis for the aggregate expenditure incurred in the various public works.

DAY-LABOUR.

With the exception of a few bridge contracts and one or two contracts for clearing and grading, all the work was undertaken under the former system of day-labour. Since our operations are at present confined chiefly to the repair and upkeep of roads and trails and the repair and renewal of bridges, this system, with all its disadvantages and uncertainties, will necessarily require to be retained to a large extent, although on an improved basis. It is but fair to state, however, that labour conditions throughout the Province were far from satisfactory last year, and therefore particularly detrimental to the success of day-labour. Reports from the District Engineers agree that the best workmen were employed by corporations, companies, and private parties at much higher rates than our wage schedule, although same had from time to time been raised by us in an endeavour to satisfactorily adjust the claims of our workmen. In one of the northern districts the District Engineer reports "that the better class of men do not prefer to work for the Government. It does not appear that this condition can be wholly overcome. Then, too, we employ a class of labour which does not usually work in the mines or the mills (lumber). Our force is made up of the local elements, the odd lots, the new settlers, men who prefer Government work, those that dislike underground work, prospectors with only their assessment-work to do. . . . The lack of young men on account of the war is to a degree irreparable. It is a young man's country. Older men do their best, but the climate and the conditions require the young and we feel the lack in our work."

The shorter hours (eight-hour day in place of our nine-hour day) and the more regular employment connected with such work also attracted many of the former road employees. Consequently we had to employ what remained on a labour market already depleted through enlistment. It is worthy of mention that the District Engineers were requested to employ returned soldiers, and preference was always given to such men physically capable of manual labour. Where procurable, returned soldiers were given the positions of ferrymen at monthly salaries.

Good axemen and powdermen were particularly at a premium, as the Overseas Forestry Corps and the lumber camps devoted to war productions absorbed the bulk of the available skilled men. Generally speaking, therefore, much less work, and that not always of the highest standard, was accomplished with the fixed appropriations available than would have been the case under normal conditions.

It was, however, fully recognized that war-work, including the greater production of crops and fruits in the agricultural districts, should always take precedence over the Government road-work. Reference should here be made of the increasing difficulty of obtaining and the disadvantages of employing private teams. The heavier class of teams were employed at prohibitive wages at lumber camps, mines, etc., leaving us dependent upon the generally lighter and sometimes inferior rancher's team. To quote from one of the District Engineer's reports: "The hired ranch-horse usually is too light and often comes on the job in poor condition, with shoes all but dropping off, and after a month or six weeks' work is often required on the farm again, just when most needed."

Such circumstances would therefore appear to justify the continuance, in some districts at any rate, of the use of Government-owned horses, in order that a more regular, better, and more economical standard of work could be undertaken. In other districts, however, the supply of suitable and adequate draught horses is likely to remain a problem difficult of solution, particularly in view of the national demand for increased agricultural production.

It is therefore proposed to more generally introduce the use of tractors, in districts where the roads will permit of their satisfactory and economical operation, for the hauling of road and bridge materials, as well as in ploughing and road-grading with the road grader. A series of hauling experiments on some of our Island highways resulted in the work being undertaken

by tractor at about 20 per cent. less than by the best team-labour. Further tests are now being made with different kinds of tractor with a view to the purchase of the more serviceable and economical types.

CONTRACT-WORK.

As previously mentioned, contract-work was limited to a few undertakings representing an expenditure of $11,289.

Until such times as labour conditions improve and the Department is better organized, I am strongly of the opinion that this system should be greatly extended and should embrace all new work. With proper plans and specifications and under close and careful supervision, it should be possible to undertake work as efficiently and certainly more economically by contract than by day-labour. If contract-work has hitherto failed, the *modus operandi* rather than the principle must have been at fault. Cities and municipalities have almost invariably found the contract system, under proper management, more satisfactory and less troublesome in the long run. We must soon follow the example of other Provinces in Canada and States in America, where the contract system has, after some years of varied experiment, proved most efficient.

MATERIALS, ETC.

As a natural result of higher wages and shortage of labour, due chiefly to war conditions and measures, the prices of material advanced in every direction. Merchantable timber used in ordinary bridge structures increased 36 per cent., while selected Douglas fir for timber trusses advanced 26 per cent., ironwork in bridges increased 64 per cent., and even ordinary spikes, so much used in bridge and culvert construction, went up 42 per cent. in price. Owing to the greatly enhanced price of explosives, 40 per cent. higher than in the previous fiscal year, the use of powder for clearing and rock-work was practically prohibitive. Steel cable, so much used in the operation of the numerous Provincial ferries, was hard to procure at almost any price owing to the embargo on the importation of same.

Transportation difficulties also added to the supply problem, as not only were freight rates increased, but there was a very limited and irregular supply of freight-cars, delivery being therefore very uncertain and unreliable. Hence our construction programme, conservative though it was, was perforce restricted and the costs of work frequently unavoidably increased beyond our estimates. Towards the end of the fiscal year a step in the right direction was taken in purchasing in bulk quantities such supplies as explosives for distribution as required throughout the Province. It is the intention to extend this system wherever practicable.

For the supply and delivery of the timber for the construction or renewal of the standard timber trusses, tenders are invariably invited from Coast firms as well as the mills convenient to the bridge structures. Such competition secures the most favourable prices and usually ensures the earliest delivery. All bridge materials, including ironwork, obtained from the Coast are inspected and tested by a competent Materials Inspector. In this way timber of the best growth and ironwork of workmanlike fabrication are procured for our highway bridges, thus tending to increased durability and life of such structures.

ROAD MACHINERY AND PLANT, ETC.

As will be noted from the detailed statement of the valuation of the machinery elsewhere recorded, the Department has on hand about a quarter of a million dollars' worth of road and bridge-building equipment. As much of the plant has been idle for years, chiefly owing to the decreased amount of construction-work, the surplus plant in one district is either being transferred where required, or where not likely to be necessary for years to come, disposed of to the highest favourable bidder. Advantage was thus taken of the present high prices to satisfactorily dispose of three of the steam donkey-engines, together with other equipment. Several donkey-engines have also been conditionally rented on favourable terms. As the time has arrived for the more general introduction of labour-saving road machinery, adequate provision has been made for same in the 1918-19 Estimates. The District Engineers comment favourably upon the introduction of automobiles for superintendence of the outside work in a more serviceable and more economical manner.

To obtain some specific and reliable data as to the comparative cost for repairs, renewals, and depreciation of plant respectively, it is proposed to keep special accounts of all expenditures

on the purchase and maintenance of plant. Special note will also be kept of stable equipment and camp equipment. In this way we hope to segregate such specific expenditures to their proper accounts, and incidentally be in a position to contrast day-labour with contract operations.

ROADS AND TRAILS.

As will be seen from the details of expenditures, attention was confined chiefly to the maintenance and repair of existing roads and trails. Comparatively little construction-work was undertaken, although the requests, individual and collective, for new roads were even more numerous than in the previous year. The attitude of the Department was consistently adverse to the carrying-out of any new work unless same was urgently required to further useful production or accommodate new industries.

The total mileage of roads and trails at present in unorganized districts is estimated to be 14,623 miles and 8,207 miles respectively. As the mileage had been greatly increased during the past few years, the Department must be prepared to spend an increasingly greater annual sum to properly maintain particularly the main roads in order to protect the initial capital outlay. The regular upkeep of roads through sparsely settled districts for the express benefit of only one or two settlers, whose neighbours had abandoned their ranches and either enlisted or removed to towns, will continue to be a drain on our financial resources until times become more normal and the land is more thickly settled. To quote from a District Engineer's report: "Few settlers are coming in to take the places of the young and strong who have left; consequently, many of the roads which were built in the 'boom' days have few, if any, settlers adjacent to them. It is very difficult to decide whether we are justified in even keeping them in repair. If we do not keep them open, it would look as if we were abandoning the country to its fate. There are many such roads that should never have been built where they are, but it is difficult to decide whether they should be abandoned altogether now that settlers have had the courage and initiative to locate on them. Until the war is over and the tide of immigration starts back there are many of the roads and trails that will have to be neglected. We considered, however, that it would not be good policy to allow the trails particularly to become impassable so long as there was any one living adjacent to them or prospectors likely to use them, and therefore we did our best to keep them open."

As the building of such settlers' roads is equivalent to advancing credit to the settlers, the Government has a justifiable right to expect in due course some material compensation. I am convinced, therefore, that before undertaking further extensions of settlers' roads, or even extensive repairs to existing ones, it is imperative that the Lands Settlement Board be more frequently requested to investigate present and prospective conditions and recommend as to the nature and extent of any work reasonably justified. In this way unnecessary roads could be eliminated and a system of really useful roads thereby gradually evolved. Further, it seems to me that in any future sales of Government lands the Department of Lands should carefully consider the cost of construction of accommodation roads to, through, and adjacent to such lands. Under existing conditions there are Government subdivisions with a few widely scattered settlers who repeatedly appeal to this Department for assistance in opening up such subdivision roads.

Our road appropriations, instead of being diverted to the construction and maintenance of such roads, should be almost wholly concentrated upon a comprehensive road system connecting up all the centres of population and industries. In this connection it is proposed to draft an Act which can be used as the policy of the Department with a view to bringing down legislation along those lines in the future. This proposed Act will provide for the proper classification of roads and a definite system of appropriating funds for the construction and maintenance of same. It will also include very necessary provision for taking care of main highways through organized districts. Hitherto Government assistance in or towards the construction or upkeep of such highways has not been given on any definite basis or on any proper understanding, and generally with no comprehensive scheme in view. In the past fiscal year the Department contributed 50 per cent. of the cost of improving—usually with hard-surfacing—several recognized trunk highways.

It was contended that as such highways carry interdistrict traffic (on the Lower Mainland heavy interurban traffic) it was too much to expect the smaller organized municipalities to entirely provide for the upkeep of same, especially as with the advent of automobile traffic—particularly motor-trucks—the roads were increasingly used, and in many instances subjected to

traffic conditions for which they were not originally constructed. Last year about two miles of hard-surfacing of trunk roads was undertaken by the municipalities according to plans and specifications approved by the Department, whose District Engineers carefully supervised such work. The largely increased motor traffic, especially that of motor-trucks, has created a difficult situation which it will be necessary to adequately meet in the near future. Experience has conclusively proved that "hard-surfacing" is the most practical solution, particularly for trunk roads contiguous to the larger centres of population. As it will be financially impossible to build such comparatively expensive roads (that is, as far as the initial expenditure is concerned), it will be advisable to seriously consider the question of issuing road bonds (preferably serial bonds) for such more permanent work, the term of the bond to extend over a period of years equal to the estimated life of the pavement. The question of the heavy truck traffic on roads in the outlying districts will also require to be specially considered. Particularly in the Grand Forks District, and between Fairview and Oroville, in the Similkameen District, serious damage to the main roads was done by motor-trucks. Some remedial action will therefore require to be taken under the head of "extraordinary traffic" to suitably provide for such a situation, as, of course, it will be quite impossible under present conditions to pave such roads. While such special work will greatly increase capital expenditure, it must be always remembered that the cost of maintenance spread over a period of from ten to twenty years would be correspondingly reduced. The annual expenditure on maintenance of ordinary roads is becoming increasingly out of proportion to the less effective services rendered by such roads.

Of the 372,630 square miles in the Province, less than ½ of 1 per cent. is organized into municipalities and contains 86 per cent. of the total population. The mileage of roads and trails previously mentioned is thus practically all located in the 99½ per cent. of unorganized territory, which has a population of about 70,000. Hence in this respect this Province is materially different from most of the other Provinces. With its widely varying topographical and climatic conditions, physically it occupies a unique position in the Dominion, rendering the construction and maintenance of roads a difficult and proportionately expensive undertaking.

In addition to the ordinary road programme, the Department carried out or supervised works comprising the construction and maintenance of roads and trails, towards which the Department of Mines contributed the sum of $93,397.30 from the special "Aid to Mines" vote. Owing chiefly to the increased activity in mining, such work entailed greater expenditure than formerly for investigation and supervision, as the Engineers had usually to travel long distances to prepare reports and estimates thereon, and latterly to oversee the work carried out.

BRIDGES.

While it was possible to limit the construction and maintenance of roads and trails to reasonably necessary work, bridges had perforce to be constructed, renewed, or repaired to meet the wear and tear of traffic and the ravages of floods and storms. Absolutely new construction, however, involved only 1.73 per cent. of the total expenditure on bridges. A large number of bridges which had outlived their usefulness had to be reconstructed, and where necessary this was done by substituting standard types where traffic and other conditions justified same. In the fall of 1917 and the spring of 1918 we were unfortunate in experiencing a number of unusually severe storms and floods throughout the Province, causing extensive damage to bridges which had to be replaced, thereby involving unexpected heavy expenditures. The districts which suffered most severely were Bella Coola, Salmon River (Comox District), Chilliwack, Omineca, Atlin, and Fort George. In the renewal of such damaged structures the existing and prospective requirements were fully considered and unnecessary structures either eliminated or built at more convenient locations.

Some bridge-work was undertaken by contract this year, and it is the intention in future to have all such work done by contract wherever practicable. The dearth of efficient Bridge Foremen has been partly responsible for the day-labour work costing more than was anticipated.

WHARVES.

The Department controls about ninety wharves, of which sixty-four are on tidal waters and the remainder on inland lakes (Okanagan); although greatly in need of extensive repairs or entire renewal, work was chiefly confined to urgent repairs on the more used wharves. To counteract the ravages of the teredo, creosoted piles were used in most of the repairs to tidal

wharves. But as the cost of such piles is at present about 60 cents per foot on scow at the creosote plants, their extensive use will be prohibitive. However, in the past few years the policy has been to carry out as little work as possible on the wharves on the tacit understanding that the Federal Government would shortly assume control of same. Fortunately, recent negotiations have satisfactorily resulted in tentative arrangements being consummated for relieving the Provincial Government from the heavy responsibility of maintaining such wharves.

FERRIES, ETC.

In addition to subsidized steamboats used chiefly on inland waters, the Department now maintains forty-eight ferries, the majority of which afford free transportation. Of the six new ferries constructed during the fiscal year, the most important was that at Hall's Landing, on the Columbia River south of Revelstoke. Traffic conditions have since proved that this ferry was justified and is now serving a long-felt want.

Traffic returns of every ferry are submitted to the Department monthly, from which data it will be possible in future to decide as to whether the expense of maintaining certain ferries is reasonably justified. The elimination of one or two little-used ferries and the amalgamation of some others unnecessarily close together are questions worthy of consideration in endeavouring to reduce the increasingly heavy maintenance charges.

RIVER-BANK PROTECTION.

Besides the charges made directly to the particular road or bridge specially benefited by protection-work, a sum of about $30,000 as particularized in the annual returns, was spent on river-bank protection-work.

The safeguarding of the Government townsites of Golden, Fernie, and New Denver, situated respectively on the Columbia and Elk Rivers and Carpenter Creek, accounted for the bulk of such expenditure. Further and heavier outlays on the Columbia and Elk Rivers will be necessary this year to retain and supplement the work already done. Hitherto river-protection work generally has been somewhat indiscriminately carried out and on no well-defined and comprehensive scheme. This question will therefore require to be consistently dealt with on some practical basis, as the amount of money involved will be very large in event of the Government undertaking to protect private property abutting on the larger rivers subject to the ravages of periodical freshets. In the past the avowed policy of the Department has been to spend money only where it was necessary to protect or safeguard roads, bridges, or other Government property, but in several cases this policy has not been strictly adhered to. Hence the present proposal to undertake such work along local-improvement lines and tax the costs *pro rata* on the parties or interests directly benefited is one which commends itself for earnest consideration as a sane step along the proper lines. Such a method is in vogue in the State of Washington, U.S.A., and appears to operate satisfactorily.

CO-OPERATION WITH OTHER DEPARTMENTS.

Mention has already been made of the work done in conjunction with the Mines Department and the Lands Department. An endeavour was also made to co-operate with the Forestry and the Agricultural Departments in matters of mutual interest and concern. I should like to see realized even greater co-operation with all Government departments affected in order to attain all-round efficiency of administration, both in the indoor and outdoor service. Meantime the courtesy extended and the assistance rendered by other departments should be recorded.

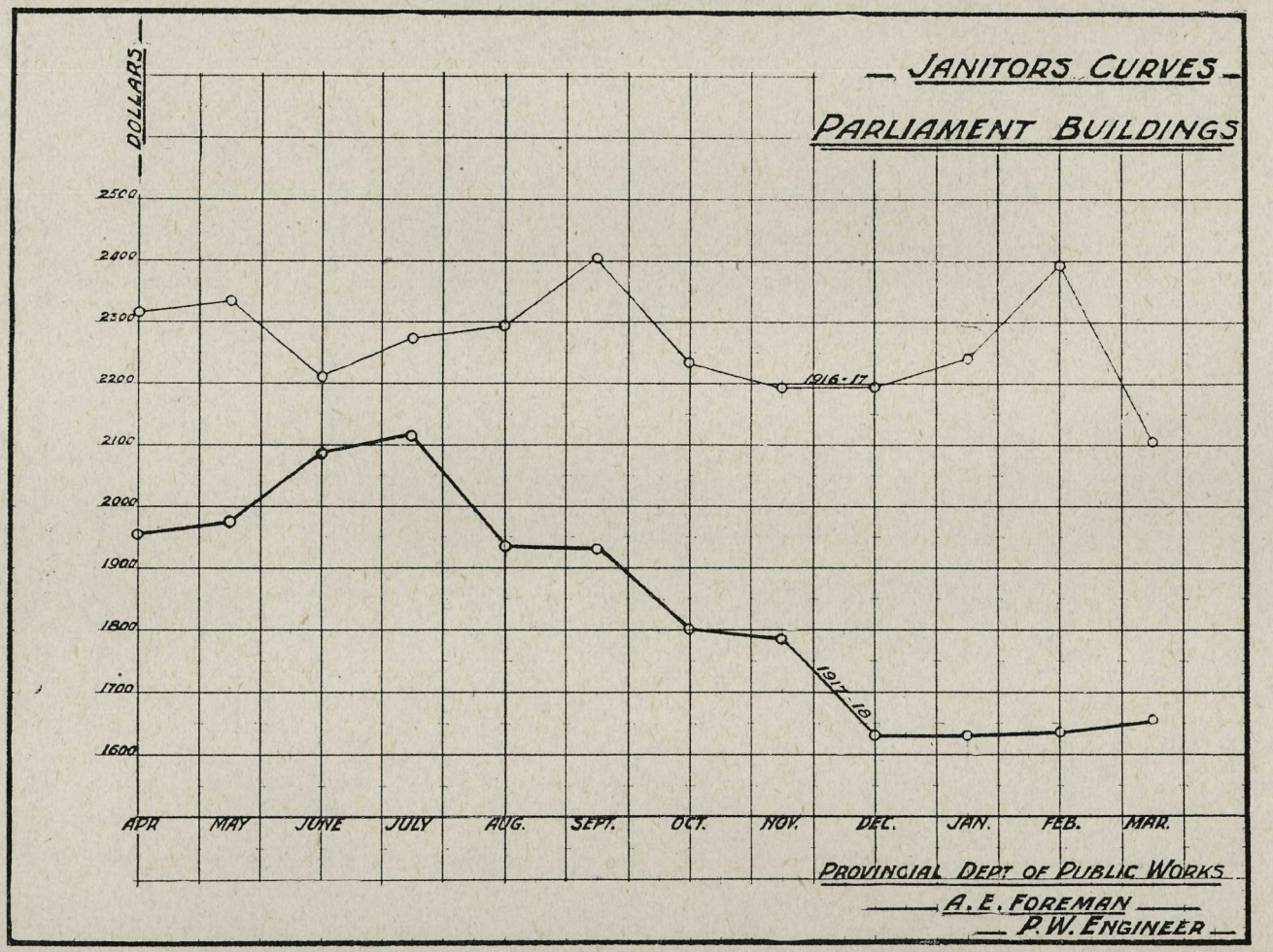
The co-operation of responsible associations, such as Boards of Trade and Farmers' Institutes, throughout the Province was also sincerely sought. By explaining to them just what the Department is attempting to accomplish and the difficulties we have at present to contend with, and inviting their practical co-operation, much good can be and is being accomplished.

CONFERENCE.

The Conference of District Engineers held in January last was of material assistance to all who participated in the comprehensive programme, and the results should be most beneficial not only to the Engineers, but to the Department, thereby greatly increasing its efficiency. Special committees then appointed are now engaged in drafting for the Department's approval standard plans and specifications and forms for keeping proper records of the various works and detailed expenditure thereof.

B.C. GOVERNMENT—PUBLIC WORKS DEPARTMENT.

MONTHLY PAY-ROLLS FOR JANITORS AT PARLIAMENT BUILDINGS.



B.C. GOVERNMENT—PUBLIC WORKS DEPARTMENT.

ANNUAL EXPENDITURE FOR ROADS, BRIDGES, FERRIES, AND WHARVES.

assisting by grants have been examined, and, where found necessary, suggestions have been made for their improvement, accompanied by sketch-plans showing the suggested alterations.

In other cases where no local architect has been available, complete sets of plans and specifications have been prepared and such other assistance that has been found necessary.

The actual cost of running this office, omitting such overhead expenses as office rent and furniture, is approximately 1.9 per cent. on the work executed, against at least 5 per cent. if carried out by an outside architect, and is arrived at as follows:—

WORK EXECUTED.

New school buildings		$ 90,967 50
Alterations and additions to school buildings		4,890 00
Alterations and repairs to Parliament Buildings		9,874 93
Repairs, alterations, etc., to other Government buildings		6,062 00
		$111,794 43
Plans prepared for school and Government buildings not carried out, at 2½ per cent. on estimated cost	$ 840 00	
Sketch-plans prepared for outside architects, charged on time basis	100 00	
Value of work done for Engineering Department, charged on time basis	495 00	
Value of work done for Housing Committee	35 00	
Value of work done for Price, Waterhouse & Co.	90 00	
Value of work done for Comptroller-General	60 00	
Value of work done for landscape plans	75 00	
	$ 1,695 00	
Total expenses, including salaries, etc.	$ 3,802 00	
Less work done on time basis	1,695 00	
	$ 2,107 00	

This sum being 1.9 per cent. on the value of work executed, viz., $111,794.43.

Yours obediently,

HENRY WHITTAKER,

Acting Supervising Architect.

GENERAL.

The branch of the Department dealing with roads, bridges, wharves, and ferries has been dealt with more fully, as that is where the greater part of the reorganization has taken place.

The construction of and repairs to public buildings are dealt with in detail in the report of the Acting Supervising Architect. We are endeavouring to have all contracts for new buildings let before September or October, so that advantage can be taken of fine weather, with corresponding economy in cost. It was necessary to increase the wages of the lower-paid janitors and others, but by a readjustment of the staff the total cost of the work was materially reduced. Graphs were plotted of the cost of the more important work and the men in charge supplied monthly with a copy. The curve on cost of janitors clearly indicates the improvement in that branch of the service. We have endeavoured to use the staffs of the Boiler Inspector and the Inspector of Electrical Energy in connection with mechanical work on our larger ferries, in checking up and improving the heating and other mechanical equipment, and in assisting in alterations in our buildings, and the results have been very satisfactory, thanks to the splendid co-operation of Mr. Peck, the Chief Inspector of Machinery and Boilers, and of Mr. Roberts, Inspector of Electrical Energy, and their staffs. An endeavour has also been made where possible to have repair-work carried out by the Engineers and mechanics in charge.

The details of work carried out in the Departments of the Inspector of Machinery and Boilers, Inspector of Electrical Energy, the Inspector of Factories, and the Inspector of Dykes are given in separate reports submitted by the heads of those departments.

In conclusion, this report would be incomplete without sincerely recording the co-operation invariably extended to me by the various members of the indoor and outdoor staff, without whose support, encouragement, and assistance the work of the Department could not have been so harmoniously and efficiently carried out.

Accompanying this report are details of the expenditures on roads, trails, bridges, ferries and wharves, and public buildings, together with other miscellaneous data relative thereto.

All of which is respectfully submitted.

Yours obediently,

A. E. FOREMAN,

Public Works Engineer.

REPORT OF ACTING SUPERVISING ARCHITECT.

SUPERVISING ARCHITECT'S OFFICE,
VICTORIA, B.C., December 9th, 1918.

A. E. Foreman, Esq.,
Public Works Engineer, Victoria, B.C.

SIR,—I have the honour to submit the following report on the work carried out in this office during the financial year 1917-18:—

In addition to usual work carried out in this office, such as erection of new school and public buildings and general upkeep of the Parliament and other Government Buildings, we have given considerable assistance to the engineering section of the Public Works Department in the preparation of tracings for the Banff-Windermere Road and sundry other minor works.

Assistance was given Messrs. Price, Waterhouse & Co. in the preparation of an inventory and valuation of the furniture, etc., in the Parliament and other Government Buildings, and in many instances the valuation of the buildings themselves; also to the Parliament Buildings Housing Committee in the preparation of plans showing the allocation of the various offices, their staffs, etc.

A complete list of the Government-owned buildings throughout the Province was prepared, giving description, location, etc., for the Comptroller-General and preparation of sundry forms, etc., for this official.

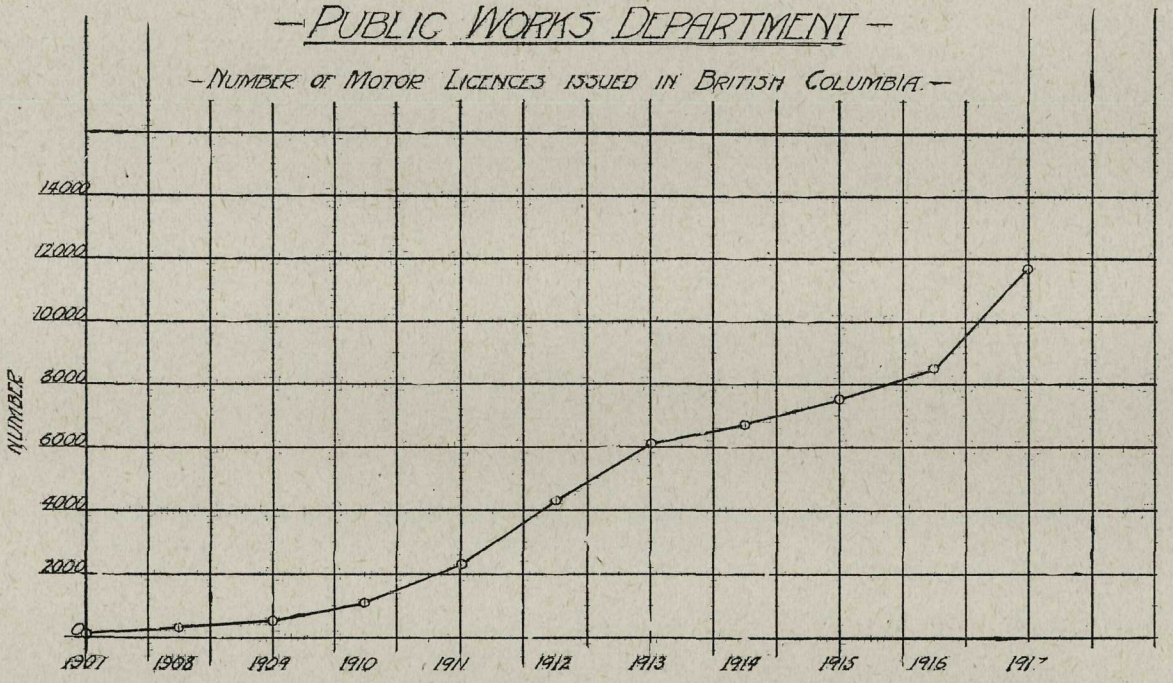
A considerable number of landscape drawings were prepared for various buildings from information supplied by Mr. Gibson, of the Education Department.

At the request of the Hon. the Provincial Secretary and Minister of Education, plans and specifications prepared by outside architects for schools, hospitals, etc., that the Government was

—B.C. GOVERNMENT—

—PUBLIC WORKS DEPARTMENT—

—NUMBER OF MOTOR LICENCES ISSUED IN BRITISH COLUMBIA.—



PROVINCIAL DEPT OF PUBLIC WORKS—
—A.L. FOREMAN—
—P.W. ENGINEER

INVENTORY OF ROAD MACHINERY AND PLANT, 1917-18.

Electoral District.	Automobiles.	Auto-trucks.	Boilers, Etc.	Carts.	Cars.	Canoes.	Compressors.	Concrete-mixers.	Derricks.	Donkey-hoists (Gasolene).	Donkey-hoists (Steam).	Engines (Gas).	Engines (Steam).	Graders.	Horses.	Motors (Electric).	Oiling-machines.	Pile-drivers.	Pile-drivers (Hammers only).	Ploughs.	Pumps.	Rollers (Horse).	Rollers (Gasolene).	Rollers (Steam).	Road-drags.	Rock-crushers.	Rowboats.	Sawmills (Portable).	Scrapers.	Tents.	Tractors (Steam).	Wagons.	Wagons (Sprinkling).	Wagons (Water).	Winches.
Alberni	1	....	....	1	....	....	....	....	....	....	1	1	....	5	....	....	....	1	....	8	....	2	....	....	5	....	2	....	5	10	....	3	....	....	2
Atlin	....	....	....	4	2	1	....	....	....	....	1	....	....	2	....	....	....	1	....	4	....	....	....	....	....	....	3	....	9	39	....	2	....	....	....
Cariboo	1	1	....	5	4	....	....	....	....	....	....	....	....	12	....	....	....	....	....	22	....	2	....	....	2	....	....	....	28	27	1	22	....	1	....
Chilliwack	....	....	....	....	4	....	1	....	....	....	....	....	1	4	....	2	....	1	2	1	....	....	....	1	5	1	....	....	....	4	....	1	....	....	1
Columbia	1	....	....	....	....	....	....	....	....	....	....	....	....	10	....	....	....	....	....	36	....	2	....	1	....	....	....	....	38	24	....	31	....	....	....
Comox	1	2	....	3	....	....	....	....	....	1	1	....	....	2	....	....	....	2	....	3	....	1	1	....	....	....	....	....	6	12	....	....	....	....	1
Comox (Strathcona Park)	....	....	....	6	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1	19	....	2	....	....	....
Cowichan	1	....	..	2	....	....	....	....	....	....	....	....	....	2	....	....	....	2	....	9	....	....	1	....	1	....	....	....	4	8	....	6	....	....	....
Cranbrook	1	....	....	....	....	....	....	....	2	....	....	1	....	6	....	....	....	1	....	11	....	....	1	....	....	....	1	....	31	21	....	3	....	....	....
Delta	....	....	....	3	....	....	....	....	....	....	....	....	....	2	4	....	....	1	....	11	....	....	1	....	....	....	....	....	29	....	....	4	1	....	1
Dewdney	1	....	....	8	2	....	1	....	....	....	2	1	2	3	....	....	2	1	....	12	2	1	....	1	....	1	....	....	33	6	....	2	....	....	....
Esquimalt	....	....	....	11	....	....	....	1	....	....	....	1	1	6	....	....	....	....	....	18	1	1	1	....	3	1	....	....	17	18	....	....	1	1	....
Fernie	1	....	....	....	....	....	....	....	....	....	....	....	....	5	....	....	....	2	....	6	....	1	....	....	....	....	....	....	6	19	....	....	....	....	....
Fort George	1	....	....	....	....	....	....	....	....	....	1	....	....	5	12	....	....	2	1	11	....	....	....	....	1	....	1	....	17	24	....	6	....	....	....
Grand Forks	....	....	....	....	2	....	1	....	....	....	1	....	1	2	....	....	....	1	....	8	....	1	1	....	3	1	....	....	9	7	....	2	....	1	....
Greenwood	1	....	....	6	....	....	....	....	....	....	....	....	....	6	....	....	....	....	....	11	....	1	....	....	4	....	....	....	36	6	....	....	....	....	....
Islands	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	....	....	1	....	5	....	1	....	....	1	....	....	....	9	2	....	2	....	....	....
Kamloops	2	....	....	....	....	....	....	....	....	....	....	....	1	10	12	....	....	1	1	10	....	....	1	....	....	1	....	....	14	11	....	10	....	....	....
Kaslo	....	....	....	4	....	....	....	....	....	....	....	....	....	4	....	....	....	2	....	6	....	....	....	....	....	....	....	....	14	8	....	....	....	....	....
Lillooet	1	1	1	1	4	....	....	1	....	....	1	2	3	17	11	....	....	1	....	15	4	....	..	1	1	1	....	1	13	30	1	16	....	1	1
Nanaimo	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	5	....	....	....	....	....	....
Newcastle	....	....	....	....	....	....	....	....	....	....	....	....	....	2	....	....	....	1	....	1	....	....	....	....	....	....	....	....	4	1	....	....	....	....	....
North Okanagan	2	....	....	1	....	....	....	....	....	....	1	1	....	12	....	....	....	1	1	32	....	....	....	....	....	....	....	....	30	12	2	6	....	....	....
North Vancouver	....	....	....	....	....	....	....	....	....	....	1	....	....	1	....	....	....	2	....	6	....	....	....	....	....	....	....	1	9	9	....	....	....	....	....
Omineca	....	....	....	2	....	....	....	....	....	....	....	....	....	6	24	....	....	1	1	9	....	1	....	....	1	....	....	....	23	25	....	12	....	....	....
Prince Rupert	....	....	....	3	2	....	....	.	....	1	....	....	....	3	2	....	....	2	1	12	....	1	....	.	1	....	2	....	16	18	....	10	....	....	....
Revelstoke	1	....	....	....	....	....	....	....	....	1	1	....	....	5	....	....	....	....	1	8	....	1	1	....	1	....	3	....	26	20	....	5	....	....	....
Richmond	....	....	....	....	....	....	....	....	....	....	1	1	....	2	....	....	....	....	....	5	3	....	1	1	....	....	2	....	3	3	2	3	....	1	1
Rossland	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	2	1	....	....	....	....	....
Similkameen	1	....	....	6	1	....	....	....	....	....	....	....	....	14	....	....	....	1	....	24	....	3	....	....	4	....	1	....	70	27	....	....	....	....	....
Slocan	....	....	....	3	....	....	....	....	....	....	1	....	....	3	....	....	....	1	....	7	....	....	....	....	....	....	....	....	11	8	....	....	....	....	....
South Okanagan	....	....	....	....	....	....	....	....	....	....	....	1	....	9	....	....	1	1	1	11	....	1	....	1	9	1	....	....	11	1	....	2	....	....	....
Trail	1	....	....	10	....	....	1	....	....	....	....	....	....	3	....	....	....	1	....	14	....	....	....	....	2	....	....	....	27	13	....	6	....	....	....
Yale	1	....	....	1	1	....	....	....	....	....	1	....	....	9	12	....	....	....	3	14	2	....	....	....	2	....	....	.	16	18	....	13	....	....	....
Totals	19	4	1	80	22	1	4	2	2	3	14	9	9	177	77	2	3	31	12	351	12	20	9	5	47	7	15	2	572	451	6	169	2	5	7

VALUATION OF PLANT, Etc.,

MARCH 31ST, 1918.

Electoral District.	Large Plant.	Tools.	Camp Equipment.	Horses and Harness.	Total.
Alberni	$ 2,817	$ 752	$ 170	...	$ 3,739
Atlin	1,826	1,488	1,061	$ 145	4,520
Cariboo	6,295	2,893	1,219	1,050	11,457
Chilliwack	13,560	1,003	235	...	14,798
Columbia	11,349	1,622	1,069	737	14,777
Comox	8,167	657	...	...	8,824
Cowichan	5,546	760	80	...	6,386
Cranbrook	6,668	1,372	1,260	...	9,300
Delta	2,035	324	237	700	3,296
Dewdney	4,530	740	140	25	5,435
Esquimalt	12,500	2,000	250	...	14,750
Fernie	3,618	953	852	...	5,423
Fort George	5,350	2,038	1,349	2,987	11,724
Grand Forks	8,080	359	200	...	8,639
Greenwood	5,000	1,500	1,000	...	7,500
Islands	460	284	10	...	754
Kamloops	6,700	1,326	311	3,196	11,533
Kaslo	1,000	300	100	...	1,400
Lillooet	16,435	2,725	1,150	2,380	22,690
Nanaimo	...	300	...	...	300
Newcastle	2,450	690	13	...	3,153
North Okanagan	7,240	2,206	257	...	9,703
North Vancouver	1,330	648	362	...	2,340
Omineca	3,928	1,062	953	3,970	9,913
Prince Rupert	3,100	3,760	587	220	7,667
Revelstoke	5,025	2,870	727	...	8,622
Richmond	5,276	1,167	428	...	6,871
Rossland	...	66	34	...	100
Similkameen	4,100	3,745	430	...	8,275
Slocan	1,075	1,738	82	...	2,895
South Okanagan	6,200	474	108	...	6,782
Trail	3,349	2,619	239	...	6,207
Yale	2,426	2,091	688	2,132	7,337
Totals	$167,435	$46,532	$15,601	$17,542	$247,110

WORKS AND BUILDINGS.

FUMIGATION STATION, VICTORIA. (Vote 116—$2,000.)

No expenditure.

FURNITURE, GOVERNMENT OFFICES THROUGHOUT THE PROVINCE.
(Vote 117—$8,000; Sup., $400=$8,400.)

Expenditure, $8,264.97, in the following districts:—

Alberni	$	10 15
Anyox		115 11
Atlin		7 00
Barkerville		3 25
Clinton		33 00
Cranbrook		1 50
Cumberland		24 00
Golden		112 23
Greenwood		80
Hazelton		7 25
Invermere		64 85
Kamloops		407 58
Kaslo		1 75
Lillooet		127 94
Nanaimo		25
Nelson		156 90
New Westminster		304 80
Nicola		50
150-Mile House		59 20
Princeton		31 50
Prince George		60 78
Prince Rupert		82 75
Quesnel		12 53
Revelstoke		2 00
Vancouver		403 91
Vernon		189 90
Victoria Court-house		461 71
Victoria Parliament Buildings		5,581 83

GAOLS AND LOCK-UPS THROUGHOUT THE PROVINCE. (Vote 118—$15,000.)

Expenditure, $4,849.71, in the following districts:—

Alberni—Clayoquot	$	25 50
Atlin—		
Atlin		79 00
Port Nelson		10 00
Cariboo—		
McBride		146 00
150-Mile House		12 50
Quesnel		25 00
Vanderhoof		6 85
Columbia—		
Golden		15 55
Field		3 85

GAOLS AND LOCK-UPS THROUGHOUT THE PROVINCE—*Continued.*

Comox—	
Alert Bay	$ 40 64
Cumberland	138 75
Ocean Falls	38 15
Cranbrook—	
Cranbrook	9 00
Fort Steele	5 50
Moyie	90
Fernie—	
Coal Creek	3 00
Corbin	1 90
Fernie	79 60
Michel	5 80
Natal	34 50
Fort George—	
Fort Fraser	17 50
Fort George	145 00
Fort St. John	111 75
Lucerne	2 40
Pouce Coupe	12 00
Vanderhoof	6 85
Grand Forks—Phoenix	8 50
Greenwood—	
Greenwood	21 50
Midway	37 40
Islands—Ganges	5 00
Kamloops—	
Chase	3 00
Ducks	3 00
Kamloops	116 79
Notch Hill	10 00
Kaslo—	
Creston	21 45
Kaslo	4 70
Lillooet—Lillooet	10 50
Nanaimo—Nanaimo	199 65
Nelson—Nelson	69 50
Newcastle—Ladysmith	3 86
New Westminster	81 04
North Okanagan—	
Enderby	45 00
Sicamous	1 00
Omineca—	
Endako	10 75
Hazelton	49 85
Smithers	4 30
Telkwa	2 00
Prince Rupert—	
Kitsalas	5 70
Port Essington	6 00
Prince Rupert	44 25
Vanarsdol	6 00
Revelstoke—Arrowhead	25

GAOLS AND LOCK-UPS THROUGHOUT THE PROVINCE—*Concluded.*

Richmond—	
Boys' Industrial School	$ 352 35
Girls' Industrial School	448 45
Saanich—Prison Farm	733 26
Similkameen—	
Keremeos	375 00
Princeton	3 15
Slocan—	
Nakusp	102 50
New Denver	20 45
Silverton	127 85
South Okanagan—	
Kelowna	6 40
Penticton	9 50
South Vancouver—Oakalla Prison Farm	882 62
Trail—Salmo	2 30
Yale—	
Ashcroft	61 40
Hope	2 00
North Bend	1 00

IMPROVEMENT OF GOVERNMENT GROUNDS, VICTORIA. (Vote 119—$7,000.)

Expenditure ..... $ 6,075 59

IMPROVEMENT OF GOVERNMENT GROUNDS THROUGHOUT THE PROVINCE. (Vote 120—$4,000.)

Expenditure, $3,467.20, in the following districts:—

Alberni	$ 5 65
Ashcroft	2 90
Cranbrook	48 15
Fairview	78 00
Fernie	199 74
Fort Fraser	10 50
Ganges	6 00
Golden	51 49
Grand Forks	9 20
Hazelton	18 70
Kamloops	47 10
Kaslo	4 25
Merritt	80 46
Nanaimo	98 20
Nelson	34 02
New Westminster	33 45
Penticton	11 50
Prince George	27 40
Prince Rupert	451 06
Revelstoke	181 30
Vancouver	1,919 03
Vernon	149 10

KING EDWARD SANATORIUM, TRANQUILLE. (Vote 121—$10,000.)

Expenditure ..... $ 10,000 00

MENTAL HOSPITAL, ESSONDALE.

(Vote 122—$12,000; S.W., $1,000; S.W., $7,000=$20,000.)

General repairs ($4,000; S.W., $1,000=$5,000)—

Expenditure ..... $ 4,692 22

MENTAL HOSPITAL, ESSONDALE—*Concluded.*

Completion of grading ($2,200)—	
Expenditure	$ 2,197 02
Furniture ($2,000)—	
Expenditure	1,796 38
New laundry ($3,800; S.W., $7,000=$10,800)—	
Expenditure	10,793 10

NURSERY, ESSONDALE, CLEARING AND BREAKING NEW LAND. (Vote 123—$6,000.)

Expenditure	$ 5,459 45

COLONY FARM, ESSONDALE. (Vote 124—$4,000.)

Expenditure	$ 3,998 15

MENTAL HOSPITAL, NEW WESTMINSTER. (Vote 125—$9,000.)

General repairs ($7,000)—	
Expenditure	$ 3,759 14
New furniture ($2,000)—	
Expenditure	1,230 39

PROVINCIAL BUILDINGS, LONDON, ENGLAND (COMPLETION, FURNITURE, AND MAINTENANCE).

(Vote 126—$23,000; Sup., $9,000 = $32,000.)

Expenditure	$ 31,993 31

PROVINCIAL NORMAL SCHOOL, VANCOUVER (MAINTENANCE).

(Vote 127—$3,000; Sup., $250 = $3,250.)

Expenditure	3,248 24

PROVINCIAL NORMAL SCHOOL, VICTORIA (MAINTENANCE).

(Vote 128—$3,000.)

Expenditure	$ 2,969 12

PUBLIC SCHOOLS THROUGHOUT THE PROVINCE.

(Vote 129—$106,000; Sup., $94,000 = $200,000.)

Expenditure on grants, buildings, school-desks, etc., $168,944.42.

Grants were made to the following School Boards: Alkali Lake, Bickle, Big Bar Mountain, Cahilty, Cariboo, Castle Rock, Central Pouce Coupe, Chinook Cove, Christian Valley, Coal Creek, Courtenay, Deer Lodge, Eagle River, False Bay, Fruitlands, Galloway, Hartley, Ingram Mountain, Ioco, Kinnaird, Ladysmith, Meadowbrook, Marron Lake, North Pouce Coupe, North Vancouver Municipality, Osoyoos, Popcum, Pouce Coupe, Rossland, Salmon Arm, Salmon Bench, Saskatoon Creek, Savona Road, South Wellington, Springhouse, Sunnyside, Tatalaska Lake, Telegraph Creek, Trail, Vavenby, and Yahk.

The following school buildings were erected: Abbotsford, Baynes Lake, Bull River Bridge, Dunderave, Hollyburn, Limit, Princeton, Slocan Junction, and South Wellington.

REPAIRS TO BUILDINGS, FURNITURE, FUEL, LIGHT, ETC., GOVERNMENT HOUSE, VICTORIA (INCLUDING UPKEEP OF GARDEN). (Vote 130—$17,000.)

Expenditure	$14,303 91

REPAIRS TO GOVERNMENT BUILDINGS THROUGHOUT THE PROVINCE. (Vote 131—$20,000.)

Expenditure, $13, 614.58, in the following districts:—	
Alberni	$ 101 81
Anyox	5 60
Ashcroft	55
Atlin	82 90

REPAIRS TO GOVERNMENT BUILDINGS—*Concluded.*

Barkerville	$ 30 90
Chilliwack	14 00
Clinton	205 40
Cranbrook	80 58
Cumberland	30 70
Duncan	2 75
Fernie	79 60
Fort Fraser	12 65
Fort George	4 00
Fumigating Station (Vancouver)	127 20
Golden	61 05
Grand Forks	32 20
Greenwood	69 82
Hazelton	17 35
Kamloops	1,458 00
Kaslo	144 63
Merritt	135 50
Nanaimo	180 13
Nelson	1,551 76
New Westminster	1,100 10
150-Mile House	40 20
Prince George	73 95
Prince Rupert	863 09
Princeton	16 30
Queen Charlotte	2 25
Quesnel	41 50
Revelstoke	438 77
Rossland	26 15
Stewart	96 00
Telegraph Creek	72 49
Trout Lake	2 00
Vancouver	5,250 48
Vernon	230 31
Victoria Court-house	931 91

REPAIRS TO PARLIAMENT BUILDINGS.

(Vote 132—$12,000; S.W., $1,000; Sup., $1,600 = $14,600.)

Expenditure	$ 13,854 07

STATEMENT OF EXPENDITURE.

Roads, Streets, Bridges, and Wharves.

Fiscal Year ending 31st March, 1918.

ALBERNI DISTRICT. (Vote 133—$30,700.)

Road—Alberni	$	1,962 73
„ Auld's		14 15
„ Bainbridge		171 00
„ Banfield		340 12
„ Barfoot's Ditch		61 74
„ Batty's		139 25
„ Beach		5 00
„ Beaver Creek		500 55
„ Beaver Creek-Bainbridge		1,558 77
„ Beaver Creek Wharf		24 50
„ Beaver Creek-Loop		16 00
„ Biggs and Crossan		29 50
„ Biological Station		46 00
„ Bland's		110 00
„ Cameron		6 50
„ Cape Scott		902 11
„ Central Lake		219 36
„ Cherry Creek		72 50
„ China Creek		7 31
„ Church		20 00
„ Claudet *et al.*		8 50
„ Clayoquot-Ucluelet		468 00
„ Coleman's		55 00
„ Combatley's		42 37
„ Comox		194 00
„ Coombs		72 50
„ Cowley's		111 80
„ Cross		10 00
„ Departure Bay		20 25
„ Dickingson and Sanderson		26 50
„ Drinkwater		17 95
„ Dumont and Dormer		128 00
„ Dunbar		11 50
„ Dunn's		45 00
„ Errington Cross		141 00
„ Evans		63 15
„ Faber's		75 00
„ Fisher		46 00
„ Flores Island		107 25
„ Giant Powder Co.		32 25
„ Glanville		3 00
„ Grandview		17 80
„ Grafton Avenue		281 75

ALBERNI DISTRICT—*Continued.*

Road—Green and Illstad	$	54 00
„ Guenlet and Wallace		16 50
„ Hector's		7 25
„ Hillier's		377 86
„ Hilltown		25 00
„ Holberg, No. 33		858 71
„ Jenkins		28 00
„ Kirkpatrick's		49 85
„ Kitsuksis		7 65
„ Knight's		57 00
„ Lagoon		64 90
„ Lake Shore		101 50
„ Long Beach		221 50
„ Lowry and Greig		104 73
„ Maggie Lake-Ucluelet		75 75
„ Matthews-Brevis		66 00
„ Million		38 00
„ Mission		15 00
„ Moore's		11 00
„ Morning Star Creek (bridge approaches)		151 75
„ Morrison's		62 00
„ Mud Bay-Long Beach		187 25
„ McCoy Lake		196 25
„ McKercher		20 50
„ McKibbon		9 00
„ McNeil and Williams		20 00
„ Nanaimo		472 09
„ Nanoose Station		63 75
„ North-west		431 00
„ Pachena (Keah Bay)		29 25
„ Page's		157 00
„ Parksville Cross		155 48
„ Peninsula-Ucluelet		5 50
„ Pillar's		15 00
„ Port Alberni-Four-mile Creek		469 64
„ Pym *et al.*		23 00
„ Quatsino (sundry)		266 25
„ Quatsino Wagon		127 00
„ San Josef Valley		61 00
„ School-house		2 00
„ Sea Otter Cove, No. 95		55 75
„ Smith's (Cape Scott, No. 7)		32 73
„ Sproat Lake		237 50
„ Stanhope and Scott		102 25
„ Starkey and Stewart		29 00
„ Station		77 25
„ Stewart, Hamil, *et al.*		63 00
„ Sundry (east)		1,322 36
„ Sundry (west)		26 75
„ Swayne's		147 81
„ Tenah		23 50
„ Thompson's		340 50
„ Thorpe		10 00
„ Turner and Rutherford, No. 154		247 40
„ Vargas Island		162 95

ALBERNI DISTRICT—*Concluded.*

Road—Victoria-Campbell River		$ 9,153 38
„ Weigle and Jones		296 02
„ Weigle, Peter		46 00
„ Wellington Townsite		120 60
„ Wither's		90 50
„ Wright's		42 00
Trail—Stranby		180 75
Supervision—Auto Account	$1,217 40	
„ Clerical work	40 00	
„ Assistant Engineer	2,034 85	
		3,292 25
General supplies		1,196 46
Total		$ 30,614 63

ATLIN DISTRICT. (Vote 134—$21,700.)

Road—Atlin-McKee	$ 10 00
„ Atlin-Surprise	612 50
„ Bear River	24 00
„ Big Horn	50 00
„ Birch Creek	35 00
„ Bitter Creek	524 00
„ Boulder Creek	260 00
„ Burdette-O'Donnell	40 00
„ Drave	38 50
„ Fourth of July	150 00
„ Gleanerville-Warm River	199 85
„ Glenora	315 00
„ Indian River	25 00
„ Jumper-Stewart's Landing	288 00
„ Klehini River Wagon	200 00
„ Lincoln Creek Wagon	100 00
„ Moose Arm Wagon	25 00
„ McKee Creek	125 00
„ O'Donnel River	10 00
„ Ruby Creek	475 00
„ Salmon River	2,356 44
„ Salmon-Bear River	264 61
„ Slate Creek	50 00
„ Spruce Creek	447 50
„ Stewart's Landing	75 00
Trail—Dease	333 50
„ Georgia River	52 00
„ Glacier Creek	226 00
„ Glenora	90 00
„ Grease	48 00
„ Illiance	1,381 50
„ Kincolith (Mill Bay)	550 80
„ Kitsault River	1,012 75
„ Mill Bay	15 05
„ North Fork, Kitsault	24 00
„ Teslin	615 00
Streets—Atlin	87 50
„ Discovery	40 00
„ Telegraph	95 50

ATLIN DISTRICT—*Concluded.*

Bridges—Nos. 17 and 24, Tahltan	$	10 00
„ South Fork		16 00
„ No. 27, Tooza		7 50
Ferry—Alice Arm (Kitsault River)		13 50
„ Supervision		4,459 85
„ General supplies		2,476 88
Total	$	18,255 73

CARIBOO DISTRICT.
(Vote 135—$38,700; S.W., $3,000 = $41,700.)

Road—Alexandria-Beaver Lake	$	14 75
„ Alexandria Ferry		32 50
„ Alexis Creek-Chilanko Forks		655 72
„ Barkerville, tributary to		960 54
„ Beaver Lake-Beavermouth		22 75
„ Beaver Valley		323 00
„ Beedy Creek Valley		11 00
„ Blackwater-Cottonwood Canyon		26 25
„ Cariboo Main		10,888 55
„ Castle Rock		8 00
„ Chilanko Forks-Chezacut		1,077 42
„ Chilcotin Main		4,204 77
„ Cottonwood-Fraser River		250 90
„ Cottonwood-Strathnaver		987 81
„ Deacon's		3 50
„ Dog Prairie		7 00
„ Dragon Lake		10 50
„ Earley's		7 00
„ Harpers Camp-Black Creek		1,052 90
„ Hargrave's		73 00
„ Higdon		90 50
„ Keithley Creek		28 00
„ Lot 2560-Lot 3969		321 75
„ Macalister-Quesnel		1,019 25
„ Mission		9 75
„ 150-Mile-Harper's Camp		1,900 46
„ 158-Mile-Quesnel Forks		2,354 12
„ Quesnel-Blackwater		939 87
„ Quesnel-Cottonwood		31 50
„ Quesnel-Dragon Lake		8 25
„ Quesnel-Nazko		1,908 85
„ Quesnel-Quesnel Forks		1,631 25
„ Quesnel Forks-Keithley		377 50
„ Quesnel Lake Dam		10 50
„ Sawmill		5 00
„ Spanish Creek		10 50
„ Soda Creek-Alexandria		7 00
„ Soda Creek-Chilcotin		48 25
„ Soda Creek-Meldrum Creek		50 25
„ Soda Creek-Williams Lake		42 25
„ Upper Horsefly		31 50
„ White's Landing		21 00
„ Williams Lake-Alkali		16 25
„ Winter		1,732 92

CARIBOO DISTRICT—*Concluded.*

Trail—108-Mile		$ 70 50
„ Willow River		472 50
Streets—Quesnel		113 27
Stable Account		387 02
Wintering horses		75 00
Supervision—Assistant Engineer	$1,168 40	
„ General Foreman	591 27	
„ Clerical Work	240 00	
„ Auto Account	625 46	
		2,625 13
General supplies		4,736 94
Total		$ 41,694 69

CHILLIWACK DISTRICT.

(Vote 136—$18,700; Sup., $1,200 = $19,900.)

Road—Abbotsford-East Yale		$ 48 20
„ Abbotsford-Huntingdon		463 13
„ Abbotsford-Riverside		2,201 48
„ Abbotsford Townsite		268 31
„ Abbotsford-West Yale		2,618 85
„ Chilliwack River		410 45
„ Columbia Valley		700 35
„ Cultus Lake-Vedder Crossing		20 64
„ Huntingdon Townsite		191 31
„ Kosikar-Cultus Lake		333 63
„ McGrath-Rosedale-Agassiz		51 00
„ Rock-bunkers, Gifford		68 93
„ Rock-quarry, Vedder Mountain		284 97
„ Sumas Mountain		260 82
„ Wade's Landing		90 53
„ Yale (Chilliwack-Vedder)		2,139 03
„ Yale (Chilliwack-Rosedale)		2,361 29
„ Yale (east of Rosedale)		154 90
„ Yale (Vedder-Prairie)		2,812 79
„ Yale (Vedder-Vye)		2,596 45
„ Vye		226 51
Street—Huntingdon City		26 00
Supervision—Assistant Engineer	$645 95	
„ General Foreman	145 92	
„ Clerical work	75 00	
„ Auto Account	467 83	
		1,334 70
General supplies		57 36
Total		$ 19,721 63

COLUMBIA DISTRICT.

(Vote 137—$20,700; Sup., $200 = $20,900.)

Road—Athalmer and vicinity		$ 2,565 24
„ Athalmer-Wilmer		16 00
„ Banff-Windermere		29 00
„ Blaeberry-Donald		543 35
„ Brisco		86 60
„ Campbell		737 05
„ Canal Flat		89 00

COLUMBIA DISTRICT—*Concluded.*

Road—Chalmers		$ 110 50
„ Cemetery		15 00
„ Foster Hill-No. 2 Creek		28 00
„ Foster's Landing-Red Rock		46 50
„ Golden-Blaeberry		552 00
„ Golden and vicinity		1,318 65
„ Golden-Donald		156 00
„ Golden-Moberly		652 25
„ Holmes and Deakin		491 50
„ Horse Thief Creek		10 00
„ Invermere and vicinity		27 00
„ Johnston		115 00
„ Lower Moberly-Upper Moberly		162 00
„ Main Trunk		9 00
„ Main Trunk (east side)		3,550 39
„ Main Trunk (west side)		324 75
„ Mitchell		273 00
„ Moberly-Donald		123 05
„ Mud Creek grade		10 00
„ Nine-mile Creek		6 50
„ Olberg and Janson		73 00
„ Palliser		3 50
„ Paradise Mine		12 00
„ Red Rock		85 50
„ Sinclair-Stoddart's Creek		9 00
„ Taggart's Pass		53 00
„ Toby Creek		277 50
„ Toby Creek Cut-off		2,468 47
„ Toby Hill		36 00
„ Upper Toby		50 00
„ West side of Lake Windermere		48 00
„ Wilmer and vicinity		189 75
„ Windermere and vicinity		62 00
Trail—Giant Mine		16 00
Supervision—Assistant Engineer	$2,037 02	
„ Auto Account	745 10	
„ Clerical work	225 00	
		3,007 12
General supplies		2,461 53
Total		$ 20,899 70

COMOX DISTRICT. (Vote 138—$33,700.)

Road—Anderton's	$ 235 88
„ Back	137 18
„ Bridges Cross	24 00
„ Burns and Parkin	72 75
„ Butcher's	4 00
„ Cessford	65 25
„ Cliffe's	2 00
„ Comox and John Hardy	753 61
„ Concession, No. 1	47 00
„ Concession, No. 2	1,035 03
„ Cortes Island	602 59

COMOX DISTRICT—*Continued.*

Road—Courtenay-Comox	$	1,614 58
„ Cowie's		643 00
„ Creech's		1,599 31
„ Cumberland-Comox		33 50
„ Cumberland-Courtenay		1,381 01
„ Cumberland-No. 7 Mine		177 00
„ Cumberland and Roy		253 40
„ Denman Island		426 17
„ Fanny Bay and Station		316 24
„ Fraser and Harrigan		292 75
„ Grieve and Rennison		139 33
„ Hardy Bay		22 00
„ Hardy Bay-Coal Harbour		1,139 03
„ Hawkins and McCluskey		8 00
„ Higgins and Knight		137 75
„ Hornby Island		536 00
„ Huband		80 15
„ Kelland, No. 31		27 00
„ Kirby		3 00
„ Lake Trail-No. 7 Mine		13 00
„ Lake Trail-Power-house		17 50
„ Lasqueti Island		308 12
„ Laurence and Briscoe		6 00
„ Lever's		1 00
„ Little River		373 61
„ Lot No. 117		5 00
„ Lot No. 216		5 50
„ Lund-Powell River		867 60
„ Malcolm River		413 90
„ Marsden-Kilpatrick		256 25
„ Milligan and Parkin		269 99
„ McDonald's		2 00
„ McQuillan's		104 75
„ Nahwitte-Shushartie Bay		79 80
„ Nimpkish River-Settlement		101 02
„ Powell River-Grief Point		226 25
„ Powell River-Ocean View		8 10
„ Powell Lake-Olsen Lake		195 50
„ Radford's		6 00
„ Roy's-Cumberland		83 20
„ Salmon River		43 10
„ Sandwick and Bridges		499 20
„ Sharpe and Moore		6 00
„ Shushartie-Cache Creek		16 25
„ Smith's Cross		109 25
„ Texada Island		1,193 54
„ Torrance		6 00
„ Valdes Island		518 09
„ Victoria-Campbell River		9,906 62
Trail—Cannery		102 50
„ Lake		70 62
„ Main		75 00
„ McKinnell's		22 75
„ Section 28, Township 33		221 50

COMOX DISTRICT—*Concluded.*

Supervision—Assistant Engineer	$2,300 68	
„ Auto Account	1,032 13	
„ Clerical work	39 30	
		3,372 11
General supplies		2,097 22
Total		$ 33,412 35

COWICHAN DISTRICT. (Vote 139—$16,700.)

Road—Bazzett	$ 531 34
„ Bench	124 57
„ Cameron-Taggart	193 75
„ Cherry Point	13 12
„ Cowichan Lake	1,862 68
„ Cowichan Lake (south shore)	230 00
„ Deloume	25 00
„ Fall's	17 00
„ Fisher's	106 00
„ Glenore	33 79
„ Halhed	70 50
„ Hall and Hawkins	34 76
„ Hillbank	62 50
„ Hopkins	56 00
„ Indian	171 02
„ Jackson	30 75
„ Koksilah-Riverside	3 00
„ Lakeside	350 74
„ Old Koksilah	606 27
„ Old School-house	25 00
„ Old Victoria	233 50
„ Rip's	31 50
„ Sahtlam	209 18
„ Shawnigan Lake	627 00
„ Shawnigan-Mill Bay	29 25
„ Sheppard	85 18
„ Soole	86 70
„ Thain's	100 55
„ Telegraph	131 50
„ Victoria-Campbell River	8,317 78
„ Wallick	33 00
„ Wilson	50 00
Trail—Bridge (Clo-oose)	47 25
„ Brown's (Clo-oose-Nitinat)	99 00
„ Cannery	72 25
„ Silver Mine	82 75
Avenue—Garland	151 00
Supervision—Assistant District Engineer $866 97	
„ Auto Account 584 35	
1,451 32	
General supplies	201 95
Total	$ 16,588 45

CRANBROOK DISTRICT.

(Vote 140—$28,700; Sup., $300 = $29,000.)

Road—Booth Creek	$ 9 00
„ Cranbrook (adjacent)	2,153 09

CRANBROOK DISTRICT—*Concluded.*

Road—Cranbrook-Fort Steele		$	649 72
„ Cranbrook-Fort Steele via Mission			205 00
„ Cranbrook-Gateway			439 25
„ Cranbrook-Goatfell			18 00
„ Cranbrook-Marysville			15 00
„ Cranbrook-McClure's and Kingsmill			370 90
„ Cranbrook-New Lake			14 00
„ Cranbrook-Perry Creek			7 00
„ Cranbrook-St. Mary River			224 25
„ Cranbrook-Wycliffe			2,626 70
„ Gold Creek Settlements			64 50
„ Ha-ha Creek			50 00
„ Kelly Slough			17 63
„ Kimberley-North Star			248 50
„ Main Trunk (Cranbrook-Moyie)			3,483 65
„ Main Trunk (Cranbrook-Wardner)			239 35
„ Main Trunk (Cranbrook-Wattsburg)			1 50
„ Main Trunk (Moyie-Goatfell)			3,145 45
„ Main Trunk (Yahk-Kingsgate)			593 10
„ Mayook Settlement			834 03
„ Marysville-Kimberley and Sullivan Mine			1,616 67
„ Marysville-St. Mary Lake			1,256 74
„ Meadowbrook Settlement			739 00
„ Mission-Marysville			293 50
„ Mission-Perry Creek			53 00
„ Mission-Wasa Bridge			47 75
„ Mission-Wesport			13 00
„ Munroe Lake			284 75
„ McGinty			42 00
„ Perry Creek from Crothers			1,233 56
„ St. Eugene Mine			295 70
„ St. Eugene-Mission			324 28
„ St. Mary's Prairie Settlement			612 09
„ Waldo-Newgate			53
„ Wasa Bridge-Skookumchuck			109 75
„ Wauklin School			423 05
„ Wycliffe-Cherry Creek			43 50
„ Wycliffe-Marysville			131 54
„ Wycliffe-Mission			633 77
Trail—Fish Lake			12 00
„ St. Mary Main			75 00
„ St. Mary (South Fork)			30 00
„ St. Mary (West Fork)			33 50
„ Upper St. Mary			38 00
„ Whitefish			51 00
Streets—Moyie			138 55
„ Wardner			31 63
Supervision—General Foreman	$1,790 68		
„ Automobile Account	641 45		
„ Clerical work	569 63		
			3,001 76
General supplies			2,020 89
Total		$	28,996 13

DELTA DISTRICT. (Vote 141—$17,700.)

Road—Abbotsford-West Yale			$ 228 75
„ Hjorth			360 75
„ Pacific Highway			7,766 79
„ Rock-bunkers, Cloverdale			80 89
„ Scott			2,000 00
„ Yale			5,383 18
Supervision—Assistant Engineer	$917 85		
„ General Foreman	120 58		
„ Clerical work	75 00		
„ Auto Account	522 87		
			1,636 30
General supplies			37 57
Total			$ 17,494 23

DEWDNEY DISTRICT.

(Vote 142—$31,700; S.W., $2,700; Cr. Note, $18.38 = $34,418.38.)

Road—Davis and Tupper	$ 133 35
„ Deroche	16 50
„ Deroche and Athey	8 00
„ Dewdney Trunk, Section 1	432 28
„ Dewdney Trunk, Section 2	6,702 01
„ Dewdney Trunk, Section 3	1,694 89
„ Dewdney Trunk, Section 4	1,220 35
„ Dewdney Trunk, Section 5	202 55
„ Dewdney Trunk, Section 6	664 70
„ Dewdney Trunk, Section 7	766 35
„ Dewdney Trunk, Section 8	869 70
„ Dewdney Trunk, Section 9	168 50
„ Fraser River Dyke	184 24
„ Hammond	196 60
„ Hatzic Front	132 70
„ Hatzic Prairie-Dewdney	363 83
„ Hatzic Prairie-Sylvester	603 64
„ Hyde and Buker	234 40
„ Ioco	5,314 71
„ Johnson	13 00
„ Kirkpatrick	3 00
„ Macauley	35 50
„ Malcolm	24 75
„ Mission Ferry Wharf	8 50
„ Mission-Stave Lake	378 14
„ Mission Townsite	2,845 99
„ McDonald	2 00
„ McKenney Creek	23 25
„ McNeil, Rennie, and Campbell	639 73
„ McRae	1 00
„ Newton	3 00
„ Nicomen Dyke	2,381 02
„ Nicomen Island Trunk	824 85
„ North Nicomen	276 80
„ North of Sunnyside	191 20
„ Pickles	95 98
„ River Road (south)	287 05
„ Ruskin-Stave Falls	81 00

DEWDNEY DISTRICT—*Concluded.*

Road—Sharpe		$ 46 50
„ Shook-McEwan		12 75
„ Silverdale		1,881 57
„ Smith		13 00
„ Sterling-Morrison		126 00
„ Sunnyside		56 50
„ Tremblay		3 00
„ Whonnock Front		541 75
Supervision—General Foreman	$1,599 75	
„ Clerical work	150 00	
„ Auto Account	860 65	
		2,610 40
General supplies		638 19
Total		$ 33,954 72

ESQUIMALT DISTRICT.

(Vote 143—$23,700; Sup., $1,500 = $25,200.)

Road—Atkins	$ 155 00
„ Battersby	60 00
„ Bennett's	10 00
„ Brown's	340 95
„ Calvert's	211 86
„ Colwood	2,412 34
„ Craigflower	1,393 85
„ Deacon's	29 50
„ Duke's	103 05
„ East Sooke	746 66
„ Ellison's	126 25
„ Finlayson's Arm	41 50
„ Fisher's	29 00
„ Fitzgerald's	167 00
„ Gillespie's	16 25
„ Goldstream	1,527 28
„ Goldstream Cross	38 25
„ Gordon River	193 80
„ Happy Valley	759 87
„ Hart's	189 80
„ Helgeson's	47 50
„ Helmcken	80 00
„ Jordan River	899 50
„ Kemp	105 00
„ Lagoon	10 10
„ Lighthouse	134 50
„ Luxton	22 00
„ Metchosin	863 43
„ Metchosin Cross	60 75
„ Miller's	22 50
„ Millstream	340 81
„ Milne	50
„ Munn's	12 00
„ Otter Point	910 55
„ Parkinson	337 10
„ Phillips	90 00
„ Poirier	132 50

ESQUIMALT DISTRICT—*Concluded.*

Road—Quarantine		$ 224 55
„ Renfrew		122 50
„ Robinson's		22 50
„ Rocky Point		650 75
„ Ross-Durrance		1,999 38
„ San Juan (west)		46 00
„ Sanwick		5 50
„ Shawnigan Lake		85 00
„ Shield's		21 00
„ Shirley		877 99
„ Sooke		1,855 38
„ Sooke River		470 45
„ Sooke (west)		72 75
„ Station		115 25
„ Summit		437 43
„ Taylor		82 50
„ Thetis Lake		125 00
„ Victoria-Campbell River		10 50
„ Vancouver Island Trunk		1,741 48
„ Wright's		143 50
„ Young's Lake		67 00
Avenue—Maple		113 42
Supervision—General Foreman	$1,004 20	
„ Clerical work	630 00	
„ Auto Account	712 30	
		2,346 50
General supplies		844 90
Total		$ 25,102 18

FERNIE DISTRICT. (Vote 144—$23,700.)

Road—Baynes-Waldo	$ 66 50
„ Elko-Morrissey	1,452 75
„ Elk-Prairie	78 25
„ Elko-Roosville	504 96
„ Elk Valley	58 75
„ Elko-Waldo	561 85
„ Fernie-Coal Creek	1,189 40
„ Fernie-Hosmer	2,070 30
„ Fernie-Morrissey	3,911 24
„ Fernie West-Cedar Valley	3,176 40
„ Flathead Valley	249 50
„ Fort Steele-Bull River	280 50
„ Fort Steele-Canal Flats	346 95
„ Fort Steele-Wasa	1,138 86
„ Fort Steele-Wild Horse	3 00
„ Gateway Ferry	303 00
„ Jaffray-Wardner	194 50
„ Lizzard Creek Ranches	92 75
„ Michel-Crowsnest	846 20
„ Michel-Hosmer	1,216 60
„ Michel Prairie (south)	69 25
„ South Forks-Elko	152 50
„ Waldo-Flagstone	376 00
„ Waldo-Gateway	854 00
„ Wardner-Bull River	116 50

FERNIE DISTRICT—*Concluded.*

Road—Wardner-Fort Steele		$ 75 00
„ Wardner-Waldo		144 00
„ Wasa-Canal Flats		111 25
Streets—Elko		52 50
„ Natal		147 00
„ West Fernie		202 43
Sidewalks—Bull River		68 50
„ Fort Steele		126 81
Supervision—Assistant Engineer	$1,567 83	
„ General Foreman	156 10	
„ Clerical work	55 16	
„ Auto Account	794 35	
		2,573 44
General supplies		727 85
Total		$ 23,539 29

FORT GEORGE DISTRICT. (Vote 145—$38,700.)

Road—Aleza Lake	$ 648 92
„ Bearhead	1 62
„ Bobtail Lake-Upper Mud River	16 50
„ Dunster District	577 85
„ Engen District	1,608 36
„ Fort George-Blackwater	1,240 42
„ Fort George-Chief Lake	1,331 88
„ Fort George-Pinker Willow	3,561 18
„ Fort George-Stony Creek	1,282 44
„ Fort George-Summit Lake	1,366 95
„ Fort Fraser Extension	1,018 07
„ Fraser-Francois Lake, No. 6	826 90
„ Gardner Crossing	699 50
„ Grande Prairie	477 25
„ Greer Valley	154 50
„ Hoffercamp	24 50
„ Hoffstrim	204 50
„ Hulatt District	988 77
„ Kelly Settlement	1,054 35
„ Lampitt-Hargreave	150 00
„ Longworth (south)	100 11
„ Mud River Valley (south)	22 75
„ McBride	1,060 90
„ McKinnon Crossing	103 75
„ Ness Lake	785 00
„ Pierce	261 25
„ Pinket Settlement	29 00
„ Pouce Coupe Crossing	239 00
„ Quesnel-Fraser Lake	855 38
„ Schafer	1,028 30
„ Six-mile-Buckhorn Lake	106 85
„ Stuart Lake-Fraser Lake Trail	42 45
„ Tsinkut Lake-Cottonwood Creek	93 10
„ Tsinkut-Stuart Lake	1,159 65
„ Vanderhoof (south)	199 34
„ Vanderhoof-Sturgeon Point	1,260 66
„ West Lake	73 50

FORT GEORGE DISTRICT—*Concluded.*

Supervision—Assistant Engineer	$ 336 75	
„ General Foreman	5,443 55	
„ Clerical work	722 65	
„ Auto Account	694 55	
		7,197 50
General supplies		6,846 14
Total		$ 38,699 09

GRAND FORKS DISTRICT. (Vote 146—$16,700.)

Road—Anaconda-Wellington Camp		$ 45 50
„ Bear Creek-Pass Creek		1,000 75
„ Cascade-Fife		762 25
„ Cascade-Laurier		17 00
„ Cascade-Moody Creek		51 00
„ Cascade-Paulson		218 50
„ Christina Lake (west)		45 00
„ Deep Creek-Boundary-line		376 50
„ English Cove-Head of Lake		239 00
„ Fife-Christina Lake		150 50
„ Fife-Sutherland Creek		209 50
„ Fourth of July Creek		206 00
„ Granby Addition-Phoenix		34 50
„ Grand Forks-Carson (north)		290 00
„ Grand Forks-Carson (south)		562 80
„ Grand Forks-Cascade (north)		2,204 00
„ Grand Forks-Cascade (south)		214 00
„ Grand Forks-Eholt		39 50
„ Grand Forks-Franklin		2,020 50
„ Grand Forks-Hardy Mountain		5 00
„ Grand Forks-Pass Creek		274 65
„ Grand Forks-Summit City		651 50
„ Hartford Junction-Boundary-line		87 50
„ Mill Creek-Grand Forks		75 00
„ Moody Creek-Cascade		45 00
„ Morrissey Creek (east)		401 00
„ Morrissey Creek (west)		75 00
„ Norway Mountain-Paulson		195 85
„ Phoenix-Greenwood (north)		398 50
„ Phoenix-Greenwood (south)		62 00
„ Phoenix-Summit City		982 10
Supervision—General Foreman	$1,961 20	
„ Clerical work	455 00	
„ Auto Account	663 10	
		3,079 30
General supplies		1,387 75
Total		$ 16,406 95

GREENWOOD DISTRICT. (Vote 147—$16,700.)

Road—Anaconda-No. 7 Mine	$ 386 25
„ Baker Creek	18 25
„ Beaverdale Station	19 50
„ Boundary Creek	157 50
„ Bridesville-Molson	153 20

GREENWOOD DISTRICT—*Concluded.*

Road—Camp McKinney-Rock Creek		$ 74 00
„ Camp McKinney-Sidley		394 37
„ Carmi-Penticton Trail		30 00
„ Caron, No. 9		135 75
„ Deadwood-Copper Creek		583 50
„ Eholt-Summit Camp		428 00
„ Fish Lake		3 00
„ Greenwood-Eholt		619 25
„ Greenwood-Midway		1,293 80
„ Greenwood-Phoenix		563 00
„ Hartley-Phoenix		100 00
„ Ingram Mountain		203 25
„ Kerr Creek		155 50
„ Kettle River Main		2,860 43
„ Kettle River (east side)		184 75
„ Kettle River (West Fork)		358 25
„ Letts-Higginbotham		60 00
„ Link Creek		160 00
„ Long Lake-Jewel Mines		250 75
„ Lynn Creek		469 37
„ Midway-Rock Creek		922 75
„ Myers Creek		113 89
„ McCarren Creek		274 75
„ Nicholson Creek		249 25
„ Rock Creek-Myncaster		105 00
„ Rock Creek-Nine-mile		1,652 40
„ Rock Mountain		100 81
„ Rock Mountain-Myncaster		93 25
„ Rock Mountain-Bridesville		48 00
„ Sally		440 90
„ Sidley Mountain		217 10
„ Town Creek		78 50
Supervision—General Foreman	$1,467 27	
„ Auto Account	644 84	
„ Clerical work	183 30	
		2,295 41
General supplies		292 36
Total		$ 16,546 04

ISLANDS DISTRICT.

(Vote 148—$17,700; Cr., $2.30 = $17,702.30.)

Gabriola Island.

Road—Bay	$ 118 00
„ Centre	53 00
„ Degnen and Gray's	59 00
„ Dixon	9 00
„ East	97 00
„ Easthom	7 00
„ Laws	140 00
„ Main (west)	94 50
„ McLay	87 00
„ Palmer's	29 00
„ Peterson's	9 00
„ South End	134 11

ISLANDS DISTRICT—*Continued.*

Gabriola Island—Concluded.

Road—Taylor	$	75 00
„ Troop		38 00
General supplies		125 69

Galiano Island (North).

Road—Main (north)		147 75
General supplies		17 37

Galiano Island (South).

Road—Bluff		10 50
„ Burril		4 00
„ Main		56 50
„ Morgan's		2 00
„ Retreat Cove		17 25
„ Shield's		2 00
General supplies		43 90
Trail—North End		292 00

Mayne Island.

Road—David's		20 00
„ Horton Bay		28 00
„ Mayne		185 50
„ Point Comfort		76 50
„ Village Bay		115 00
General supplies		111 25

North Saanich.

Road—Breed's		61 75
„ Bullen's		25 00
„ Centre		294 00
„ Davis		59 00
„ Deep Bay		90 50
„ Downey's		6 00
„ Downey's Subdivision		24 00
„ East (Bazan Bay)		1,204 13
„ Marine Drive		245 71
„ Medrona Drive (new)		39 00
„ Mount Newton (west)		473 90
„ School Cross		14 25
Avenue—Beacon		400 88
„ Beauford		152 25
„ Henry		72 00
„ Oakland		61 00
„ Orchard		37 00
Street—Fourth		48 25
„ Sidney		572 72
General supplies		310 01

Pender Island (North).

Road—Bedwell		378 00
„ Browning Harbour		10 50
„ Hoosen's		31 00
„ Hope Bay		43 62
„ Otter Bay		35 00

ISLANDS DISTRICT—*Continued.*

Pender Island (North)—Concluded.

Road—Port Washington	$	9 25
„ Roe's		12 50
General supplies		41 65

Pender Island (South).

Road—Bedwell	94 50
„ Clam Bay	15 50
„ Corbet's	96 50
„ Higg's	20 00
„ Hope Bay (Port Washington)	103 52
„ Otter Bay	43 75
„ Spalding's	15 00

Saltspring Island (North).

Road—Beddis	106 50
„ Breadwell	26 00
„ Burgoyne	6 37
„ Canal	10 72
„ Cranberry	452 35
„ Divide	393 40
„ Eperon	33 00
„ Fernwood	98 66
„ Ganges (lower)	326 80
„ Ganges (upper)	162 75
„ Hill and Brantford	4 52
„ Knight's	28 75
„ Le Page	35 00
„ Mansell	112 00
„ Nobbs	27 49
„ North End	381 25
„ Rainbow	120 50
„ Rosman	189 75
„ Scott	3 62
„ Stark	54 62
„ Tripp's	123 50
„ Vesuvius	91 00
„ Walker's Hook	140 00
General supplies	89 72

Saltspring Island (South).

Road—Beaver Point	268 25
„ Brantford's	10 12
„ Burgoyne Bay	610 77
„ Isabel Point	100 50
„ Mountain	308 65
General supplies	44 05

Saturna Island.

Road—Boot Bay	28 50
„ Central	594 00
„ Deep Bay	57 75
„ Taylor's	7 00
Trail—Dyne's	14 00
„ Lyall Harbour	80 00
General supplies	207 07

ISLANDS DISTRICT—*Concluded.*

Thetis Island.

Road—Nixon		$ 6 25
„ Thetis		154 80
„ Wharf		14 25
General supplies		30 07
Supervision—Government launch	$1,190 21	
„ General Foreman	1,320 85	
„ Auto Account	185 72	
„ Clerical work	450 00	
		3,146 78
General supplies		678 40
Total		$ 16,725 94

KAMLOOPS DISTRICT. (Vote 149—$28,700.)

Road—Adams Lake	$ 339 10
„ Barriere River	7 65
„ Beaton-Fish Lake	158 65
„ Blind Bay-Eagle Bay	321 00
„ Bulmer-Fraser-Palmer	296 70
„ Buse Meadow	118 14
„ Campbell Creek	756 54
„ Canoe	301 50
„ Celista	615 74
„ Chase Creek	2,122 68
„ Chase-Squilax	344 04
„ Chase Town	52 00
„ China Valley	548 90
„ Clearwater	80 86
„ Douglas Lake-Grande Prairie	86 85
„ Ducks-Grande Prairie-Falkland	1,341 76
„ Duck Range	153 59
„ Duck Station-Disedero	19 25
„ Edith Lake	3 80
„ Fadear Creek	318 95
„ Ferguson-Hazelhurst	46 75
„ Harpers Camp	334 60
„ Hollis-McLeod	51 25
„ Hudson Bay Gulch	154 60
„ Kamloops-Nicola	620 34
„ Kamloops-Savona	1,116 00
„ Kamloops-Shuswap	1,347 24
„ Kamloops-Tranquille	697 48
„ Leigh	90 00
„ Little Fort-Horse Lake	114 00
„ Long Lake	27 00
„ Louis Creek	1,084 50
„ Mamete Lake	16 00
„ Martin's Prairie	197 18
„ Miller-Lazard	180 85
„ Moberley-Tappen	48 00
„ McLeod Range	12 44
„ North Thompson (east)	2,478 73
„ North Thompson (west)	2,139 78
„ Notch Hill West-Squilax	131 00

KAMLOOPS DISTRICT—*Concluded.*

Road—Notch-Tappen			$ 123 25
„ Old Men's Home			115 50
„ Oxley Valley			142 25
„ Peterson-Betts			85 58
„ Reserve Creek			277 39
„ Rose Hill (old)			228 76
„ Rose Hill (new)			456 87
„ Salmon Arm Municipality			1,505 33
„ Scotch Creek			81 00
„ Seymour River			76 66
„ Shuswap-Kault-Salmon Arm			129 77
„ South Thompson			665 57
„ Squilax			402 66
„ Strawberry Heights			100 00
„ Sullivan Valley-C.N.R. Siding			123 05
„ Tappen-Carlin			191 75
„ Todd-Duck Meadow			135 80
„ White Lake			31 80
Supervision—Assistant Engineer		$ 15 00	
„ General Foreman		986 18	
„ Clerical work		977 03	
„ Auto Account		1,139 60	
			3,117 81
General supplies			1,224 38
Total			$ 28,090 62

KASLO DISTRICT. (Vote 150—$27,700.)

Road—Ainsworth (north)	$ 85 50
„ Ainsworth (south)	508 50
„ Argenta	93 00
„ Beach	53 25
„ Burden	48 62
„ Canning	6 50
„ Canyon City	9 00
„ Canyon Siding-Gorthill	39 25
„ Cemetery	14 50
„ Circle City-Old Gold	29 00
„ Crawford Bay	82 00
„ Crawford Creek	1,087 07
„ Creston-Alice Mine	36 25
„ Creston-Erickson	797 00
„ Creston-Goat River	67 50
„ Creston-Kitchener-Goatfell	1,183 25
„ Creston-Kuskanook	101 75
„ Creston-Porthill	628 13
„ Creston-Sirdar	147 50
„ Creston-Summit Creek	370 57
„ Duck Creek	23 00
„ Erickson-Canyon City	117 50
„ Erickson-Porthill	132 15
„ Florence	30 00
„ Gardner's	16 25
„ Hamill Creek	340 12
„ Hood-Medford	87 99

KASLO DISTRICT—*Continued.*

Road—Howser-Argenta	$	90 75
„ Howser-Lardeau		43 25
„ Huston		13 00
„ Jackson		6 62
„ Kaslo Creek (North Fork)		76 12
„ Kaslo Creek (South Fork)		609 13
„ Kaslo (north)		533 30
„ Kaslo (south)		84 70
„ Kaslo (South Fork)		315 25
„ Lardeau (North Fork)		180 50
„ Lardeau (South Fork)		36 25
„ Lindsay		31 00
„ Lynchville		440 00
„ Meadow Creek Wagon		30 00
„ Mirror Lake		132 36
„ Murphy Creek		100 00
„ McMurtrie-Stewart		36 50
„ Nettie L.		50 00
„ Peters		87 00
„ Pilot Bay		49 62
„ Porthill		10 50
„ Queen's Bay-Balfour		600 49
„ Samuelson		133 63
„ Smith and Peterson		50 00
„ Spokane		296 85
„ Utica		507 00
„ Wadd's		46 75
„ Wilmot		296 00
„ Winslow		81 00
Trail—Alpine		9 75
„ Beaver		58 00
„ Brown Creek		14 50
„ Cariboo Creek		58 50
„ Cascade Creek		161 55
„ Coffee Creek		180 87
„ Crawford Creek		9 75
„ Duncan River		190 84
„ Eight-mile		185 25
„ Ethel		13 00
„ Eureka		200 80
„ Ferguson (northern)		173 00
„ Fidelity		74 75
„ Five-mile Creek		39 00
„ Flint		53 62
„ Gainor Creek		46 50
„ Gertrude Creek		51 50
„ Goat River		22 00
„ Grey Creek		49 50
„ Hall Creek		240 76
„ Howser Lake (east)		99 10
„ Kaslo Creek (North Fork)		27 50
„ Keen		14 50
„ La France Creek		99 00
„ Lake Creek		58 00
„ Lardeau River		107 25

KASLO DISTRICT—*Concluded.*

Trail—Lardeau River (east)		$ 208 00
„ Leviathan		26 00
„ Lockhart Creek		98 00
„ Lucky Boy		148 12
„ Meadow Creek		38 75
„ Poplar Creek		108 25
„ Rose's Pass		78 00
„ Sauca-Boswell		200 00
„ Scranton		68 24
„ Silver Cup		47 50
„ Smuggler		90 00
„ Spring Creek		32 80
„ Stanley		73 50
„ Tenderfoot Creek		32 50
„ Trout Lake-Beaton		780 10
„ Trout Lake (east)		91 50
„ Trout Lake-Ten-mile		1,776 83
„ White Grouse		39 75
„ Whitewater		90 00
„ Woodberry Creek (North Fork)		530 02
Streets—Ainsworth		92 26
„ Creston		429 58
„ Kaslo		145 63
„ Lardeau		6 50
Sidewalks—Trout Lake		19 50
Bridge—Foot-bridge, Wakefield Road		34 10
„ Goat River		4 00
Protection-work—Lardeau River		445 20
Supervision—General Foreman	$1,472 59	
„ Clerical work	393 40	
		1,865 99
General supplies		1,106 29
Total		$ 22,048 42

LILLOOET DISTRICT. (Vote 151—$28,700.)

Road—Big Bar	$ 879 18
„ Big Bar-Big Bar Mountain	348 92
„ Big Bar-Empire Valley	1,108 75
„ Big Bar Ferry	41 00
„ Big Bar Lake-Beaver Dam	75
„ Big Bar Mountain (Cross Bar)	278 00
„ Bonaparte Valley	104 25
„ Bridge River	3,643 03
„ Bridge Creek-Canim Lake	48 00
„ Bridge Creek-Horse Lake-Fish Lake	75 00
„ Buffalo Lake	117 50
„ Canoe Creek-Churn Creek	868 84
„ Cariboo Main	5,080 82
„ Chilcotin Main	1,078 50
„ Churn Creek-Hanceville	710 10
„ Clinton-Alkali	1,113 35
„ Clinton-Alkali (via Kelly Lake)	189 53
„ Clinton Station	140 00
„ Criss Creek	920 65

LILLOOET DISTRICT—*Concluded.*

Road—Deadman Creek		$ 357 15
„ Deadman Creek (upper)		42 00
„ Empire Valley		185 75
„ Fog Creek-Criss Creek		43 00
„ Fog Creek-Wilson's		50 00
„ Fountain Valley		27 00
„ Hat Creek		110 00
„ High Bar		73 50
„ Jones-Dickey		745 75
„ Lillooet-Clinton		1,220 90
„ Lillooet-Lytton		1,975 11
„ Lillooet-Seton Lake		330 00
„ Marble Canyon		118 00
„ Mound-Loon Lake		163 85
„ McKinley-Hamilton-Ogden		18 00
„ North Bonaparte		217 77
„ North Fork		650 38
„ Porter		27 25
„ Raphael-Pigeon-Meason		130 00
„ Rayson-Beaver Dam		2 35
„ Rayson-Big Bar Lake		176 50
„ 70-Mile House-Green Lake-Porter's Branch		9 00
„ Sheep Creek-Riske Creek		30 00
„ Springhouse Prairie-Pigeon		99 40
„ Station		344 75
„ Upper Big Creek		25 00
„ Upper Dog Creek		45 00
„ Upper Hat Creek		24 00
„ Woods Box-High Bar		186 62
Trail—Bridge River Canyon		120 00
„ Gun Creek		1 85
„ Pavilion Ferry		51 00
„ Seton Lake		19 00
„ West of Fraser		87 00
Streets—Lillooet		32 25
Supervision—General Foreman	$1,913 00	
„ Auto Account	674 00	
		2,587 11
General supplies		1,562 37
Total		$ 28,634 78

NANAIMO DISTRICT. (Vote 152—$9,000.)

Road—Bates and others	$ 10 38
„ Boundary-line	42 00
„ Brechin	375 92
„ Departure Bay	334 17
„ Extension	31 37
„ Fielding and Hose	11 00
„ Five-acre Lots	1,508 94
„ Frews *et al.*	68 00
„ Gordon *et al.*	86 00
„ Harewood	56 00
„ Harewood Mine	144 82
„ Holden and Carso	2 00

NANAIMO DISTRICT—*Concluded.*

Road—Jingle Pot		$	156 60
„ Marshall's			24 00
„ Millstream			9 25
„ McClary Extension			18 00
„ Nanaimo Lake			122 95
„ Newcastle Townsite			12 50
„ Nichol Street Extension			317 92
„ Northfield			58 00
„ Old Victoria			58 00
„ Park Avenue			3 00
„ Raine's			30 00
„ Rosehill Avenue			20 00
„ South Fork			13 00
„ South Wellington			606 09
„ Victoria			272 00
„ Victoria-Campbell River			3,485 28
„ Wellington			37 00
Street—Eaton			13 50
„ Robin			49 00
„ Strickland			6 00
Supervision—Assistant Engineer	$426 35		
„ Clerical work	120 00		
„ Auto Account	185 80		
			732 15
General supplies			59 00
Total		$	8,773 84

NELSON DISTRICT. (Vote 153—$2,200.)

Road—Mountain		$	102 50
Streets—Fairview			1,866 33
„ South Nelson			31 00
Supervision—Clerical work			72 00
General supplies			104 00
Total		$	2,175 83

NEWCASTLE DISTRICT. (Vote 154—$18,700.)

Road—Adshead		$	38 75
„ Ainscough's			401 35
„ Andrew			74 00
„ Bennie-Yellow Point			303 30
„ Brown's			5 72
„ Buck's			502 50
„ Christie and Wallace			14 25
„ Corso's			245 35
„ Crane's			26 00
„ Cross			29 50
„ Departure Bay			30 25
„ East Wellington			390 58
„ Extension			258 75
„ Fiddick's			29 00
„ Forrester-Trudell			126 00
„ Greaves			24 50
„ Greenway's			54 50

NEWCASTLE DISTRICT—*Concluded.*

Road—Haslam's		$	173 25
„ Hemer's			478 99
„ Hill-Michael			109 25
„ Holden-Corso			46 00
„ Jingle Pot			281 84
„ Juriet's			81 75
„ Lockner's			455 91
„ Morden			121 37
„ McNiven			35 00
„ Nanaimo Lake			57 00
„ Newcastle Townsite			49 50
„ Old South Wellington			30 74
„ Oyster Bay			7 25
„ Paterson			42 25
„ Patricia			1,731 29
„ Quesnel-Weaver			124 20
„ Roosville			15 93
„ South Fork			238 27
„ South Wellington			246 31
„ Sumas			6 00
„ Thomas-Yellow Point			839 85
„ Tiesu			35 00
„ Victoria			16 50
„ Victoria-Campbell River			8,821 72
„ Waterloo			148 00
„ Westwood			17 50
„ Willett			37 00
Trail—Sutton			17 00
Avenue—Fourth			10 62
Supervision—Assistant Engineer	$780 40		
„ Clerical work	100 00		
„ Auto Account	510 20		
			1,390 60
General supplies			43 25
Total		$	18,263 44

NEW WESTMINSTER DISTRICT. (Vote 155—$8,000.)

Retaining-wall, Fraser Bridge		$	7,650 00

NORTH OKANAGAN DISTRICT.
(Vote 156—$27,700; Cr., $12.05 = $27,712.05.)

Road—Armstrong Municipality		$	341 00
„ Beanpark			2 50
„ Bluenose			113 00
„ Bowdler			15 50
„ B.X. Subdivision			269 90
„ Carlin Orchards			4 90
„ Coles Lake (L. and A. Subdivision)			56 60
„ Coldstream Mining			750 00
„ Coldstream-Vernon			27 90
„ Commonage			274 10
„ Coles Lake			88 50
„ Creighton Valley			375 50
„ Deep Creek			6 00

NORTH OKANAGAN DISTRICT—*Continued.*

Road—Eastside	$	10 00
„ Enderby-Mabel Lake		233 00
„ Enderby-Vernon		673 65
„ Ewing's		15 00
„ Dale's		11 45
„ Dure Meadows		209 00
„ East Vernon Subdivision		249 70
„ Falkhead-Chase		1 50
„ Falkhead-Paxton Valley		12 00
„ Fowler-Willett		332 75
„ Glenmary and branches		30 00
„ Glenemma-Armstrong		66 00
„ Grindrod		279 60
„ Grindrod-West Benches		2,372 25
„ Gunter-Allison		19 00
„ Haines-Wright		53 00
„ Keddleston		172 00
„ Knight		20 00
„ Long Lake		333 00
„ Lumby-Blue Spring Trail		6 00
„ Lumby-Creighton Valley		6 00
„ Lumby-Mabel Lake		597 50
„ Lumby-Vernon		8 75
„ Mabel Lake		1,377 25
„ Main Trunk		60 10
„ Mara-Enderby		268 45
„ Mara Lake		56 00
„ Mara Lake (east side)		99 00
„ Mara Lake (west side)		84 00
„ Mara Station		55 50
„ Monk's		77 45
„ Morgan's		38 00
„ Mowat's		2 45
„ Mud Lake (west side)		9 80
„ Okanagan Landing		251 50
„ Okanagan Landing Bench		87 00
„ Okanagan Landing Mill		57 00
„ Oyama Fruit Lots		140 00
„ Pleasant Valley		2,737 85
„ Riverside		267 50
„ Salmon Arm		428 25
„ Salmon River		903 93
„ Sawmill		6 00
„ Shuswap-Mabel Lake		2 50
„ Sigalet		12 00
„ Six-mile Creek		22 22
„ Spallumcheen Municipality		624 60
„ Sugar Lake		223 00
„ Trinity		11 00
„ Trinity Valley		3 78
„ Tronson		124 00
„ Vernon-Kamloops		1,567 75
„ Vernon-Kelowna		1,077 60
„ Vernon-Monashee		2,580 05
„ Ward's		69 00

NORTH OKANAGAN DISTRICT—*Concluded.*

Road—Waterside		$ 22 00
„ Westside		51 00
„ Whitevale Subdivision		50 25
„ Woods Lake Fruit Lots		117 00
Trail—East side of Sugar Lake		75 00
„ Squaw Valley		231 50
Streets—Lumby Village		124 50
„ Maple		72 45
„ Mara		1 00
„ Pine		11 50
Bridge—Branchflower		57 50
„ Cooke's		16 00
„ Lumby's		9 50
„ Mara		24 00
„ Reiswig		32 00
„ Shuswap Falls		20 00
„ Siwash Creek		13 00
„ Six-mile Creek		13 00
„ Trinity		24 00
„ Upper Shuswap		91 25
„ Whiteman		13 00
Ferry—Sicamous		2 50
Supervision—Assistant Engineer	$1,825 89	
„ Clerical work	442 36	
„ Auto Account	1,397 45	
		3,665 70
General supplies		1,574 48
Total		$ 27,673 21

NORTH VANCOUVER DISTRICT. (Vote 157—$13,700.)

Road—Beasley	$ 10 00
„ Bowen Island Trunk	281 40
„ Carter's (Bowen Island)	24 00
„ Chamberlain	22 00
„ Chaster	21 00
„ Cowan	382 50
„ Crowder	10 00
„ Dorman	42 50
„ Dougall	18 00
„ Eagle Cliff	6 00
„ Gibson Landing	512 78
„ Gibson-Port Mellon	6 00
„ Gibson-Sechelt	614 82
„ Grafton (Bowen Island)	36 00
„ Grant and Glasford	39 50
„ Grover Point	77 85
„ Half Moon Bay	12 25
„ Hanbury's	1 50
„ Kearton's	5 50
„ Langlois	35 00
„ Leak	19 50
„ Lett (Gambier Island)	10 63
„ Lye-Lockyer	81 25
„ Magee	10 00

NORTH VANCOUVER DISTRICT—*Concluded.*

Road—Marris			$ 19 00
„ Mason (new)			1,827 25
„ Miller			25 00
„ Moodyville			318 71
„ McLaughlin			17 50
„ Old Cariboo			7 00
„ Pemberton Portage			605 65
„ Pemberton Valley			1,636 80
„ Porpoise Bay			91 50
„ Red Roofs (Half Moon Bay)			75 00
„ Reeves			6 75
„ Reid			125 73
„ Roberts Creek			137 00
„ Sechelt-North-west Bay			424 25
„ Selma Park (new)			50 00
„ Simpson			80 75
„ Smith's Landing (Howe Sound)			206 80
„ Squamish (lower)			339 13
„ Squamish (upper)			32 30
„ Squamish Valley			1,301 25
„ Watson's			2 00
„ Wollatt's			19 00
Trail—Bargain Harbour			315 00
„ Gambier Island			30 00
„ Heeley			25 00
„ Sakinaw			225 31
Streets—Squamish			78 25
Avenue—Beach			233 15
Drain—Kearton's Ranch			225 50
Flume—Gibson's Landing			66 90
Supervision—Assistant Engineer		$1,388 88	
„ Clerical work		466 25	
„ Auto Account		37 87	
„ Government launch "Sutil"		97 67	
„ Motor-cycle		724 42	
			2,715 09
General supplies			152 76
Total			$ 13,695 31

OMINECA DISTRICT.

(Vote 158—$43,700; S.W., $7,500; Sup., $2,500 = $53,700.)

Road—Bickles P.O.-McDonald's Landing	$ 15 00
„ Bulkley Bridge-Hudson May Mountain	18 75
„ Burn's Lake-Babine Trail	194 25
„ Burn's Lake-Francois Lake	336 25
„ Cheslatta-East End of Ootsa	30 00
„ Chicken Lake-Steel Mines Trail	52 00
„ Colley Mountain	2,864 10
„ Cronin	9,959 35
„ Driftwood Creek	138 74
„ Endako-Francois Lake	1,085 84
„ Forresdale-Day Lake	58 75
„ Hazelton-Aldermere	1,099 19
„ Hazelton-Skeena Crossing	409 24

OMINECA DISTRICT—*Concluded.*

Road—Heal-Norris			$ 7 50
„ Houston-North Bulkley			2,479 86
„ Hubert-Babine			60 00
„ Hudson Bay Mountain Sleigh			231 27
„ Hynes Settlement			66 25
„ Keefe's Landing-Ootsa Lake			3,835 80
„ Kispiox Valley			466 50
„ Main Trunk			339 88
„ Main-Fraser Lake			653 47
„ Nancy Settlement			404 10
„ New Hazelton High Level Bridge			47 23
„ Nine-mile			328 62
„ Pleasant Valley-Francois Lake			37 00
„ Rocher Deboulé			5,923 35
„ Salmon River			13 75
„ Silver Standard			1,136 54
„ Skeena Ferry-Kispiox			168 10
„ South Hazelton			495 73
„ South Hazelton-Carnaby			95 00
„ Telkwa-Canyon Creek			3,441 99
„ Telkwa-Canyon Creek-Smithers Bridge Cut-off			177 85
„ Telkwa-Chicken Lake			370 53
„ Telkwa-Houston Creek			59 55
„ Uncha Lake			573 64
„ West Francois Lake-Ootsa Lake			4,915 15
„ West Side of Bulkley			60 00
„ West Side of Skeena River			15 00
Trail—Copper River			15 00
„ Groundhog Mountain			1,426 17
„ Manson Creek			1,554 12
Stable Account			4,177 13
Supervision—Assistant Engineer	$2,137 70		
„ Clerical work	734 45		
			2,872 15
General supplies			970 59
Total			$ 53,680 28

PRINCE RUPERT DISTRICT. (Vote 159—$49,900.)

Road—Bella Coola Valley	$ 1,117 35
„ Bohler	329 00
„ Breckenridge-Copper City	115 50
„ Cedarville-Kitwanga	43 75
„ Clayton (north)	733 85
„ Clayton (south)	997 05
„ Cook-Martin Ranch	5 25
„ Copper City-Kitimat	28 00
„ Dairy Slough (Kitsumgallum)	8 75
„ Firvale	1,049 40
„ Grant, No. 3	72 08
„ Hagensborg-Saloomt Valley	590 85
„ Johnston	176 50
„ Keith Road-Terrace	144 00
„ Kitsumgallum Lake	1,620 00

PRINCE RUPERT DISTRICT—*Continued.*

Road—Kitsumgallum Valley	$	5 25
„ Kitimat, No. 1		147 50
„ Kitwanga Valley		49 00
„ Lakelse Lake		860 90
„ Meanskinisht-Cedarville		30 00
„ Meanskinisht-Kitwanga, No. 12		233 80
„ McLeod, No. 21		173 55
„ McPherson's		137 35
„ Nadu (Queen Charlotte Islands)		14 00
„ Old Masset-New Masset, No. 11		19 00
„ Phillips Creek		586 75
„ Porcher Island		207 50
„ Port Clement-Meyer Lake		28 00
„ Port Simpson		626 83
„ Queen Charlotte-Harmon		12 15
„ Remo Ferry		12 25
„ Saloomt		49 00
„ Sewell Shore		150 00
„ Silver Lake (Queen Charlotte Islands)		305 50
„ Skidegate-Queen Charlotte		57 75
„ Skidegate-Tlell		1,828 10
„ Smith		562 10
„ South-easter		574 10
„ Stowe-Anarko, No. 9		127 25
„ Terrace-Copper City		14 00
„ Terrace Ferry		2,409 32
„ Terrace-Reno		7 00
„ Usk-Vanarsdol		3,692 93
„ Viger, No. 55		404 84
„ Walker		313 35
„ Welcome Harbour-Dries Bay		1,377 01
„ West Settlement		805 50
„ Zymoetz River		14 00
Trail—Anahim Lake		228 00
„ Arvidson's-Bella Coola		49 00
„ Cannery		15 00
„ Canoe Crossing		542 15
„ Cedar River		133 75
„ Cedarville, No. 11		293 10
„ Copper City		6 45
„ Copper River		582 20
„ Crescent-Tasu Harbour		149 30
„ Gold Creek		56 00
„ Green River (Tyee Parke)		286 15
„ Hardscrabble		101 50
„ Kitwanga-Nass River		119 00
„ Kitwanga-Skeena Crossing		56 00
„ Laura Mines		101 50
„ Legate Creek		400 45
„ St. Croix Creek		52 50
Trail—Tow Hill-Cape Fife		24 50
Street—Grafton (Bella Coola)		9 50
Avenue—Lakelse, Terrace		171 50
Log-jam—Necleetsconnay River (Bella Coola)		23 00

PRINCE RUPERT DISTRICT—*Concluded.*

Supervision—General Foreman	$2,152 65	
„ Clerical work	1,134 12	
		3,286 77
General supplies		4,249 87
Total		$ 33,804 10

REVELSTOKE DISTRICT. (Vote 160—$21,700.)

Road—Arrow Lake Subdivision	$ 1 00
„ Arrowhead Mill	1 00
„ Arrowhead (north)	731 98
„ Beaton-Camborne	257 75
„ Beaton-Comaplix	26 50
„ Beaton-Deep Water	101 50
„ Beaton-Trout Lake	2,437 95
„ Beaton-Trout Lake (Lower Canyon)	9 75
„ Big Bend	759 90
„ Bowie-Sicamous	158 62
„ Bowie-Solsqua	786 26
„ Columbia River (north)	96 50
„ Columbia River (south)	27 00
„ Crossing M.B. 446, Arrow Lake	106 79
„ Crossing M.B. 2864, Shuswap	106 79
„ Crossing M.B. 3262, Shuswap	106 79
„ Crossing M.B. 3761, Shuswap	106 79
„ Craigellachie-Malakwa	351 53
„ Eagle Pass	77 35
„ Eva and Oyster	60 50
„ Fish River	634 98
„ Goldfinch	22 00
„ Galena Bay	111 75
„ Greeley Creek	474 05
„ Halfway Creek	78 60
„ Hall's Landing Ferry	1,103 03
„ Hall's Landing (north)	478 05
„ Hall's Landing (south)	58 25
„ Malakwa-Bain	6 50
„ Malakwa-Craigellachie	31 32
„ Malakwa-Erickson	46 30
„ Malakwa-Johnston-Ross	23 85
„ Malakwa-Kirk's	159 36
„ Malakwa (local)	185 20
„ Malakwa Main	9 60
„ Malakwa (north)	100 82
„ Malakwa (south)	251 75
„ Malakwa-Sederberg	64 25
„ Malakwa-Solsqua	68 97
„ Malakwa-Somerville	44 50
„ Malakwa-Tredget	23 50
„ Montana Slough	3 50
„ Moran's Hill	14 00
„ Power-house	71 10
„ Revelstoke (north)	4,120 23
„ Revelstoke (south) (east of river)	1,118 19
„ Revelstoke (south) (west of river)	151 77

REVELSTOKE DISTRICT—*Concluded.*

Road—Seven-mile			$ 42 75
„ Sicamous-Mara			72 75
„ Sicamous-Solsqua			90 35
„ Taft-Craigellachie			4 00
Trail—Beatrice			255 75
„ Boyd Creek			241 50
„ Dunveigen			25 09
„ Jordan River			36 00
„ Keystone Creek			125 75
„ Kingston Creek			42 00
„ Lexington			38 50
„ Pinkstone Creek			2 10
„ Rosebery			17 50
„ Scott			46 50
„ Scout			19 50
„ Twelve-mile Bridge			14 00
„ Waverley			81 00
Streets—Arrowhead			166 21
„ Beaton			13 00
„ Revelstoke			200 04
Bridge— Canyon Creek (Jordan River Road)			43 50
Supervision—General Foreman	$1,727 62		
„ Clerical work	200 00		
„ Auto Account	325 00		
			2,252 62
General supplies			2,101 57
Total			$ 21,699 65

RICHMOND DISTRICT.
(Vote 161—$13,700; S.W., $2,000 = $15,700.)

Road—Fraser Avenue			$ 6,292 76
„ 19, 3, 9, 5, Lulu Island			6,640 00
Supervision—Assistant Engineer	$286 11		
„ Clerical work	195 00		
„ Auto Account	76 66		
„ Motor-cycle	149 90		
			707 67
General supplies			59 57
Total			$ 13,700 00

ROSSLAND DISTRICT.
(Vote 162—$3,810; Sup., $100 = $3,910.)

Road—Big Sheep Creek			$ 247 25
„ Columbia-Kootenay			186 00
„ Crown Point-Violin Lake			27 00
„ Deschamp (north)			42 00
„ Drake and Jones			118 50
„ Rock Creek			99 00
„ Rossland-Northport			33 50
„ Rossland-Peterson			298 88
„ Rossland-Stony Creek			364 00
„ Rossland-Trail			1,052 12
„ Violin Lake			148 50

ROSSLAND DISTRICT—*Concluded.*

Trail—Rossland-Gladstone-Sheep Lake	$	200 50
Supervision—General Foreman		930 25
General supplies		120 15
Total	$	3,867 65

SAANICH DISTRICT. (Special Warrant, $144.)

Road—Saanichton Bay	$	143 80

SIMILKAMEEN DISTRICT. (Vote 163—$25,700.)

Road—Allison-Copper Mountain	$	37 25
„ Armstrong Ferry		107 10
„ Ashnola		24 00
„ Beaver Lake		11 50
„ Boundary Valley		7 00
„ China Creek		25 75
„ Copper Mountain		1,642 20
„ Cross, One-mile to Five-mile		5 50
„ Darcy Mountain		87 00
„ Deer Valley		98 25
„ Dog Lake		18 00
„ Fairview-Keremeos		86 25
„ Fairview-Osoyoos		121 50
„ Fairview-Penticton, No. 20		1,597 33
„ Fairview-Rock Creek, No. 21		50 00
„ Fairview-Vaseaux Lake		'6 00
„ Fairview-White Lake		404 50
„ Five-mile-Princeton		223 00
„ Granite Creek		70 00
„ Granite Mountain		13 00
„ Hedley-Princeton		1,687 85
„ Hedley-Twenty-mile		15 50
„ Hembrie Mountain		93 25
„ Hope-Princeton		39 25
„ Jensen		51 00
„ Kaleden-Okanagan Falls		136 79
„ Kaleden Townsite		229 00
„ Keremeos-Hedley		1,376 75
„ Keremeos Junction		360 85
„ Keremeos Station		317 25
„ Keremeos and vicinity		17 75
„ Kruger Mountain		388 75
„ Lowes Subdivision		19 00
„ Murdock		51 00
„ Marron Valley		316 63
„ Myers Flat		173 50
„ McLean Creek		40 50
„ One-mile-Princeton		334 41
„ Osoyoos-Sidley		285 75
„ Osoyoos-Similkameen		243 20
„ Penticton-Carmi		8 75
„ Penticton-Fish Lake		1,609 91
„ Penticton-Summerland		1,371 55
„ Pierce		13 00
„ Princeton-Otter Lake		2,311 05

SIMILKAMEEN DISTRICT—*Concluded.*

Road—Princeton-Stevenson Creek		$ 31 00
„ Princeton-Tulameen		17 75
„ Reid Creek		14 75
„ Richter Mountain		41 00
„ Shingle Creek		275 50
„ Similkameen City-Burr		49 50
„ South Keremeos		727 70
„ South Similkameen		1,001 78
„ Sterling Creek		116 00
„ Summers Creek		279 85
„ Tulameen-Summit City		252 00
„ Wide West, No. 91		5 50
„ Yellow Lake-Sheep Creek		50 75
Trail—Ashnola		8 50
„ Hope Mountain		162 00
Streets—Hedley		38 25
„ Princeton		317 61
„ Tulameen		165 65
Bridge—Coalmont Foot		26 00
Damages—Cote's claim (expenses)		6 00
Supervision—General Foreman	$1,831 80	
„ Clerical work	270 00	
„ Auto Account	1,314 59	
		3,416 39
General supplies		1,943 24
Total		$ 25,074 09

SLOCAN DISTRICT. (Vote 164—$23,400.)

Road—Burton	$ 150 00
„ Brouse	336 19
„ Cariboo Creek	465 50
„ Carpenter Creek	28 25
„ Cody Creek Wagon	45 00
„ Columbia River	2,559 29
„ Crescent Bay	107 50
„ Deer Park	12 00
„ Edgewood-Fire Valley	903 92
„ Edgewood-Vernon	610 65
„ Faulkner's	143 35
„ Idaho Mine	100 00
„ Lucky Thought	218 00
„ Mountain Chief	4 00
„ McCormack	200 00
„ McGuigan Wagon	55 00
„ Nakusp-Box Lake	286 15
„ Nakusp (east)	390 74
„ Nakusp	4 00
„ New Denver-Rosebery	107 50
„ New Denver-Silverton	624 00
„ New Denver-Silver Mountain	24 50
„ Noonday Wagon	68 00
„ Ottawa	25 00
„ Payne	108 00
„ Queen Bess Wagon	779 80

SLOCAN DISTRICT—*Concluded.*

Road—Sandon-Ivanhoe			$ 24 50
„ Silverton-Four-mile Creek			3,584 18
„ Silverton-Red Mountain			1,112 00
„ Slocan River			2,458 86
„ Slocan-Beaver Creek			118 00
„ Slocan River (west)			69 10
„ Slocan Star Wagon			18 50
„ Springer Creek			372 62
„ Standard Wagon			170 00
„ Star Wagon			7 00
„ Ten-mile Creek			194 36
„ Three Forks-Bear Lake			127 00
„ Three Forks-Sandon-Cody			161 20
„ West Demars			24 00
Trail—Carnation			450 70
„ Carnstock			23 00
„ Eight-mile			49 00
„ Elkhorn			10 00
„ Eureka			8 00
„ Evening Star			69 00
„ Freddie Lee			24 00
„ Kitchener			129 00
„ Kooskanax			320 87
„ Lone Bachelor			8 00
„ Main Lemon Creek			33 00
„ Millie Mac			6 00
„ Myrtle			129 00
„ New Denver-Three Forks			200 98
„ North Fork-Carpenter Creek			165 00
„ North Fork-Lemon Creek			44 87
„ North Fork-Springer Creek			61 00
„ Reo			119 00
„ Robinson Creek			20 00
„ Salmon and Cody			15 00
„ Sandon-Reo			342 25
„ Sandon-Three Forks			151 00
„ Sovereign			21 00
„ Wilson Creek			28 00
„ Wonderful Queen Bess			201 75
Streets—Nakusp			302 42
„ New Denver			455 66
„ Silverton			136 75
Sidewalks—Three Forks			11 70
Bridge approach—Appledale			388 50
Supervision—Assistant Engineer	$ 495 95		
„ General Foreman	1,179 90		
„ Clerical work	303 38		
			1,979 23
General supplies			606 19
Total			$ 23,307 53

SOUTH OKANAGAN DISTRICT. (Vote 165—$21,700.)

Road—Allen			$ 3 50
„ Atkins			46 50
„ Bailey's			6 00

SOUTH OKANAGAN DISTRICT—*Continued.*

Road—Bathville	$	64 00
„ Bear Creek		47 30
„ Belgo Subdivision		18 00
„ Bellevue		5 00
„ Benvoulin		148 25
„ Black Mountain		107 50
„ Booth's		42 50
„ Bulman		31 00
„ Canyon Creek		8 00
„ Caraso		31 50
„ Colin Smith's		5 25
„ Faulder's		413 00
„ Fox		11 50
„ Gallagher		9 75
„ Gellatly		17 00
„ Gillespie		244 75
„ Glenmore and Branches		212 25
„ Glenmore Subdivision		468 50
„ Glenrosa Subdivision		294 75
„ Hall's Landing		406 50
„ Handcock		53 20
„ Hardie Lake		217 75
„ Healey		4 50
„ Hydraulic Creek		52 50
„ Joe Ritchie		25 00
„ K.L.O.		1,273 30
„ K.L.O. Subdivision		32 50
„ Kelly-Walton		48 00
„ Kelowna (east)		120 50
„ Kelowna Ferry		183 00
„ Kelowna (south)		36 25
„ Lake Shore		148 50
„ Lewis and Bailey		86 25
„ Lyons		68 25
„ Meadow Valley		10 78
„ Mill and Lyons		14 00
„ Mission		187 25
„ Mission Creek		152 55
„ Naramata-Penticton		294 75
„ Nicholson		4 50
„ North Gulch		288 50
„ North Naramata		54 00
„ Oceola		226 00
„ Okanagan Centre		160 25
„ Old Mission		156 25
„ Peachland Municipality		519 50
„ Peachland-Princeton		28 50
„ Peachland-Westbank		45 50
„ Powers Creek Trail-First Lake		155 75
„ Pyman		9 00
„ Rutland Subdivision		553 75
„ Salting		91 50
„ Saw Mill Creek		14 50
„ Scottie Creek		59 50
„ Simpson's		25 00

SOUTH OKANAGAN DISTRICT—*Concluded.*

Road—S.K.L. Fruit Lots			$ 141 00
„ South Okanagan			107 75
„ Spiers			150 00
„ Spring			9 00
„ Summerland-Peachland			1,094 94
„ Summerland-Penticton			380 25
„ Summerland Municipality			273 50
„ Swamp			68 00
„ Thornloe's			6 00
„ Vernon-Kelowna			2,714 30
„ Westbank			723 00
„ Westbank Ferry			270 00
„ Westbank-Hordie's Lake			9 75
„ Westbank-Silver Reef Ranch			38 75
„ Westbank Subdivision			6 00
„ Westside			48 00
„ Williams			31 50
„ Woodlawn and Subdivision			20 00
„ Woods Lake			439 50
Streets—Naramata			410 25
„ Richter			55 50
„ Third			14 50
Avenue—Robinson			35 70
Bridge—K.L.O.			32 00
„ Mission			34 00
Supervision—General Foreman	$2,183 55		
„ Clerical work	343 20		
„ Auto Account	660 06		
			3,186 81
General supplies			517 40
Total			$ 18,860 53

SOUTH VANCOUVER DISTRICT. (Vote 166—$15,400.)

Road—Fraser Avenue			$ 3,313 68
„ Hastings-Barnet			11,220 00
Supervision—Assistant Engineer	$355 21		
„ Clerical work	330 00		
„ Motor-cycle	81 70		
			766 91
General supplies			88 50
Total			$ 15,389 09

TRAIL DISTRICT. (Vote 167—$24,500.)

Road—Boulder Creek, No. 2	$ 25 00
„ Bunker Hill	104 50
„ Burnt Flat	500 00
„ Castlegar-West Robson	50 00
„ Columbia Gardens Subdivision	90
„ Cottonwood	47 00
„ Dundee Mine	100 00
„ East Robson (north)	71 25
„ Emerald Mine	350 00
„ Four-mile	75 00

TRAIL DISTRICT—*Concluded.*

Road—Fruitvale Subdivision		$ 922 24
„ Granite and branches		1,409 12
„ Harrop and Procter		222 72
„ Hudson Bay Cut-off		258 75
„ Kootenay River		1,436 35
„ Lost Creek		290 25
„ Molly Gibson		150 00
„ Nelson-Balfour		1,287 18
„ Nelson-Waneta		1,594 15
„ Pass Creek		1,254 79
„ Pend d'Oreille		1,348 50
„ Porcupine		34 25
„ Porto Rico		190 50
„ Robson (north)		28 75
„ Salmon River		115 75
„ Second Relief		153 75
„ Silver King		51 00
„ Six-mile		152 00
„ Slocan River		1,181 05
„ Trail-Castlegar		2,192 09
„ Trail-Central Park		300 00
„ Trail-Columbia Gardens		85 50
„ Trail-East and East Trail Townsite		163 79
„ Trail-Fort Sheppard		649 50
„ Trail-Fruitvale		1,152 95
„ Trail-Sayward		1,374 56
„ Trail-Smelter Junction		191 65
„ West Robson Boundary-site		1 00
„ Wild Horse		20 00
„ Wilcox Mine		150 00
„ Yellowstone		1,674 58
„ Ymir Townsite		55 25
Trail-Bayonne		32 50
„ Bird Creek		6 00
„ Boletti's		100 00
Streets—Salmo		98 61
Supervision—General Foreman	$1,113 03	
„ Clerical work	289 60	
„ Auto Account	10 05	
		1,412 68
General supplies		1,424 05
Total		$ 24,489 46

YALE DISTRICT. (Vote 168—$28,700.)

Road—Agassiz Ferry	$ 803 16
„ Ashcroft-Savona	74 10
„ Ashcroft-Spences Bridge	467 00
„ Back Valley	122 00
„ Bate	130 25
„ Cache Creek	7 30
„ Cane Valley	88 00
„ Chaumox	35 00
„ Coldwater	523 25
„ Coutlee	27 25

YALE DISTRICT—*Concluded.*

Road—Coyote Valley		$ 12 00
„ Deadman Creek		120 25
„ Dillberry		16 00
„ Five-mile Creek		224 00
„ Harrison Hot Springs		185 35
„ Highland Valley		2,571 95
„ Hope-Haig		284 80
„ Hope-Popcum		4,104 05
„ Jackson Mountain		18 00
„ Lytton-Lillooet		1,266 15
„ Main Trunk		195 10
„ Mamete Lake		523 71
„ Mazama P.O.-Kettle Valley Railway		75 00
„ Merritt-Hamilton Hill		4 50
„ Merritt-Middlesboro		63 21
„ Merritt-Nicola		1,118 68
„ Merritt-Princeton		318 42
„ Mill Creek		45 75
„ Murray Creek		284 80
„ McGuire		30 00
„ Nicola-Princeton		1,276 13
„ Nicola-Quilchena-Kamloops		1,012 45
„ Nicola-Stump Lake		1,072 91
„ North Lytton		401 15
„ One-mile Creek		49 50
„ Pike Mountain		86 25
„ Richard's Hill		62 00
„ Spences Bridge-Nicola		2,343 54
„ Styne Creek		32 50
„ Summers Creek		164 00
„ Sunshine Valley		35 00
„ Thacker-Manning		32 75
„ Upper Hat Creek		381 95
„ Venables Valley		136 00
„ Walhachin		542 75
„ Whinney's		31 00
„ Winch		33 50
„ Woodward's		60 00
„ Wright Valley		79 10
„ Yale		491 20
Trail—Similkameen		151 32
Streets—Ashcroft		667 00
„ Hope		79 33
„ Lytton		29 25
Bridge—Eight-mile Creek		6 00
Supervision—Assistant Engineer	$2,531 58	
„ Clerical work	75 00	
„ Auto Account	927 02	
		3,533 60
General supplies		2,248 21
Total		$ 28,687 42

KEITH ROAD, NORTH VANCOUVER. (Vote 169—$1,500.)

Expenditure	$ 1,500 00

KINGSWAY-BURNABY MUNICIPALITY (REVOTE). (Vote 170—$80,500.)

Expenditure	$ 80,500 00

ROADS, POINT GREY.
(Vote 171—$10,000; Sup., $250 = $10,250.)

Road—Marine Drive		$ 6,198 54
„ Twenty-ninth Avenue		2,337 50
Street—Imperial		1,402 50
Supervision—Assistant Engineer	$125 00	
„ Clerical work	135 00	
		260 00
General supplies		13 44
Total		$ 10,211 98

ROAD-CONSTRUCTION, INTERNED ALIENS. (Vote 172—$5,000.)

Expenditure	$ 20 65

STRATHCONA PARK. (Vote 173—$1,000.)

Expenditure	$ 751 25

OBSERVATORY ROAD. (Vote 174—$1,200.)

Expenditure	$ 1,161 60

MAIN ROAD, SAANICH PAVING. (Vote 175—$50,000.)

Expenditure	$ 50,000 00

ASSISTANCE TOWARDS DYKE, NICOMEN ISLAND (CONDITIONAL). (Vote 176—$10,000.)
No expenditure.

CITY OF FERNIE, GRANT TOWARDS RIVER-PROTECTION. (Vote 177—$2,700.)

Expenditure	$ 2,700 00

LOCATION OF ROADS. (Vote 178—$5,000.)

Cariboo District	$ 2 00
Columbia District	518 95
Cranbrook District	19 25
Esquimalt District	39 75
Fort George District	54 25
Grand Forks District	99 00
Greenwood District	338 50
Islands District	308 60
Kamloops District	29 00
Lillooet District	3 00
Omineca District	666 87
Trail District	850 00
Yale District	367 00
General supplies	57 45
Total	$ 3,353 62

PROTECTION OF RIVER-BANKS. (Vote 179—$30,000.)

Chilliwack	$ 3,669 62
Columbia	10,781 18
Fernie	5,949 74
Kaslo	957 54
North Vancouver	1,211 98

PROTECTION OF RIVER-BANKS—*Concluded.*

Prince Rupert	$	161 75
Revelstoke		214 89
Slocan		4,522 87
South Okanagan		112 70
Yale		1,509 16
Total	$	29,091 43

ROAD MACHINERY. (Vote 180—$1,000.)

Dewdney	$	4 20
Esquimalt and Islands		699 60
Lillooet		1 92
North Vancouver		6 25
Yale		45 56
Total	$	757 53

WHARVES GENERALLY. (Vote 181—$25,000.)

Alberni—		
Banfield	$	11 00
Paul's Landing		203 99
Chilliwack—Ferry Landing, Rosedale		27 00
Comox—		
Denman Island		270 85
Hornby Island		642 10
Michel Island (float)		885 50
General supplies		368 75
Cowichan—Cowichan Bay		318 40
Dewdney—Mission		524 73
Delta—Barnston Island		195 75
Islands—		
Fulford Harbour		369 75
Hope Bay		279 75
Kuper Island		700 54
Mayne Island		606 90
North Gabriola		86 40
Retreat Cove (North Galiano)		646 21
Roberts Bay		7 58
Saturna Island		537 67
Second Street, Sidney		3 30
South Gabriola		25 00
South Pender		498 99
Sturdy Bay		697 44
Thetis		129 00
Third Street, Sidney		1 40
General supplies		606 15
North Okanagan—		
Ewing's Landing		146 25
Killiney		387 26
Long Lake		210 97
Nahun		432 41
Oyama		117 23
General supplies		63 70
North Vancouver—		
Gibson's Landing		3,984 78
Hopkins		908 95

WHARVES GENERALLY—*Concluded.*

North Vancouver—*Concluded.*	
Scarboro Beach (float)	$ 5 00
Snug Cove (Beaver Island)	1,520 35
General supplies	248 15
Revelstoke—Hall's Landing Ferry	3,012 14
Richmond—	
Imperial Street	52 50
Woodward's Landing	401 24
General supplies	178 00
Similkameen—Penticton	39 00
South Okanagan—	
Naramata	183 40
Okanagan Centre	193 24
Westbank	147 95
General supplies	10 30
Total	$ 20,886 97

PRINCE RUPERT WHARF. (Vote 182—$13,000.)

Expenditure	$ 6,371 82

BRIDGES GENERALLY. (Vote 183—$250,000.)

Alberni District.

Beaver Creek	$ 250 15
Bruhnell	137 95
Bridge No. 113	45 60
Bridge No. 115	60 55
Cherry Creek	48 93
Englishman's River	25 00
Errington	8 75
French Creek (Grafton Avenue)	350 34
French Creek, No. 116A	653 58
Goose River, No. 6	50
Loon Creek	72 00
Morning Star Creek	134 00
McCoy Creek, No. 18	31 74
Nanaimo Road	11 00
Spruce River	96 27
Tippett's	83 00
General supplies	107 03
Total	$ 2,116 39

Atlin District.

Alice Arm	$ 585 03
American Creek	176 00
Bear River	2,634 47
Bitter Creek	24 00
Cranberry River	1,195 00
Fish Creek	52 50
Fletcher Creek	165 00
Glacier Creek	16 00
Illiance Trail	351 25
Indian River	15 00
Klehini River	127 00
Little Boulder Creek	87 40

BRIDGES GENERALLY—*Continued.*

Atlin District—Concluded.

Marmot River	$	106 00
Nahlin		5 00
Quinadah		451 25
Tooya, No. 27		267 00
General supplies		162 15
Total	$	6,420 05

Cariboo District.

Antler Creek	$	60 75
Australian Creek		105 47
Blackwater Road		14 00
Burns Creek		3 75
Canyon and Terry Creek		21 00
Chilcotin River (Alexis Creek)		31 50
Chilcotin River (Newton's)		424 57
Cottonwood		2,491 32
Four-mile Creek		199 50
Four-mile Creek (Main Barkerville Road)		30 00
Horsefly River		14 00
Hyde Creek		53 00
Jawbone Creek		3 75
Keithley Creek		18 00
Little Horsefly		30 50
Pine Grove		3 75
Quesnel Lake Dam		262 50
Quesnel River		29 50
Siwash (Chilko River)		30 89
Total	$	3,827 75

Chilliwack District.

Chilliwack River		468 15
Murray		54 75
North of Rosedale		25 45
Rosedale Ferry Road		1,150 10
Vedder River		4,372 58
West of Abbotsford		1,610 04
Yale Road, No. 4		3 30
Yale Road, No. 24		64 30
Yale Road, No. 25		15 00
Yale Road, No. 26		15 81
General supplies		58 95
Total	$	7,838 43

Columbia District.

Athalmer Swing	$	64 50
Blaeberry		15 00
Bott's Landing		58 50
Canal Flats		45 85
Carbonate		1 50
Columbia River (at Brisco)		68 00
Columbia River (at Fairmont)		186 83

BRIDGES GENERALLY—*Continued.*

Columbia District—Concluded.

Dodds Creek	$	103 00
Dutch Creek		953 02
Golden-Fort Steele Road (88 and 89 M.P.)		58 50
Horse Creek		725 85
Horse Thief Creek		3,696 15
Horse Thief Road (at 14½ M.P.)		51 75
Horse Thief Road (at 17½ M.P.)		21 50
Horse Thief Road (at 18½ M.P.)		128 50
Horse Thief Road (at 26 M.P.)		121 50
Jack Pine		25 00
Kicking Horse		143 89
Kootenay River Bridge		86 64
Moberly Road		107 27
McDonald Creek		126 00
No. 2 Creek		348 05
No. 3 Creek		64 75
No. 3 Road		80 80
Oberg and Janson Road		25 00
Oglestone		126 00
101½ M.P.		63 50
103 M.P.		43 50
110 M.P.		50 00
Sinclair Creek		150 00
Sparkling Creek		119 90
Spillamacheen		2 50
Toby Creek Bridge		602 05
Toby Creek Cut-off		2,012 05
Toby Creek (Seven-mile)		118 50
21 miles north of Wilmer		66 10
21¼ miles north of Wilmer		31 00
23 miles north of Wilmer		15 50
Washout Creek		1,382 84
Watkins (52 M.P.)		10 00
Wilmer		17 75
Wilmer (floating)		138 50
General supplies		100 00
Total	$	12,357 49

Comox District.

Big Qualicum (3 miles north of)	$	647 47
Coal Creek		14 50
Cook's River		53 40
Courtenay River		1,253 89
Hardy Bay-Coal Harbour		84 15
Nahwitte River		21 05
Nile River		62 25
Powell Lake and Olsen Lake (between)		96 40
Quinsam River		122 48
Rosewall River		13 75
Salmon River		1,502 87
School Trail (Tsolum River)		96 50
Tsable River		98 22
Tsolum River (foot-bridge)		41 00

BRIDGES GENERALLY—*Continued.*

Comox District—Concluded.

Washer, No. 2	$	97 25
General supplies		36 01
Total	$	4,241 19

Cowichan District.

Barkley	$	11 50
Beaver Creek		44 00
Bonsall		103 10
Chemainus River		94 21
Colvin		139 17
Corfield's		280 25
Cowichan Lake		68 31
Cowichan Station		42 05
Dodd's		5 50
Duncan Wagon		206 79
Fisher Road (twin bridges)		432 34
Hall's		584 84
Kelvin		10 50
Koksilah Flats		110 21
Koksilah River		502 09
Lewis		44 70
Millett		70 00
No. 104		55 35
No. 105		10 00
No. 106		190 00
Ransom		44 20
Robinson's		205 69
Salt		88 11
General supplies		143 29
Total	$	3,486 20

Cranbrook District.

Abbott Avenue	$	20 13
Aldridge		31 50
Alki Creek		141 25
Booth Creek		40 00
Burrows		3 83
Clayton		10 00
Coulee, No. 2		228 61
Coulee, No. 154		2 00
Coulee, No. 155		53 00
Coulee, No. 158		8 60
Cranbrook-Moyie Road		3 06
Curzon		91 75
Eberts Avenue		30 50
Ewen Creek		5 50
First Prairie		20 00
Free's (Gold Creek)		3 50
Glenlilly-Moyie River		625 47
Goatfell-Moyie River		97 75
Ha-ha Creek, No. 1		67 75
Ha-ha Creek, No. 2		66 50

BRIDGES GENERALLY—*Continued.*

Cranbrook District—Concluded.

Ha-ha Creek, No. 3	$ 66 50
Ha-ha Creek, No. 4	99 25
Ha-ha Creek, No. 5	82 50
Hell-roaring Creek	388 25
High Creek	70 50
Hodgson	20 00
Hospital Creek	57 55
Jap	37 80
Joseph Creek	177 90
Kelly Slough	35 00
Kimberley (Mark Creek)	688 46
Kingsgate	46 94
Lamb Creek	206 61
Marysville	11 60
Matthew Creek	57 00
Monroe	24 00
Mouth of Little Moyie River	6 50
Myers Ranch (Cherry Creek)	56 00
McConnell's (Gold Creek)	3 50
Narrows	25 00
North Star Ravine	56 00
Perry Creek	899 16
Rainy Creek	2 00
Ryan	20 00
Smith's Creek	7 00
St. Mary Lake	92 00
St. Mary River Mission	8,267 63
St. Mary River (McPhee's, between Mission and Wycliffe)	4,837 08
St. Mary River (Wycliffe)	725 61
Swansea	617 75
Tochty	11 00
No. 201	133 50
Valley Creek	50 00
Victoria Avenue (Joseph Creek)	250 43
Waldo Slough	30 50
Ward's (Moyie River)	2,892 18
Westport (large) (St. Mary River)	1,509 71
Westport, (No. 4)	221 25
Westport, No. 7	27 57
Westport, No. 9	25 00
Westport, No. 10	13 00
Westport, No. 11	13 00
Westport, No. 12	13 00
Yahk-Moyie Road	79 50
Yahk (over Log Channel)	32 00
General supplies	1,874 53
Total	$ 26,411 96

Delta District.

Canoe Pass	$ 4,707 35

Dewdney District.

Anderson	$ 208 13
Durien (near)	26 00

BRIDGES GENERALLY—*Continued.*

Dewdney District—Concluded.

Hawkins	$	64 00
Hudon		48 00
Ioco Road		195 50
Kanaka Creek-River Road		1,489 55
Kanaka Creek-D.T. Road, Section 4		22 80
Kanaka Creek-D.T. Road, Section 12		985 02
Legacy-Stave Lake		247 61
Martin		46 75
Murray-Yale Road		83 25
McKibbon		194 14
Neaves		455 84
Pitt River		288 50
Sapperton-Coquitlam (temporary)		242 83
Sharp		72 61
Stave Lake Road		76 47
Sunnyside Trail		424 78
Upper Coquitlam		116 80
Whonnock Creek		1,194 65
Total	$	6,483 23

Esquimalt District.

Atkins	$	431 10
Coal Creek Hill		1,005 03
Craigflower		1,307 46
East Sooke		32 70
Finlayson Arm		186 42
Helmcken		12 50
Jordan River		627 05
Lagoon		23 75
Luxton Road		2 00
Metchosin, No. 1		520 93
Metchosin, No. 3		751 84
Millstream		76 60
Munn's		48 50
Sooke River		10,050 47
Sooke Road		515 39
Vancouver Island Trunk Road (17 M.P.)		27 00
Total	$	15,618 74

Fernie District.

Brute Creek (Elk Valley)	$	123 50
Bull River		132 50
Cedar Valley Creek		90 00
Coal Creek		111 50
Elkmouth		688 30
Elk River (West Fernie)		212 00
Gateway (Newgate)		1,689 85
Hosmer		1,942 03
Kootenay River (at Fort Steele)		919 02
Lizard Creek		8 00
Michel, No. 2		104 85
Michel, No. 3		6,058 53

BRIDGES GENERALLY—*Continued.*

Fernie District—Concluded.

Michel, No. 4	$ 83 50
Michel (temporary, near No. 3)	144 80
McDougall Channel	286 10
Slough (near Wardner)	18 82
Waldo Cable	105 00
Wardner	266 36
Wergert Creek	109 25
Wilson Creek	153 30
General supplies	341 25
Total	$ 13,588 46

Fort George District.

Bissett Creek (Peace River)	$ 458 25
Blackwater	90 00
Canyon Creek	28 00
Clear Creek	351 90
Cottonwood Creek	113 25
Dore River	568 27
Eagle Creek	126 00
Evans Gulch (stringer bridges)	287 06
Fort Fraser	911 98
Fort George-Blackwater	10 50
Fort George-Willow River Road	311 25
Gardner Crossing	231 81
Gunn Creek	298 00
Holmes	97 80
Moss Creek	210 73
Mud River, No. 1	53 25
Mud River, No. 2	50 00
Mud River, No. 3	43 00
Murray	127 60
Nechako River	467 30
Necoslie (Stuart Lake)	16 00
Quesnel-Fraser Lake Road	86 00
Redmond Creek	252 44
Slough (Mud River)	224 90
South of Pouce Coupe (1 M.P.)	112 75
South of Pouce Coupe (2 M.P.)	39 00
South of Pouce Coupe (3 M.P.)	56 00
South of Pouce Coupe (20½ M.P.)	75 00
South of Pouce Coupe (21 M.P.)	75 00
Stony Creek	1,209 32
Tate Creek (Peace River)	325 00
Tsinkut Lake	1,745 04
Tsinkut River	108 50
Tupper Creek (Peace River)	366 50
Two-mile Creek	175 00
Vanderhoof	1,799 70
West Dawson Creek	185 50
Wright Creek	150 25
Pouce Coupe	1,123 36
Total	$ 12,961 21

BRIDGES GENERALLY—*Continued.*

Grand Forks District.

Carson	$	101 75
Cascade		58 00
Cascade (upper)		165 42
Cascade (lower)		95 40
Cooper		52 50
First Street		89 25
Fourth Street		1,177 94
Gilpin		186 00
Hardy		4 00
General supplies		5 00
Total	$	1,935 26

Greenwood District.

Blythe	$	62 80
Boundary Falls		6 00
Caron		22 95
Ingram		35 00
Kettle River		27 60
Lancashire		21 48
Midway		160 75
Nicholson		3 00
Peanut Point		82 80
Robinson		88 30
Rock Creek		150 40
Williamson Creek		266 17
Williamson's, No. 14		7 00
Williamson's, No. 15		7 00
General supplies		57 09
Total	$	998 34

Islands District.

Central Road	$	57 05
Divide (North Saltspring Island)		74 00
Purdy's (North Saltspring Island)		119 05
Walters (North Saltspring Island)		6 50
Total	$	256 60

Kamloops District.

Barriere (North Thompson River)	$	844 14
Barriere River (12 miles from Barriere)		47 25
Barriere River (at Barriere)		99 61
Chase Creek		863 78
Ducks		15 00
Kamloops (east)		3,399 73
Kamloops (west)		587 00
Kinnear		606 09
Savona		127 00
Shuswap (South Thompson River)		91 75
Total	$	6,681 35

BRIDGES GENERALLY—*Continued.*

Kaslo District.

Albert Creek	$	94 25
Alma		4 00
Black Fox		3 50
Briggs Creek		7 00
Canning		24 50
Canyon Siding, Nos. 1 and 2		741 75
Cascade Creek		2 00
Coffee Creek, No. 2		70 50
Creston Townsite		7 50
Culters Creek		40 00
Dry Gulch		174 25
Fourth of July		101 25
Gerrard		14 00
Goat River, No. 2		6 25
Goat River, No. 4		80 99
Goat River (Erickson-Canyon City Road)		49 50
Goat River (Walker's Crossing)		17 00
Halfway		211 75
Hamill Creek, No. 3		100 00
Hamill Creek, No. 3A		93 50
Hamill Creek, No. 4		75 00
Hamill Creek, No. 5		75 00
Healy Creek		7 00
Lardeau River		99 76
Liberty Hill		7 00
Lynchville		58 00
Montezuma		26 50
Poplar Creek		7 50
Spring Creek		3 00
Stanley (Kaslo Creek)		37 75
Tenderfoot and Rapid		4 00
Trout Creek		14 00
Trout Lake		7 20
Twelve-mile		76 50
Whitewater		2 50
Woodberry Creek		80 50
General supplies		77 00
Total	$	2,501 70

Lillooet District.

Big Bar Mountain	$	51 50
Big Bar Creek		19 25
Bonaparte River (between 11 and 12 M.P.)		2,433 40
Bonaparte Road (north)		270 75
Bridge near 70-Mile House		33 75
Bridge River (mouth of river)		993 51
Bridge River (North Fork)		25 75
Bridge River (North Fork, mouth of)		23 25
Bridge River Road (unnamed creek)		6 00
Bridge River (South Fork)		191 00
Bridge Creek (Roe Lake)		100 00
Campbell		1 00
Cayoose Creek (Marshall Mill)		35 00

BRIDGES GENERALLY—*Continued.*

Lillooet District—Concluded.

Cayoose Creek (Station Road)	$	30 11
Chilcotin Suspension		1,343 87
Chimney Creek		31 60
Churn Creek		72 61
Churn Creek Suspension		104 93
Deadman Creek (Bains Flat)		202 90
Dry Gulch (near Hanceville)		2 00
Dickey Creek		35 00
Empire Valley (at Big Bend)		8 00
Empire Valley (near Coal Point)		40 00
Fifty-one-mile Creek		44 45
Gold Creek		12 25
Gunn Creek		3,531 18
Hanceville		100 00
Hat Creek		47 00
Hat Creek (upper)		744 35
Hatchery Creek		40 00
Lillooet-Clinton Road (21-22 M.P.)		387 70
Lillooet Suspension		200 00
Lower Chilcotin		3 22
Marble Grange		15 00
Mound Bridge		8 93
Mile Creek 100		12 00
Mile Creek 111		12 00
McKinley-Hamilton Road		27 00
Pigeon's Ranch		13 50
School-house		15 25
Scottie Creek		773 95
Seton Lake Creek		34 00
Sheep Creek		179 66
Strong Creek		12 25
Tyaxon Creek		2,210 18
Upper Dry Creek		6 00
Vedan-Chilcotin River		2 00
Ward's Ferry Bridge		1 50
General supplies		228 65
Total	$	14,717 20

Nanaimo District.

Brechin Foot-bridge	$	553 74
Chase River		211 21
Cook's, No. 4		127 70
Millstone		135 00
Millstream		163 66
Nanaimo River		58 75
Slough Bridge		10 50
General supplies		98 28
Total	$	1,358 84

Newcastle District.

Boat Harbour	$	25 00
Brenton, No. 2		83 10

BRIDGES GENERALLY—*Continued.*

Newcastle District—Concluded.

Bush Creek, No. 1	$	19 00
Bush Creek, No. 2		79 50
Bush Creek, No. 3		87 00
Diamond Crossing		607 88
Ducks		46 00
First Creek		1,702 44
Haslam Creek		104 85
Jingle Pot		9 92
Nanaimo River		962 17
Old South Wellington		40 83
Pearson's		58 82
South Forks		45 00
Waterworks		169 90
General supplies		100 00
Total	$	4,141 41

North Okanagan District.

Ader Hill	$	5 00
Cook's River		27 60
Crossman's		10 00
Enderby		1,758 61
Falkland		4 00
Foster's		125 37
Gallagher's		5 55
Gordon's		88 93
Gray's		18 00
Grindrod		107 37
Haines		406 20
Hatfield		33 40
Johnson's		3 00
Jones Creek		11 75
Mara		26 60
Mara, Main Road, No. 2		22 63
Mara Road, No. 19		19 00
Morgan's		49 75
Miller's		8 50
Monashee Road (32 M.P.)		12 00
Moore's		6 00
Moser's		3 00
Reiswig		50 50
Riverside Road		29 25
Robertson's		2 50
Ruck's, No. 17		46 50
Ruck's, No. 20		6 95
Shunter's		50 00
Shuswap Avenue South		3 00
Shuswap Falls		85 00
Sigalet		24 00
Skyrme's		66 45
Woods Road		67 00
General supplies		14 64
Total	$	3,198 05

BRIDGES GENERALLY—*Continued.*

North Vancouver District.

Butterfield (Squamish Road)	$	21 00
Cheakamus (Daisy Lake)		562 54
Cheeki		94 98
Cowan (Bowen Island)		18 00
Gibson-Sechelt		4 50
Grafton		47 75
Lillooet		593 37
Magee		74 46
Marine Drive		340 62
Matthews		290 08
Mission Creek		2,860 00
Moodyville		52 50
Pemberton Meadows		146 86
Pemberton Portage		456 32
Ryan Slough		221 75
School-house		298 94
Squamish		39 09
Squamish Valley (2½ miles from Squamish)		223 30
Squamish Valley (11½ miles from Squamish)		462 20
Stamish		49 80
General supplies		26 01
Total	$	6,884 07

Omineca District.

Babine Trail (Miles 3 and 4)	$	55 24
Boulder Creek		22 85
Bulkley River (at Hubert)		91 50
Bulkley River (at Hazelton)		284 98
Bulkley River (at Moricetown)		11 50
Bulkley River (at Smithers)		165 00
Bulkley River (at Telkwa)		1,378 76
Canyon Creek		247 50
Glacier Creek		22 90
Hazelton-Aldermere Road (Mile 39)		1,443 22
Kispiox (Mile 9)		479 47
Kispiox (Mile 17)		237 25
Kuldo		326 47
North Bulkley		165 61
Pleasant Valley (at Mile 81½)		27 50
Pleasant Valley (at Mile 88½)		43 75
Rocher Deboulé		337 50
Rose Lake		52 50
Telkwa River (Santa Marie Road)		75 00
Telkwa River (Telkwa)		175 00
Wistara		100 00
General supplies		10 00
Total	$	5,753 50

Prince Rupert District.

Branns	$	93 75
Canoe Crossing		95 65

BRIDGES GENERALLY—*Continued.*

Prince Rupert District—Concluded.

Cedarville	$	392 00
Clayton's		207 80
Copper River (Mile 30)		250 85
Copper River (Mile 4)		3 50
Fiddler Creek		75 25
Four-mile		2,929 60
Grant's		9 50
Green River		708 20
Hagensborg		249 95
Hiellen		22 50
Lorne Creek		146 00
Meanskinisht		30 90
Meanskinisht-Kitwanga Road		68 00
Meanskinisht Slough		14 00
Saloomt		1,543 35
Sandon River		502 75
Second Crossing (Bella Coola)		25 66
Slough		536 70
Snootchlee, No. 1		84 40
Snootchlee, No. 2		107 75
Spiller River		10 00
Terrace Ferry Bridge		14 00
Usk-Vanarsdol Road		1,096 95
Williams Creek		96 00
General supplies		833 42
Total	$	10,148 43

Revelstoke District.

Beaton Canyon	$	287 80
Campbell's		45 00
Carnes Creek (East Fork)		57 00
Columbia River		1,560 74
Cranberry Creek		5 10
Fish River (at Goldfield)		117 82
Gorge Creek		84 50
Greeley Creek		399 09
Halcyon		55 45
Hall's Landing		265 88
Illecillewaet (south)		176 10
Illecillewaet Power-house		23 00
Illecillewaet (upper)		23 00
Laforme Creek		15 00
Lower Illecillewaet		149 35
Mammoth Creek		1 42
Montana Slough		8 25
Pool Creek		7 50
Sable Creek		181 35
Salmon Creek		172 50
Slough Bridge (Hall's Landing)		5 00
Slough Bridge (Solsqua)		1 10
General supplies		621 59
Total	$	4,263 54

BRIDGES GENERALLY—*Continued.*

Richmond District.

Eburne	$ 24,097 59
Eburne (temporary ferry)	2,170 75
Marine Drive	385 69
North Arm	9 30
General supplies	10 79
Total	$ 26,674 12

Rossland District.

Rossland Trail, No. 1	$ 222 80
Rossland Trail, No. 2	27 00
Total	$ 249 80

Similkameen District.

Ashnola	$ 20 00
Cage Crossing (Tulameen River)	88 61
Copper Mountain	320 55
Deer Valley	57 50
Fairview, No. 35	22 00
Fairview-Penticton Road	106 72
Fairview-Vaseaux Lake	68 75
Five-mile Creek	19 50
Five-mile Road	50 50
Granite Creek	78 00
Hedley	39 00
Okanagan, No. 35	11 00
Okanagan, No. 40	40 50
Osoyoos	39 85
Princeton-Otter Lake Road	28 05
Reservation	132 50
Sawmill Creek	147 97
South Keremeos	528 55
Sterling Creek	129 50
Summers Creek	395 11
Tulameen	81 30
Wolf Creek, No. 18	40 00
Wolf Creek, No. 19	35 14
General supplies	692 59
Total	$ 3,173 19

Slocan District.

Appledale	$ 324 89
Columbia River	504 73
Dog Creek	331 77
Edgewood Creek	220 74
Edgewood-Vernon Road	17 01
Four-mile Creek	241 71
Lemon Creek	727 28
McCormack	60 90
Passmore	30 30
Perry Siding	566 62
Rosebery	101 98

BRIDGES GENERALLY—*Continued.*

Slocan District—Concluded.

Silverton	$	3 16
Slocan River		75 25
Vallican		14 10
Walker		1,093 82
West Arrow Park		13 00
Whatshan		296 46
Winlaw		182 00
General supplies		8 00
Total	$	4,813 72

South Okanagan District.

Bridge No. 2 on Polo Ground	$	56 72
Bridge No. 1 on Polo Ground		7 50
Campbell Road		29 78
Canyon Creek		14 71
Casorso, No. 1		52 40
Dry Creek		39 90
Duck Creek, No. 3		97 40
Duck Creek, No. 4		46 00
Fire		1 00
Gallagher		14 00
K.L.O., No. 1		182 48
K.L.O., No. 2		192 39
K.L.O., No. 3		39 50
Lake Shore, No. 1		181 24
Lake Shore, No. 2		78 96
Lake Shore, No. 3		20 71
Lake Shore, No. 4		25 04
Lake Shore, No. 5		21 49
Lake Shore, No. 6		11 00
Lake Shore, No. 7		62 73
Mission (Lake Shore)		155 40
Mission Road		28 11
Mission		172 18
Mission (old)		94 35
Main Vernon Road		16 00
Mill Creek		226 65
Sandy Gordon		51 70
Sawmill Creek, No. 1		7 50
Sawmill Creek, No. 2		3 25
Sawmill Creek, No. 3		7 50
Scotty Creek		34 65
Willow Creek		26 32
General supplies		122 48
Total	$	2,121 04

Trail District.

Beaver Creek	$	108 26
Crescent Valley		2 69
Fruitvale		20 45
Granite Road		129 88

BRIDGES GENERALLY—*Continued.*

Trail District—Concluded.

Harrop-Procter Road	$	97 50
Lost Creek		3 50
Nelson-Waneta Road		100 03
Pass Creek		1,778 28
Rock Creek		25 40
Salmon River		302 10
Salmon River (Burnt Flat)		6 75
Salmon River (North Fork)		280 05
Schofield Creek		222 90
Shoreacres		381 36
Smoky Creek		72 50
South Slocan		149 20
Trail		39 00
Trail-Columbia River		406 44
Trail Creek		42 75
Yellowstone		31 00
Total	$	4,200 04

Yale District.

Ashcroft	$	1,298 72
Back Valley		97 00
Canford		3 00
Coldwater		123 45
Deadman's Creek		911 68
Douglas Lake		104 00
Harrison Hot Springs, No. 1		305 15
Harrison Hot Springs, No. 2		273 45
Highland Valley		137 84
Hope-Popcum		1,080 76
House Gulch (Fish Lake Road)		25 50
Hunter Creek		58 00
Jackson		2 61
Jones Creek		896 02
Lauder		147 63
Loggan		24 16
Merritt (between Miles 3 and 9)		74 16
Merritt-Princeton Road		256 77
Middlesboro		268 50
Nicola River (at Merritt)		10 50
North Lytton		9 60
Petit		21 18
Popcum-Jones Creek		36 30
Popcum (west of)		350 77
Richardson Creek		337 25
Savonna-Mamete Lake Road		132 50
Siwash Creek		144 90
Spences		248 56
Sunshine Valley		31 46
Twytten's		397 73
Voight		777 58
Winney Road		15 25
Yale-Hope Road		10 50

BRIDGES GENERALLY—*Concluded.*

Yale District—Concluded.

General supplies	$	441 31
Yale (2½ miles west)		135 00
Yale (2¼ miles west)		246 50
Total	$	9,435 29
Bridge Inspection		3,648 70
Total of bridge expenditure	$	237,212 64

BRIDGES. (Special Warrant No. 7—$1,240.)

Pitt River	$	1,240 00

DISTRICT ENGINEERS (SALARIES AND EXPENSES). (Vote 184—$29,000.)

Expenditure	$	28,402 67

Subsidies and Maintenance, Steamboats, Ferries, and Bridges.

BARNSTON ISLAND. (Vote 185—$1,000.)

Expenditure	$	981 25

CANOE RIVER. (Vote 186—$600.)

No expenditure.

COLUMBIA RIVER, BRISCO. (Vote 187—$150.)

Expenditure	$	78 35

COLUMBIA RIVER, GOLDSTREAM.
(Vote 188—$180; Sup., $6 = $186.)

Expenditure	$	185 13

COLUMBIA RIVER, WATERLOO. (Vote 189—$500.)

Expenditure	$	500 00

FRANCOIS LAKE. (Vote 190—$2,000.)

Expenditure	$	1,992 58

FRASER RIVER AT ALEXANDRIA. (Vote 191—$1,200.)

Expenditure	$	1,140 50

FRASER RIVER AT CARIBOO STATION. (Vote 192—$3,000.)

No expenditure.

FRASER RIVER AT MACALISTER. (Vote 193—$300.)

Expenditure	$	300 00

FRASER RIVER AT AGASSIZ. (Vote 194—$3,500.)

Expenditure	$	3,500 00

FRASER RIVER AT BIG BAR.
(Vote 195—$1,050; Sup., $225 = $1,275.)

Expenditure	$	1,272 65

FRASER RIVER AT CHILLIWACK-HARRISON. (Vote 196—$800.)

Expenditure	$	800 00

SUBSIDIES AND MAINTENANCE, STEAMBOATS, FERRIES, AND BRIDGES—*Continued.*

FRASER RIVER AT DUNSTER. (Vote 197—$1,000.)

Expenditure ..... $ 1,000 00

FRASER RIVER AT HIGH BAR. (Vote 198—$1,800.)

Expenditure ..... $ 1,640 90

FRASER RIVER ABOVE LYTTON. (Vote 199—$1,000.)

Expenditure ..... $ 575 97

FRASER RIVER AT MCBRIDE. (Vote 200—$3,000.)

No expenditure.

FRASER RIVER AT MISSION. (Vote 201—$7,500.)

Expenditure ..... $ 5,787 68

FRASER RIVER AT QUESNEL.
(Vote 202—$1,800; Sup., $700 = $2,500.)

Expenditure ..... $ 2,499 15

FRASER RIVER AT SODA CREEK.
(Vote 203—$1,200; Sup., $20 = $1,220.)

Expenditure ..... $ 1,209 45

FRASER RIVER AT TWENTY-MILE POST (ABOVE LILLOOET). (Vote 204—$700.)

Expenditure ..... $ 508 00

FRASER RIVER AT LADNER-WOODWARD. (Vote 205—$13,500.)

Expenditure ..... $ 13,465 42

EAST SUMMERLAND. (Vote 206—$1,000.)

Expenditure ..... $ 1,000 00

HALL'S LANDING.
(Vote 207—$3,000; Sup., $2,500; = $5,500.)

Expenditure ..... $ 5,237 14

KELOWNA-WESTBANK. (Vote 208—$1,000.)

Expenditure ..... $ 1,000 00

KOOTENAY RIVER, LEWIS.
(Vote 209—$100; Sup., $23 = $123.)

Expenditure ..... $ 123 00

KOOTENAY RIVER, RECLAMATION FARM.
(Vote 210—$1,100; Sup., $265 = $1,365.)

Expenditure ..... $ 1,355 67

NECHAKO RIVER, FORT FRASER. (Vote 211—$1,000.)

Expenditure ..... $ 959 51

NECHAKO RIVER, NO. 3 INDIAN RESERVE. (Vote 212—$1,000.)

Expenditure ..... $ 590 43

NORTH THOMPSON RIVER, BESTER, MOSQUITO FLAT. (Vote 213—$650.)

Expenditure ..... $ 645 98

SUBSIDIES AND MAINTENANCE, STEAMBOATS, FERRIES, AND BRIDGES—*Continued.*

NORTH THOMPSON RIVER, BIRCH ISLAND. (Vote 214—$650.)

Expenditure ..... $ 649 58

NORTH THOMPSON RIVER, CHINOOK COVE. (Vote 215—$650.)

Expenditure ..... $ 628 81

NORTH THOMPSON RIVER (NEAR HEFFERLY STATION.) (Vote 216—$1,100.)

Expenditure ..... $ 655 65

NORTH THOMPSON RIVER, JONES.
(Vote 217—$650; Sup., $30 = $680.)

Expenditure ..... $ 585 35

NORTH THOMPSON RIVER, LITTLE FORT. (Vote 218—$1,650.)

Expenditure ..... $ 1,394 71

NORTH THOMPSON RIVER (NEAR MCCLURE STATION). (Vote 219—$1,100.)

No expenditure.

NORTH THOMPSON RIVER, UPPER CROSSING. (Vote 220—$1,750.)

Expenditure ..... $ 1,680 25

SHUSWAP LAKE, SORRENTO, SCOTCH CREEK. (Vote 221—$2,000.)

Expenditure ..... $ 1,886 37

SOUTH THOMPSON RIVER, DUCKS. (Vote 222—$650.)

Expenditure ..... $ 644 23

SOUTH THOMPSON RIVER, PRITCHARD.
(Vote 223—$750; Sup., $150 = $900.)

Expenditure ..... $ 892 56

STUART RIVER, FORT ST. JAMES. (Vote 224—$1,000.)

Expenditure ..... $ 867 01

STUART RIVER, STURGEON POINT (ESTABLISHING). (Vote 225—$2,500.)

Expenditure ..... $ 1,003 39

SKEENA RIVER, BRECKENRIDGE.
(Vote 226—$920; S.W., $280 = $1,200.)

Expenditure ..... $ 1,082 13

SKEENA RIVER FERRY AT COPPER CITY. (Vote 227—$1,300.)

Expenditure ..... $ 750 91

SKEENA RIVER AT HAZELTON. (Vote 228—$300.)

Expenditure ..... $ 249 82

SKEENA RIVER AT KITWANGA. (Vote 229—$1,300.)

Expenditure ..... $ 697 07

SKEENA RIVER, MEANSKINISHT-CEDARVILLE. (Vote 230—$1,300.)

Expenditure ..... $ 786 90

SKEENA RIVER, PACIFIC. (Vote 231—$1,300.)

Expenditure ..... $ 978 29

SUBSIDIES AND MAINTENANCE, STEAMBOATS, FERRIES, AND BRIDGES—*Concluded.*

SKEENA RIVER, TERRACE.
(Vote 232—$2,280; S.W., $550; Sup., $300 = $3,130.)

Expenditure ..... $ 3,065 36

SKEENA RIVER, USK. (Vote 233—$1,300.)

Expenditure ..... $ 711 46

TAKLA LAKE. (Vote 234—$500.)

Expenditure ..... $ 500 00

UPPER NASS RIVER, GREASE HARBOUR. (Vote 235—$600.)

Expenditure ..... $ 575 00

WEST ARM, KOOTENAY LAKE, AT NELSON.
(Vote 236—$4,000; S.W., $550 = $4,550.)

Expenditure ..... $ 4,230 24

Bridge-tenders.

CANOE PASS. (Vote 237—$800.)

Expenditure ..... $ 742 37

EBURNE.
(Vote 238—$840; S.W., $80 = $920.)

Expenditure ..... $ 920 00

KAMLOOPS. (Vote 239—$540.)

Expenditure ..... $ 540 00

PITT RIVER. (Vote 240—$1,680.)

Expenditure ..... $ 1,680 00

Subsidies to Steamboats.

NORTH-EAST ARM, ARROW LAKE. (Vote 241—$2,400.)

Expenditure ..... $ 2,400 00

DOG LAKE, SIMILKAMEEN. (Vote 242—$1,250.)

Expenditure ..... $ 1,250 00

SHUSWAP LAKE. (Vote 243—$4,000.)

Expenditure ..... $ 4,000 00

ISLANDS. (Vote 244—$5,000.)

No expenditure.

Miscellaneous.

BOILER INSPECTION (MAINTENANCE, WAGES, REPAIRS, ETC., LAUNCH "ADANAC").
(Vote 245—$2,500; S.W., $400 = $2,900.)

Expenditure ..... $ 2,692 29

MISCELLANEOUS—*Concluded.*

EXTRA JANITORS AND JANITORS' SUPPLIES. (Vote 246—$20,000.)

Expenditure	$	17,629 76

GARAGE, VICTORIA (CHAUFFEURS' WAGES AND EXPENSES, SUPPLIES AND REPAIRS). (Vote 248—$4,000.)

Expenditure	$	3,679 74

SPECIAL GUARD, PARLIAMENT BUILDINGS. (Vote 249—$1,500; S.W., $1,080; Sup., $500 = $3,080.)

Expenditure	$	3,024 00

Special Aid to Mining Industry.

(Chap. 43.)

Alberni District.

Road—Canadian Mineral Claims, Murdock's Landing	$	388 25
„ Columbian Group, Sproat Lake		397 36
„ Marble Cove Group, Copper Island		323 20
„ Victoria Group of Mines		198 10

Atlin District.

Road—Salmon River	$	2,883 53

Cariboo District.

Road—Killam Cement Gravel Mines	$	1,032 15
„ Prosperine Mountain		250 00

Columbia District.

Road—Brisco, No. 3 Creek	$	91 35
„ Brisco-Lead Queen Mines		1,210 55
„ Boulder Creek-Sitting Bull		202 08
„ Canyon Creek-Fifteen-mile Creek		170 00
„ Horse Thief Creek-Gallop Mines		98 00
„ Paradise		109 00
„ Pretty Girl Mine-Boulder Creek		150 50
„ Relief Mines-Boulder Creek		150 00
„ Spillimacheen-Warren Creek		225 00
„ Tennessee-Tarheel Mines		101 00
„ Toby Creek		421 01
„ Toby Creek Cut-off		8,507 58
„ Toby Creek (above Mile 11)		577 15
Trail—Bugaboo		75 00
„ Canyon Creek		55 00
„ Horse Thief Creek-Mabel R. Mining		201 00
Bridges—Paradise Road		808 40

Comox District.

Road—Valdes Island Copper Co.	$	1,575 00

Cowichan District.

Road—Blue Grouse Mines	$	866 00

SPECIAL AID TO MINING INDUSTRY—*Continued.*

Esquimalt District.

Road—Section 93-East Sooke	$	2,625 00
Trail—Leach River		300 00

Fernie District.

Road—Burton Mines	$	691 75

Grand Forks District.

Road—Christina Lake-Paulson	$	2,484 75
„ Galloping Mountain Mines		180 20
„ Paulson-Molly Gibson		150 00
„ Tarzig's Claims, Norway Mountain		200 00

Greenwood District.

Road—Big Copper and King Solomon	$	198 50
„ B.C. Mine, Eholt		45 00

Kaslo District.

Road—Cultus Creek	$	879 70
„ Eden and Crescent Mine, Coffee Creek		2,397 85
„ Howser-Argenta		1,966 78
„ Jackson Wagon		1,274 25
„ Kaslo Creek (South Fork)		2,499 49
Trail—Elsmere Group, Circle City, and Black Warrior		500 00
„ Lavina Butte		200 00

Lillooet District.

Road—Gum Creek-Copper Mountain	$	1,107 70
„ Hautier's Mine-Texas Creek		125 00
„ Sucker Creek Hill, B.R.		939 71

Newcastle District.

Trail—Majuba and Sutton	$	336 15

North Vancouver District.

Road—Bowena Copper Mines	$	99 01
Trail—Indian River		933 33
„ Squamish River		99 75

Omineca District.

Road—Cronin Winter Sleigh	$	13,214 65
„ Delta Copper Mines		655 35
„ Howison Creek Mines, Santa Maria Group		14,436 36

Prince Rupert District.

Road—Drum Lummon Mine	$	600 00
„ Golden Wonder Mine		125 00
„ Hudson Bay Mountain, Coronado Group		199 24
Trail—International Copper Co.		875 45
„ Legate Creek		500 00

Rossland District.

Road—Burlington-Anaconda Mines	$	826 16

Revelstoke District.

Road—North Big Bend	$	13,773 10

SPECIAL AID TO MINING INDUSTRY—*Concluded.*

Similkameen District.

Road—Princeton-Copper Mountain	$	999 25
Trail—Oregon Group-Hedley		238 75
„ Red Star		100 00

Slocan District.

Road—Echo Mine	$	2,434 00
„ Millie Mack		54 00
„ Sandon and Reco		483 48
„ Silverton-Four-mile		585 35
„ Springer Creek		40 25
„ Ten-mile Creek		475 75
Trail—Carnation		300 00
„ Lightning Peak-Sand Creek		107 25

Trail District.

Road—Emerald Mine	$	150 50
„ Eureka Mine		405 66
Trail—Noonday Group		125 00
„ Ore Hill, Sheep Creek		297 45
„ Reno, Downey Brook Group		383 29

Yale District.

Road—Aberdeen Mines	$	214 30
„ Emancipation Mines		500 00
„ Empress Mine Group		885 00
„ Highland-Transvaal		373 15
„ Siwash Creek		246 70
Foot-bridge—Coquihalla		492 68
Total	$	96,397 30

TENDERS RECEIVED AND CONTRACTS AWARDED.

1st April, 1917, to 31st March, 1918.

SCHOOLS.

Work and Tenderers.	Amount.	Remarks.
ABBOTSFORD—Basement and sanitary service:		
Layfield & Tardiff	$ 3,800 00	Awarded.
McWilliam & Munroe	4,512 00	
Sloan & Harrison	9,540 00	
BAYNES LAKE—One-room, large:		
Jones & Doris	3,870 50	Awarded.
A. McLean	3,800 00	Four hours late.
W. J. J. Morrison	4,800 00	Four hours late.
CORBIN—One-room, large:		
A. McLean	4,720 00	Awarded.
W. J. J. Morrison	5,450 00	
DUNDERAVE—Two-room:		
T. Carson	7,490 00	Awarded.
Robertson & Partners	9,837 00	
GRANBY BAY—Two-room addition:		
McWilliam & Munroe	9,850 00	Awarded.
Robertson & Partners	13,997 00	
HOLLYBURN—Two-room addition:		
Rogers & Sutherland	7,695 00	Awarded.
HOLLYBURN—Heating:		
Carl Beck	1,396 00	Awarded.
Central Sheet Metal Works	1,590 00	
Pease Pacific Foundry, Ltd.	1,650 00	
LUNIT DISTRICT—One-room, large:		
H. J. Davies	3,800 00	Awarded.
W. L. Gibbard	4,300 00	
PRINCETON—Two-room addition:		
T. Carson	12,115 00	Awarded.
McWilliam & Munroe	12,220 00	
Layfield & Tardiff	12,900 00	
Boeing & Brass	13,870 00	
Wilson & Thomas	15,650 00	
Empress Construction Co.	15,895 00	
SLOCAN JUNCTION—One-room, large:		
McWilliam & Munroe	3,646 00	Awarded.

SCHOOL-DESKS.

Macey Office Equipment Co.	$ 4,732 50	Awarded.
Weiler Bros., Ltd.	4,798 75	
Clarke & Stuart	4,917 50	
Clarke & Stuart (alternate)	5,001 25	
Clarke & Stuart (alternate)	5,363 25	
Victoria Furniture Co.	4,956 25	

FUEL.

(2,240 lb. to the Ton.)

Tenderers.	NUT.	LUMP.			
	Parliament Buildings.	Parliament Buildings.	Government House.	Victoria Court-house.	Normal School, Victoria.
	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.
Hall & Walker	$6 75	$7 75	$7 75	$7 75	$8 10
Mackay & Gillespie	6 65	....	7 70	7 65	7 90*
Kirk & Co.	6 40	7 65	7 50*	7 50*	8 10
Victoria Fuel Co.	6 25*	7 50*	7 65	7 60	8 10
J. E. Painter & Son (received too late)	6 50	7 75	7 85	7 75	8 10

* Awarded.

Vancouver Court-house and Normal School.

Tenderers.	Lump.	Nut.	Pea.	Slack.
	Per Ton.	Per Ton.	Per Ton.	Per Ton.
Middlesboro Collieries*	$7 00	$6 00	$4 50	$3 50
McDonald, Marpole & Co., Ltd.	7 25	6 25	4 25	3 25

* Awarded.

FERRY, ARROWHEAD-BEATON.

J. Fitzsimmons (awarded), $2,400. Passenger rate, $1; freight, 15 cents per 100 lb. for small shipments, and reduction (not stated) for large shipments. Only one tender submitted.

FERRY, FRASER RIVER AT AGASSIZ.

J. W. McIntosh (awarded); W. McGrath.

FERRY, SUMMERLAND-NARAMATA.

Okanagan Boat Co. (awarded). Only one proposal submitted. Same tolls as previous year.

KELOWNA-WESTBANK.

Leonard A. Hayman (awarded). Only one proposal submitted. Tolls same as previous year, excepting "Cart and wagon loaded, with one horse and driver," which was increased from $1.50 to $2.

SOOKE RIVER BRIDGE.

Tenderers.	Construction.	Removal of Old Structure.	Total.
R. Moncrieff	$6,982 00	$400 00	$7,382 00
Express Construction Co.*	6,964 00	490 00	7,454 00
Robertson & Partners	7,312 00	469 00	7,781 00
Hodgson & King	7,612 00	808 00	8,420 00

* Awarded.

ONE-TON MOTOR-TRUCK (VANCOUVER).

Tenderers.	Price.
Consolidated Motor Co. (Maxwell) (accepted)	$1,385 00
Jamieson, Rolfe & Wallis (Studebaker)	1,900 00
Canadian Pneumatic Tool Co. (Little Giant)	2,500 00

GIRLS' INDUSTRIAL SCHOOL, VANCOUVER—(DRAINAGE).

No tenders received.

REPORT OF CHIEF INSPECTOR OF MACHINERY.

NEW WESTMINSTER, B.C., April 1st, 1918.

The Honourable the Minister of Public Works,
Victoria, B.C.

SIR,—In accordance with the provisions of the "Boilers Inspection Act," I have the honour to submit to you the Sixteenth Annual Report of the operation of the steam-boilers and machinery inspection service for the year ending March 31st, 1918.

The personnel of the service at present consists of the Chief Inspector, twelve District Inspectors, one clerk, and three stenographers, located as follows: Chief Inspector, four Inspectors, one clerk, one stenographer and typist at the head office in New Westminster for District A; three Inspectors and one stenographer and typist in Victoria for District B; one Inspector in Nelson for District C; four Inspectors and one stenographer in Vancouver for District D.

The following is a summary of the routine work performed in the office of the Chief Inspector during the year, exclusive of inspections, engineers' examinations, and the work of engineer surveying, details of which will be found in the reports of the Inspectors for the different districts and that of the Chief Engineer Examiner:—

Letters inward	5,987
Letters outward	6,583
Telegrams inward	37
Telegrams outward	29
Inspectors' monthly reports examined	144
New designs examined, calculated, and reported on	68
Amendments to designs examined, calculated, and reported on	70
Fees collected for designs	$424
Number of miles travelled by Chief Inspector	4,335

I am pleased again to be able to report that there have been no boiler-explosions during the year.

The number of accidents to persons and machinery are fully set forth in the District Inspectors' reports.

It will be noted that there were three accidents to persons, one of which was fatal. This was a case in which a logging-locomotive, No. 1832, ran off the track and fell down an incline, killing the engineer.

Regarding defects discovered, it will be seen from the summary that people still operate boilers without safety-valves; four such cases having been found, with ten safety-valves overloaded and twenty-nine defective in construction. Under pressure-gauges, twenty-five were found to be inoperative and 276 defective.

The number of new boilers built for British Columbia was 156, as compared with sixty-six for the previous year; 113 of these were built in British Columbia, eleven were built under inspection in Eastern Canada, twelve not built under inspection in Eastern Canada, and twenty built in the United States. Of these, 130 were put into operation in British Columbia, the remainder being exported to France and the United States.

The number of second-hand boilers imported was twenty-four from Eastern Canada, as compared with twenty-one during the previous year; and thirteen from the United States, as compared with six for the previous year.

Boilers inspected for the first time during the year number 189; fourteen were taken out of service, being condemned as unfit for further use.

The total number of boilers now on our books is 5,989. Of these, 2,730 were inspected internally and externally, fifteen inspected internally only, and 308 inspected externally only; thus leaving 2,936 on which no inspection was made during the year, a large number of these not being in operation.

The number of plates tested during the year was 346, as compared with 282 for the previous year. Fourteen plates were rejected as unfit for use in boiler-construction, as compared with

four in the previous year. On account of the difficulty in securing boiler-plate much of the material tested this year has not been up to the usual quality, and in a large number of cases the specimens had to be submitted to a series of impact tests and to microscopic tests before we felt that it would be safe to use them. This accounts for the large number of plates condemned.

The cruiser "Adanac" was used in connection with inspections in Districts A and D; all the logging camps operated on the coast-line in these districts were visited. The total number of miles run was 2,603. The coal-oil used for engine, lamps, and all purposes was 836 gallons; engine-oil, 17 gallons. The average consumption of coal-oil per mile for all purposes was 0.321 gallon, and the average consumption was 0.125 gallon per horse-power per hour.

In addition to the usual work of this office, we have during the year undertaken extra work as follows: Reports on various matters for Imperial Munitions Board; supervision of repairs and operation of the Ladner-Woodward and the Mission Ferries; surveys and reports on the launch "Faloma" for the Health Department, the "Whistlewing," "Douglas," and "Embree" for the Forestry Department, and the "Watla" for the Attorney-General's Department, the latter being handed over by the Game Warden to the Attorney-General's Department and by the Attorney-General's Department to the Forestry Department. Repairs were arranged for and supervised on the "Faloma" and the "Watla"; extensive repairs were carried out on the Ladner-Woodward and on the Mission Ferry.

During the year I have been working with the British Columbia University in connection with the education of returned soldiers to fit them for engineers. Many who held certificates of low grade before going overseas have taken the course in the University, and have secured high-grade certificates. Others with little experience have taken the course, and have been given temporary certificates to operate under Chief Engineers, and have thereby received such practical training as enabled them to pass examinations for certificates of competency.

Efficiency tests have been carried out at the Mental Hospital, alterations made in the boiler settings, and some instruments installed, resulting in decided improvement in connection with this plant.

Active co-operation between this Department and the engineers in various public buildings is also showing advantageous results. It is expected that during the coming year this co-operation will be continued and that a system of taking and plotting records will be introduced.

Preliminary arrangements have also been made for the Inspectors in our service to undertake the work of inspection for the Workmen's Compensation Board.

Appended you will find a summary of the total work done by all the District Inspectors, as well as their separate reports.

In conclusion, I desire to thank you for your active interest in support of this office, and also to thank the members of the staff for the efficient manner in which they have carried out their work during the year.

Trusting this report will meet with your approval,

I have, etc.,
JOHN PECK,
Chief Inspector.

SUMMARY OF TOTAL WORK DONE BY DISTRICT INSPECTORS FOR YEAR ENDING MARCH 31ST, 1918.

Number of	drawings and specifications calculated for new boilers	138
„	boiler-plates inspected	346
„	boiler-plates rejected	14
„	boilers built under Inspector's supervision in British Columbia	113
„	boilers inspected built under inspection in Eastern Canada	11
„	boilers inspected built in Eastern Canada not under inspection	12
„	new boilers inspected built in United States	20
„	new boilers inspected built in British Columbia	77
„	new boilers inspected (total)	130
„	boilers imported from Eastern Canada (second-hand)	24
„	boilers imported from United States (second-hand)	13
„	boilers unclassified	22
„	boilers inspected in United States	3
„	first inspections	186

SUMMARY OF TOTAL WORK DONE BY DISTRICT INSPECTORS—*Concluded.*

Number of inspections, external and internal	2,730
„ internal inspections only	15
„ external inspections only	308
„ special inspections after repairs	72
„ visits in addition to inspections	1,198
„ boilers subjected to hydrostatic test	2,923
„ boilers on which pressure was reduced	98
„ boilers unsafe without extensive repairs	48
„ boilers repaired under Inspector's directions	63
„ boilers considered unfit for further use	10
„ accidents to engines and boilers	37
„ accidents resulting in personal injury (not fatal)	2
„ accidents resulting in personal injury (fatal)	1
„ investigations	18
„ inspections completed	3,218
Total horse-power of boilers inspected	161,459.79
Number of defects observed as per summary	2,447
Number of defects considered dangerous	228
Inspection fees earned	$28,848.67
Inspection fees collected	$28,490 72
Miles travelled by the Inspector	62,350
Letters inward	7,129
Letters outward	8,690
Telegrams inward	59
Telegrams outward	73
Boilers taken out of service	14

SUMMARY OF TOTAL DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers without safety-valves	4	4
Boilers with safety-valves overloaded	10	4
Boilers with safety-valves defective in construction	29	5
Pressure-gauges inoperative	25	14
Pressure-gauges defective	276	15
Cases of insufficient staying or bracing	7	..
Cases of defective stays	31	3
Cases of broken rivets	5	..
Cases of defective riveting	13	2
Cases of broken stays or braces	58	4
Cases of loose stays or braces	14	1
Boilers damaged by low water	13	2
Defective settings	97	8
Boilers with fractured plates	63	11
Boilers with laminated plates	1	..
Boilers with burned plates	24	7
Boilers with blistered plates	7	2
Cases of sediment on fire-sheets	116	6
Cases of internal corrosion	161	2
Cases of scale or encrustation	169	7
Cases of internal grooving	6	2
Cases of external corrosion	161	10
Cases of defective tubes	155	7
Cases of defective feed-water arrangement	30	4
Cases of broken feed-valves	22	9
Serious leakage around tube-ends	143	10
Serious leakage in rivet-joints	13	1

SUMMARY OF TOTAL DEFECTS OBSERVED—*Concluded.*

Nature of Defects.	Number.	Dangerous.
Defective blow-off pipes or cocks	160	34
Defective water-gauges	19	2
Broken blow-off pipes or cocks	19	11
Water-columns without blow-outs	4	..
Cases of broken test-cocks	190	..
Connections to water-columns without valves	13	..
Neutral sheets not stayed	1	..
Furnaces out of shape	3	..
Boilers without fusible plugs	29	..
Boilers low at front end	70	1
Cases of serious leakage of fittings	50	1
Number of hand-holes, doors having bolts and dogs burned off	9	1
Defects in engines	17	9
Boilers without stop-valves	8	..
Cases of defective steam-pipes	20	5
Unclassified defects	182	24
Totals	2,447	228

JOHN PECK,
Chief Inspector of Steam-boilers.

Report of the Chief Examiner.

NEW WESTMINSTER, B.C., April 1st, 1918.

The Honourable the Minister of Public Works,
Victoria, B.C.

SIR,—I have the honour to submit to you the following report with respect to examination of candidates for engineers' certificates for the year ending March 31st, 1918:—

During the year I have received 954 applications for examination for the different grades of certificates.

On March 31st, 1917, I had on hand 268 applications, making a total of 1,222. Of these, 901 have been examined; 235 applicants have had their fees returned, as their testimonials did not show the necessary service qualifications required by the Act. This leaves on the "Accepted for Examination" file eighty-six application forms.

RESULT OF EXAMINATIONS.

Class.	No. examined.	Passed.	Failed.
First	9	9	..
Second	33	17	16
Third	157	103	54
Fourth	358	271	87
Temporary	164	163	1
Special logging-donkey	127	104	23
Special logging-locomotive	6	5	1
Special creamery	3	3	..
Special heating	37	37	..
Special road-roller	2	2	..

RESULT OF EXAMINATIONS—*Concluded.*

Class.	No. examined.	Passed.	Failed.
Special threshing	4	3	1
Special Doukhobor	1	1	..
Totals	901	718	18

Examination fees collected by Chief Inspector	$3,257 50
Examination fees collected by other Inspectors	144 50
Duplicate certificate fees	57 50
Total	$3,459 50

Trusting this report will meet with your approval,

I have, etc.,
JOHN PECK,
Chief Engineer Examiner.

Senior Inspector's Report, District A.

NEW WESTMINSTER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit to you the following report with respect to work done by me during the year ending March 31st, 1918:—

During the year my time was occupied in carrying out the varied work relating to this office—namely, examining, calculating, and registering designs of boilers, boiler accessories, pipe plans, etc., and examining engineers.

I made two visits to the Upper Country inspecting boilers at Kamloops, and examining engineers at Revelstoke, Vernon, and Kamloops.

Appended you will find a list of the boilers inspected by me, also a list showing the number of candidates for engineers' certificates who were examined in this district during the year.

Re designs for year commencing April 1st, 1917, and ending March 31st, 1918; these are as follows:—

Total designs for the year	138
Total new designs for the year	68
Total design amendments for the year	70
Fees collected for designs	$424

Trusting this report will meet with your approval,

I have, etc.,
JOHN DOWNIE,
Senior Inspector, District A.

SUMMARY OF WORK DONE IN DISTRICT A FOR YEAR ENDING MARCH 31ST, 1918.

Number of drawings and specifications calculated for new boilers	93
" boiler-plates inspected	8
" first inspections	2
" inspections, external and internal	10
" boilers subjected to hydrostatic test	10
" boilers on which pressure was reduced	4
" boilers repaired under Inspector's directions	4

SUMMARY OF WORK DONE IN DISTRICT A—*Concluded.*

Number of inspections completed	10
Total horse-power of boilers inspected	757
Number of defects observed as per summary	10
Inspection fees earned	$118.95
Inspection fees collected	$118.95
Miles travelled by the Inspector	1,680

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves defective in construction	1	..
Cases of internal corrosion	2	..
Cases of scale or encrustation	2	..
Cases of defective tubes	2	..
Serious leakage around tube-ends	2	..
Defective water-gauges	1	..
Total	10	..

JOHN DOWNIE,
Senior Inspector of Steam-boilers, District A.

Inspector's Report, District A.

NEW WESTMINSTER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit to you herewith my report for the year ending March 31st, 1918.

I am again pleased to report that no boiler-explosions have occurred during the year in this district.

Unfortunately, there was one accident which involved personal injury to the chief engineer of the plant of the Dominion Evaporators. While feeling the bearings of the fan-engine he apparently slipped, and his arm, passing through the spokes of a pulley on the shaft, was broken and wrenched off below the elbow.

Boilers Nos. 1231A, 1769A, and 2015A were damaged through excessive accumulations of scale on the fire-sheets.

Boiler No. 97A was damaged through an excess of lime having been fed into the boiler in an endeavour to arrest pitting on the tubes.

Two old marine boilers were inspected with the object of having them used for stationary purposes. The tubes of both were pitted through and useless, although the shells and furnaces were in good condition. The boilers were ordered to be retubed.

Boiler No. 1216A was damaged by low water. After washing out, some scale had lodged over the blow-down outlet; the boiler was filled up without closing the blow-down cock, and when steam was generated the scale blew out, thus allowing the boiler to empty. The tubes at the back-head were damaged, but were made good by rolling.

Other defects, as noted in the tabulated report attached, were of minor importance and such as occur in every-day operation.

Trusting this report will meet with your approval.

I have, etc.,
JOHN D. KAY,
Inspector, District A.

REMARKS.

Assisted at general examinations.

SUMMARY OF WORK DONE IN DISTRICT A FOR YEAR ENDING MARCH 31ST, 1918.

Number of boiler-plates inspected	16
„ boilers built under Inspector's supervision in British Columbia	2
„ boilers inspected built under inspection in Eastern Canada	1
„ boilers inspected built in Eastern Canada not under inspection	1
„ new boilers inspected built in British Columbia	5
„ new boilers inspected (total)	8
„ boilers imported from Eastern Canada (second-hand)	2
„ boilers imported from United States (second-hand)	2
„ boilers unclassified	4
„ first inspections	16
„ inspections, external and internal	298
„ external inspections only	9
„ special inspections after repairs	22
„ visits in addition to inspections	143
„ boilers subjected to hydrostatic test	276
„ boilers on which pressure was reduced	6
„ boilers unsafe without extensive repairs	6
„ boilers repaired under Inspector's directions	12
„ accidents to engines and boilers	4
„ accidents resulting in personal injury (not fatal)	1
„ investigations	5
„ inspections completed	304
Total horse-power of boilers inspected	13,402
Number of defects observed as per summary	175
Number of defects considered dangerous	15
Inspection fees earned	$2,587.05
Inspection fees collected	$2,550.20
Miles travelled by the Inspector	7,858
Letters inward	303
Letters outward	374
Boilers taken out of service	1

WORK DONE BY OTHER INSPECTORS FOR THIS DISTRICT.

Five boilers partly inspected by District D and fees collected by that office.

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves defective in construction	1	..
Pressure-gauges defective	14	1
Cases of broken rivets	1	..
Cases of defective riveting	3	..
Cases of broken stays or braces	1	1
Cases of loose stays or braces	1	1
Boilers damaged by low water	2	..
Defective settings	14	..
Boilers with fractured plates	18	..
Boilers with burned plates	3	3
Cases of sediment on fire-sheets	7	..
Cases of internal corrosion	20	..
Cases of scale or encrustation	27	2
Cases of internal grooving	2	..
Cases of external corrosion	14	..
Cases of defective tubes	9	4
Cases of defective feed-water arrangement	2	..
Serious leakage around tube-ends	4	2
Serious leakage in rivet-joints	4	..

SUMMARY OF DEFECTS OBSERVED—*Concluded.*

Nature of Defects.	Number.	Dangerous.
Defective blow-off pipes or cocks	3	..
Defective water-gauges	1	..
Cases of broken test-cocks	17	..
Connections to water-columns without valves	1	..
Boilers without fusible plugs	1	..
Cases of serious leakage of fittings	3	..
Defects in engines	2	1
Totals	175	15

JOHN D. KAY,
Inspector of Steam-boilers, District A.

Inspector's Report, District A.

NEW WESTMINSTER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to place before you my report for the year ending March 31st, 1918, giving details of the work accomplished under the "Boilers Inspection Act," which I trust will receive your approbation.

I have, etc.,
GEORGE C. MCGOWN,
Inspector, District A.

SUMMARY OF WORK DONE IN DISTRICT A FOR YEAR ENDING MARCH 31ST, 1918.

Number of boilers inspected built under inspection in Eastern Canada	2
„ new boilers inspected built in British Columbia	6
„ new boilers inspected (total)	8
„ boilers imported from United States (second-hand)	1
„ first inspections	9
„ inspections, external and internal	328
„ external inspections only	15
„ special inspections after repairs	11
„ visits in addition to inspections	73
„ boilers subjected to hydrostatic test	316
„ boilers on which pressure was reduced	5
„ boilers unsafe without extensive repairs	9
„ boilers repaired under Inspector's directions	5
„ boilers considered unfit for further use	1
„ accidents to engines and boilers	4
„ inspections completed	333
Total horse-power of boilers inspected	17,296
Number of defects observed as per summary	427
Number of defects considered dangerous	66
Inspection fees earned	$3,229.17
Inspection fees collected	$3,210.95
Miles travelled by the Inspector	7,634
Letters inward	491
Letters outward	506
Telegrams inward	1
Telegrams outward	3
Boilers taken out of service	2

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers without safety-valves	1	1
Boilers with safety-valves defective in construction	1	1
Pressure-gauges inoperative	8	..
Pressure-gauges defective	21	2
Cases of insufficient staying or bracing	1	..
Cases of defective stays	3	..
Cases of defective riveting	4	..
Boilers damaged by low water	2	..
Defective settings	10	..
Boilers with blistered plates	1	..
Cases of sediment on fire-sheets	8	1
Cases of internal corrosion	33	..
Cases of scale or encrustation	15	..
Cases of internal grooving	2	..
Cases of external corrosion	21	..
Cases of defective tubes	24	..
Cases of defective feed-water arrangement	20	8
Serious leakage around tube-ends	2	..
Defective blow-off pipes or cocks	97	22
Defective water-gauges	4	..
Broken blow-off pipes or cocks	5	2
Cases of broken test-cocks	17	..
Boilers without fusible plugs	2	..
Boilers low at front end	8	..
Number of hand-holes, doors having bolts and dogs burned off	8	1
Defects in engines	7	2
Cases of defective steam-pipes	14	5
Unclassified defects	88	21
Totals	427	66

GEORGE C. MCGOWN,
Inspector of Steam-boilers, District A.

Inspector's Report, Districts A and E.

NEW WESTMINSTER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit my report for the year ending March 31st, 1918, for work done in Districts A and E.

During the year twelve vertical-tubular boilers, one locomotive-type boiler, and twelve return-tube boilers, 72 inches diameter by 18 feet, were built under my supervision at the Vulcan Iron Works, New Westminster. All plates used in the construction of these boilers were tested and each boiler was inspected at least once during construction, and when completed was subject to the hydrostatic test.

I inspected all the boilers in the Okanagan District from Penticton to Sicamous and along the Canadian Pacific Railway from Field to Kamloops, and held engineers' examinations at Golden, Revelstoke, and Kamloops, making four trips during the year to the Upper Country.

I inspected all the plates for building one 93-foot diameter and one 115-foot diameter tank, also a large economizer at the Imperial Oil Company's plant at Ioco.

I assisted you at an evaporation test at the Kamloops Hospital, and inspected Government boilers at the Court-houses at Vernon and Kamloops and at the Old Men's Home, Kamloops.

The remainder of my time has been occupied in the office, examining and calculating new boiler designs, making drawings and office records, and assisting in engineers' examinations.

Trusting this report will meet with your approval,

I have, etc.,

A. S. BENNETT,

Inspector, Districts A and E.

REMARKS.

Assisted at monthly engineers' examinations.

SUMMARY OF WORK DONE IN DISTRICTS A AND E FOR THE YEAR ENDING MARCH 31ST, 1918.

Number of drawings and specifications calculated for new boilers	45
„ boiler-plates inspected	64
„ boiler-plates rejected	2
„ boilers built under Inspector's supervision in British Columbia	25
„ boilers inspected built in Eastern Canada not under inspection	4
„ new boilers inspected (total)	4
„ boilers imported from Eastern Canada (second-hand)	2
„ boilers unclassified	7
„ first inspections	13
„ inspections, external and internal	154
„ external inspections only	33
„ visits in addition to inspections	2
„ boilers subjected to hydrostatic test	136
„ boilers on which pressure was reduced	8
„ boilers unsafe without extensive repairs	1
„ accidents to engines and boilers	1
„ investigations	1
„ inspections completed	187
Total horse-power of boilers inspected	6,470
Number of defects observed as per summary	128
Number of defects considered dangerous	18
Inspection fees earned	$1,631.40
Inspection fees collected	$1,651.15
Miles travelled by the Inspector	6,252
Letters inward	147
Letters outward	320
Telegrams outward	1

WORK DONE FOR OTHER DISTRICTS.

Inspected and tested one 18-foot diameter x 46-foot digester at Port Alice, Vancouver Island, for District B.

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers without safety-valves	2	2
Boilers with safety-valves overloaded	1	1
Boilers with safety-valves defective in construction	7	..
Pressure-gauges inoperative	9	6
Pressure-gauges defective	18	3
Cases of defective riveting	1	..
Defective settings	2	..
Boilers with burned plates	2	..
Boilers with blistered plates	1	..

SUMMARY OF DEFECTS OBSERVED—*Concluded.*

Nature of Defects.	Number.	Dangerous.
Cases of sediment on fire-sheets	7	..
Cases of internal corrosion	8	..
Cases of scale or encrustation	19	..
Cases of external corrosion	16	..
Cases of defective tubes	2	..
Cases of defective feed-water arrangement	1	..
Cases of broken feed-valves	2	..
Serious leakage around tube-ends	1	1
Defective blow-off pipes or cocks	10	3
Broken blow-off pipes or cocks	2	1
Water-columns without blow-outs	2	..
Cases of broken test-cocks	9	..
Connections to water-columns without valves	2	..
Boilers low at front end	2	1
Cases of serious leakage of fittings	2	..
Totals	128	18

A. S. BENNETT,
Inspector of Steam-boilers, Districts A and E.

SUMMARY OF TOTAL WORK DONE IN DISTRICTS A AND E FOR YEAR ENDING MARCH 31ST, 1918.

RESULTS OF EXAMINATIONS.

Class.	No. examined.	Passed.	Failed.
First	9	9	..
Second	8	5	3
Third	61	44	17
Fourth	131	98	33
Special logging-donkey	42	33	9
Special creamery	2	2	..
Special heating	12	12	..
Special threshing	4	3	1
Special road-roller	2	2	..
Temporary	45	45	..
Totals	316	253	63

SUMMARY OF WORK DONE.

Number of drawings and specifications calculated for new boilers	138
„ boiler-plates inspected	88
„ boiler-plates rejected	2
„ boilers built under Inspector's supervision in British Columbia	27
„ boilers inspected built under inspection in Eastern Canada	3
„ boilers inspected built in Eastern Canada not under inspection	5
„ new boilers inspected built in British Columbia	11
„ new boilers inspected (total)	20
„ boilers imported from Eastern Canada (second-hand)	4
„ boilers imported from United States (second-hand)	3
„ boilers unclassified	11
„ first inspections	40
„ inspections, external and internal	790
„ external inspections only	57
„ special inspections after repairs	33
„ visits in addition to inspections	218

SUMMARY OF WORK DONE—*Concluded.*

Number of boilers subjected to hydrostatic test	738
„ boilers on which pressure was reduced	23
„ boilers unsafe without extensive repairs	16
„ boilers repaired under Inspector's directions	21
„ boilers considered unfit for further use	1
„ accidents to engines and boilers	9
„ accidents resulting in personal injury (not fatal)	1
„ investigations	6
„ inspections completed	834
Total horse-power of boilers inspected	37,925
Number of defects observed as per summary	740
Number of defects considered dangerous	99
Inspection fees earned	$7,566.57
Inspection fees collected	$7,531.25
Miles travelled by the Inspector	23,424
Letters inward	941
Letters outward	1,200
Telegrams inward	1
Telegrams outward	4
Boilers taken out of service	3

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers without safety-valves	3	3
Boilers with safety-valves overloaded	1	1
Boilers with safety-valves defective in construction	10	1
Pressure-gauges inoperative	17	6
Pressure-gauges defective	53	6
Cases of insufficient staying or bracing	1	..
Cases of defective stays	3	..
Cases of broken rivets	1	..
Cases of defective riveting	8	..
Cases of broken stays or braces	1	1
Cases of loose stays or braces	1	1
Boilers damaged by low water	4	..
Defective settings	26	..
Boilers with fractured plates	18	..
Boilers with burned plates	5	3
Boilers with blistered plates	2	..
Cases of sediment on fire-sheets	22	1
Cases of internal corrosion	63	..
Cases of scale or encrustation	63	2
Cases of internal grooving	4	..
Cases of external corrosion	51	..
Cases of defective tubes	37	4
Cases of defective feed-water arrangement	4	..
Cases of broken feed-valves	21	8
Serious leakage around tube-ends	9	3
Serious leakage in rivet-joints	4	..
Defective blow-off pipes or cocks	110	25
Defective water-gauges	6	..
Broken blow-off pipes or cocks	7	3
Water-columns without blow-outs	2	..
Cases of broken test-cocks	43	..
Connections to water-columns without valves	3	..
Boilers without fusible plugs	3	..

SUMMARY OF DEFECTS OBSERVED—*Concluded.*

Nature of Defects.	Number.	Dangerous.
Boilers low at front end	10	1
Cases of serious leakage of fittings	5	..
Number of hand-holes, doors having bolts and dogs burned off	8	1
Defects in engines	9	3
Cases of defective steam-pipes	14	5
Unclassified defects	88	21
Total	740	99

JOHN DOWNIE,
J. D. KAY,
G. C. MCGOWN,
A. S. BENNETT,
Inspectors of Steam-boilers, Districts A and E.

Senior Inspector's Report, District B.

VICTORIA, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit my report of work done during the last twelve months in this district. The general details of examination and correspondence applies to the inspectorate of this office, while appended summary relates to my work outside of the office.

During the year we examined 190 candidates of the various grades; of these, 149 passed the examination, forty-one failing to attain sufficient marks to obtain the desired certificate. In addition to the applications for examinations received after approval at head office, we accepted forty-nine without being registered and approved at New Westminster. This was principally caused by the Inspectors meeting applicants in out-of-the-way places in the Province where not many visits are made, thus preventing undue delay and inconvenience to such candidates. In this way $144.50 in fees was obtained. During the year engineers were examined each month in Victoria, tri-monthly in Nanaimo, at many points along the Grand Trunk Pacific Railway, and also at the following places: Atlin, Anyox, Port Alberni, Courtenay, Port Alice, Cumberland, Queen Charlotte Islands, Headquarters, Prince Rupert, and Comox.

Approximately 25,000 miles were travelled by the Victoria staff in the course of their duty, by train, steamer, and sundry other means of conveyance. The work done for this district by other districts was: Three boilers tested by District D and shipped here, and four boilers by District A, the Inspectors of that district having inspected them for installation and equipment.

Nearly 300 visits were made to steam plants in addition to the inspections made; therefore close supervision was made and advice given during the intervals between regular inspections.

During the year the following defects came under my personal observation:—

Steam Plant No. 739B.—An accident occurred to the engine, due to priming, the entrained water in cylinder causing the fracture of the steam-port walls. This was repaired by oxyacetylene welding, strengthened by outside clamps.

No. 154B.—This engine was wrecked by the failure of the crank-pin, which was beyond repair. No one was hurt.

No. 149B.—This boiler was seriously overheated and bulged over the combustion-chamber, caused by exfoliation of scale from the tubes owing to a change of the feed-water. A quiescent portion of water-circulation permitted its accumulation almost below the main steam-outlet. I had the damaged portion cut out and patched inside, and directed the insertion of a long dry-pipe to make the steam-liberation more diffused.

Another accident was narrowly averted by the prompt action of the engineer. A large Corliss engine, the governor of which, being driven by bevel-gear and having the pins securing

one of those bevel-pinions sheared through by the sudden acceleration of speed, was gaining dangerous rapidity when the engineer shut off main stop-valve and prevented damage.

No. 207B.—This mishap was at a steam "nigger" in a sawmill. The piston overreached and burst off the cylinder-head. Steam was shut off and cylinder repaired. Fortunately, no one was scalded by escaping steam or hurt by flying portions.

No. 421B.—This was a large mill engine with a 9-inch shaft which broke in the middle of the main bearing, causing the smashing of the cylinder and piston. Cylinder was 24 x 30 inches and considerable steam escaped before the valves could be closed. Engine is over twenty years old and has had hard and trying work right along with fluctuating loads, which caused crystallization and fatigue of metal.

Boilers Nos. 1204 and 1206.—These were bulged by overheating caused by oil getting into feed-water. Boilers were repaired and suitable oil separators and filters installed to prevent further ingress of oil.

No. 639B.—This was a resaw engine which gained undue speed owing to a break-down of the governing-gear. A cast-iron pulley burst owing to the excessive speed attained, and a portion of it was hurled against a steam-pipe, fracturing same. The escaping steam added to the confusion, but no personal harm was sustained by any one.

One fatal accident was reported. This was in connection with logging-locomotive No. 1832B. The engine got off the track and rolled down an incline, killing the engineer. Apparently there was no fault with condition of the steam plant, which would make it appear that defective track was the cause of the trouble.

Among the boilers put out of service by the Inspection Department of this district were two put afloat, one sent to the Yukon, and others discarded and cut up for scrap.

I inspected six boilers for the Provincial Government, totalling 578 horse-power, with accruing fees of $136, which account was not presented for payment.

I might suggest that this office get the use of a good-powered launch for the early summer months in order that the boilers from Smith Inlet north to Prince Rupert, as well as those in the Queen Charlotte Islands, could be inspected with a greater degree of dispatch than now obtains. At the present time we almost depend entirely on the irregular arrival of the larger steamers, as there is great difficulty in getting launch-owners—principally fishermen—to take Inspectors from steam plant to steam plant. I believe there are available and suitable launches belonging to the Government that might be used for this work.

The following appended summary gives the defects noted, office-work done, etc.

In conclusion, I would state that I believe the present year will see greater industrial activity, with a consequent increase of work. During the past year greater returns were obtained than I estimated at the beginning of 1917. I would also acknowledge the able and efficient assistance of my colleagues in this office in connection with the work of this district.

Trusting that the foregoing report will be satisfactory,

I have, etc.,

S. BAXTER,

Senior Inspector, District B.

ENGINEERS' EXAMINATIONS.

Number of applications for examinations	57
Number of applications for re-examination	11
Number of applications approved	49
Examination fees	$144.50

SUMMARY OF WORK DONE IN DISTRICT B FOR YEAR ENDING MARCH 31ST, 1918.

Number of boiler-plates inspected	11
„ boiler-plates rejected	1
„ boilers built under Inspector's supervision in British Columbia	5
„ boilers inspected built under inspection in Eastern Canada	2
„ new boilers inspected built in British Columbia	2
„ new boilers inspected (total)	4
„ boilers imported from Eastern Canada (second-hand)	3
„ boilers imported from United States (second-hand)	1
„ boilers unclassified	2

SUMMARY OF WORK DONE IN DISTRICT B—*Concluded.*

Number of first inspections	8
„ inspections, external and internal	51
„ external inspections only	5
„ special inspections after repairs	7
„ visits in addition to inspections	199
„ boilers subjected to hydrostatic test	248
„ boilers on which pressure was reduced	9
„ boilers unsafe without extensive repairs	4
„ boilers repaired under Inspector's directions	19
„ accidents to engines and boilers	10
„ accidents resulting in personal injury (fatal)	1
„ investigations	4
„ inspections completed	254
Total horse-power of boilers inspected	16,023
Number of defects observed as per summary	176
Number of defects considered dangerous	27
Inspection fees earned	$2,266.05
Inspection fees collected	$2,549.45
Miles travelled by the Inspector	6,226
Letters inward	2,743
Letters outward	3,264
Telegrams inward	30
Telegrams outward	26
Boilers taken out of service	6

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves defective in construction	2	..
Pressure-gauges inoperative	1	1
Pressure-gauges defective	29	1
Cases of loose stays or braces	1	..
Defective settings	11	5
Boilers with fractured plates	1	..
Boilers with burned plates	3	..
Boilers with blistered plates	1	1
Cases of sediment on fire-sheets	1	1
Cases of internal corrosion	9	..
Cases of scale or encrustation	5	..
Cases of external corrosion	12	2
Cases of defective tubes	4	..
Cases of defective feed-water arrangement	1	..
Serious leakage around tube-ends	20	3
Defective blow-off pipes or cocks	7	5
Defective water-gauges	1	..
Broken blow-off pipes or cocks	2	2
Cases of broken test-cocks	45	..
Boilers without fusible plugs	5	..
Boilers low at front end	1	..
Cases of serious leakage of fittings	6	..
Number of hand-holes, doors having bolts and dogs burned off	1	..
Defects in engines	4	4
Cases of defective steam-pipes	1	..
Unclassified defects	2	2
Totals	176	27

S. BAXTER,
Inspector of Steam-boilers, District B.

Inspector's Report, District B.

VICTORIA, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit my report for the year ending March 31st, 1918.

During this year I inspected steam plants on Vancouver Island, and at every place from Smith Inlet to Prince Rupert, the Queen Charlotte Islands, and the west coast of Vancouver Island, and found the majority of these plants in a satisfactory condition.

The following is a list of the most serious defects observed:—

Return-tube Boilers.—No. 860B was badly burnt and bulged through shortness of water, and as large repairs were necessary this boiler was discarded. Nos. 726B, 857B, and 859B were burnt and bulged, due to a layer of zinc on the sheet above the fire which had been placed in hangers to prevent pitting and had fallen to the bottom of the boiler. Nos. 2088B, 2096B, and 781B were burnt and bulged, due to scale. No. 366B and vertical No. 804B were found to be in such poor condition that they were condemned.

One sawmill engine was wrecked, due to the crank-pin breaking.

The one fatal accident which occurred is given in Mr. Baxter's report.

Trusting my report will meet with your approval,

I have, etc.,
L DUCKITT,
Inspector of Steam-boilers, District B.

SUMMARY OF WORK DONE IN DISTRICT B FOR YEAR ENDING MARCH 31ST, 1918.

Number of new boilers inspected built in United States	2
„ new boilers inspected (total)	2
„ boilers imported from Eastern Canada (second-hand)	1
„ first inspections	3
„ inspections, external and internal	302
„ external inspections only	10
„ special inspections after repairs	1
„ visits in addition to inspections	61
„ boilers subjected to hydrostatic test	267
„ boilers on which pressure was reduced	11
„ boilers unsafe without extensive repairs	1
„ boilers repaired under Inspector's directions	7
„ boilers considered unfit for further use	5
„ accidents to engines and boilers	3
„ accidents resulting in personal injury (fatal)	1
„ inspections completed	312
Total horse-power of boilers inspected	17,574.1
Number of defects observed as per summary	181
Number of defects considered dangerous	27
Inspection fees earned	$2,950.80
Inspection fees collected	$2,835.20
Miles travelled by the Inspector	8,161
Boilers taken out of service	3

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves defective in construction	2	..
Pressure-gauges inoperative	7	7
Pressure-gauges defective	48	..
Cases of defective stays	3	..
Cases of broken stays or braces	11	2
Cases of loose stays or braces	1	..

SUMMARY OF DEFECTS OBSERVED—*Concluded.*

Nature of Defects.	Number.	Dangerous.
Boilers damaged by low water	2	1
Defective settings	4	1
Boilers with fractured plates	1	1
Boilers with burned plates	9	2
Cases of sediment on fire-sheets	5	..
Cases of internal corrosion	13	..
Cases of scale or encrustation	12	3
Cases of external corrosion	15	2
Cases of defective tubes	14	..
Cases of defective feed-water arrangement	2	..
Serious leakage around tube-ends	4	4
Serious leakage in rivet-joints	1	1
Defective blow-off pipes or cocks	5	1
Defective water-gauges	2	1
Boilers without fusible plugs	8	..
Boilers low at front end	7	..
Cases of serious leakage of fittings	3	..
Defects in engines	1	1
Cases of defective steam-pipes	1	..
Totals	181	27

L. DUCKITT,
Inspector of Steam-boilers, District B.

Inspector's Report, District B.

VICTORIA, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit my annual report for the year ending March 31st, 1918.

I believe that possibly the main cause of the more serious defects which have come under my notice has been the excessive forcing of boilers with oil-fuel. In very many plants where oil-fuel is used, bulging or burning of the plate has taken place. I would strongly recommend that a boiler be allowed to evaporate no more than a fixed quantity of water. It seems quite out of reason that good boilers should be quickly spoiled and, at the same time, a distinct element of danger introduced.

Very many cases of broken stays presented themselves. I have always thought that the factor of safety on screwed stay-bolts should not be less than twelve.

The main shaft of a hoist owned by the Western Fuel Company, Nanaimo, gave way in the main bearing. This would seem to have been caused by "fatigue," the shaft being over thirty years old. From this and from some other observations, it would seem wise to apply our ordinary boiler-plate tests to portions cut from the shells of some of the older boilers in the Province in order that we may note just what the plates' properties are.

I applied the hydrostatic test to 307 boilers and completed inspections on 308 boilers. I partially inspected eleven more boilers which were not in use.

My work has taken me to many plants on Vancouver Island, to Anyox, the Nass River, and from Prince Rupert inland to the borders of Alberta. Besides the ordinary work of inspection, I conducted engineers' examinations in Prince Rupert and also assisted in such in Victoria.

This has been a busier year than last, as will be shown by the enclosed detailed list of work done, which I trust will meet with your approval.

I have, etc.,
JOHN CLARK,
Inspector of Boilers, District B.

SUMMARY OF WORK DONE IN DISTRICT B FOR YEAR ENDING MARCH 31ST, 1918.

Number of boiler-plates inspected (old boiler)	1
,, boiler-plates rejected	1
,, boilers inspected built under inspection in Eastern Canada	3
,, new boilers inspected built in United States	4
,, new boilers inspected (total)	7
,, boilers imported from Eastern Canada (second-hand)	5
,, first inspections	12
,, inspections, external and internal	317
,, internal inspections only	4
,, external inspections only (cast-iron heating-boilers)	38
,, special inspections after repairs	2
,, visits in addition to inspections	20
,, boilers subjected to hydrostatic test	307
,, boilers on which pressure was reduced	10
,, boilers unsafe without extensive repairs	15
,, boilers repaired under Inspector's directions	2
,, accidents to engines and boilers	5
,, investigations	6
,, inspections completed	308
Total horse-power of boilers inspected	17,537.9
Number of defects observed as per summary	259
Number of defects considered dangerous	13
Inspection fees earned	$2,959.05
Inspection fees collected	$2,948.60
Miles travelled by the Inspector	7,986

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves overloaded	2	..
Boilers with safety-valves defective in construction	2	..
Pressure-gauges defective	46	1
Cases of defective stays	13	..
Cases of broken rivets	1	..
Cases of defective riveting	1	..
Cases of broken stays or braces	14	..
Boilers damaged by low water	2	1
Defective settings	4	..
Boilers with fractured plates	7	4
Boilers with laminated plates	1	..
Boilers with burned plates	1	..
Boilers with blistered plates	1	..
Cases of sediment on fire-sheets	17	3
Cases of internal corrosion	20	..
Cases of scale or encrustation	28	2
Cases of external corrosion	19	..
Cases of defective tubes	17	..
Serious leakage around tube-ends	14	..
Serious leakage in rivet-joints	5	..
Defective blow-off pipes or cocks	3	1
Defective water-gauges	6	..
Broken blow-off pipes or cocks	1	..
Cases of broken test-cocks	23	..
Boilers without fusible plugs	1	..
Boilers low at front end	5	..
Cases of serious leakage of fittings	1	..

SUMMARY OF DEFECTS OBSERVED—*Concluded.*

Nature of Defects.	Number.	Dangerous.
Defects in engines	1	1
Cases of defective steam-pipes	3	..
Totals	259	13

JOHN CLARK,
Inspector of Steam-boilers, District B.

SUMMARY OF TOTAL WORK DONE IN DISTRICT B FOR YEAR ENDING MARCH 31ST, 1918.

RESULTS OF EXAMINATIONS.

Class.	No. examined.	Passed.	Failed.
Second	7	3	4
Third	33	21	12
Fourth	86	61	25
Special logging-donkey	10	10	..
Special creamery	1	1	..
Special heating	4	4	..
Temporary	49	49	..
Totals	190	149	41

SUMMARY OF WORK DONE.

Number of boiler-plates inspected	12
„ boiler-plates rejected	2
„ boilers built under Inspector's supervision in British Columbia	5
„ boilers inspected built under inspection in Eastern Canada	5
„ new boilers inspected built in United States	6
„ new boilers inspected built in British Columbia	2
„ new boilers inspected (total)	13
„ boilers imported from Eastern Canada (second-hand)	9
„ boilers imported from United States (second-hand)	1
„ boilers unclassified	2
„ first inspections	23
„ inspections, external and internal	670
„ internal inspections only	4
„ external inspections only	53
„ special inspections after repairs	10
„ visits in addition to inspections	280
„ boilers subjected to hydrostatic test	822
„ boilers on which pressure was reduced	30
„ boilers unsafe without extensive repairs	20
„ boilers repaired under Inspector's directions	28
„ boilers considered unfit for further use	5
„ accidents to engines and boilers	18
„ accidents resulting in personal injury (fatal)	2
„ investigations	10
„ inspections completed	874
Total horse-power of boilers inspected	51,135
Number of defects observed as per summary	616
Number of defects considered dangerous	67
Inspection fees earned	$8,175.90
Inspection fees collected	$8,333.25
Miles travelled by the Inspector	22,373
Letters inward	2,743

SUMMARY OF WORK DONE—*Concluded.*

Letters outward	3,264
Telegrams inward	30
Telegrams outward	26
Boilers taken out of service	9

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves overloaded	2	..
Boilers with safety-valves defective in construction	6	..
Pressure-gauges inoperative	8	8
Pressure-gauges defective	123	2
Cases of defective stays	16	..
Cases of broken rivets	1	..
Cases of defective riveting	1	..
Cases of broken stays or braces	25	2
Cases of loose stays or braces	2	..
Boilers damaged by low water	4	2
Defective settings	19	6
Boilers with fractured plates	9	5
Boilers with laminated plates	1	..
Boilers with burned plates	13	2
Boilers with blistered plates	2	1
Cases of sediment on fire-sheets	23	4
Cases of internal corrosion	42	..
Cases of scale or encrustation	45	5
Cases of external corrosion	46	4
Cases of defective tubes	35	..
Cases of defective feed-water arrangement	3	..
Serious leakage around tube-ends	38	7
Serious leakage in rivet-joints	6	1
Defective blow-off pipes or cocks	15	7
Defective water-gauges	9	1
Broken blow-off pipes or cocks	3	2
Cases of broken test-cocks	68	..
Boilers without fusible plugs	14	..
Boilers low at front end	13	..
Cases of serious leakage of fittings	10	...
Number of hand-holes, doors having bolts and dogs burned off	1	..
Defects in engines	6	6
Cases of defective steam-pipes	5	..
Unclassified defects	2	2
Totals	616	67

S. BAXTER,
L. DUCKITT,
J. CLARK,
Inspectors of Steam-boilers, District B.

Inspector's Report, District C.

NELSON, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit my report for the year ending March 31st, 1918, and I am pleased to say that there were no boiler-explosions and no accidents resulting in personal injury during that time.

Several return-tube boilers were damaged by mud on the fire-sheets, and in two cases part of the damaged plates had to be cut out. Quite a number of these boilers were found to be low at the front end, and this generally happens where the boilers are supported by lugs resting on the brickwork. Apart from the difficulty of keeping a boiler in its proper place, the riveting of a heavy bracket on a lighter plate should not be encouraged.

During the year examinations for engineers were held in different centres in the district, and most of the candidates who were notified came up for examination.

Trusting this report will meet with your approval.

I have, etc.,
ANDREW SUTHERLAND,
Inspector, District C.

RESULTS OF EXAMINATIONS.

Class.	No. examined.	Passed.	Failed.
Second	8	6	2
Third	19	15	4
Fourth	24	21	3
Special logging-donkey	3	3	..
Special Doukhobor	1	1	..
Temporary	5	5	..
Totals	60	51	9

REMARKS.

There were on file in my office on March 31st, 1918, the following application forms: Second Class, 1, notified twice; Third Class, 4, notified twice; Fourth Class, 8, notified once; special Doukhobor, notified once.

SUMMARY OF WORK DONE IN DISTRICT C FOR YEAR ENDING MARCH 31ST, 1918.

Number of boilers inspected built under inspection in Eastern Canada	2
,, boilers inspected built in Eastern Canada not under inspection	3
,, new boilers inspected built in United States	3
,, new boilers inspected (total)	8
,, boilers imported from Eastern Canada (second-hand)	4
,, boilers imported from United States (second-hand)	4
,, boilers unclassified	2
,, first inspections	18
,, inspections, external and internal	257
,, external inspections only	3
,, special inspections after repairs	3
,, visits in addition to inspections	134
,, boilers subjected to hydrostatic test	253
,, boilers on which pressure was reduced	8
,, boilers unsafe without extensive repairs	1
,, boilers repaired under Inspector's directions	6
,, boilers considered unfit for further use	1
,, accidents to engines and boilers	7

SUMMARY OF WORK DONE IN DISTRICT C—*Concluded.*

Number of inspections completed	260
Total horse-power of boilers inspected	17,737
Number of defects observed as per summary	447
Number of defects considered dangerous	12
Inspection fees earned	$2,818.70
Inspection fees collected	$2,606.82
Miles travelled by the Inspector	6,166
Letters inward	319
Letters outward	380
Telegrams inward	16
Telegrams outward	23
Boilers taken out of service	1

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves overloaded	1	..
Boilers with safety-valves defective in construction	5	1
Pressure-gauges defective	52	1
Cases of insufficient staying or bracing	2	..
Cases of defective stays	4	1
Cases of broken rivets	2	..
Cases of broken stays or braces	3	1
Cases of loose stays or braces	10	..
Defective settings	41	1
Boilers with fractured plates	5	1
Boilers with burned plates	4	1
Cases of sediment on fire-sheets	34	1
Cases of internal corrosion	5	..
Cases of scale or encrustation	46	..
Cases of external corrosion	33	..
Cases of defective tubes	21	..
Cases of defective feed-water arrangement	8	..
Serious leakage around tube-ends	22	..
Defective blow-off pipes or cocks	17	2
Defective water-gauges	1	..
Broken blow-off pipes or cocks	4	2
Water-columns without blow-outs	2	..
Cases of broken test-cocks	51	..
Connections to water-columns without valves	3	..
Neutral sheets not stayed	1	..
Furnaces out of shape	2	..
Boilers without fusible plugs	10	..
Boilers low at front end	45	..
Cases of serious leakage of fittings	6	..
Defects in engines	1	..
Boilers without stop-valves	5	..
Cases of defective steam-pipes	1	..
Totals	447	12

ANDREW SUTHERLAND,
Inspector of Steam-boilers, District C.

Senior Inspector's Report, District D.

VANCOUVER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—Enclosed please find my annual report for year ending March 31st, 1918.

During the year there have been only three accidents to engines reported. One at Peers & Anderson's shingle-mill, when strap on crank end of connection-rod of Corliss engine broke and wrecked the engine beyond repair. This was investigated by yourself and found to be a case of "death from natural causes," or, in other words, of old age; no fault being attached to any one connected with the plant.

The other accident happened at Rainy River Pulp & Paper Company's mill. The engineer's report of same was sent to you in August, 1917.

The crank-shaft of main engine at Vancouver Hotel plant was found broken by engineer after shutting down, although it had given no indication of anything wrong while running.

In July I visited the plant of the Moore Logging Company, Wickersham, Washington, who wished to bring their equipment over to this side if it could pass inspection. I inspected three log-haul boilers, but found they were not good enough for the pressure required by owners; they were therefore not brought in.

In November the crown-sheet of No. 1 locomotive at Rock Bay came down through the heads of stays, being burnt off in fire-box. Ninety new stays were put in to repair same.

Outside of the foregoing the work has been a matter of routine, most of my time being spent in the office arranging work for Inspectors and keeping records.

I have, etc.,

GEORGE O. MADIGAN,
Senior Inspector, District D.

SUMMARY OF WORK DONE IN DISTRICT D FOR YEAR ENDING MARCH 31ST, 1918.

Number of boiler-plates inspected	10
,, boilers built under Inspector's supervision in British Columbia	5
,, boilers unclassified (inspected in U.S.A.)	3
,, first inspections	8
,, inspections, external and internal	6
,, external inspections only	2
,, visits in addition to inspections	34
,, boilers subjected to hydrostatic test	8
,, boilers on which pressure was reduced	1
,, accidents to engines and boilers	3
,, accidents resulting in personal injury (not fatal)	1
,, inspections completed	7
Total horse-power of boilers inspected	366.1
Number of defects observed as per summary	2
Inspection fees earned	$113.10
Inspection fees collected, $193.80; total for District D	$10,019.40
Miles travelled by the Inspector	233
Letters inward	3,126
Letters outward	3,846
Telegrams inward	8
Telegrams outward	13

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Defective settings	1	..
Cases of external corrosion	1	..
Total	2	..

GEORGE O. MADIGAN,
Inspector of Steam-boilers, District D.

Inspector's Report, District D.

VANCOUVER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I beg to submit herewith my report for the year ending March 31st, 1918.

As far as the number of inspections is concerned, the year has not been greatly different from other years, but in respect to new boilers there is a marked difference. It is now practically impossible for the private individual to obtain new boilers. This has resulted in an inflated price for second-hand boilers, which throws a good deal more responsibility upon this Department. In spite of this, no boiler accidents have happened in this Department through which any lives have been lost.

For the first time in the history of the Department acetylene-welded tubes were allowed. The first set welded in this city were by no means an unqualified success. Not so much on account of the weld, but because the tubes themselves were unfit for welding. Of about 200 tubes, at least half were condemned after welding on account of pitting. Had our office been asked to examine and cast out tubes unfit for welding, a considerable amount of expense would have been saved the persons interested. Six of the welded tubes gave out at the weld when subjected to hydrostatic test. The effect of acetylene-welding of tubes should be carefully watched after the boiler is in use. I would suggest that where the weld is conveniently placed in vertical or locomotive boilers, that hand-hole plates be cut opposite them for that purpose.

Every lap-seam boiler that I have examined during the year has had a slot cut across the seam, but no cracks were located.

Twelve cannery retorts were built under inspection during the year. Deflection tests were made upon flat heads and doors of tanks built to the conventional form. A deflection of ¾ inch in centre was found to be common. This was reduced to ¼ inch by proper bracing and reducing the surface exposed to steam-pressure (15 lb.).

Two new digesters for pulp-manufacture were installed—one at Powell River and one at Mill Creek—both built and erected by the Williamette Iron & Steel Company, of Portland, Ore.

At the end of the year the shell of a boiler in the old Pacific Coast mill fractured in a longitudinal direction for about 7 inches from the stop-valve flange towards the manhole. The fracture was discovered under hydrostatic test. The flange of stop-valve was small in diameter compared to those at present in use, and as there was considerable overhang of steam-piping supported from the roof of a building not too stable upon its foundations, it threw a severe strain upon the shell of boiler where the flange was riveted on. It seems probable that considerable fretting action also took place here, due to vibrations of the pipe-line, which would hasten the action. Small cracks extended from edge of flange in all directions, although the main one was in a longitudinal direction.

Trusting you will find this report satisfactory and thanking you for your assistance in the past,

I have, etc.,
PERCY A. GOEPEL,
Inspector, District D.

SUMMARY OF WORK DONE IN DISTRICT D FOR YEAR ENDING MARCH 31ST, 1918.

Number of	boiler-plates inspected	69
,,	boiler-plates rejected	1
,,	boilers built under Inspector's supervision in British Columbia	28
,,	boilers inspected built in Eastern Canada not under inspection	2
,,	new boilers inspected built in United States	4
,,	new boilers inspected built in British Columbia	18
,,	new boilers inspected (total)	32
,,	boilers imported from Eastern Canada (second-hand)	4
,,	boilers unclassified	3
,,	first inspections	35

SUMMARY OF WORK DONE IN DISTRICT D—*Concluded.*

Number of inspections, external and internal	405
„ internal inspections only	4
„ external inspections only	15
„ special inspections after repairs	17
„ visits in addition to inspections	258
„ boilers subjected to hydrostatic test	376
„ boilers on which pressure was reduced	5
„ boilers unsafe without extensive repairs	7
„ boilers repaired under Inspector's directions	7
„ boilers considered unfit for further use	1
„ investigations	1
„ inspections completed	392
Total horse-power of boilers inspected	18,565.01
Number of defects observed as per summary	122
Number of defects considered dangerous	23
Inspection fees earned	$3,228.70
Inspection fees collected	$3,003.00
Miles travelled by the Inspector	3,400
Telegrams outward	1

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves defective in construction	2	1
Pressure-gauges defective	15	1
Cases of defective riveting	3	2
Defective settings	3	..
Boilers with fractured plates	3	3
Boilers with burned plates	1	..
Boilers with blistered plates	2	..
Cases of sediment on fire-sheets	36	..
Cases of internal corrosion	7	1
Cases of internal grooving	1	1
Cases of external corrosion	6	4
Cases of defective tubes	14	3
Serious leakage around tube-ends	13	4
Serious leakage in rivet-joints	1	1
Broken blow-off pipes or cocks	1	..
Cases of broken test-cocks	2	..
Furnaces out of shape	1	..
Cases of serious leakage of fittings	10	1
Unclassified defects	1	1
Totals	122	23

PERCY A. GOEPEL,
Inspector of Steam-boilers, District D.

Inspector's Report, District D.

VANCOUVER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have pleasure in forwarding you my report concerning the extent of work done during the past year.

It may be noted that the majority of my inspections has taken place in logging camps located on the Coast between Vancouver and Seymour Inlet, the number of camps visited being 119, with a total number of 343 log-hauls. Steam plants other than logging were visited, and totalled seventeen, with fifty boilers operating. The remainder of my inspections took place in Vancouver.

I regret that owing to various delays beyond my control it was necessary to carry on the work late into the season, and also that at least ten logging camps were left without inspection.

I am pleased to inform you that the launch "Adanac" worked on the whole fairly satisfactorily, more especially during the latter part of the trip; but there are indications that the engine needs a thorough overhaul, one being the difficulty in keeping up the oil-pressure in the crank-case, due no doubt to looseness of the bearings.

I am also pleased to be able to report that only one accident resulting in personal injury took place in connection with logging-boilers. In this case the crown-sheet stays pulled through the sheet. On investigating I could find no signs of overheating, nor were any broken stays found. The accident was to a very old locomotive in the British Columbia Mills Timber & Trading Company's camp at Rock Bay. The fireman, in jumping off the engine at the time of the trouble, broke his arm.

The logging industry during the past year was exceedingly busy, but with the exception of two or three large camps, all the camp-owners complained of a shortness of men, including engineers.

The enclosed tabulated form shows the result of my year's work in detail, which I trust you will find satisfactory.

I have, etc.,
F. BATH,
Inspector, District D.

SUMMARY OF WORK DONE IN DISTRICT D FOR YEAR ENDING MARCH 31ST, 1918.

Number of boiler-plates inspected	23
„ boilers built under Inspector's supervision in British Columbia	6
„ boilers inspected built in Eastern Canada not under inspection	1
„ new boilers inspected built in United States	4
„ new boilers inspected built in British Columbia	3
„ new boilers inspected (total)	9
„ boilers imported from United States (second-hand)	2
„ boilers unclassified	1
„ first inspections	14
„ inspections, external and internal	377
„ external inspections only	25
„ special inspections after repairs	1
„ visits in addition to inspections	28
„ boilers subjected to hydrostatic test	382
„ boilers on which pressure was reduced	8
„ boilers unsafe without extensive repairs	1
„ boilers considered unfit for further use	1
„ accidents to engines and boilers	1
„ investigations	1
„ inspections completed	448
Total horse-power of boilers inspected	19,042

SUMMARY OF WORK DONE IN DISTRICT D—*Concluded.*

Number of defects observed as per summary	217
Number of defects considered dangerous	2
Inspection fees earned	$3,666.00
Inspection fees collected	$3,615.70
Miles travelled by the Inspector	5,400
Telegrams inward	4
Telegrams outward	6
Boilers taken out of service	1

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers with safety-valves overloaded	4	2
Boilers with safety-valves defective in construction	2	..
Pressure-gauges defective	23	..
Cases of defective stays	1	..
Cases of broken rivets	1	..
Cases of defective riveting	1	..
Cases of broken stays or braces	28	..
Cases of loose stays or braces	1	..
Boilers damaged by low water	1	..
Boilers with fractured plates	13	..
Cases of internal corrosion	2	..
Cases of external corrosion	17	..
Cases of defective tubes	3	..
Serious leakage around tube-ends	60	..
Serious leakage in rivet-joints	3	..
Defective blow-off pipes or cocks	13	..
Defective water-gauges	1	..
Cases of broken test-cocks	13	..
Boilers without fusible plugs	1	..
Boilers low at front end	2	..
Cases of serious leakage of fittings	15	..
Defects in engines	1	..
Boilers without stop-valves	3	..
Unclassified defects	8	..
Totals	217	2

F. BATH,
Inspector of Steam-boilers, District D.

Inspector's Report, District D.

VANCOUVER, B.C., April 1st, 1918.

John Peck, Esq.,
Chief Inspector of Machinery, New Westminster, B.C.

SIR,—I have the honour to submit my report of inspection-work done during the year ending March 31st, 1918, also the enclosed tabulated statement.

Apart from the great scarcity of material for boiler-construction, which scarcity was accentuated as the year progressed to its close, there is nothing to report of especial public interest. Certain modifications of conventional practice in respect to the testing and approving of boiler-plate might be referred to at some length; however, this matter will probably be fully cared

for by yourself. On the whole, a more charitable attitude had to be taken in regard to the quality of steel as judged by the standards of less strenuous times. The same applies to used boilers, also faulty tubes, the scarcity of the latter having been more pronounced than plate.

About fifty vertical-tube boilers were built to the order of the Imperial Munitions Board for service overseas. There were also a few second-hand boilers inspected prior to export to the United States. These inspections were, of course, incidental to the war, and in no sense to be regarded as indicative of a future export trade in machinery. There may be just a little satisfaction in the fact that the Munitions Board, as well as a few steam-users in the United States, took advantage of our modest facilities for the inspection of their purchases. It is good to know that our efforts are appreciated to this extent.

During the year I found what is probably the last remaining suspect of boiler design 1319. Suspicions that grooving at longitudinal seams would have taken place were well founded. About $^{3}/_{16}$ inch material only remained to hold the boiler together. As an exactly similar case was investigated by the Chief Inspector two years ago and afterwards fully referred to in that year's Annual Report, no further action—save scrapping the boiler—was considered necessary.

The examination of candidates for engineers' certificates takes up a lot of time in the office. Roughly, two weeks in every alternate month of my time were so occupied. There has been no dearth of aspirants for certificates, and it seems in the nature of a paradox that complaints should be made now and then of the paucity of certificated men. In the lower grades the work was fair; in the higher, not at all good. The presumption is that capable and good men had transferred their activities to the more urgent work elsewhere.

Recognizing fully an indebtedness to you for the continuance of generous counsel and support,

I have, etc.,
FRED. BIGGAM,
Inspector, District D.

SUMMARY OF WORK DONE IN DISTRICT D FOR YEAR ENDING MARCH 31ST, 1918.

Number of boiler-plates inspected	144
„ boiler-plates rejected	9
„ boilers built under Inspector's supervision in British Columbia	42
„ boilers inspected built under inspection in Eastern Canada	1
„ boilers inspected built in Eastern Canada not under inspection	1
„ new boilers inspected built in United States	3
„ new boilers inspected built in British Columbia	43
„ new boilers inspected (total)	48
„ boilers imported from Eastern Canada (second-hand)	3
„ boilers imported from United States (second-hand)	3
„ boilers unclassified	3
„ first inspections	48
„ inspections, external and internal	225
„ internal inspections only	7
„ external inspections only	153
„ special inspections after repairs	8
„ visits in addition to inspections	246
„ boilers subjected to hydrostatic test	344
„ boilers on which pressure was reduced	23
„ boilers unsafe without extensive repairs	3
„ boilers repaired under Inspector's directions	1
„ boilers considered unfit for further use	1
„ inspections completed	403
Total horse-power of boilers inspected	16,689.68
Number of defects observed as per summary	303
Number of defects considered dangerous	25
Inspection fees earned	$3,279.70
Inspection fees collected	$3,206.90
Miles travelled by the Inspector (approximately)	1,354

WORK DONE FOR OTHER DISTRICTS.

The plates for four digesters to be installed at Quatsino (District B) Pulp & Paper Mills were inspected. T.S. marks were located, also mill numbers. The Provincial inspection-stamp was imprinted at several points on every plate.

WORK DONE BY OTHER INSPECTORS FOR THIS DISTRICT.

The following fees, though not collected, are included in the earnings for the year: Courthouse, $22.20; Normal School, $18.20; University, $5; total, $45.40.

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers without safety-valves	1	1
Boilers with safety-valves overloaded	2	1
Boilers with safety-valves defective in construction	4	2
Pressure-gauges defective	10	5
Cases of insufficient staying or bracing	4	..
Cases of defective stays	7	2
Cases of broken stays or braces	1	..
Boilers damaged by low water	4	..
Defective settings	7	1
Boilers with fractured plates	15	2
Boilers with burned plates	1	1
Boilers with blistered plates	1	1
Cases of sediment on fire-sheets	1	..
Cases of internal corrosion	42	1
Cases of scale or encrustation	15	..
Cases of internal grooving	1	1
Cases of external corrosion	7	2
Cases of defective tubes	45	..
Cases of defective feed-water arrangement	2	..
Serious leakage around tube-ends	14	..
Defective blow-off pipes or cocks	5	..
Defective water-gauges	2	1
Broken blow-off pipes or cocks	4	4
Cases of broken test-cocks	13	..
Connections to water-columns without valves	7	..
Boilers without fusible plugs	1	..
Cases of serious leakage of fittings	4	..
Unclassified defects	83	..
Totals	303	25

REMARKS.

Nothing occurred worthy of special mention during the months of January, February, and March, 1918. A memorandum accompanying my annual report for 1917 forwarded to the head office takes note of conditions of inspection-work for the period April to December, 1917.

FRED. BIGGAM,
Inspector of Steam-boilers, District D.

SUMMARY OF TOTAL WORK DONE IN DISTRICT D FOR YEAR ENDING MARCH 31ST, 1918.

RESULTS OF EXAMINATIONS.

Class.	No. examined.	Passed.	Failed.
Second	10	3	7
Third	44	23	21
Fourth	117	91	26
Special logging-donkey	72	58	14

RESULTS OF EXAMINATIONS—*Concluded.*

Class.	No. examined.	Passed.	Failed.
Special logging-locomotive	6	5	1
Special heating	21	21	..
Temporary	65	64	1
Totals	335	265	70

SUMMARY OF WORK DONE.

Number of boiler-plates inspected	246
„ boiler plates rejected	10
„ boilers built under Inspector's supervision in British Columbia	81
„ boilers inspected built under inspection in Eastern Canada	1
„ boilers inspected built in Eastern Canada not under inspection	4
„ new boilers inspected built in United States	11
„ new boilers inspected built in British Columbia	64
„ new boilers inspected (total)	89
„ boilers imported from Eastern Canada (second-hand)	7
„ boilers imported from United States (second-hand)	5
„ boilers unclassified	10
„ first inspections	105
„ inspections, external and internal	1,013
„ internal inspections only	11
„ external inspections only	195
„ special inspections after repairs	26
„ visits in addition to inspections	566
„ boilers subjected to hydrostatic test	1,110
„ boilers on which pressure was reduced	37
„ boilers unsafe without extensive repairs	11
„ boilers repaired under Inspector's directions	8
„ boilers considered unfit for further use	3
„ accidents to engines and boilers	3
„ accidents resulting in personal injury (not fatal)	1
„ investigations	2
„ inspections completed	1,250
Total horse-power of boilers inspected	54,662.79
Number of defects observed as per summary	644
Number of defects considered dangerous	50
Inspection fees earned	$10,287.50
Inspection fees collected	$10,019.40
Miles travelled by the Inspector (approximately)	10,387
Letters inward	3,126
Letters outward	3,846
Telegrams inward	12
Telegrams outward	20
Boilers taken out of service	1

SUMMARY OF DEFECTS OBSERVED.

Nature of Defects.	Number.	Dangerous.
Boilers without safety-valves	1	1
Boilers with safety-valves overloaded	6	3
Boilers with safety-valves defective in construction	8	3
Pressure-gauges defective	48	6
Cases of insufficient staying or bracing	4	..
Cases of defective stays	8	2
Cases of broken rivets	1	..

SUMMARY OF DEFECTS OBSERVED—*Concluded.*

Nature of Defects.	Number.	Dangerous.
Cases of defective riveting	4	2
Cases of broken stays or braces	29	..
Cases of loose stays or braces	1	..
Boilers damaged by low water	5	..
Defective settings	11	1
Boilers with fractured plates	31	5
Boilers with burned plates	2	1
Boilers with blistered plates	3	1
Cases of sediment on fire-sheets	37	..
Cases of internal corrosion	51	2
Cases of scale or encrustation	15	..
Cases of internal grooving	2	2
Cases of external corrosion	31	6
Cases of defective tubes	62	3
Cases of defective feed-water arrangement	15	4
Cases of broken feed-valves	1	1
Serious leakage around tube-ends	74	..
Serious leakage in rivet-joints	3	..
Defective blow-off pipes or cocks	18	..
Defective water-gauges	3	1
Broken blow-off pipes or cocks	5	4
Cases of broken test-cocks	28	..
Connections to water-columns without valves	7	..
Furnaces out of shape	1	..
Boilers without fusible plugs	2	..
Boilers low at front end	2	..
Cases of serious leakage of fittings	29	1
Defects in engines	1	..
Boilers without stop-valves	3	..
Unclassified defects	92	1
Totals	644	50

GEORGE O. MADIGAN,
PERCY A. GOEPEL,
FRED. BATH,
FRED. BIGGAM,
Inspectors of Steam-boilers, District D.

LIST OF REGISTERED DESIGNS.

LIST OF BOILER MANUFACTURERS, WITH THEIR NUMBER OF APPROVED AND REGISTERED DESIGNS.

Alley & McLellan, Glasgow, Scotland	1
Allbright-Nell Co., Chicago, Ill., U.S.A.	1
American Radiator Co. of Canada, Toronto, Ont.	30
American Hoist & Derrick Co., St. Paul, Minn., U.S.A.	26
American Locomotive Co., New York, U.S.A.	6
Ames Iron Works, Oswego, N.Y., U.S.A.	5
Atlas Engine Works, Indianapolis, U.S.A.	1
Averling & Porter, Rochester, England	1
Avery Co., Peoria, Ill., U.S.A.	2
Babcock & Wilcox, Renfrew, Scotland	21
Badenhausen Co., Philadelphia, Pa., U.S.A.	4
Baldwin Locomotive Works, Philadelphia, U.S.A.	20
B.C. Marine Railway Co., Vancouver and Victoria, B.C.	5
Beatty, M., & Sons, Ltd., Welland, Ont.	15
Berg Machinery Manufacturing Co., Toronto, Ont.	1
Bell, Robert, Engine & Threshing Co., Ltd., Seaforth, Ont.	5
Brown Hoisting Co., Cleveland, Ohio, U.S.A.	2
Bros., William, Minneapolis, U.S.A.	7
Brownell, Co., The, Dayton, Ohio, U.S.A.	3
Browning Engineering Co., Cleveland, Ohio, U.S.A.	1
Bucyrus Co., South Milwaukee, U.S.A.	20
Buffalo Steam Roller Co., Buffalo, N.Y., U.S.A.	1
Canadian Allis-Chalmers, Ltd., Toronto, Ont.	2
Canada Foundry Co., Toronto, Ont.	22
Canada Iron Corporation, Ltd., Midland, Ont.	6
Canadian Northern Railway, Winnipeg, Man.	3
Canadian Talbot Boiler Co., Vancouver, B.C.	1
Case, J. I., Threshing So., Racine, Wis., U.S.A.	22
Casey-Hedges Co., Ltd., Chattanooga, Tenn., U.S.A.	1
Canadian Locomotive Co., Kingston, Ont.	5
Canadian Western Manufacturing & Supply Co., Calgary, Alta.	1
Clyde Iron Works, Duluth, Minn., U.S.A.	9
Climax Manufacturing Co., Corry, Pa., U.S.A.	6
Clayton, Son & Co., Leeds, England	1
Columbiana Boiler Works Co., Ltd., Ohio, U.S.A.	4
Continental Iron Works, New York, U.S.A.	1
Cochrane & Co., Annan, Scotland	1
Davenport Locomotive Works, Davenport, Iowa, U.S.A.	13
Decarie Safety Boiler Co., Vancouver, B.C.	4
Diamond Boiler Works, Minneapolis, U.S.A.	1
Doty Engine Works, Goderich, Ont.	6
Dutton Co., C. H., Kalamazoo, Mich., U.S.A.	7
Empire Manufacturing Co., Ltd., Vancouver, B.C.	9
Erie City Iron Works, Erie, Pa., U.S.A.	5
Farquhar Co., A.B., York, Penn., U.S.A.	7
Foden, Ltd., Sandback, England	2
Frost Manufacturing Co., Galesburgh, Ill., U.S.A.	36
Garr, Scott & Co., Richmond, Ind., U.S.A.	1
Gem City Boiler Works, Dayton, Ohio, U.S.A.	1
Georgian Bay Engine Works, Midland, Ont.	1
Goldie-McCulloch Co., Galt, Ont.	49

LIST OF BOILER MANUFACTURERS—*Continued.*

Grand Trunk Pacific Railway Co.	2
Gray, Andrew, Marine Iron Works, Victoria, B.C.	8
Great Northern Railway, Winnipeg, Man.	2
Gurney Foundry Co., Ltd., Toronto, Ont.	16
Hamilton Manufacturing Co., W., Peterboro, Ont.	1
Heaps Engineering Co., Ltd., New Westminster, B.C.	4
Heisler Locomotive Works, Erie, Pa., U.S.A.	7
Holt Manufacturing Co., Stockton, Cal., U.S.A.	2
Houston, Stanwood & Gamble, Cincinnati, Ohio, U.S.A.	1
Imperial Oil Co., Sarnia, Ont.	6
International Engineering Works, Amherst, N.S.	33
Inglis Co., John, Toronto, Ont.	7
Industrial Works, Bay City, Mich., U.S.A.	3
Jenckes Machine Co., Ltd., St. Catherines, Ont.	93
Keeler, E., Co., Williamsport, Pa., U.S.A.	1
Kelly Springfield Road Roller Co., Springfield, Ohio, U.S.A.	1
Kewanee Boiler Co., Kewanee, Ill.,U.S.A.	15
Keystone Driller Co., Beaver Falls, Pa., U.S.A.	2
Leonard & Sons, E., London, Ont.	36
Leffell & Co., James, Springfield, Ohio, U.S.A.	1
Lidgerwood Manufacturing Co., Brooklyn, N.Y., U.S.A.	4
Lima Locomotive & Machine Co., Lima, Ohio, U.S.A.	20
Lyons Boiler Works, DePere, Wis., U.S.A.	2
Manitowoc Iron Works, Manitowoc, Wis., U.S.A.	2
Mann's Patent Steam Cart & Wagon Co., Leeds, England	3
Marine Iron Works, Victoria, B.C.	8
Marion Steam Shovel Co., Marion, Ohio, U.S.A.	35
Marion Osgood Co., Marion, Ohio, U.S.A.	5
Marsh & Henthorne, Belleville, Ont.	10
Matheson & Co., J., Ltd., New Glasgow, N.S.	10
Marshall & Sons Co., Ltd., Gainsborough, England	1
Mainland Iron Works, Vancouver, B.C.	1
Macdougall Co., John, Caledonian Iron Works, Montreal, Que.	3
Mechanical Manufacturing Co., Chicago, Ill., U.S.A.	1
Montreal Locomotive Works, Montreal, Que.	9
Murray-Latta Machine Works, Vancouver, B.C.	1
Nagle Engine & Boiler Works, Erie, Pa., U.S.A.	1
Nicol Boiler Works, Vancouver, B.C.	2
Napanee Iron Works, Napanee, Ont.	1
North Shore Iron Works, North Vancouver, B.C.	41
Northern Aluminium Co., Toronto, Ont.	3
Oil City Boiler Works, Oil City, Pa., U.S.A.	1
Orr & Sembower, Reading, Pa., U.S.A.	19
Pennsylvania Boiler Works, Erie, Pa., U.S.A.	3
Porter Co., H. K., Pittsburgh, Pa., U.S.A.	10
Polson Iron Works, Toronto, Ont.	1
Puget Sound Iron & Steel Works, Tacoma, Wash., U.S.A.	2
Risdon Locomotive & Iron Co., San Francisco, Cal., U.S.A.	1
Robey & Co., Lincoln, England	2
Ross & Howard Iron Works, Ltd., Vancouver, B.C.	31
Ruston-Proctor Co., Lincoln, England	7
Sawyer-Massey Co., Ltd., Hamilton, Ont.	15
Seattle-Astoria Iron Works, Seattle, Wash., U.S.A.	1
Standard Iron Works, Vancouver, B.C.	1
Sterns Co., Erie, Pa., U.S.A.	1
Sumner Iron Works, Everett, Wash., U.S.A.	1

LIST OF BOILER MANUFACTURERS—*Concluded.*

Swift & Co., Chicago, Ill., U.S.A.	1
Taylor, Forbes & Co., Ltd., Vancouver, B.C.	30
Thew Automatic Shovel Co., Lorraine, Ohio, U.S.A.	5
Toronto Iron Works, Ltd., Toronto, Ont.	1
Twohy Bros. Co., Portland, Ore., U.S.A.	1
Union Iron Works, Erie, Pa., U.S.A.	38
Vancouver Engineering Works, Vancouver, B.C.	74
Victoria Machinery Depot Co., Victoria, B.C.	33
Vulcan Iron Works, New Westminster, B.C.	38
Vulcan Iron Works, Seattle, Wash., U.S.A.	1
Vulcan Iron Works, Wilkes-Barre, Pa., U.S.A.	1
Waterous Engine Works, Brantford, Ont.	63
Washington Iron Works, Seattle, Wash., U.S.A.	37
Western Dry Dock & Shipbuilding Co., Ltd., Port Arthur, Ont.	2
Wickes Boiler Co., Saginaw, Mich., U.S.A.	4
Williamette Iron & Steel Works, Portland, Ore., U.S.A.	6

LIST OF MAKERS WHO HAVE REGISTERED AND APPROVED BOILER ACCESSORY DESIGNS.

Spring Safety-valves.

	6 in.	5 in.	4½ in.	4 in.	3½ in.	3 in.	2½ in.	2 in.	1½ in.	1¼ in.	1 in.	¾ in.	½ in.
American Steam Gauge & Valve Co., Boston, Mass., U.S.A.	1	1	1	1	..	2	5	5	3	3	2	2	..
Ashton Valve Co., Boston, Mass., U.S.A.	..	..	..	3	2	..	1	..	..	..	..	..	..
Consolidated Safety Valve Co., New York, U.S.A.	..	..	..	1	..	5	1	1	1	..	..	..	..
Crane Co., Chicago, Ill., U.S.A.	1	1	1	2	1	1	2	2	2	2	3	2	2
Crosby Steam Gauge & Valve Co., Chicago, Ill., U.S.A.	..	..	..	..	..	2	3	1	1	..	..	..	..
E. Leonard & Sons, London, Ont.	..	..	..	..	..	1	1	1	1	..	..	..	..
J. E. Lonergan & Co., Philadelphia, Pa., U.S.A.	..	..	..	..	..	1	1	2	2	1	1	..	..
James Morrison Brass Manufacturing Co , Ltd., Toronto, Ont.	..	..	..	..	..	..	1	..	..	..	..	..	..
Letson & Burpee, Ltd., Vancouver, B.C.	..	..	..	..	..	..	..	..	1	..	..	..	..
Lunkenheimer Co., Cincinnati, U.S.A.	..	1	1	3	3	6	4	4	1	1	1	1	1
T. McAvity & Sons, St. John, N.B.	..	..	..	1	..	1	1	7	1	1	1	1	1
Ruston, Proctor & Co., Ltd., Lincoln, England.	..	..	..	..	..	..	..	..	1	..	..	..	..
International Engineering Works, Amherst, N.S.	..	..	..	..	..	1	..	..	..	..	..	..	..
Waterous Engine Works, Ltd., Brantford, Ont.	..	..	..	..	..	1	..	..	..	..	..	..	..

Main Stop-valves.

American Locomotive Co., New York, U.S.A.	3
Canadian Locomotive Co., Ltd., Kingston, Ont.	3
Crane Co., Chicago, Ill., U.S.A.	6
G. M. Favis Regulator Co., Chicago, Ill., U.S.A.	1
Heisler Locomotive Works, Erie, Pa., U.S.A.	1
Jenkins Bros., Ltd., Montreal, Que.	11
Lunkenheimer Co., Cincinnati, U.S.A.	12
Montreal Locomotive Works, Ltd., Montreal, Que.	3
Nathan Manufacturing Co., New York, U.S.A.	1
Pemberthy Injector Co., Ltd., Windsor, Ont.	2

Steam-gauges.

Ashcroft Manufacturing Co., New York, U.S.A.	5
United States Gauge Co., New York, U.S.A.	2

Blow-off Cocks and Valves.

American Locomotive Co., New York, U.S.A.	1
Crane Co., Chicago, Ill., U.S.A.	4
Elliott Co., Pittsburgh, Pa., U.S.A.	1
Engineering Specialties Co., Toronto, Ont.	4
Homestead Valve Manufacturing, Pittsburgh, Pa., U.S.A.	2

LIST OF MAKERS OF BOILER ACCESSORIES—*Concluded.*

Blow-off Cocks and Valves—Concluded.

Jenkins Bros., Ltd., Montreal, Que.	3
Lunkenheimer Co., Cincinnati, Ohio, U.S.A.	6
Montreal Locomotive Works, Montreal, Que.	1

Safety Apparatus.

Kilkenny Automatic Safety Appliance Co., Walla Walla, Wash.	1

Water-gauge Fittings.

American Locomotive Co., New York, U.S.A.	1
Jenkins Bros., Ltd., Montreal, Que.	1
McAvity & Sons, T., St. John, N.B.	1
Canadian Locomotive Co., Kingston, Ont.	1
James Morrison Brass Manufacturing, Ltd., Toronto, Ont.	2
Montreal Locomotive Works, Montreal, Que.	1
Pemberthy Injector Co., Ltd., Windsor, Ont.	4
Huyette, Paul B., Co., Philadelphia, Pa., U.S.A.	1

Test-cocks (or Valves).

American Locomotive Co., New York, U.S.A.	1
Canadian Locomotive Co., Kingston, Ont.	1
J. I. Case Threshing Machine Co., Racine, Wis., U.S.A.	1
Montreal Locomotive Works, Montreal, Que.	1
James Morrison Brass Manufacturing Co., Ltd., Toronto, Ont.	2
T. McAvity & Sons, St. John, N.B.	1
Nathan Manufacturing Co., New York, U.S.A.	1
Pemberthy Injector Co., Ltd., Windsor, Ont.	2
Huyette, Paul B., Co., Philadelphia, Pa., U.S.A.	1

Superheaters.

Power Specialty Co., New York, U.S.A.	3

Economizers.

B. F. Sturtevant Co., Boston, Mass., U.S.A.	1

Combined Check and Feed Valves.

Nathan Manufacturing Co., New York, U.S.A.	3

ENGINEERS WHO OBTAINED CERTIFICATES.

(YEAR ENDING MARCH 31ST, 1918.)

FIRST CLASS.

Armour, Robert 11275
Bee, Wm. Neill 11825
Bescoby, F. Ernest 11216
O'Neill, John 11318
Oram, William John 11781
Osborne, James Q. 11319
White, William 11343
Williams, G. Treharne 11262
Wirtanen, Gustaf Wilhelm 11344

SECOND CLASS.

Alexander, Frank Edward 11547
Carlsen, Alfred L. L. 11403
Clay, Charles Henry 11510
Clift, Harry 11557
Edwards, George Henry 11155
Giger, Albert 11645
Greig, Robert Ferguson 11474
Hay, Albert James 11302
Hortin, Arthur 11706
Hunter, James Lees 11812
Johnston, John 11990
Montador, Andrew 11375
Robson, Edward 11738
Sayle, Charles Robert 11600
Smith, Joshua 11785
Thornton, Robert Donaldson 11519
Watson, Frederick 11613

THIRD CLASS.

Alcock, Robert 11822
Annand, John Brown 11549
Atkinson, David Simpson 11550
Atkinson, Frederick William 11903
Battershall, Arthur E. 11351
Bannister, Stewart 11471
Barr, Alexander 11981
Beck, William 11217
Bentham, Harry 11278
Beebe, Augustus Roy 11960
Black, Herbert Linton 11905
Brown, John 11142
Burr, James Benjamin 11355
Byrnell, Chas. Fletcher 11728
Caswell, Andrew M. 11221
Carliton, George Henry 11357
Cowell, Robert J. 11636
Cuttle, Percy Mortimer 11226
DeWitt, Elmer William 12009
Dick, George 11347
Donnelly, Norman 11228
Douglas, John 11473
Dowling, Alex. James 12019
Drew, Thomas Mitchall 11805
Dunnett, George 11153
Dunwoodie, Ernest Herbert 11920
Eccles, James Henry 11731
Engen, Ole K. 11157
Eyton, Charles Beresford 11922
Ford, Robert Ernest 11923
Gibbard, Walter 11231
Gowan, Eugene 11833
Hain, John 11169
Houston, John Robinson 11301
Hardy, Frederick 11572
Hale, Richard Henry 11811
Haynes, Walter James 11964
Henriksen, Edward 11393
Henderson, Horace Fildes 11647
Henderson, Robert Law 11929
Higgins, James Arthur 12063
Hockey, Thos. Henry 11305
Hutton, John Stephen 11988
Johnston, George 12027
Kalnin, Paul Harold 11707
Keith, John 11238
King, William James George 11369
Kirkpatrick, John A. 11877
Kobler, Victor 11839
Lewis, Emery 11776
Lord, Leslie Donald 11240
Lockie, George 11373
Maryiani, Mike 11413
Mayhue, Ernest D. 11374
Matson, Edward Alfred 11514
Morgan, John Sidney 11586
Morris, William F. 11587
Morrin, Joseph Ralph 12072
Moore, Thomas Ronald 12132
McBride, Henry 11844
McDougall, James Reid 11969
McGillivray, John Wesley 11477
McHugh, Frank 11246
McIntosh, Ira David 12075
McKnight, William 11944
McLean, Ulric Gordon 11247
McLaughlin, Joseph 11589
McLean, James Henry 11945
McPhail, Thomas 11946
Parrott, James 11737
Parker, Thomas 11949
Pearson, Augustus 11322
Perin, Chas. August 12077
Plowright, Edward 11380
Publicover, Wesley Sinclair 11195
Robertson, James M. 11198
Robertson, Wm. Creighton 11784
Sallis, Arthur 11664
Seely, Wesley White 11469
Smith, James Forbes 11603
Smith, Alexander 11721
Smith, Thomas James 11815
Snikkar, Arthur 11333
Spavin, William 11742

THIRD CLASS—*Concluded.*

Stirling, Franklin S. M. 11256
Stansfield, Leopold 11425
Statham, John Roland 11786
Sutherland, George Fraser 11470
Thomas, Morris Ashbury 11853
Todd, James William 11479
Tumilty, Thomas 11609
Turner, Chas. Heber 11854
Turner, Chas. Edward 11971
Varney, Frank 11391
Vance, Thomas Law 11856
Walsh Patrick 11612
Wagner, William Edgar 11957
White, George 11260
Winter, Herbert Charles 11454
Willis, Joseph 11615
Wilson, William 11616
Wilson, John 11746
Wilson, John James 11958
Williamson, Walter 12012

FOURTH CLASS.

Adams, Harry B. 11546
Adams, James 11979
Aiken, Samuel 12013
Alton, George Leslie 11350
Alcock, Fredk. George 11902
Anderson, Albert 11548
Andrews, Evelyn M. 12114
Andrews, John 11135
Arnold, Lewis F. 11823
Bannister, Stewart 11276
Barr, Alexander 11694
Baker, Derby E. 11824
Bennett, William 11136
Beaton, William John 11633
Beacham, Fred. Edward 11870
Bell, Henry Bruce 11872
Bickford, Chas. Francis 11137
Bizek, Gust 11904
Bolderston, Thomas William 11218
Boulanger, Wilfrid 11551
Bowers, Warner Robinson 11552
Boyes, Richard 11553
Boyle, James 11635
Boag, Pettigrew Mathew 11862
Bourn, Ernest William 11906
Bourn, Arthur Fredk. 11907
Bradley, Philip Edward 11143
Bradshaw, Thomas 11219
Bronson, George 11280
Bruce, William 11283
Brown, Charles Corrie 11284
Brenan, Henry Stewart 11436
Brown, George 11437
Browning, Albert Horace 11695
Bradley, Joseph Richard 11727
Browen, Joseph 11757
Brown, William 12049
Burke, Daniel Francis 11354
Buckner, James Edward 11438
Burns, Henry Martin 11506
Bull, Edward 11910
Calverly, Walter 11202
Carlson, Clarence George 11285
Caryula, Matthew Jalmer 11698
Campbell, Henry Lamont 11982
Chapman, David 11359
Childs, Henry Morpeth 12015
Clegg, Alindon Roy 11148
Clark, Alexander Craik 11360
Cleaver, Harry 11556
Copland, James 11149
Covey, Guy Elliott 11224
Coupland, John William 11361
Cory, Thomas 11760
Cox, Fred 11761
Cook, Edward 11828
Cornell, William 11913
Cowling, William 12016
Cram, James 11225
Crocker, David 11439
Croaker, George W. 11730
Craven, George 11914
Cuffalo, Joseph 11558
Culliton, William F. 11559
Cuthbert, James E. 11917
Daly, Alfred 11227
David, Thomas 11962
Devenny, George Laing 11639
Dewitt, Roy 11762
Diller, Stehman 11763
Dodshon, Charles 11294
Doig, Stewart O. 11564
Doughty, Henry Edward 11565
Duncan, William Richard 11566
Duff, Alexander 11806
Eldridge, John 11732
Ellis, George 11296
Enderson, Lewis 12020
Epperson, Ira C. 11641
Fatch, Joseph Gilbert 11733
Fawkes, Matthew Mann 11764
Ferris, Rowland Rodney 11298
Fenton, Edgar Clinton 11734
Fillier, James 11642
Filas, Stephen 11885
Fleet, Thomas 11765
Forester, Henry Edward 11409
Franklin, John 11161
Frame, William 11924
Gatehouse, Edgar 11702
Garthorne, Arthur Rudston 11767
Gallant, Alfred 11832
Gibbs, Carl Franklin 11162
Gibson, Henry Edward 11163
Gibbs, Robert John 11643
Gilley, Walter A. 11925
Gibbs, William George 12022
Goodale, Jesse A. 11232
Goebert, Frederick 11646
Goldsmith, James Lyall 11817
Grier, Ernest A. 11164
Grandy, George Franklin 11234
Graw, Ernest Albert 11299
Greyor, George 11927
Grant, William Watson 11986
Hartman, Robert 11170
Hannah, William Jas. C. 11236
Hammond, Henry 11300
Hadfield, Victor 11365
Hallander, Samuel 11570
Harper, George 11809
Hall, Robert 11810
Harrigan, Chas. C. 11835
Hasund, Sigurd 11928

FOURTH CLASS—*Continued.*

Harms, Peter William 11965
Halsall, Joseph 12060
Henriksen, Edward 11303
Henderson, Robert 11576
Heater, Peter Ernest 12023
Hilton, Charles 11304
Hillier, John Morris 11931
Howarth, John 11578
Hogg, William 11771
Hoicka, August Ilmari 11836
Holbrook, Peter Eli 11966
Hutton, William John 11512
Hunter, William Smith 11837
Hughes, Eddie Beverly 11875
Hulbert, William George 12066
Hutchinson, Hugh Burns 12160
Jamison, James Wesley 11648
Jemson, Stanley 12216
Johnson, Chas. B. 11368
Jones, Douglas Alexander 11581
Jones, Thomas 11649
Jones, Morton Samuel 11650
Johnson, Roscoe N. 11838
Johnston, Alexander 11876
Johnston, Edward Arnold 11967
Johnston, Isaac Myron 11991
Jobling, Henry 12026
Kettleson, Elmer 11652
Kelly, Alexander George 11774
Kelly, Philip Darton 11775
Kean, James 11934
Kemp, William 11936
Ketteringham, Mark P. 11937
Lamont, L. Fred 11370
LeValley, Donald Harvey 11239
Leask, George 11307
Lean, Bernard William 11371
Legault, Oscar 11411
Lemoine, Joseph E. 11940
Lloyd, Lionel Percy Hart 11179
Low, Chas. Cecil 11242
Louis, Eugene 11584
Loo, Edwin 11841
Lovering, Edward 11995
Lomas, Andrew Barker 12069
Lyon, Alexander 11475
Marks, William John 11711
Marrion, Thomas James 11735
Macy, Walter E. 11842
Macey, Edgar James 11941
Makinson, George 11968
Maginnis, Willis 12032
Mee, William 11777
Miller, John Andrew 11656
Mitchell, James 11843
Morris, James E. 11657
Montey, Edmund 11714
Montgomery, Warren Edmond 11997
Muller, Sidney Victor 11185
Muir, Joseph Edward Lewis 11186
McCoy, Donald Stewart 11376
McDonell, John R. 11416
McGregor, John Dawson 11659
McGraw, John William 11715
McIntyre, Harry Edward 11716
McIrwin, William 11845
McKenzie, Alex. B. 11189
McKean, Robert 11315
McKitch, Michael Thomas 11377
McKinnon, Dan 11378
McLean, William 11590
Nankivell, Joseph Wm. 11999
Newbury, Thomas 11591
Nimmo, Erskine 11316
Nisbet, Alexander 11478
Nielson, Niels Jacob 11948
Nomber, Gustavus Honorius 11317
Oliver, George 11248
Olsen, Oscar Sylvan 11249
O'Neil, Charles 12034
Orr, Harry 11419
Owen, Frank 11320
Owens, Richard Maurice 11593
Partington, William 11395
Parker, Robert Carlyle 11465
Park, Harold 11594
Patterson, Robert John 11846
Parker, Robert 12000
Peterson, Anton 11782
Peterson, Swan 11970
Potter, John Charles 11323
Postlethwaite, Frank 11381
Porter, Jos. Elliott 11662
Price, Jack Roland 11324
Proudlock, Thomas 11448
Prior, Thomas Albert 11783
Ray, John Ernest 11597
Ralph, John 12001
Reiben, Alex. F. 11325
Robinson, Douglas Ramsay 11199
Roberts, William 11422
Robinson, James Rufus 11674
Rowan, James E. 11719
Rutherford, Andrew 11663
Sallis, Arthur 11601
Sadler, Thomas John 11849
Scafe, Walter Gordon 11383
Scouter, Wilbert Harold 11384
Scott, Willard Charles 11739
Scott, William George 11740
Selberg, Axel 11950
Sheldon, Glen C. 11602
Sherreitt, Rowland Browne 12003
Silver, James Laidlaw 11385
Smith, Wesley Jacob 11255
Smith, Fredk. 11331
Smith, James 11741
Souve, William A. 11334
Sotham, Walter Geoffery 11450
Sorenson, Charles 11451
Stewart, Donald Cameron 11852
Steel, Andrew 11952
Stannard, Arthur Reuben 12006
Struthers, Robert 12008
Sutherland, Alex. 11257
Sullivan, Charles 11386
Sugden, Thomas Henry 11865
Sweet, Jay 11335
Switzer, Peter Edgar 11387
Swan, George, ... 11723
Swanson, Brore S. 11953
Taylor, John James 11388
Tait, Robert Ernest 11955
Tennant, Hugh 11668
Thompson, Howard Arnold 11340
Thanen, Lars D. 11452
Thomas, Albert Isaac 11453
Thomas, Herbert Howard 11881
Tomlinson, Thomas Richard 11427
Turvey, Jack 11341

FOURTH CLASS—*Concluded.*

Underhill, Thomas Ward 11956
Vipond, Edward Russell 11107
Wade, Hugh Edward 11108
Wattie, James Alexander 11670
Watson, John W. 12037
Watchorn, Robert H. 12085
Westwood, Benjamin Ira 11614
Wetmon, Roland 12011
Whyte, John McCylmont 11342
Williams, Edward Chester 11206
Williams, Fred William 11265
Williams, John 11345
Williamson, Walter 11113
Winters, John Oscar 11672
Winger, Harold N. 11788
Young, Fredk. William 11619
Zepp, Ralph Peter 11429

TEMPORARIES.

Adams, T. H. 11455
Adams, W. R. 11534
Aho, Joe 11431
Aitken, John 11267
Allen, D. J. 11799
Andrews, T. G. 11541
Archibald, M. J. 11892
Audet, Wilfred 11524
Ayres, Baker 11481
Ball, Thomas 11400
Bannister, F. R. 11867
Barry, Joseph 11482
Barnwell, H. S. 12038
Batcheldor, W. R. 11432
Beacham, F. E. 11483
Beale, W. A. 11818
Beck, A. R. 11402
Belgrove, Edward 11268
Berg, G. B. 11498
Birch, Frank 11624
Blackmore, W. K. 11675
Bodey, J. F. 11747
Bond, R. M. 11460
Booth, J. H. 11542
Boothroyd, Joseph 11401
Bosco, Antonio 11800
Boyd, J. P. 11532
Bradner, J. W. 12039
Bradley, J. C. 11676
Brayne, Charles 11620
Brewer, J. C. 11484
Bulman, T. R. 11397
Buswell, T. R. 11677
Byrnell, Charles 11485
Carson, James 11348
Carter, Melville 11678
Cerles, Albert 11458
Chase, Fred. 11495
Chatters, Henry 11486
Chisholm, D. T. 11396
Churchill, James 11691
Cockrill, Thomas 11753
Corrigan, Peter 11868
Crossley, J. F. 11895
Cusack, Sarah A. 11679
Currie, William 11754
Dann, A. E. 11487
Diment, Fred. 11399
Diment, Jack 11748
Dolan, P. J. 11690
Dommett, A. J. 11269
Dunn, John 11533
Elliott, R. B. 11503
Emerson, Samuel 11535
Ferris, F. G. 11499
Freeman, H. M. 11749
Gardiner, J. A. 11270
Garrett, Henry 11488
Garrity, James 11680
Gieschon, J. A. 11972
Gladstone, James 11625
Graham, R. H. 11525
Green, J. G. 11500
Hall, Walter 11623
Halliday, Albert 11899
Hellan, Paul 11489
Holmes, R. H. 11536
Holliday, Jonathon 11973
Hunter, Thomas 11207
Hunt, Henry 11692
Huffman, J. 12041
Humphries, Edwin 12044
Jancouski, F. R. 11896
Jamieson, Frank 12043
Johnson, Leo 11724
Jones, K. T. 11123
Kelly, T. A. 11526
Kennedy, Alexander 11974
Kennedy, W. T. 11543
King, W. A. 11632
La Rose, William 11210
Laurence, W. M. 11681
Lee, William 11461
Loomer, Percy 11859
Lockwood, Walter 11860
Luckovitch, Anton 11208
Lyons, Ross 11900
Macalpine, J. K. 11272
Mahon, E. C. 12040
Mandeville, Frank 11501
Marsh, Enoch 11496
Marsh, Ralph 11683
Mathers, Thomas 11682
Mearne, Stewart 11271
Mears, Edward 11527
Meyland, Christian 11819
Milnes, F. C. 11750
Money, D. H. 11528
Moore, Arthur 11801
Morris, Mark 11751
Mueller, Fritz 11491
Murray, John 11537
Munn, C. D. 11802
MacDonald, Maud F. 11626
MacMartin, A. K. 11684
MacMillan, G. H. 11884
McCandlish, W. E. 11975
McLaughlin, Martin 11494
McRoberts, William 11627
Nelson, Samuel 11755
Nicholson, Peter 11492
Nickerson, James 11861
Oakes, L. J. 11544
Oleson, C. F. 11803
Owens, Owen 11538
Parks, H. E. 11628

TEMPORARIES—*Concluded.*

Peake, P. W. 12042
Pease, A. H. 11274
Pitman, E. W. 11685
Prentis, William 11502
Reid, John 11398
Reid, John 11629
Roberts, S. D. 11630
Robertson, Edward 11529
Robicheau, Pascal 11545
Robinson, W. F. 11133
Rollins, Joseph 11686
Rosman, Lewis 11621
Ross, W. B. 11209
Salmi, Frank 11456
Schindler, Joseph 11752
Severn, C. E. 11539
Simpson, John 11462
Sjoquist, A. E. 11687
Smith, B. J. 11897
Snider, L. P. 11497
Statham, R. J. 11530
Street, James 11631
Swanberg, Gus 11804
Switzer, Edgar 11211
Taulbot, A. S. 11893
Tergeson, Wallace 11978
Thomas, A. J. 11434
Thomas, John 11433
Thomson, James 11688
Titus, C. H. 11212
Tomkinson, Arthur 11531
Tooker, W. A. 12408
Ulrich, John 11725
Vael, Fred. 11435
Vogel, G. H. 11820
Wallace, David 11898
Warner, D. B. 11622
Warren, W. L. 11976
Wells, H. C. 11128
Westcott, H. L. 11821
Williams, S. H. 11540
Williams, Walter 11493
Wilson, J. B. 11213
Wisener, L. H. 11689
Williams, Harry 11894
Woods, J. H. 11977
Young, Peter 11349

SPECIAL LOGGING-DONKEY.

Allen, E. G. 11214
Allen, R. T. 11693
Atchison, R. S. 11215
Black, R. W. 12047
Blow, Frederick 11826
Brown, H. E. 11902
Brown, W. J. 11908
Cameron, Archie 12118
Carlson, Charles 11911
Chalmers, R. W. 11509
Churchill, S. G. 11286
Clausen, J. C. 11729
Cobban, J. R. 11288
Coggin, O. C. 11912
Crawley, H. W. 11637
Davenport, J. L. 11918
Doan, G. W. 11440
Dumaresq, A. J. 11511
Edwards, P. D. 11863
Esson, N. F. 11567
Forbes, O. G. K. 12058
Giglio, Ernesto 11984
Gillies, William 11363
Green, Herbert 11768
Green, R. N. 11834
Hadden, John 11569
Hale, J. W. 11575
Hall, William 11235
Hamel, Al. 11366
Henderson, H. W. 11791
Jamieson, Berton 11792
Joyce, H. V. 11933
Kennedy, A. J. 11813
Lambeth, T. M. 11840
Lavoilette, James 12030
Livingstone, J. S. 11412
Maddox, Clarence 11244
Macaigne, N. E. 11886
Margison, W. M. 11309
Martin, J. A. 12070
Mathews, C. H. 11243
Matson, George 11414
Mattson, Wilhelm 11513
Mattson, Victor 11887
Miller, W. F. 11778
Monks, John 11996
Montico, Luigi 11814
Moorhouse, J. E. 11523
McClurg, Robert 11314
McDonald, Norman 11658
McElroy, Howard 11188
McGee, John 11417
McGargle, Thomas 11588
McGregor, J. F. 11779
McLean, D. M. 11418
Nicholson, Lorne 11707
Nixon, W. W. 11780
Oleson, Ole 11447
O'Neal, C. W. 11592
Orcutt, E. O. 12035
Palmer, C. A. 11251
Perkinson, W. E. 11660
Pidcock, Harry 11252
Pierce, W. J. 11848
Piercy, R. F. 11661
Pine, Leslie 11516
Pleas, R. M. 12285
Roberts, Nels 11794
Rogers, V. D. 11890
Sayre, William 11459
Schuppel, F. W. T. 11720
Scruggs, Alfred 11200
Sewell, W. J. 11327
Sheppard, H. H. 11665
Shipley, L. E. 11329
Sidle, Robert 11254
Siider, Sylvester 11850
Simons, A. W. 11851
Sims, R. M. 11330
Smith, A. P. 11666
Smith, C. O. 11951
Smith, Melville 12004
Spencer, Grover 11891
Spiers, Alan 12084
Stelp, Julius 12036
Sutton, E. S. 11722
Tapella, Thomas 11389
Tapley, F. S. 11336

SPECIAL LOGGING-DONKEY—*Concluded.*

Taylor, G. W. 11667
Tretheway, E. A. 11203
Vaughan, E. E. 11428
Vaughan, V. C. 11796
Veeburg, Lawrence 11816
Vilac, Louis 11521
Wakefield, C. F. 11797
Warnock, Martin 11259
White, John 11798
Wikberg, Gus 11480
Wilson, J. D. 11264
Witt, Otto 11959
Wooldridge, R. A. 11619
Woolsey, E. G. 11266
Wren, J. S. 11673
Zamoskia, Joseph 11346

SPECIAL LOGGING-LOCOMOTIVE.

Duncan, Roy 11295
Joyce, H. V. 11773
Kenny, Ralph 11651
McDonald, D. J. 11245
Wohlstrom, John 11817

SPECIAL THRESHING.

Knox, G. M. 11993
Martin, Henry 11415
Mufford, A. E. 11313

SPECIAL ROAD-ROLLER.

Atkins, Thomas 11504
Tait, R. E. 11795

SPECIAL CREAMERY.

Batey, H. S. 11980
Holden, Lewis 11705
Keene, Letitia R. A. 11864

SPECIAL HEATING.

Allen, J. C. 11866
Barnhart, D. T. 11869
Blow, Edmund 11505
Boscott, John 11634
Bunoz, Emile Marie 11457
Bush, P. H. 11507
Calnan, F. H. 11220
Carr, Amos 11697
Dickson, James 11562
Duminie, Joseph 11229
Ford, P. B. 11831
Gardiner, W. S. 11790
Gleave, Richard 11703
Harris, W. J. H. 11704
Hartmann, Rev. Father J. 11364
Harvey, J. H. 11573
Hughes, J. H. 11579
Learmonth, James 11583
Levy, Henry 11654
Lockie, Robert 11372
Lowden, Joseph 11655
Lumb, J. W. 11585
Meighen, A. E. 11712
Miller, David 11713
Munro, David 11476
Newstrom, H. A. 11947
Phillips, H. J. 11596
Prentis, E. H. 11194
Price, Charles 11421
Richardson, Windsor 11517
Robbins, David 11467
Roberts, W. P. 11718
Sanguineti, David 11468
Thimblely, B. E. 11390
Thompson, Frank 11607
Usher, John 11258
Woodman, H. S. 11617

DOUKHOBOR.

Virgin, G. J. 11392

REPORT OF INSPECTOR OF ELECTRICAL ENERGY.

PROVINCIAL INSPECTOR OF ELECTRICAL ENERGY,
VANCOUVER, B.C., December 6th, 1918.

Hon. J. H. King,
Minister of Public Works, Victoria, B.C.

SIR,—I have the honour of submitting to you a report of the inspections made under the "Electrical Energy Inspection Act" for the fiscal year ending March 31st, 1918.

DISTRIBUTION SYSTEMS, TRANSMISSION-LINES, POWER PLANTS, AND SUB-STATIONS INSPECTED.

British Columbia Electric Railway Co., Ltd. (Mainland and Vancouver Island).
Western Power Co.
Granby Consolidated Mining and Smelting Co., Anyox.
City of Prince Rupert.
West Kootenay Light and Power Co.
Consolidated Mining and Smelting Co., Trail.
Canada Copper Corporation, Princeton.
Princeton Coal Co.
Daly Reduction Co., Hedley.
City of Nelson.
Prince Rupert Dry Dock, Prince Rupert.
Victoria Lumber and Manufacturing Co., Chemainus.

HIGH-POTENTIAL TRANSMISSION-LINES.

On the whole, the transmission-lines were found to be in good condition, although some of the existing lines operating in the limits of the cities (particularly in the City of Vancouver) are so located that they are liable to hamper and endanger city firemen while performing their duties. One case was reported where firemen were out practising, when the aerial truck came in contact with a 34,000-volt line, resulting in two of the men being seriously burnt. In most instances, however, an arrangement exists between the fire departments and the power companies whereby the lines are immediately killed on request by telephone or otherwise. In this particular case no request was made to have the line disconnected. Previous to the outbreak of the war, plans were prepared and arrangements made to remove certain sections of these lines and adopt an underground system. Owing to the considerable advance in price of and the difficulty of obtaining material, this has been held in abeyance until the termination of the war, when the matter will be reopened.

A number of high-potential wire crossings with telephone and other signalling systems were inspected and approved. A special protective cross-arm was designed by the British Columbia Telephone Company for use at crossings to subscribers' premises. After certain improvements recommended by the Department were made, this special cross-arm has been installed in several places and is giving satisfaction. It eliminates expensive crossings and is effective. A number of decayed poles supporting the above lines were condemned as being unsafe.

The protection of private telephone-lines installed on transmission-line poles is being given close attention, and the Department is now insisting that adequate protection be given at all points where a telephone is installed. The number of break-downs reported in transmission-line conductors were few. In one instance a 34,000 line broke and fell on a building. This was caused by leakage, which eventually burnt the cross-arm and the top of the pole. This line ran along the water-front, and was subjected to deposits of salt and smoke from the large number of mills in the vicinity. The company operating this line was notified by the Department that the line was considered to be a hazard and was condemned. A new line was constructed through another district, and it was finally arranged that one circuit only should be used on the defective line, which was to be used only in case of emergency. No trouble has been experienced since the changes were made.

DISTRIBUTION SYSTEMS.

The majority of the distributing systems built during the last five years are well constructed, and are well designed in the way of affording protection to linemen so far as climbing-space is concerned. In the congested districts of the cities a number of the older lines are no doubt hazardous, and great care must be exercised in working on them. This is particularly so in cases where lane-construction has been adopted, and which has been continually added to from year to year. Some lanes in the City of Vancouver are very congested, making it impossible for the fire department to erect ladders. Conditions were improved recently, due to a number of circuits being removed from the Main Street Sub-station and connected to the Haro Street. Nevertheless, the Department is convinced that more improvements will have to be made in the near future. I may say that after an interview with the chief engineer of the company, a report was made and plans prepared providing for a large section of underground construction. This scheme was again handicapped by the outbreak of war. The only way in which all these hazards can be removed is by providing an underground system. This matter will be considered again after the termination of the war.

A number of fire-alarm and police-patrol systems are installed on lighting-poles, and instructions were issued to have all the boxes permanently grounded. This was objected to by the City of Vancouver, the reason given being that it was liable to interfere with the fire-alarm system; in fact, past experience has proven this to be so. I am, nevertheless, satisfied that the boxes should all be grounded in order to give ample protection to the public. The Department is now corresponding with other cities on the continent to see what action has been taken in the matter. Where possible, these circuits are strung on telephone-poles. Instructions are being issued to have the secondaries of all transformers not exceeding a potential of 150 volts grounded.

Rules and regulations are being prepared covering overhead electrical construction, which will be submitted for approval in the near future.

GENERATING STATIONS AND SUB-STATIONS.

During the inspection of these plants close attention was given to the following:—

Protective Grounding.—The regulation calling for the grounding of non-current-carrying parts, such as frames of generators, motors, transformers, switchboard-frames, oil-switches, was found to be closely adhered to in the larger plants. In some of the smaller installations ground-wires were occasionally omitted or installed in an unsatisfactory manner. In some cases it was difficult to check the continuity of the wires, which, in addition, were not adequately protected. In one industrial plant a fatal accident occurred, due to a ground-wire from a starting compensator being connected to a water-pipe. During alterations in the plant the water-pipe was disconnected from the main, thereby isolating the compensator, which was defective, from ground. Another matter which added to this hazard was the fact that an insulated platform had been removed.

Guarding of Live Parts.—Care has been taken in every instance to provide protection for persons near exposed current-carrying parts, such as bus-bars and other conductors, as well as the terminals of generators, motors, and transformers.

Floor Openings and Stairways.—In a few cases instructions were issued to protect floor openings and stairways.

Insulated Platforms.—It was found necessary in several instances to insist on the providing of insulated platforms and mats.

Working-space about Electrical Equipment.—The regulation governing the working-space around electrical equipment was found to be well observed.

Protection to Men working on Lines and Supply Equipment.—The larger electric power-supply companies have a very efficient method of protecting linemen working on high-potential lines. The chief load-dispatcher has full control over the entire system. In the event of it being necessary to disconnect a line or part of the equipment, the workman in charge applies to the chief operator to have that particular section killed. The chief operator directs the proper person to open all switches and disconnectors, at the same time tagging the switches with a card indicating that the men are at work. The workman in charge is then notified by the chief operator that the specified section of the line has been disconnected and that he may proceed to work. The lines remain disconnected until the workman in charge reports the completion of

the work and that the line is clear. One accident was reported from a small plant, where the operator in charge neglected to tag the switch and pull out the disconnectors. For some reason which has not been explained he threw in the main switch, causing a generator which was connected to a water-wheel to revolve. A workman who was attending to the nozzles of the wheel was seriously injured. This accident was the result of carelessness.

500-VOLT DIRECT-CURRENT COMMERCIAL POWER.

The following regulation was issued during the year and has been rigorously enforced: "Lighting and power wires will not be permitted on the same circuit with trolly-wires with a ground return, except in electric railway-cars, electric car-houses, power-houses, passenger and freight stations connected with the operation of electric railways."

Temporary permits were granted to two concerns fulfilling contracts for the Imperial Munitions Board.

2,200-VOLT INSTALLATIONS.

A number of these were connected up during the year. On inspection it was found necessary to make several recommendations with regard to protection of exposed parts, the grounding of non-current-carrying parts, and the provision of disconnecting-switches. Owing to the difficulty of obtaining suitable lead-covered cable, consent was granted in three cases to use rubber-covered wire, provided that it was adequately protected. A number of these installations were for work in connection with the production of war supplies, so that it was absolutely necessary that no delay should take place. In all public buildings the 2,200-volt supply is given to transformers installed in fire-proof vaults, the majority of which were found to be satisfactory.

A number of industrial plants and public buildings were inspected, a list of which is appended. In cities and some municipalities these plants are also inspected by the local Inspectors. It was found that the civic by-laws and regulations are being well enforced and observed. In outlying districts the Department found it necessary to make numerous recommendations.

May I be permitted to express my appreciation for the assistance and co-operation given by all the civic and municipal Inspectors.

ELECTROLYSIS.

A few complaints were received concerning damage done by stray currents to underground cable and water mains. On referring the matter to the company responsible, I found that plans were already arranged for the installing of additional feeders, etc., to overcome at least a portion of the trouble. The company realized that damage was being done, and was anxious to remedy the trouble. A number of improvements were made recently, and up to the present no further complaints have been received.

ACCIDENTS.

The following accidents were reported during the year; all were investigated and detailed reports have already been submitted:—

Trade or Industry.	Locality.	Date.	No.	Remarks.
Smelter employeee*....	Trail	June 18th, 1917.	1	Electrocuted.
Sub-station helper.....	Westminster.. ...	Oct. 4th, 1917...	1	Burnt by switch.
Lineman	Fraser Valley.....	Oct. 5th, 1917...	1	Slipped off platform while raising transformers.
Engineer's assistant ...	Britannia Beach ..	Feb. 24th, 1918..	1	Caught in Pelton wheel.
Floorman	Vancouver.....	Feb. 28th, 1918..	1	Threw shoulder out of joint in closing bus-structure doors.
Fireman.....	Vancouver.....	March 11th, 1918	2	Aerial ladder coming in contact with high-voltage line; severe burns.
Cleaner*.....	Trail.....	March 11th, 1918	1	Touched high-voltage wire in smoke-treater plant.
Boy*.....	Vancouver..	March 16th, 1918	1	Climbed over fence on to window and touched 40,000-volt wire.

*Fatal.

In addition to the above, the Department has acted in an advisory capacity in connection with the various Government Buildings.

Respectfully yours,

D. P. ROBERTS,

Inspector of Electrical Energy.

APPENDIX.

"ELECTRICAL ENERGY INSPECTION ACT"—INSPECTIONS, 1917.

Canadian Breweries	Vancouver.
Alberta Lumber Co.	Vancouver.
Rat Portage Lumber Co.	Vancouver.
Vancouver and District Joint Sewerage Board	Vancouver.
Birks Building	Vancouver.
Wallace Shipyards	North Vancouver.
Vancouver Gas Co.	Vancouver.
Wood, Vallance & Leggat	Vancouver.
Royal Crown Soap Works	Vancouver.
Coughlan's Shipyards	Vancouver.
Vancouver Block	Vancouver.
Pacific Coast Pipe Co.	Vancouver.
Pacific Steel Products Co.	Lulu Island, near Marpole.
Hotel Hazelwood	Vancouver.
B. John Shingle Mill	Fraser Valley.
Irwinton Apartments	Vancouver.
Gray Building	Vancouver.
Pacific Box Co.	Vancouver.
Credit Foncier Building	Vancouver.
American Can Co.	Vancouver.
Anderson & Lindstrom Tie Mill	Sperling.
Burnaby Municipality, arc-lights (B.C.E. Rly. Co.)	
National Biscuit Co.	Vancouver.
Vancouver Vinegar and Pickle Co.	Vancouver.
Asahi Rice Mill	Vancouver.
Mainland Iron Works	
Lemon-Gonnason Mill	Victoria.
Victoria Machinery Depot	Victoria.
Esquimalt Municipality	Esquimalt.
Drysdale's Mill	Victoria.
Brunette Lumber Mills	New Westminster.
University Buildings	Vancouver.
Mulholland's Tie Mill	Fraser Valley.
Sid. B. Smith's Mill	Fraser Valley.
Clayburn Brick Co.	Clayburn.
Chilliwack Evaporating and Packing Co.	Chilliwack.
Dominion Creosoting Co.	North Arm, Fraser River.
Cliff-Lomond Canning Co.	Steveston.
Granby Consolidated M. & S. Co.	Anyox.
Prince Rupert (City)	Prince Rupert.
Prince Rupert Dry Dock	Prince Rupert.
Canadian Fish and Cold Storage Co.	Prince Rupert.
British Pacific Engineering Co.	
Canada Lumber Co.	Vancouver.
B.C. Laundry (Canadian Laundry Co.)	Vancouver.
M. P. Cotton Co.	Vancouver.
Tanaka & Kanada	Ladner.
Richmond Municipality (B.C.E. Rly. Co.)	
B.C. Sugar Refinery	Vancouver.
French Complex Ore Reduction Co.	Nelson.
West Kootenay Power and Light Co.	Nelson.
City of Nelson	Nelson.

"ELECTRICAL ENERGY INSPECTION ACT"—INSPECTIONS, 1917—*Concluded.*

Consolidated Mining and Smelting Co.	Trail.
Victoria Brick Works	Victoria.
Sir John Jackson Co. (Contractors)	Victoria.
Victoria Chemical Co.	Victoria.
Victoria Lumber and Manufacturing Co.	Chemainus.
Foundation Co., Shipyard	Victoria.
Cameron-Genoa Mills	Victoria.
City of Chilliwack	Chilliwack.
Chas. W. Tait's Mill	Fraser Valley.
Empress Hotel	Hope.
Canada Copper Corporation	Princeton.
Princeton Coal Co.	Princeton.
Daly Reduction Co.	Hedley.
Rerrie's Mill	Warhoop, Fraser Valley.
Salmon River Lumber Co. (B. John)	Fraser Valley.
Beaver River Lumber Co.	Fraser Valley.
South Shore Lumber Co.	Vancouver.
Western Canada Shipyards	Vancouver.
Vulcan Iron Works	Vancouver.
New Westminster Construction and Engineering Co.	New Westminster.
Rogers Building	Vancouver.
M. B. King Lumber Co.	Newton.
Birks Building	Vancouver.
Swift Canadian Co.	Vancouver.
Imperial Oil Co.	Vancouver.
Metropolitan Building	Vancouver.
Robertson-Hackett	Vancouver.
Morrison Wire and Nail Co.	Vancouver.
World Building	Vancouver.
Lee Building	Vancouver.
Vancouver Ice and Cold Storage Co.	Vancouver.
Standard Bank Building	Vancouver.
Alcazar Hotel	Vancouver.
Shell Co. of California	Vancouver.
Vancouver Milling and Grain Co.	Vancouver.
Mainland Ice and Cold Storage Co.	Vancouver.
Pacific White Lead Co.	Vancouver.
Westminster Breweries	New Westminster.
Vancouver and Districts Joint Sewerage Board	Vancouver.
Canadian Northern Rly. Depot	Vancouver.
Chilliwack Telephone Co.	
B.C. Electric Rly. Co.	
Western Power Co. of Canada, Ltd.	Vancouver.
B.C. Telephone Co.	Vancouver.
City Fire and Police System	Vancouver.
Court-house	Vancouver.
Oakalla Prison Farm	Burnaby.
City of Victoria Street-lighting System.	Victoria.

REPORT OF INSPECTOR OF FACTORIES.

VANCOUVER, B.C., March 31st, 1918.

Hon. J. H. King,
Minister of Public Works, Victoria, B.C.

SIR,—I have the honour of submitting herewith the annual report of the Factory Inspection Department for the fiscal year ending March 31st, 1918.

In submitting this annual report, I am unable to compile a complete account of the activities of this Department owing to the fact that no detailed records were kept of the work performed prior to my taking over this office in June last. Under the different headings which follow, an effort is made to present the most important phases of the work in such a manner as to furnish real information to yourself and those directly interested.

In taking over the administration of this Department, I found in its files that orders had been issued during the preceding nine years for safeguarding of dangerous machinery, improvement in ventilation, sanitation, toilet facilities, and other provisions required by the Act, but that no attempt had been made on reinspection to enforce the carrying-out of these instructions. Therefore a great many of the employers and managers apparently had gained the impression that the orders of the Department of Factory Inspection were not to be taken seriously. I am now pleased, however, to be able to report that this old impression is being supplanted by the impression that the British Columbia Department of Factory Inspection is sincere and thorough in its work of enforcing the law on the basis of reason and common-sense. Furthermore, I have no hesitation in saying, and I invite contradiction when I make the statement, that there is not an employer in the Province of British Columbia who can honestly deny that this Department has been reasonable and fair in the enforcement of the Provisions of the Act, and that no partiality has been shown.

CHILD-LABOUR.

The law prohibiting the employment of boys under fourteen and girls under fifteen years of age in most cases has been complied with, although in several instances we found that children were holding positions through false representations regarding their age being made by themselves and their parents.

In justice to the employers, I might say that in suspicious cases this office was generally consulted. A great deal of difficulty was experienced during the year in enforcing this section of the Act, as many pleas were made from mothers of children whose husbands were serving in overseas forces and who needed the monetary assistance.

The matter of prevention of child-labour is an important one, and requires constant watchfulness on the part of the Inspector, as I am satisfied that if there were any laxity on our part many of the factories would employ children under age, and many parents would be ready and willing to sacrifice their little ones. It is only by constant surveillance that child-labour can be kept down to the minimum, as at present.

HOURS OF LABOUR.

Notwithstanding that the hours of labour for female employees are set out very clearly in the "Factories Act," investigations disclosed the fact that the statutory hours of labour were being exceeded by many employers since the beginning of operations, many of whom were in business before the Act was in force. This was not altogether the fault of the employers, as it was found that a great many were ignorant of the provisions of the Act regarding the statutory hours of employment, and had been informed by the previous Inspector that they were conforming with the Act.

A considerable portion of the time of this Department has been taken up in explaining and enforcing this particular provision of the Act, owing to several firms, such as garment-manufacturers, etc., offering the excuse that they were in competition with firms in Eastern Provinces engaged in the same line of industry, and whose employees are allowed by law to be employed for a longer period than is allowed by the British Columbia "Factories Act." The excuse was

also advanced that contracts for goods were entered into specifying certain dates for delivery; the employers being under the impression that, if from any cause the orders were unable to be completed in the time specified, all that was necessary was to make application to this Department for permission to work their female employees an unlimited number of hours.

The disorganizing of the staff, when females would cease work at the end of eight hours, was another source of complaint regarding the enforcement of this particular provision of the Act put forward by many employers whose employees consisted of male and female operators. On one occasion written notice was served on an employer that this provision of the Act must be complied with, and we found, on making a subsequent inspection, that the girls had been replaced by Oriental labour.

In several cases employers have fought strenuously against our instructions to comply with the provision of the Act relating to the hours of female employment, and appealed from our decision to the Hon. the Minister of this Department direct.

Numerous complaints have been received from different sources regarding the hours of employment of children, young girls, and women engaged in the business of fish-canning and fruit-packing, as the public generally are not aware that it is permissible under the Act to employ children, young girls, and women in these industries. It is further provided that the limitation upon the hours of labour, the hours of commencement and cessation of work shall not be binding upon the employers of any child, young girl, or woman engaged in this occupation during the respective seasons. The hours of labour in these particular plants depend almost entirely upon the capacity of the plant and the amount of raw material on hand.

OVERTIME PERMITS.

Numerous requests were made to this office during the year for overtime permits. Investigations, however, were made in all cases, and resulted in only four of these being issued. These permits had apparently been issued heretofore without any restrictions as to period of hours of employment per day, or as to the hours of commencement and cessation of work, notwithstanding the fact that the Statute expressly prohibits the employment of girls for more than nine hours per day, or before the hour of 7 o'clock in the morning or after 8 o'clock in the evening, while working under this exemption. The explanation of the hours as set forth in the Act in this connection was a disappointment to many employers of female help.

SANITATION.

Owing to the increased activity in many of the large industrial plants throughout the Province, it was found that in a great many cases the toilet accommodation provided the employees was very unsatisfactory, both as regards the location of these conveniences and the number provided. After going into this matter very thoroughly, this Department is able to report the installation of some 200 toilets of a most up-to-date and sanitary character during the year.

We find our greatest difficulty in this matter in small places, as the sanitary and safety precautions are very often disregarded, and the idea seems to prevail that anything will do where there are only a few employed. In these places we have very often found that separate toilets have not been provided for female employees, and in some cases where employers were instructed that this provision must be made they would attempt to brush the subject aside by stating: "Oh! they are used to it; they don't mind it." Remarks of this nature are not a reflection on the workers, but rather an indication of what kind of a man such an employer is.

Our tours of inspection during the past nine months has shown us that it has not occurred to some employers that proper separation of sexes and strict privacy are essential to good morals. The most objectionable violation of the law in this connection that came to our notice during inspections was in three instances, where white girls were using the same toilets as their Oriental employers. Needless to say, this was ordered to be immediately discontinued.

It seems to be a difficult matter to have toilets kept in a clean condition. It requires constant attention, for there are always some employees who damage and otherwise cause the toilets to become unsanitary and filthy, and the responsibility cannot always be fairly placed upon the factory-owners.

VENTILATION.

Instructions are issued by this Department for the removal by mechanical means of dust, gases, fumes, or other impurities which are inhaled by the employees to an injurious extent.

Several installations of this nature, some on a large and some on a small scale, have been ordered to be provided in factories throughout the Province.

Acting on instructions from this Department, one of the large plants installed a blower system at a cost of $5,000. Before this blower system became a part of this company's equipment, it was found impossible to fully man the plant owing to the extremely dusty nature of the work carried on therein. In conversation with the superintendent following the completion of the contract, he stated that since the blower system had been installed the labour situation affecting the plant had been entirely reversed, and conditions were improved to such an extent that, instead of being unable to man the plant, he was in possession of a waiting-list.

The proper installation of a mechanical exhaust system is a very important matter, as the success of the fan not only depends upon its speed and its proper proportioning to the work, but also upon the system and piping of the hoods in order that they will give the greatest efficiency.

After the completion of the installation of the blower system in some of the buildings of this city, we found in making tests that the installation was entirely inadequate. Although the fan was of adequate capacity, owing to faulty construction of the main ducts it failed to give the required velocity of air.

LIGHTING.

Our manufacturers have been somewhat tardy in seeing the beneficial side of good lighting. It is only lately that employers have recognized the fact that good lighting increases production and decreases accidents. Very often, however, good lighting is confined to certain sections of a plant. There are many places in factories, particularly in the ground floor of sawmills, where little or no attention is given to illumination. When it is realized that most sawmills in the Province generate their own electricity for lighting purposes, it is hard to understand the laxity displayed on the part of some of the owners and managers of these plants in not having sufficient lighting provided. In several cases the Inspector had to be furnished with a lantern in order that a proper inspection could be made, notwithstanding the fact that electric generators form a part of the equipment of these plants.

An instance can be cited where from purely economic reasons sufficient lighting had not been provided, with the result that a fatality has to be recorded owing to that neglect.

In general, good lighting in factories and workshops not only facilitates the work direct, but is of the greatest indirect value because of the feeling of security given the workers. Such being the case, it naturally follows that the Inspector, while making his official visit, will carefully scrutinize the system of lighting in force, and numerous orders have been issued to install more lights at certain designated points.

While this Department has set no standard for this very important provision, nevertheless we have at all times insisted that proper illumination must be provided.

ELEVATORS.

This Department being responsible for the inspection of freight and passenger elevators in factories, hotels, and shops of more than two stories in height, it naturally follows that a considerable amount of our time has to be devoted to this portion of our work, in order to safeguard the operators and that portion of the public who are daily required to use this form of conveyance.

When making an inspection of an elevator, the cables supporting the car and counter-weights are carefully examined, and if the wires are cracked or badly worn they are ordered to be renewed. The safety devices on the machine and elevator are thoroughly inspected and subjected to a practical test, in order to determine as to whether or not they will perform what is required of them in case of an emergency.

Projections in the shaftway, which form a shear with the platform of the car, are a frequent cause of accidents, and when conditions are such that these are not guarded against by the car enclosure a smooth bevelled guard is required to be placed under all such projections.

The operation of elevators by inexperienced and unauthorized persons is largely a contributing factor in connection with a number of elevator accidents reported to this office. This was forcibly and sadly illustrated in the case of a young errand-boy who, for purposes of pleasure, was using the freight-elevator in one of the large buildings of this city, resulting in his being crushed to death between the platform of the car and the floor. This was the only fatality occurring in elevators coming under our jurisdiction during the year.

SAFEGUARDING MACHINERY.

Since assuming office in June last, this very important part of our duties has received our special attention. Notwithstanding the fact that this Act had been in force for some nine years, it was soon realized that very little had been accomplished in the way of safeguarding dangerous machinery, essential to the protection of workmen. Report of accidents reaching this office goes to prove that injuries to employees of a preventive nature were happening all too frequently. Many proprietors and operators of even the largest and oldest established plants throughout the Province had never made any serious attempt to eliminate hazards in connection with their industry.

Firm methods were therefore necessary to convince the employers that our instructions must be complied with, but we are pleased now to be able to record that a marked improvement has taken place, and many have made expenditures amounting to thousands of dollars in installing safety appliances through recommendations of this Department. There is still a great deal of work to be accomplished, however, but we expect, through continuance of co-operation with employers and employees throughout the Province, to have the factories of British Columbia compare favourably with those of any other on the continent.

It has been the policy of this Department not to request anything in safeguarding that is not practical, and the installing of which we do not understand, and to always give the manufacturers the benefit of experience and ideas gathered at other plants.

Acting in conjunction with the Workmen's Compensation Board, we are enforcing the Safety Rules and Regulations which have been adopted by that Board to come into effect on June 16th, 1918.

ACCIDENTS.

The files of this office show that a very limited number of employers have previously conformed with that portion of the Act relating to the reporting to this office of all accidents disabling employees for a period of six days or more. As the Workmen's Compensation Board are now supplied with a report of all these accidents, and as they immediately notify this office if an investigation is necessary, we have not been enforcing this requirement of the Act.

COMPLAINTS.

Most complaints are received at this office by telephone, some through the mail, while many are made in person. In the majority of cases the informant does not care to reveal his or her name, fearing probable exposure and possible dismissal, as might happen to an employee who enters a complaint against his or her employer with reference to violations of some particular portion of the Act.

It has been the policy of this Department to immediately follow up all complaints, and encouragement has been given to employees to report any violation of the Act; at the same time assuring them that any information given would be treated strictly confidential.

In conclusion, I wish to remark that the work of enforcing the laws of this Department has been carried on with only one motive in mind—that of carrying out the intentions of each law impartially.

In many cases where some of the orders issued by the Department appeared rather stringent, and exceptions were taken by the recipients of such orders, they have been invited to meet in conference at this office to discuss all alleged grievances. In every case the matter was subject to a sound debate, which invariably resulted in a better understanding between the Department and the owner of the business, and in securing his co-operation.

I wish to thank you yourself, sir, and also the Deputy Minister, for the hearty encouragement and assistance that you have both given me in the performance of my duties.

All of which is respectfully submitted.

R. J. STEWART,
Inspector of Factories.

REPORT OF INSPECTOR OF DYKES.

OFFICE OF THE INSPECTOR OF DYKES,
VICTORIA, B.C., December 24th, 1918.

Hon. J. H. King,
Minister of Public Works, Victoria, B.C.

SIR,—I have the honour to submit herewith my annual report for the current year relative to the maintenance and management of the dyking-works in the Chilliwack, Matsqui, Maple Ridge, Coquitlam, and Pitt Meadows Dyking Districts.

The following table shows the maximum freshet heights of the Fraser River for the years designated, as recorded by gauge-readings at Chilliwack, Matsqui, and Pitt River. These readings represent the height above low-water mark at Pitt River near its mouth, which is approximately 6.80 feet above low-water at the Sand-heads.

Year.	CHILLIWACK.		MATSQUI.		PITT RIVER.	
	Date.	H.W.	Date.	H.W.	Date.	H.W.
1894	June 5	36.80	June 6	26.37	June 6	14.75
1900	" 27	32.95	" 27	22.85	" 28	12.00
1901	" 2	31.75	" 3	20.90	" 3	10.75
1902	July 5 / June 2	29.30	July 6	19.00	July 6	9.75
1903	" 18	33.80	June 18	23.65	June 18	12.75
1904	" 9	29.45	" 11	18.80	" 12	9.82
1905	" 11	29.00	" 12	17.35	" 12	8.75
1906	" 9 / July 13	26.35 / 26.95	" 9 / July 13	13.95 / 14.55	" 9 / July 12	7.70 / 7.40
1907	June 5	30.45	June 5	18.85	June 5	9.70
1908	" 14	32.15	" 16	21.45	" 15	11.50
1909	" 16	30.05	" 17	19.25	" 18	10.20
1910	May 30	27.65	May 31	16.95	" 1	8.90
	June 12	27.65	June 17	16.70	" 12	8.80
	" 16	28.05				
1911	" 18 and 19	31.25	" 19	20.75	" 19	10.70
1912	" 26	28.40	" 26	17.35	" 27	9.20
1913	" 15	31.05	" 15	20.35	" 16	11.00
1914	" 21	30.50	" 22	18.45	" 23	10.10
1915	May 29	24.00	May 29	12.75	May 29	7.90
1916	June 28	31.15	June 28	20.70	June 29	11.50
1917	" 12	30.60	" 12	19.90	" 11	10.70
1918	" 19	31.85	" 23	21.40	" 23	11.80

By reference to the above table it will be seen that the freshet of 1918 was the highest during the last fifteen years, with the exception of that of 1908, which was about the same height.

The freshet season commenced at an earlier date than usual, the sluice-gates at Matsqui closing on May 2nd, the reading on the river-gauge being 9.90. The river continued to rise gradually until May 19th, the end of the first rise, when it reached 15 feet on the gauge. On May 29th the gauge-reading was 11.20, when the second rise began, and continued until it reached the maximum freshet height, 21.40, on June 29th. On August 15th the water had dropped to 9.90 on the gauge when the sluice-gates opened. The gates at the Pitt River pumping-station, however, on account of the effect of the tide, did not open until August 31st.

The following is a detailed statement of Maintenance Account from October 1st, 1917, to September 30th, 1918:—

SERVICE.	DYKING DISTRICT.					
	Chilliwack	Matsqui.	Maple Ridge.	Coquitlam.	Pitt Meadows.	
					Tract No. 1	Tract No. 2
Fuel on hand Oct. 1st, 1917	$ 89 00			$ 90 00		
Fuel purchased during 1918	133 13					
Electric power purchased during 1918		$2,102 40	$ 764 80	549 64	$ 171 35	$ 211 02
Wages	288 50	1,362 55	511 14	723 00	361 50	303 00
Repairs and supplies	81 31	143 97	598 81	532 58	49 45	39 35
Insurance		187 50	70 00	35 00	17 50	17 50
Annual payment to 1937 on cost of renewing pumping plant	152 53					
Annual payment on cost of electric pumping plant		659 66	1,262 25	1,294 00	412 25	686 51
Telephone service		4 55	20 45	23 20		
	$744 47	$4,460 63	$3,227 45	$3,247 42	$1,012 05	$1,257 38
Credit by fuel on hand Sept. 30th, 1918	60 00			90 00		
Credit by sale of belts			50 00			
Total cost of pumping	$684 47	$4,460 63	$3,177 45	$3,157 42	$1,012 05	$1,257 38
Maintenance and Management of Dykes.						
Repairs, including wages of caretaker	$968 50	772 18	$679 49	$285 00	$108 97	$101 02
Brushing dyke	212 60	112 50	332 20		6 00	148 27
Fencing	195 50	36 00		181 90		
Furnishing caretaker's house		135 70				
Tenders for sluice-gates		65 55				
Repairing sluice-gates				77 26		
Patrolling dyke during high water			27 00			
Repairs to dyke			40 00	134 75		125 00
Bounty paid on rats		69 85				
Annual payment to 1945 on cost of concrete sluices	399 57		631 25	597 69	140 13	127 68
Expenses *re* tax sale	9 00		8 00	8 00		
Printing and stationery	146 96	79 87	66 07	25 42	11 54	9 04
Postage stamps	52 69	8 69	10 56	33 48	22	4 40
Telegrams and telephone messages	12 87	11 70	14 90	8 79	4 31	1 45
Advertisements *re* pasturage			14 00		6 79	2 95
Plant			4 98	1 91	70	66
Salary of Inspector of Dykes, proportionate amount	925 44	497 64	408 48	156 60	57 12	54 72
Travelling expenses of Inspector of Dykes, proportionate amount	95 40	90 72	43 59	17 64	5 71	4 04
Salary of clerks and extra clerical work, proportionate amount	1,048 08	562 08	459 94	186 04	64 82	60 92
Collector's commission and exchange on bank drafts	332 54					
List of registered owners in city and municipality	15 00					
Expenses, Court of Revision	4 00	3 00				
Premium on guarantee bond, proportionate amount	8 80	4 80	3 86	1 50	54	50
Total expenditure	$5,111 42	$6,910 91	$5,921 77	$4,873 40	$1,418 90	$1,898 03

STATEMENT SHOWING THE ANNUAL AMOUNT OF CAPITAL CHARGE AND THE ANNUAL ASSESSMENT THEREON; THE AMOUNT ASSESSED ON MAINTENANCE ACCOUNT FOR YEAR ENDING SEPTEMBER 30TH, 1918; AND ALSO THE RATE PER ACRE.

	Chilliwack.	Matsqui.	Maple Ridge.		Coquitlam.	Pitt Meadows.	
			High Land.	Low Land.		Tract No. 1	Tract No. 2
Total capital charge	$200,000 00	$125,000 00	$26,980 80	$100,415 20	$57,988 00	$17,815 32	$17,052 62
Capital charge per acre.	$10.4844	$12.2434	$10.322	$17.3764	$17.913	$15.165	$15.3318
Annual assessment on capital charge.	$10,000 00	$6,250 00	$1,349.04	$5,020 06	$2,899 40	$890 77	$852 63
Maintenance Charge.							
On lands assessable on an acreage basis	$4,725 14	$6,907 28	$1,245 03	$4,644 25	$4,445 16	$1,418 90	$1,898 03
On lands subject to a minimum rate..	386 28	3 63	18 74	13 75	428 24	.....	.....
Total maintenance charge.....	$5,111 42	$6,910 91	$1,263 77	$4,658 00	$4,873 40	$1,418 90	$1,898 03
Acreage assessable on an acreage basis	18,877.60	10,208.98	2,604.90	5,773.90	3,154.81	1,174.78	1,112.22
Acreage subject to minimum rate ..	207.38	0.62	9.03	4.93	82.19	.....	.....
Total acreage.....	19,084.98	10,209.60	2,613.93	5,778.83	3,237.00	1,174.78	1,112.22
Rate per acre, capital charge.....	$0 52 4/10	$0 61 2/10	$0 51 6/10	$0 86 9/10	$0 89 5/10	$0 75 8/10	$0 76 7/10
Rate per acre, maintenance	0 25 5/10	0 67 7/10	0 47 8/10	0 80 4/10	1 41	1 20 8/10	1 70 6/10
Total rate per acre	$0 77 4/10	$1 28 9/10	$ 0 99 4/10	1 67 3/10	2 30 5/10	1 96 6/10	2 47 3/10

ANNUAL TAX SALE.

Owing to the general financial depression prevailing on account of the war, only those lands, the assessments for which were delinquent for the year 1915, were exposed for sale.

ARREARS OUTSTANDING.

The following is a statement showing approximately the net amount of arrears outstanding in each of the dyking districts for the years 1914-15 and 1916-17. The arrears for 1914 and 1915 are made up, principally, from delinquent dyking assessments on streets in municipalities which are not subject to tax sale; these arrears include also some lands which are exempt from sale under the provisions of the "Military Service Act."

	Chilliwack.	Matsqui.	Maple Ridge.	Coquitlam.	Pitt No. 1.	Pitt No. 2.
Arrears for 1914 and 1915....	$ 139 30	$ 42 58	$ 78 37	$1,930 65	.....	$ 43 34
Arrears for 1916 and 1917....	2,344 26	4,698 26	7,037 27	8,452 02	$364 89	2,434 49
Totals	$2,483 56	$4,740 84	$7,115 64	$10,382 67	$364 89	$2,477 83

RIVER-PROTECTION WORK.

Besides the menace to the safety of the dyke on account of the increased accumulation of log-jams at a point about two miles below the upper end of the Chilliwack Dyke, referred to in last year's and former reports of the Inspector of Dykes, the gradual encroachment by the river, extending from the upper end of Camp Slough down-stream for a distance of about 2,000 feet, seriously threatens the safety of the dyke at a point where the dyke is nearest to the river-bank. According to measurements taken at different times since 1905, when the distance from the centre line of dyke to the river-bank was 325 feet, the total encroachment amounts to 208 feet, or to a point 117 feet from the centre of the dyke, leaving a margin of only about 90 feet between the toe of the dyke and the top of the river-bank. As the erosion from March, 1917, to December, 1918, amounted to 33 feet, while that for the three years prior to 1917 was only 25 feet, it would appear that this encroachment of the river is gaining at an increased ratio, which renders it necessary that steps be taken as soon as practicable for carrying out adequate works of protection in order to safeguard the dyke.

Before a decision can be arrived at as to the best method to adopt for carrying out the work or an estimate of the cost be formed, it will be necessary to have a survey made, showing soundings and cross-sections of the river-bank between Camp Slough and Greyell Slough, a distance of about 2,500 feet. River-protection work will also be required in the near future at a point about half a mile below the upper end of the Matsqui Dyke, where the latter runs parallel to the river for a distance of about 1,000 feet. The average distance at present between the outside of the dyke ditch and the river-bank is about 150 feet. The river has encroached for an average width of about 100 feet along this stretch during the last ten years, and is still encroaching.

In order to secure the safety of the dyke, the bank of the river for a length of 1,000 or 1,200 feet will have to be protected, and for the purpose of obtaining data as to the nature and cost of the work required a survey will be necessary.

Respectfully submitted.

E. A. WILMOT,
Inspector of Dykes.

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