
DOMINION OF CANADA.

ANNUAL REPORT

OF THE

MINISTER

OF

RAILWAYS AND CANALS

FOR THE PAST

FISCAL YEAR FROM 1ST JULY, 1883, TO 30TH JUNE,

1884

ON THE WORKS UNDER HIS CONTROL.

SUBMITTED IN ACCORDANCE WITH THE PROVISIONS OF THE ACT THIRTY-FIRST VICTORIA, CHAPTER TWELVE, SECTION NINETEEN, AS AMENDED BY THE ACT FORTY-SECOND VICTORIA, CHAPTER SEVEN.

PRINTED BY ORDER OF THE HOUSE OF COMMONS.



OTTAWA:

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1885.

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APPENDIX No. 29.

LIST OF OFFICERS OF THE DEPARTMENT.

APPENDIX

Ref. No. 36,031.

LIST of the Members, Commissioners and Assistant Commissioners of the Board Chief Architects of the Department

Chairman, Commissioners and Ministers.			Assistant Commissioners and Deputy Ministers.	
Names.	From	To	Names.	Date of Appointment.
<i>Under Statute 45 Vic., Cap. 38, Corporation of Board of Works.</i>				
Hon. H. H. Killaly, Chairman.....				
D. Daly } S. B. Harrison ... } J. Davidson, Esq } Members....	Dec. 29, 1841	Oct. 3, 1844		
<i>New Board of Works.</i>				
Hon. H. H. Killaly, Chairman..... } D. Daly } W. H. Draper . } W. Morrison . } D. B. Lapineau. } Members..	Oct. 5, 1844	June 8, 1846		
<i>Under Statute 4 Vic., Cap. 37, etc.</i>				
Hon. W. B. Robinson, Chief Commissioner...	July 4, 1846	Mar. 10, 1848	Hon. Chas. Eus. Casgrain, Assist. Commissioner	Aug. 1, 1846
E. P. Taché do ...	Mar. 11, 1848	Nov. 26, 1849	Hon. M. Cameron, Asst. Commissioner	Mar. 11, 1848
J. Chabot do ...	Dec. 15, 1849	Mar. 31, 1850	Jno. Wetenhall, Asst. Commissioner.	Feb. 2, 1850
W. H. Merritt do ...	April 20, 1850	Feb. 11, 1851	Hon. Jos. Bourret, Asst. Commissioner	April 20, 1850
J. Bourret do ...	Feb. 15, 1851	Oct. 27, 1851	Hon. H. H. Killaly, Asst. Commissioner	Feb. 15, 1851
John Young do ...	Oct. 28, 1851	Sept. 22, 1852		
J. Chabot do ...	Sept. 23, 1852	Jan. 26, 1855		
F. Lemieux do ...	Jan. 27, 1855	Nov. 25, 1857		
O. Alloué do ...	Nov. 28, 1857	Aug. 1, 1858		
L. A. Linton do ...	Aug. 2, 1858	do 6, 1858		
L. V. Sicotte do ...	do 6, 1858	Jan. 10, 1859	Samuel Keefer, Asst. Commissioner.	May 6, 1859
John Rose do ...	Jan. 15, 1859	June 12, 1861		
Jos. Cauchon, Commissioner.	June 15, 1861	May 23, 1862		
U. J. Tessier do ...	May 24, 1862	do 27, 1863		
L. T. Drummond do ...	do 28, 1863	July 23, 1863		
M. Laframboise do ...	July 23, 1863	Mar. 29, 1864	Toussaint Trudeau, Asst. Commissioner	Mar. 15, 1864
J. C. Unapais do ...	Mar. 30, 1864	June 30, 1867		
<i>Under Statute 31 Vic., Cap. 12.</i>				
Hon. Wm. McDougall, Minister.....	July 1, 1867	Oct. —, 1869	Toussaint Trudeau, Deputy Minister.	May —, 1868
Hon. H. L. Langevin C.B., Minister	Dec. 8, 1869	Nov. 5, 1873		
Hon. Alexander Mackenzie do	Nov. 7, 1873	Oct. 16, 1878		
Sir Chas. Tupper, C.B., K.C.M.G., Minister.....	Oct. 17, 1878	May 20, 1879		
Sir Hector L. Langevin, C.B., K.C.M.G., Minister.....	May 20, 1879		G. F. Baillarge, Deputy Minister.	Oct. 4, 1879

No. 29.

of Works, and of the Ministers, Deputy Ministers, Secretaries, Chief Engineers and of Public Works, from 1841 to 1884.

Secretaries.		Chief Engineers.		Chief Architects.	
Names.	Date of Appointment.	Names.	Date of Appointment.	Names.	Date of Appointment.
Thomas A. Begly.	Aug. 17, 1841	Samuel Keefer.....	Aug. 17, 1841	F. P. Rubidge, Architect and Asst. Engineer	Dec. 15, 1841.
Thomas A. Begly, under Act estab- lishing Dept. of Public Works.	Sept. 25, 1847				
.....	.....	John Page.....	Oct. 31, 1853		
Toussaint Trudeau	Dec. 13, 1859				
Frederick Braun...	Mar. 8, 1864				
.....	.....	G. F. Baillairgé, Asst. Chief En- gineer.	July 5, 1871	Thos. S. Scott..	Feb. 7, 1872.
{ S. Chapleau	Oct. 4, 1879	H. F. Perley.....	Nov. 25, 1880	Thos. Fuller.....	Oct. 31, 1881.
{ F. H. Ennis.....	Nov. 4, 1880				

APPENDIX No. 30.

OFFICIAL CORRESPONDENCE

From 1st July, 1867, to 31st December, 1884.

APPENDIX No. 30.

[Ref. No. 55,297.]

OFFICIAL CORRESPONDENCE.

LIST of Letters Received and Sent from 1st July, 1867 to 31st Dec., 1884.

Years.	Received.	Sent.
1867—From 1st July to 31st December.....	2,075	1,511
1868 do 1st January to 31st December.....	3,498	2,317
1869 do do do	3,448	2,171
1870 do do do	4,961	3,185
1871 do do do	6,268	3,983
1872 do do do	8,333	4,428
1873 do do do	10,072	5,707
1874 do do do	9,800	5,043
1875 do do do	9,006	5,006
1876 do do do	7,971	4,773
1877 do do do	7,517	4,425
1878 do do do	6,886	4,021
1879 do do to 6th October.....	7,186	4,547
1879* do 7th October to 31st December.....	2,033	810
1880 do 1st January do	8,451	4,410
1881 do do do	9,599	5,529
1882 do do do	10,505	5,699
1883 do do do	11,633	6,227
1884 do do do	13,114	6,903

* By an Order in Council, approved on 19th May, 1879, published at page 1496 of the *Canada Gazette*, the 20th May of that year was fixed as the day for separating the Department of Railways and Canals from the Department of Public Works, in accordance with Act 42 Vic., chap. 7. The staff of officers and clerks of the Department of Public Works continued to manage in common the business of the two Departments until the 1st October, when an Order in Council was approved dividing the staff between the two Departments. The first letter of the new Department of Public Works was written on 7th October.

The above list does not include the correspondence of the chief officers of the Department with their assistants and the public, which averages over 8,000 letters per year.

REPORT.

1883—84.

*To His Excellency the Most Honourable the Marquess of Lansdowne,
Governor General of Canada, &c., &c., &c.*

MAY IT PLEASE YOUR EXCELLENCY :

I have the honour to submit the Annual Report of the Department of Railways and Canals for the fiscal year ended 30th of June, 1884.

This report is submitted in accordance with the provisions of the Act 31 Vic. Cap. 12 (1867), as amended by the Act 42 Vic., Cap. 7, Sections 4 and 5 (1879).

The Annual Reports of the Chief Engineers, together with general and special Reports from Superintendents, both of Railways and Canals, and from other Officers of the Department, are given in Appendices.

Attached hereto (appendix 1, page 1) will be found a statement showing the amounts expended during the past fiscal year in construction, repairs and maintenance of the several works under the Department.

RAILWAYS.

The present Report deals with the undermentioned Railways of the Dominion, either directly controlled by the Federal Government, or towards the construction of which subsidies have been authorized.

CANADIAN PACIFIC RAILWAY.

By the Act 44 Vic., ch. 1 (1881), a contract made with the Canadian Pacific Railway Company, under date the 21st of October, 1880, for the building of a line of railway between Callander, Lake Nipissing, and Port Moody, British Columbia, was approved and ratified.

NOTE—It should be observed that while the reports furnished by the Superintending Officers deal with the fiscal year only, the General Report of the Minister contains information on points of interest relating to the Canadian Pacific Railway and other subsidized lines up to the end of December, 1884.

A map showing the route of the Canadian Pacific and Intercolonial railways accompanies this report.

By this contract the company undertook to construct the portions between Callander and Port Arthur, and between Red River and Savona's Ferry (Kamloops), British Columbia, the Government undertaking the building of the portions between Port Arthur and Red River, and between Savona's Ferry and Port Moody.

Under the terms of the contract, the whole line was to be completed and equipped by the 1st of May, 1891:

The subsidy granted to the company by the Act of 1881 was as follows: Money, \$25,000,000; land, 25,000,000 acres.

Under an Act passed last session, 47 Vic., chap. 1, in order to secure the completion of the entire road, in accordance with the terms of their contract, by the month of May, 1886, a loan of \$22,500,000, bearing interest at 5 per cent., and payable in May, 1891, has been made to them, security, being taken therefor by a mortgage on their entire property. Of this sum, \$7,500,000 was paid over to the company, to extinguish their then floating debt, and the remainder is in course of payment as the work proceeds.

During the past season the Government Chief Engineer has made a tour of inspection of the works in progress over the entire line. His reports, dated the 1st of October and 31st of December, 1884, show that he is convinced that the funds at the company's command are fully adequate to the completion of the contract; and, also that, if the work proceeds with the same vigor as heretofore, connection from ocean to ocean will be made by the autumn of 1885. (See Appendix No. 3, p. 7; also Appendix No. 14, p. 162)

The total distance between the terminal points named, by the route finally adopted (*via* Winnipeg and the Kicking Horse Pass), is 2,550 miles, of which the portions to be built by the company are as follows, according to the latest location:—

	Miles.	Miles.
Callander to Port Arthur.....	657	
Red River to Savona's Ferry.....	1,252	
	—	1,909

The portions to be built by the Government are as follows:—

Port Arthur to Red River.....	428	
Savona's Ferry to Port Moody.....	213	
	—	641
		2,550

The whole line upon completion, together with the Pembina Branch from Winnipeg to Emerson, sixty-four and a-half miles, is to be the property of the company, to be operated and maintained by them, thenceforward.

In conformity with the terms of the contract, and an arrangement made with the company in May, 1883, for the completion of certain unfinished work, the whole of the road between Port Arthur and Red River (opposite Winnipeg), together with the Pembina Branch, has been handed over to the company.

PROGRESS OF WORKS UNDER THE GOVERNMENT.

The portion of the road remaining to be constructed by the Government, at the beginning of the fiscal year 1883-84, was that between Savona's Ferry and Port Moody, 213 miles.

As to this portion, the work is far advanced towards completion, and at the date of the present report, the 31st of December, 1884, the track has been laid for the distance of 210 miles, leaving three miles only yet-to be laid. Certain ballasting and other minor work is required before the section can be accepted from the contractors as finished, but it is confidently believed that all will be completed by the time fixed in their contract, the 30th of June, 1885.

The River Fraser has been spanned near Lytton by a combined iron and steel Cantilever bridge, two spans being of 100 feet each, with a centre span 300 feet, carrying the track at an elevation of 125 feet above the river.

PROGRESS OF WORKS UNDER THE COMPANY.

Callander to Port Arthur—657 miles.—Upon this portion by the 31st December, 1884, the track was laid for a total distance of 403 miles. On a further distance of 193 miles the grading was completed, while on the remainder, sixty-one miles, no grading had been done. The Government Chief Engineer foresees no difficulty in making rail connection between Callander and Port Arthur by May or June next. The heavy work on this section has, practically, been finished. Good progress has been made in the erection of stations, water tanks, &c. The road between Callander and Sudbury, ninety-eight miles, has been under traffic for some time. Wharf and station accommodation has been provided at Port Arthur, and the Company have erected there an elevator of 300,000 bushels capacity.

Port Arthur to Red River, opposite Winnipeg—428 miles.—This section having been transferred to the company prior to full completion, they have been engaged, under an agreement to that effect, in the work of ballasting and filling in valleys crossed by temporary bridges. This work will shortly be finished.

The company have under construction an elevator at Fort William, the capacity of which is to be 1,000,000 bushels.

Red River to Savona's Ferry—1,252 miles.—Up to the 31st of December, 1884, on this section, 1,029 miles of track have been laid, 366 miles of which, namely, to a point a short distance beyond the summit of the Kicking Horse Pass, are completed and in

operation, stations, water service and all necessary buildings having been erected. The grading is completed for a total further distance of twenty-eight miles, leaving 195 miles yet to be graded by the company. A force of about 5,000 men is engaged in the work on this section.

Reference was made in the report of last year to the fact that the company were endeavouring to take their line through the Rocky Mountain and Selkirk Ranges *via* Kicking Horse Pass. A location has now been adopted by which this end will be attained.

On a portion of this location some heavy tunnelling and rock work will be required, the immediate execution of which would have considerably retarded the progress of the work of construction beyond that point, the transport of material and supplies being seriously impeded, if not stopped.

The company have therefore been permitted, under authority of an Order in Council, to construct a temporary but substantial line over a distance of some nine miles, which will be used until the work on their permanent location is completed. This temporary line is not included in the figures given above.

For a short distance on this temporary line the grades are heavy, but when the temporary line is replaced by that of the permanent location, the maximum grade for the whole distance between the Rocky Mountains and Savona's Ferry will not exceed 116 feet to the mile.

Of the total distance between Callander and Port Moody, 2,550 miles, up to the 31st of December, 1884, the road has been graded for a total distance of 2,294 miles, upon which the rails have been laid for a total distance of 2,070 miles, leaving 256 miles of grading and 480 miles of track laying still to be executed (of this, three miles are Government work.) The total distance ballasted is 1,880 miles, leaving 670 miles yet to be done.

Payments.—

Amount of subsidy under the contract.....	\$25,000,000 00	
Amount paid up to the end of the fiscal year 1882-83 (30th of June, '83)	\$ 7,533,076 60	
Amount paid during fiscal year 1883-84	7,254,208 27	
	<u>14,787,284 87</u>	
Amount paid from end of fiscal year 1883-84, to 31st Dec., 1884.....	4,985,753 00	
	<u>19,773,037 87</u>	
Balance on the 31st December, 1884.....	\$ 5,226,962 13	

Loan Account.

The payments made on account of the loan granted last Session are as follows:—

Amount of loan.....	\$22,500,000 00
Amount paid to end of fiscal year 1883-84—the 30th June, 1884, in- cluding the sum of \$7,500,000 paid to extinguish the floating debt....	\$10,953,462 00
Amount paid from the end of the fiscal year 1883-84, to the 31st of December, 1884.....	7,017,268 00
	17,970,730 00
Balance on the 31st December, 1884.....	\$ 4,529,270 00

Out of the land subsidy, 25,000,000 acres, there had been earned by the company, up to the 31st of December, 1883, 13,755,763 acres, of which one-fifth, or 2,751,152 acres, was retained by the Government, under the contract, pending the completion of the road, making a total of 11,004,611 acres. There has since that date been earned by the company, a further extent of land. This, however, is part of the security retained by the Government in consideration of the loan made to the company last Session, and will be dealt with hereafter.

Location.—Plans and profiles of portions of the road have, from time to time, been submitted by the company, and after report thereon by the Chief Engineer, have been approved by successive Orders in Council. Up to the 31st December, 1884, the whole of the location between Callander and Port Arthur has been approved; also the location of the western portion of the road up the 1,054th mile west from Winnipeg, or to the summit of Roger's Pass in the Selkirk Range; together with a distance of 42 miles eastwards from Savona's Ferry.

BRANCH LINES.

In addition to the subsidy for their main line, the company have, under their contract, the right to receive a grant, in so far as it is vested in the Government, of the land required for road bed, stations, &c., in the construction of branch lines.

Algoma Branch, formerly known as the Sault St. Marie Branch—94 $\frac{3}{4}$ miles.—This branch extends from Sudbury Junction (98 miles west of Callander) to Algoma, on Georgian Bay.

Emerson Branch—15 miles.—This branch is intended to connect the town of Emerson with the company's Pembina Mountain branch, at Pembina Mountain

Junction, and so with Winnipeg and the main line. The track is laid, but the line is not yet open for traffic.

A list will be found in Appendix 3, page 8, showing the several branches built or acquired by the company, all of which are completed and under traffic, with the exception of the two lines above named. The list also gives the lengths of the several portions of the trunk line mentioned in the preceding pages, the following being a summary of such list:—

Trunkline from Montreal to Callander.....	345	
do Callander to Port Moody.....	2,550	
		2,895
Branches acquired or built.....		432 $\frac{1}{4}$
Total miles		<u>3,327$\frac{1}{4}$</u>

In addition to the 102 $\frac{1}{2}$ miles now constituting the Pembina Mountain branch, a further distance of 60 miles is located in readiness for construction.

GOVERNMENT RAILWAYS IN OPERATION.

The several lines operated and maintained by the Government during the past fiscal year ended the 30th June, 1884, were:—

	Miles.
The Intercolonial and its extensions.....	847
Eastern Extension Railway.....	80
Prince Edward Island.....	199
Windsor Branch (maintained only).....	32
Total mileage.....	<u>1,158</u>

The through ocean mail line from Point Lévis, Quebec, to Halifax, is 688 miles in length.

For details respecting these roads, see Appendix No. 4, pp. 14 to 85.

The General Revenue Accounts for 1883-84 show the following as the financial position of these roads for the past fiscal year:—

	Expenditure.	Earnings.	Profit.	Loss.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Intercolonial*.....	2,344,579 09	2,353,647 26	9,068 17	
Eastern Extension (operated for 5 months and 23 days).....	32,854 53	30,767 66		2,086 87
Prince Edward Island.....	236,428 13	144,504 12		91,924 01
Windsor Branch (earnings, one-third of entire receipts).....	22,140 86	23,018 93	878 07	
	2,603,148 08	2,521,160 31	9,946 24	94,010 88
				9,946 24
Total loss on working.....				84,064 64
Less disbursements in connection with the accident on the Prince Edward Island Railway in 1880.....				16,073 45
Net loss.....				67,991 19

* The Dalhousie branch, seven miles, was only operated for seven days of the fiscal year.

INTERCOLONIAL RAILWAY.

LENGTH OF LINE.

Ocean Mail Line.

	Miles.
Point Lévis to Rivière du Loup.....	126
Rivière du Loup to Moncton.....	374
Moncton to Painsec.....	8
Painsec to Truro.....	118
Truro to Halifax.....	62
	<u>688</u>

Extensions.

Moncton to St. John.....	89
Painsec to Shediac.....	11
Truro to Picton.....	52
Dalhousie Junction to Dalhousie.....	7
	<u>159</u>
	<u>847</u>

Wharf Branches.

Rimouski to Wharf.....	2
Newcastle, N. B., to Deep Water Wharf.....	2
Dorchester to Shipping Wharf.....	1
Sackville to Shipping Wharf.....	0·5
Stewiacke to Wharf.....	1
	6·5
	6·5

Capital Account.—The total cost of the road and equipment chargeable to capital account at the close of the fiscal year, 1882-83, according to last year's report, was..... \$41,176,654 19

From which is to be deducted, (owners of lands taken for the St. Charles Branch and other works having refused amounts offered, and for which cheques had issued, such cheques being thereupon cancelled)..... 109,401 58

————— \$41,067,252 61

The expenditure charged to capital account for the year ended 30th June, 1884, is as follows:—

Halifax Extension.....	\$ 47,671 45
Increased Accommodation, St. John.....	139,432 00
Repairs and Improvements, Rivière du Loup Line.....	835 13
Settlement of claims connected with the original construction of the Intercolonial Railway.....	388,740 34
For rolling stock.....	586,386 84
The St. Charles Branch.....	259,054 96
Dartmouth Branch.....	14,470 77
Dalhousie Branch.....	67,157 76
Rivière du Loup Town Branch.....	10,748 35
Indian-Town Branch.....	384 00
Miscellaneous works.....	97 50
	1,514,979 10
Making the total cost up to 30th June, 1884.....	\$42,582,231 71

Revenue Account.—

The gross earnings for the year were	\$2,353,647 26
The working expenses were.....	2,344,579 09

Net earnings.....	\$ 9,068 17
-------------------	-------------

The gross earnings, compared with those of the previous year, show a decrease of.....	\$17,273 84
---	-------------

The traffic, however, both of passengers and freight, exceeds that of any previous year.

Though the gross tonnage carried shows an increase of 30,202 tons, and the passenger traffic an increase of 42,270 persons, as compared with that of last year, the working expenses show a decrease of \$15,794.18.

The total net earnings for the past four years amount to...	\$29,763 83
The value of the stores in hand, including steel rails and fuel, at the end of the year, 1883 84, was.....	\$837,520 91

The engine mileage, compared with that of last year, was:—

	Miles.
1883-84.....	4,407,655
1882-83.....	4,406,189
Increase	1,466

The car mileage, compared with that of last year, was:—

1883-84.....	41,741,080
1882-83.....	41,526,553
Increase.....	214,527

The train mileage, compared with that of last year, was:—

1883-84.....	3,653,961
1882-83.....	3,615,192
Increase.....	38,769

The working expenses per mile run by engines were:—

	Cents.
1882-83.....	53.57
1883-84.....	53.19
Decrease.....	.38

The working expenses per mile run by trains were:—

1882-83	65 29
1883-84.....	64 17
	—
Decrease.....	1 12

The gross tonnage carried was:—

	Tons.
1883-84.....	1,001,163
1882-83.....	970,961
	—
Increase.....	30,202

The total number of passengers carried was:—

1883-84.....	920,870
1882-83.....	878,600
	—
Increase.....	42,270

The whole road has been maintained in a state of thorough efficiency.

The work of relaying the road with steel rails, heavier than those now in use, has been continued. The new rails, in place of fifty six, weigh sixty-seven pounds to the lineal yard.

The expenditure of the year has received an exceptional increase, owing to the fact that the general offices at Moncton, destroyed by fire in February, 1883, have been rebuilt. The cost, up to the end of the fiscal year, was \$63,098.25. This has been charged to the working expenses of the road.

Amongst the repairs and improvements of the year is included the erection of seven new stations and freight houses.

An unusually heavy freshet occurred in New Brunswick and Nova Scotia in April last, causing great damage, washing away culverts and destroying embankments. Temporary measures were at once adopted, so that traffic was delayed a few hours only. The damage done has since been substantially made good.

Work at the Deep Water Terminus at Halifax has been continued, including dredging and the removal of boulders. The operations for the conduct of ocean-bound traffic at this point last winter proved very successful.

At St. John the improvements affording the increased accommodation needed have made good progress. They include the erection of a new station, a warehouse and freight and flour sheds.

The increase of traffic rendered necessary a considerable addition to the rolling stock of the road. For this purpose, under special Parliamentary provision, twenty-eight additional engines were purchased, making the total of 163 locomotives in stock on the 30th June, 1884.

WINDSOR BRANCH.

The Windsor and Annapolis Railway Company are permitted to continue the operation of this line, the arrangement being that the company pay all charges in connection with the working, two-thirds of the gross receipts being allowed them for each purpose, the Government taking the remaining one-third and assuming all cost maintenance.

The earnings and expenditure for the year ended the 30th June, 1884, were as follows:—

Gross earnings accruing to the Government.....	\$23,018 93
Expenditure for maintenance of way and works.....	22,140 86
	<hr/>
Balance.....	\$ 878 07

Government earnings, one-third of gross receipts, in comparison with those of the previous year:—

1882-1883	\$24,113 89
1883-1884	23,018 93
	<hr/>
Decrease	\$ 1,094 96

Expenditure in comparison with that of the previous year:—

1882-1883.....	\$ 23,103 93
1883-1884.....	22,140 86
	<hr/>
Decrease.....	\$ 963 07

The road has been maintained in good working order.

DALHOUSIE BRANCH.

This branch, 7 miles long, connecting the Intercolonial Railway with the town of Dalhousie, at the head of the Baie des Chaleurs, was sufficiently completed to enable it to be opened for traffic on the 23rd of June. A wharf property has been acquired at Dalhousie, and by an addition made to the existing wharf, good accommodation is afforded to vessels and steamers drawing 16 feet of water.

EASTERN EXTENSION RAILWAY.

This line of railway is eighty miles long, extending from the Pictou Branch of Intercolonial Railway, at New Glasgow to Port Mulgrave on the Strait of Canso, thence connecting with Cape Breton by means of a ferry.

Under arrangements, subject to sanction by Parliament, this line with its equipment, was, on the 9th January, 1884, purchased by the Dominion Government from the Government of the Province of Nova Scotia, together with rights possessed by the Government, in the Pictou Branch, between Truro and Pictou; also, the ferry built

for the passage of the Strait of Canso. The purchase was duly sanctioned by Parliament in the last Session.

During the five months and twenty-three days of its operation by this Government, the financial results were as follows:—

Expenses.....	\$32,854 53
Earnings.....	30,767 66
	2,086 87
Loss.....	

The history of the transfer of this road is as follows:—

By a resolution of the House of Commons of the 19th of May, 1874, the Government was empowered to transfer the Branch of the Intercolonial between Truro and Pictou to some company undertaking to extend the line eastwards from New Glasgow or Pictou to the Gut of Canso or some place in Cape Breton.

By the Statute 42 Vic., cap. 12, 1879, amending the original Statute, 40 Vic., cap. 46, it was enacted that the Pictou Branch of the Intercolonial Railway should be transferred to the Halifax and Cape Breton Railway and Coal Company, so soon as the contract for the construction and equipment of the extension line of railway from New Glasgow to the Strait of Canso, and for the establishment of a steam ferry across the strait, then existing between the company and the Provincial Government of Nova Scotia, should have been performed to the satisfaction of the said Government.

Under agreement made between the Nova Scotian Government and the Halifax and Cape Breton Railway Company, the said Government had the right to take over all the railways of the company, known as the Eastern Extension, and all the property of the company, including their rights in the Pictou Branch, and all privileges connected therewith, on paying the actual outlay of the company, exclusive of the Government subsidies and subventions granted to them.

The Nova Scotian Government decided to assume the railways of the company and certain differences between themselves and the company, as to the performance of the contract, having been adjusted, the Provincial Government made proposition

r the purchase and acquisition by the Dominion Government of the said Eastern extension, the result of which was the passage, last Session, of the following Act, 47 ic., cap. 5 :—

“The Government of Canada may, under an Order of the Governor in Council, purchase and acquire for the Dominion, from the Government of Nova Scotia, the Eastern Extension Railway from New Glasgow to the Gut of Canso, and the steam ferry in connection therewith, together with the rights of the said Province in the Pictou and Pictou Branch Railway, for the sum of one million two hundred thousand dollars, and the new rolling stock and equipments of the said railway for a sum equal to the cost thereof and charges, the said sums, with interest thereon at six and one-half per cent. per annum from the first day of October, one thousand eight hundred and eighty-three, to be payable out of the Consolidated Revenue Fund of Canada: provided, that the necessary legislative provisions shall have been made by Nova Scotia for giving effect to the said purchase and acquisition, according to the agreement between the two Governments to that effect, laid before Parliament on the 15th day of February, one thousand eight hundred and eighty-four, and that the accounts between the two Governments in connection with the said purchase shall have been previously settled to the satisfaction of the Government of Canada.”

By a deed, dated the 23rd of May, 1884, the road has been transferred to the Dominion Government in conformity with the aforesaid Act.

DARTMOUTH BRANCH.

By this branch, four miles in length, connection is afforded between the Intercolonial Railway at Richmond and Dartmouth, on the north side of Halifax Harbour. This work involves the spanning of the “Narrows,” a channel 500 feet wide. The work is all under contract, and in progress.

RIVIÈRE DU LOUP TOWN BRANCH.

This branch, about four miles long, is under contract. By it the Intercolonial Railway will be connected with the Rivière du Loup wharf.

ST. CHARLES BRANCH.

This branch, which extends from St. Charles Station, on the Intercolonial Railway, to Levis—fifteen miles—was sufficiently advanced in July last to admit of its being opened for traffic.

INDIAN-TOWN BRANCH.

This branch, for the construction of which, by the Government, as a branch of the Intercolonial, a special appropriation was voted last Session, extends from Derby Station, on that road, up the South-West Miramichi River to Indian-Town, a distance of fourteen miles.

Under date the 29th June, 1884, plans of the location of the proposed road prepared by the Government Chief Engineer, were approved by an Order in Council. The contract for the work was signed on the 18th of September last, and construction is in progress.

PRINCE EDWARD ISLAND RAILWAY.

LENGTH OF LINE.

	Miles.
Tignish to Royalty Junction.....	113½
Royalty Junction to Mount Stewart.....	20
Mount Stewart to Georgetown.....	21
	— 154½

EXTENSIONS.

Royalty Junction to Charlottetown.....	5
Mount Stewart to Souris.....	39
	— 44
	— 198½

Capital Account.—The total cost of the road and equipment chargeable to capital account at the close of fiscal year 1882-83 was.....\$3,523,692 62

The expenditure charged to this account for the year ended the 30th of June, 1884, including the sum \$120,745.94 expended on the Cape Traverse Branch, was..... 130,663 38

Total expenditure on capital account to the 30th of June, 1884.....\$3,654,356 00

Revenue Account.—The working expenses and receipts for the year ended 30th of June, 1884, were :—

Gross expenses.....	\$ 236,428 13
Gross earnings.....	144,504 12
	—
Excess of expenditure over earnings.....	\$ 91,924 01

The gross earnings, compared with those of the previous year, were :—

1882-1883.....	\$146,170 42
1883-1884.....	144,504 12
	—
Decrease.....	\$1,666 30

The gross expenditure, compared with that of the previous year, was:—

1882-1883.....	\$252,808 41
1883-1884.....	236,428 13
	Decrease.....
	\$16,380 28

The engine mileage was:—

	Miles.
1882-1883.....	313,760
1883-1884.....	291,760
	Decrease.....
	22,000

The train mileage was:—

1882-83.....	248,819
1883-84.....	238,130
	Decrease.....
	10,689

The car mileage was:—

1882-1883.....	1,237,103
1883-1884.....	1,208,423
	Decrease.....
	28,680

The road and its equipments have been well maintained throughout the year.

CAPE TRAVERSE BRANCH.

This line is being constructed in order to facilitate communication between the Prince Edward Island Railway and the Intercolonial. The branch leaves the island railway at County Line station and runs to Cape Traverse, a distance of thirteen miles. Across the strait to Cape Tormentine, on the mainland, the distance is nine miles. A private company, the New Brunswick and Prince Edward Island Railway Company, are constructing a line forty miles in length, to connect Cape Tormentine with the Intercolonial Railway at Sackville. Of this distance one-half, to Baie Verte, is completed and under traffic, and on the remaining twenty miles the grading is nearly completed. Cape Traverse is a landing place for ice-boats in winter.

The Cape Traverse Branch is now completed and ready to be opened for traffic purposes.

SUBSIDIZED LINES.

By the Acts of Parliament below specified, authority has been placed in the hands of the Governor in Council to grant, upon certain conditions, pecuniary aid

towards the construction of various lines of railway throughout the Dominion, as follows, namely :—

By the Act 45 Vic, cap. 14 (1882).

No. 1. For a railway from Gravenhurst to Callander, both in the Province of Ontario, a subsidy not exceeding \$6,000 per mile, nor exceeding in the whole.....	\$ 660,000
2. For a railway from St. Raymond to Lake St. John, both in the Province of Quebec, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	384,000
3. For a railway from a point on the Intercolonial Railway at Rivière du Loup or Rivière Ouelle, in the Province of Quebec, or between them, to Edmundston, in the Province of New Brunswick, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	240,000
4. For a railway from Oxford to New Glasgow, both in the Province of Nova Scotia, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	224,000
	Total.....
	\$1,508,000

The said subsidies to be granted to such companies as shall be approved by the Governor in Council, as having established, to his satisfaction, their ability to complete the said railways respectively, within a reasonable time, to be fixed by Order in Council, and according to descriptions and specifications to be approved by the Governor in Council on the report of the Minister of Railways and Canals, and specified in a agreement to be made by the company with the Government, and which the Government is empowered to make, and to be payable out of the Consolidated Revenue Fund of Canada, by instalments on the completion of each ten miles of railway, proportionate to the value of the portion so completed in comparison with the whole work undertaken, such proportion to be established by the report of the said Minister; provided always, that the granting of such bonuses or subsidies, shall be subject to such conditions for securing such running powers or traffic arrangements and other rights, as will afford all reasonable facilities and equal mileage rates to all railways connecting therewith, as the Governor in Council may determine.

By the Act 46 Vic. cap. 25, (1883) :—

No. 5. To the Baie des Chaleurs Railway Company, for 100 miles of their railway, from Matapediac, on the Intercolonial Railway, to Paspébiac, in the Province of Quebec, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... \$320,000

6. To the Caraquet Railway Company for 36 miles of their railway, from a point near Bathurst to Caraquet, in the Province of New Brunswick, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 115,200

7. To the Gatineau Valley Railway Company, for the first 50 mile section of their railway, from Hull Station, in the Province of Quebec, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 160,000

8. To the Great American and European Short Line Railway Company, for 80 miles of their railway from Canso to Louisburg or Sydney, in the Province of Nova Scotia, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.* 256,000

9. To the International Railway Company, for 49 miles of their railway from Sherbrooke, in the Province of Quebec, to the International boundary line, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 156,800

In connection with the extension of this road through Maine to connect with New Brunswick, at or near Vanceborough or south of that point.

10. To the Northern and Western Railway Company, for 32 miles of their railway, from the Intercolonial Railway, near the Miramichi, to Moran's, near Demphy Village, in the Province of New Brunswick, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 102,400

*This was amended by the Act 47 Vic., cap. 8, sec. 2, the words "To the Great American and European Short Line Railway Company" being struck out, and the word "the" being inserted for the word "their."

11. To the Montreal and Western Railway Company, for the first 50 mile section of their railway, out of St. Jerome, in the Province of Quebec, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	160,000
12. To the Napanee, Tamworth and Quebec Railway Company, for 28 miles of their railway, from Napanee to Tamworth, in the Province of Ontario, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	89,600
13. To the Quebec and Lake St. John Railway Company, for 25 miles of their railway, from St. Raymond to Lake St. John, in the Province of Quebec, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	80,000
In addition to the subsidy granted by the Act forty-fifth Victoria, chapter fourteen.....	
14. For a railway from the Intercolonial Railway at Petitcodiac to Havelock Corner, in the Province of New Brunswick, 12 miles, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	38,400
15. For a railway from Gravenhurst to Callander, 110 miles, a subsidy not exceeding \$6,000 per mile, nor exceeding in the whole.....	660,000
In addition to the subsidy granted by the Act forty-fifth Victoria, chapter fourteen.	
Total.....	\$2,138,400

“The nine subsidies first mentioned to be granted to the companies hereinbefore named respectively; and the two subsidies last mentioned to be granted to such companies as shall be approved by the Governor in Council as having established to his satisfaction their ability to complete the said railways, respectively; and all the eleven lines above mentioned, and also all the lines of railway in respect of which it is provided by the Act forty-fifth Victoria, chapter fourteen, that subsidies may be granted, shall be commenced within two years from the first day of July next, and completed within a reasonable time, not to exceed four years from and after the passing of this Act, to be fixed by Order in Council, and according to descriptions and specifications to be approved by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made by each company with the

Government, and which the Government is empowered to make; and all the said subsidies authorized by this Act, respectively, to be paid out of the Consolidated Revenue Fund of Canada by instalments, on the completion of each section of no less than ten miles of railway, proportionate to the value of the portion so completed in comparison with the whole work undertaken, to be established by the report of the said Minister: Provided always, that the granting of such subsidies shall be subject to such conditions for securing such running powers or traffic arrangements, and other rights, as will afford all reasonable facilities and equal mileage rate, all railways connecting with those so subsidized, as the Governor in Council may so determine."

By the Act 47 Vic., cap. 8 (1884),

16. To the Government of the Province of Quebec, in consideration of their having constructed the railway from Quebec to Ottawa, forming a connecting line between the Atlantic and Pacific coasts *vid* the Intercolonial and Canadian Pacific Railway, and being as such a work of national and not merely Provincial utility, a subsidy not exceeding \$6,000 per mile for the portion between Quebec and Montreal, 150 miles, nor exceeding in the whole.....\$ 954,000

And for the portion between Montreal and Ottawa, 120 miles, \$12,000 per mile, nor exceeding in the whole..... 1,440,000

17. For the construction of a line of railway connecting Montreal with the harbours of St. John and Halifax by the shortest and best practicable route, after the report of competent engineers, a subsidy not exceeding \$170,000 per annum for fifteen years, or a guarantee of a like sum for a like period as interest on bonds of the company undertaking the work.

18. For the construction of a line of railway from Oxford Station, on the Intercolonial Railway, to Sydney or Louisburg, a subsidy not exceeding \$30,000 per annum for fifteen years, or a guarantee of a like sum for a like period as interest on the bonds of the company undertaking the work, in addition to the subsidies previously

- granted, and also a lease or transfer to such company of the Eastern Extension Railway, from New Glasgow to Canso, with its present equipment.
19. To the Quebec Central Railway Company, for a line of railway from Beauce Junction to the International boundary line, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 211,200
20. For the extension for the Canadian Pacific Railway, from its terminus at St. Martin's Junction, near Montreal, or some other point on the Canadian Pacific Railway, to the harbour of Quebec, in such manner as may be approved by the Governor in Council, a subsidy not exceeding \$6,000 per mile, nor exceeding in the whole..... 960,000
21. To the Irondale, Bancroft and Ottawa Railway Company, for a line of railway from the Victoria branch of the Midland Railway, to the village of Bancroft, in the township of Dunganon, county of Hastings, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole. 160,000
22. To the Pontiac Pacific Junction Railway for a line of railway from Hull or Aylmer to Pembroke, provided the Ottawa river is crossed at some point not east of Lapasse, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 272,000
23. To the Gatineau Railway Company, for a line of railway from Kazuabazua to Le Desert, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 160,000
24. To the Napanee, Tamworth and Quebec Railway Company, for a line of railway from Tamworth to Bogart and Bridgewater, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole..... 70,400

25. The Montreal and Western Railway Company, for a line of railway from the end of the line subsidized in the now last Session of Parliament, towards Le Desert, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole....	160,000
26. To the Northern and Western Railway Company, for a line of railway from Fredericton to the Miramichi River, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole (instead of the subsidy proposed in 1883).....	128,000
27. To the Erie and Huron Railway Company, for a line of railway from Wallaceburg to Sarnia, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	96,000
28. To the Ontario and Pacific Railway Company, for a line of railway from Cornwall to Perth, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	262,400
29. To the Kingston and Pembroke Railway Com- pany, for a line of railway from Mississippi to Renfrew, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	48,000
30. To the Great Northern Railway Company, for that portion of their railway between St. Jerome and New Glasgow, in the county of Terrebonne, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	32,000
31. For a line of railway and bridge between the Jacques Cartier Union Railway Junction with the Canadian Pacific Railway and St. Martin's Junction, connecting the Jacques Cartier Union Railway with the North Shore Railway proper, a subsidy not exceeding in the whole..	200,000
32. For a line of railway from Richibucto to St. Louis, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	22,400
33. For a line of railway from Hopewell to Alma, in the Province of New Brunswick, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	51,200

34. For a line of railway from St. Andrews to Lachute, in the county of Argenteuil, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	22,400
35. For a line of railway from the Grand Piles, on the River St. Maurice, to Lake Edward, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	217,600
36. For a line of railway from Annapolis to Digby, in the Province of Nova Scotia, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	64,000
37. For a line of the Central Railway, from the head of Grand Lake to the Intercolonial Railway, between Sussex and St. John, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole.....	128,000
38. To the Caraquet Railway Company, for the extension of their line of railway from Caraquet to Shippigan Harbour, in the Province of New Brunswick, a subsidy not exceeding \$3,200 per mile, nor exceeding in the whole...	76,800
39. For a branch of the Intercolonial Railway, from Metapediac eastward, towards Paspediac, twenty miles, in the Province of Quebec, a sum not exceeding in the whole.....	300,000
40. For a branch of the Intercolonial Railway, from Derby Station to Indian-Town, fourteen miles a sum not exceeding in the whole.....	140,000

“The subsidies hereinbefore mentioned as to be granted to companies named for that purpose, shall be granted to such companies, respectively: the other subsidies shall be granted to such companies as shall be approved by the Governor in Council as having established, to his satisfaction, their ability to construct and complete the said railways, respectively. All the lines for the construction of which subsidies are granted shall be commenced within two years from the first day of July next and completed within a reasonable time, not to exceed four years, to be fixed by Order in Council, except the line mentioned in the fourth section of this Act, which shall be commenced within one year, and shall also be constructed according to descriptions and specifications and upon conditions to be approved

by the Governor in Council, on the report of the Minister of Railways and Canals, and specified in an agreement to be made in each case by the company with the Government, and which the Government is hereby empowered to make; the location also of every such line of railway shall be subject to the approval of the Governor in Council: and all the said subsidies respectively shall be payable out of the Consolidated Revenue Fund of Canada, by instalments on the completion of each section of the railway of not less than ten miles, proportionate to the value of the portion so completed, in comparison with that of the whole work undertaken, to be established by the report of the said Minister. The subsidies to the Province of Quebec shall be capitalized and the interest shall be payable at such time and in such manner as the Government of Canada shall agree upon with the Government of the said Province. The two subsidies last mentioned in the list are for works to be constructed by the Government of Canada.

“ Provided always, that the granting of such subsidies to the companies mentioned, respectively, shall be subject to such conditions for securing such running powers or traffic arrangements and other rights, as will afford all reasonable facilities and equal mileage rates to all railways connecting with those so subsidized, as the Governor in Council may determine. ”

With regard to the above enumerated lines of railway, the following represents the action taken and the progress made in so far as the Dominion Government has cognizance or concern, only those lines and companies being mentioned as to which definite steps, other than merely preliminary, have been taken towards securing the subsidy. Information has been brought down to the 31st of December, 1884.

Gravenhurst to Callander. (See Nos. 1 and 15, p. 24, 26.)—This line is subsidized by the Acts of 1882-83, to the extent of \$12,000 a mile, for a distance of 110 miles, or a total of \$1,320,000. It extends from the Canadian Pacific Railway at Callander, south, to the village of Gravenhurst, connecting with the railway system of Ontario. Under the authority of an Order in Council, dated the 10th of April, 1884, a contract was entered into on the 12th of April, 1884, with the Northern and Pacific Junction Railway Company (formerly the Northern and North-Western and Sault Ste. Marie Railway Company) for the construction of this line, the same to be completed by the 1st of May, 1886. The works are in progress.

Quebec and Lake St. John Railway Company. (Nos. 2 and 13, p. 24, 26.)—An agreement was duly entered into on the 4th of September, 1883, under which this line is to be completed by the 25th of May, 1887.

Up to the 31st of December, 1883, the subsidy had been paid for the first 10-mile section, north of St. Raymond, namely \$32,000.

No further payment has been made during the year which has elapsed since that date.

Up to the 24th of September, 1884, the company have submitted for approval plans, &c., of location, covering a distance of 54½ miles. Of this distance the location has been approved by the Governor in Council for the first ten miles.

Rivière du Loup or Rivière Ouelle to Edmundston. (See No. 3, p. 24).—Stretching northwards from the ports of St. Andrews and St. John, N.B., run the existing lines of the New Brunswick Railway Company and, after skirting the River St. John, terminate at Edmundston. Towards the construction of a line connecting this point with the Intercolonial at Rivière du Loup or Rivière Ouelle, or some point between them, Parliament, in 1882, voted a subsidy of \$240,000, and on the 28th of May, 1883, an Order in Council was passed, approving of entry into agreement with the company. Such agreement has not, however, yet been executed.

Montreal and European Short Line Railway Company (formerly the "Great American and European Short Line Railway Company.")—(See No. 4, p. 24).—In 1882 a subsidy was voted by Parliament to the extent of \$224,000, for the construction of a line about seventy miles long, between Oxford, about thirty miles east of Amherst, and New Glasgow, N. S.

Under date the 28th July, 1882, a contract was entered into with the above named company for the building of this road, the work to be completed by the 1st of January, 1884.

The company commenced work and continued operations until the autumn of 1883, when work was suspended, and has not since been resumed. The contract, accordingly, became null and void. As the subsidy was to be paid upon the completion of each ten-mile section, and as no one section was completed, no portion of the subsidy has been paid.

Baie des Chaleurs Railway Company. (See Nos. 5 and 39, p. 25, 30).—In 1883 Parliament voted a subsidy of \$320,000 to this company, in aid of the construction of one hundred miles of their line from Metapediac Station, on the Intercolonial Railway to Paspébiac; and, in 1884, voted \$300,000 for the construction of twenty miles of this distance, from Metapediac eastwards, as a branch of the Intercolonial. No final action has been taken by the Department for the construction of this road.

The Caraquet Railway Company. (See Nos. 6 and 38, p. 25, 30).—Under an Order in Council, dated the 6th of May, 1884, the subsidies authorized by Parliament in 1883 and 1884, for the road of this company between Bathurst, on the Intercolonial Railway, and Shippegan Harbour, amounting to \$192,000, have been granted to them. No contract has yet been made.

International Railway Company. (See No. 9, p. 25).—In 1883 Parliament granted a subsidy of \$156,800 to this company for forty-nine miles of their railway,

between Sherbrooke and the international boundary line, the object being to enable them to complete their road with steel rails. They entered into contract on the 20th of July, 1883, and under successive Orders in Council, the last of which was dated the 21st of December, 1883, they have been paid a total sum of \$144,000 upon a distance of forty-five miles.

Northern and Western Railway Company. (See Nos. 10 and 26, p. 25, 29.)—In 1883 Parliament authorized the grant of a subsidy to this company of \$102,400, towards the construction of thirty-two miles of their railway, from the Intercolonial Railway, near the Miramichi, to Moran's, near Demphy Village, N.B. This action was suggested to the House, in view of an application made for aid for a line extending from the Intercolonial Railway at the crossing of the Miramichi River, and running down the Valley of the Nashwack, thence to Fredericton, as to which the Government engineer had reported that a portion only, up to Boiestown, sixty miles, would be a feeder to the Intercolonial. In 1884, no work having meantime been commenced, Parliament voted money for the construction, by the Government, of fourteen miles of this distance, extending from Derby Station, on the Intercolonial Railway, to Indian-Town, and authorized the grant to this company of a subsidy of \$128,000 in aid of their railway, from Fredericton to the Miramichi, "instead of the subsidy proposed in 1883."

The contract for the construction of this subsidized line from Fredericton to the Miramichi, forty miles in length, was signed on the 24th of December, 1884, an Order in Council of the 16th of that month having given approval to the draft of such contract. The date fixed for completion is the 1st of July, 1888. The location of the first twenty miles of the road, starting from Fredericton, has been approved.

Napanee, Tamworth and Quebec Railway Company. (See Nos. 12, and 24, p. 26, 28.)—In 1883 Parliament authorized a subsidy of \$89,600 to this company, for twenty-eight miles of their road, from Napanee to Tamworth.

Under authority of an Order in Council, of the 21st of December, 1883, an agreement was made with the company on the 31st of the same month. The location for this distance was approved by an Order of the 1st of January, 1884. The whole work has been duly inspected and approved, and under Orders in Council, the last dated the 28th of July, 1884, the whole of the subsidy, \$89,600, has been paid.

In 1884 a further subsidy of \$70,400, to this company, was authorized for twenty-two miles of their railway, from Tamworth to Bogart and Bridgewater.

Quebec Central Railway Company. (See No. 19, p. 28.)—This company was subsidized last Session to the extent of \$211,200, in aid of the construction of sixty-six miles of their railway, from Beauce Junction to the International boundary.

Under the authority of an Order in Council, dated the 2nd of August, 1884, a contract was made with the company on that date. The work is in progress.

Pontiac Pacific Junction Railway Company. (See No. 22, p. 23.)—This line was subsidized by Parliament in 1884, to the extent of \$3,200 a mile, not exceeding \$272,000.

This line will start from Aylmer or Hull, Que., running to Pembroke, and crossing the River Ottawa west of Lapasse.

Under authority of an Order in Council, dated the 12th of December, 1884, a contract, dated the 22nd of that month, was made with this company, for the building of the subsidized line, the first twenty-seven miles to be completed by the 1st September, 1885, the second twenty-seven miles by the 1st of July, 1886, and the whole road by the 1st of July, 1887.

Kingston and Pembroke Railway Company. (See No. 29, p. 29.)—The subsidy granted to this company in 1884 was for the fifteen miles of their road between Mississippi and Renfrew, the amount not exceeding \$48,000.

The company completed the whole road between Kingston and Renfrew before the close of the year 1884, and upon their application the line has been duly inspected, with a view to its being opened for traffic, as required by the Consolidated Railway Act. No contract has, however, been made with the company by the Government, and no portion of the subsidy has yet been paid.

Surveys.—The advisability of obtaining more direct railway connection between Montreal and the Canadian Atlantic winter ports, is a matter the importance of which has been urged upon the Government and recognized by Parliament in the vote of subsidies to be given in aid of lines having these ports in view as ocean termini.

In submitting this subject to the House last Session, the Minister of Railways, Sir Charles Tupper, defined the object of the Government as being to obtain the shortest and best practicable route that can be found after careful examination and report by competent engineers, no particular line being decided on—"in the absence of such surveys and explorations and examinations as may be found necessary."

In accordance with this understanding, and under the authority of an Order in Council of the 21st of June, 1884, instrumental surveys have been conducted during the past season. The surveys made are as follows:—(See Appendix No. 5, p. 86.)

A. From Montreal to Lennoxville.

B. "Moose River, (on the International Railway north of Moose Head Lake) to Harvey, on the St. John and Maine Railway.

- C. "Moose River (south or across Moose Head Lake) towards Matawamkeag, on the European and North American Railway.
- D. "Chaudière Junction, on the Intercolonial Railway, to Hartland and Woodstock.
- E. "Rivière Ouelle, on the Intercolonial Railway, to Edmundston, on the New Brunswick Railway.
- F. "Rivière du Loup, on the Intercolonial Railway, to Edmundston, on the New Brunswick Railway.
- G. Following the valley of the River Etchemin to the head waters of the River Alligash.

St. John Bridge and Railway Extension Company.—By an Act passed in 1883, 46 Vic., cap. 26, authority was given for the advance to the above named company of a sum not exceeding \$500,000, to aid them in the construction of their proposed bridge over the St. John River, security being taken for the said advance in the shape of a mortgage on the company's property.

The plans and specifications of the bridge having been approved of by an Order in Council, a mortgage was executed on the 10th of December, 1883, and the company, up to the 31st of December, 1884, have received the sum of \$251,700, representing 80 per cent. of the expenditure already made in connection with the work.

Emerson Bridge.—This work, a combined railway and passenger bridge, crossing the Red River at Emerson, built by the corporation of that town, was subsidized by the Dominion Government to the extent of \$50,000. During the past year it has been completed, and an inspection showed that its construction is satisfactory. The balance of the subsidy remaining due was accordingly paid in June last.

Esquimalt and Nanaimo Railway Company.—Under the authority of Orders in Council passed in June, 1883, the Honorable Sir Alexander Campbell, during the summer of that year, visited British Columbia, with a view to the settlement of matters in abeyance between the Provincial and Dominion Governments, and arrangements were provisionally entered into by him in respect of the building of a line of railway between Esquimalt and Nanaimo by a company, to be subsidized by the Dominion Government.

The arrangements in question were conditional upon approval being accorded by the Legislature of the Province of British Columbia, and by the Parliament of Canada. Subject to such approval, their adoption was sanctioned by an Order in Council of the 27th September, 1883.

By an Act of the Provincial Legislature, sanctioned on the 19th December, 1883, but known as Act "47 Vic., cap. 14," and by an Act of the Dominion Parliament, 47 Vic., cap. 6, such approval has been accorded.

These arrangements were expressed in articles of agreement dated the 20th of August, 1883. They comprised the grant of a subsidy in money of \$750,000, together with the land in Vancouver Island granted by the Province to the Crown for the purposes of railway construction, materials for construction of the railway and telegraph to be admitted free of duty. The whole line between Esquimalt and Nanaimo is to be completed by the 10th of June, 1887.

The company, duly constituted under the provisions of the Act, have furnished plans, &c., of the location of the first forty miles of their line, starting from Nanaimo, and the same have been approved by Orders in Council of the 21st of October and 4th of December, 1884.

CANALS.

The canal systems of the Dominion, under Government control, in connection with lakes and navigable rivers, are as follows:—

1. The River St. Lawrence and Lakes.
2. The River Ottawa.
3. The Rideau Navigation, from Ottawa to Kingston.
4. The Trent Navigation.
5. The River Richelieu, from the St. Lawrence to Lake Champlain.
6. St. Peter's Canal, Bras d'Or Lake, Nova Scotia.

The collection of the revenue derivable from the canals of the Dominion being in the hands of the Department of Inland Revenue, reference must be had to the annual report of that Department for all information in relation to the subject. The report in question further deals with general matters relating to the movement of freight on these canals.

The following statement, showing the amount accrued on each canal, for canal revenue proper and hydraulic rents, etc., during the fiscal year ended the 30th of June, 1884, has been furnished by the Department of Inland Revenue.

Name of Canal.	Tolls.	Wharfage and Storage.	Fines and Damages.	Other Receipts.	Hydraulic Rents.	Total.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
Welland	176,164 98	.....	3,477 20	.....	5,833 89	185,476 07
St. Lawrence.....	69,281 46	7,526 00	811 00	7,628 52	18,521 00	103,767 98
Chambly.....	21,371 35	5 82	10 00	.....	130 00	21,517 17
Ottawa.....	60,733 95	.....	25 00	60 00	20 00	60,838 95
Rideau.....	4,920 86	110 41	.....	260 00	1,167 20	6,458 47
Burlington Bay.....	1,661 99	.....	.....	.....	.....	1,661 99
Newcastle District.....	201 18	.....	.....	.....	.....	201 18
St. Peters.....	2,193 12	.....	.....	.....	.....	2,193 12
	336,528 89	7,642 23	4,323 20	7,948 52	25,672 09	382,114 93

RIVER ST. LAWRENCE AND LAKES.

The River St. Lawrence, with the system of canals established on its course above Montreal, and the Lakes Ontario, Erie, St. Clair, Huron and Superior, with connecting canal, afford a course of water communication extending from the Straits of Belle-Ile to Port Arthur, at the head of Lake Superior, a distance of 2,260 statute miles, the distance to Duluth is 2,384 miles.—(See Appendix No. 13, p. 161).

The importance of the completion of the proposed enlarged system of water communication between Port Arthur, at the head of Lake Superior, the central gathering point of the western part of the Dominion for water traffic, and the summer ocean ports of Montreal and Quebec, cannot be too strongly realized. By such a water way cheap freightage would be secured for the unlimited cereal products and the fast developing agricultural industries of the prairie lands, while the cattle trade of the Rocky Mountain base, now in its infancy, if thus enabled to reach the markets of the eastern continent at low rates, would attract such attention and interest as would effectually utilize the exceptional but now dormant capabilities of the country in this direction.

To bring about these ends it is necessary that our existing artificial water systems should be so enlarged as to afford, throughout, at least that navigable depth of 14 feet which, at present, is confined to the Lachine and Welland Canals.

The difference in level between Lake Superior and the point on the St. Lawrence, near to Three Rivers, where tidal influence ceases, is about 600 feet.

The Dominion canals, constructed between Montreal and Lake Erie, are the Lachine, Beauharnois, Cornwall, Farran's Point, Rapide Plat, Galops and Welland. Their aggregate length is $70\frac{1}{2}$ miles; total lockage (or height directly overcome by locks) is $533\frac{1}{4}$ feet; number of locks, 53.

Communication between Lakes Huron and Superior is obtained by means of the Sault Ste. Marie Canal, situated on the United States side of the river.

The canal is a little over a mile in length, and has one lock 515 feet long, 80 feet wide, with 16 feet of water on the sills, and a lift of about 18 feet.

ST. LAWRENCE CANALS.

In 1841, as was observed in the report presented last year, at the time when the system of canals between Montreal and Lake Ontario was designed, it was in contemplation to afford a depth, at all stages of the St. Lawrence waters, of 9 feet, a depth seemingly, from the data then possessed, secured through the works proposed. The River St. Lawrence is, however, from various causes, subject to fluctuations, the extent of which it was impossible, at the time when these canals were originally constructed, to arrive at with precision, and the continued observations and experience of subsequent years have shown that while the intermediate river reaches, at all times, afford ample depth for vessels of 9 feet draught, in the canals themselves, at certain periods of low water, this depth cannot be maintained, the bottom not having been sunk to a sufficiently low level.

The following list shows the least depth of water on the sills of the locks of the St. Lawrence Canals at a time of exceptionally low water, in the year 1872 (*vide* report of Chief Engineer, 1880):—

	Feet.	Inches.
Williamsburgh Canals—		
Rapide Plat, guard lock.....	6	7
“ “ lower entrance.....	7	0
Galops, guard lock.....	8	1
Iroquois, lower entrance.....	9	3
Farran's Point.....	7	9
Cornwall, guard	8	3
“ lower entrance.....	9	0
Beauharnois.....	10	10
“ lower entrance.....	9	3

In the year 1871 it was decided to enlarge the canals on the St. Lawrence route so as to afford a navigable depth of 12 feet throughout. Subsequently, however, it

was decided that the depth should ultimately be increased so as to accommodate vessels of 14 feet draught; and accordingly in the scheme of enlargement which has so far been carried out, while, at present, a channel-way in the canals is provided for vessels drawing 12 feet only, all permanent structures, locks, bridges, &c., are built of such proportions as to accommodate vessels of 14 feet draught, the locks being 270 feet long between the gates, 45 feet in width, and with a clear depth of 14 feet of water on the sills.

In pursuance of this scheme, the Lachine and the Welland Canals have been enlarged, and certain works on the Cornwall and the Rapide Plat Canals are being carried out, on the scale above mentioned. Reference to these works will be made under their proper headings.

LACHINE CANAL.

	Old Line.	New Line.
Length of canal.....	8½ statute miles.	8½ statute miles.
Number of locks.....	5	5
Dimensions of locks.....	200 feet by 45 feet.	270 feet by 45 feet.
Total rise or lockage.....	45 feet.	45 feet.
Depth of water		
{ at two locks 16 "		18 "
{ at three		
{ locks..... 9 "		14 "
Mean width of new canal....	150 "	

The new canal having been extended for some distance above the entrance of the old canal, the total rise has been increased from 44½ to 45 feet.

This canal extends from the City of Montreal to the Village of Lachine, overcoming the St. Louis Rapids, the first series of rapids which bars the ascent of the River St. Lawrence. They are 986 miles distant from the Straits of Belle-Ile.

The canal now consists of one channel, with two distinct systems of locks, the old and the enlarged. There are two entrances at each end.

The full scheme for the enlargement of this, in common with the other canals of the St. Lawrence, contemplated the affording a navigable depth of 14 feet throughout; the improvement immediately in view, however, was only intended to furnish a navigable depth of 12 feet in the canal proper, and accordingly, on the following reaches, namely, between Lachine and Cote St. Paul, Cote St. Paul and St. Gabriel, and between St. Gabriel and Wellington Basin, the channel has been adapted to navigation by vessels of 12 feet draught only. All permanent works on the canal, such as locks, bridges and side walls, have been built to afford a navigable depth of 14 feet.

The canal was closed on the 1st of December, 1883, and opened on the 3rd of May, 1884.

No accident or interruption to navigation has occurred during the year, and the works have been maintained in a state of thorough efficiency.

The report of the Superintending Engineer gives details of the repairs executed, and shows generally the condition of the canal. (App. 6, p. 87.)

NEW WORKS.

The enlargement of the entrance channel and harbour at Lachine, the principal work remaining to be done at the beginning of the fiscal year, was practically completed at its close, a channel 200 feet wide and of the depth required for the passage of vessels of 14 feet draught being afforded at this point. These works were embraced in section No. 11, and, with this exception, all works of enlargement at present contemplated were completed at the close of the year.

Dredging in the channel leading to the Wellington Basin has been carried on and vessels drawing 18 feet of water can now pass with greater facility than heretofore from the harbour to that basin.

The works for the construction of the two new basins at St. Gabriel, Nos. 2 and 3, were commenced in July, 1883. The work is rapidly advancing.

A macadamized road is being constructed along the south-east side of the canal, from Lachine to the Cote St. Paul road.

BEAUHARNOIS CANAL.

Length of canal.....	11 $\frac{1}{4}$ statute miles.
Number of locks.....	9
Dimensions of locks.....	200 feet by 45 feet.
Total rise or lockage.....	82 $\frac{1}{2}$ feet.
Depth of water on sills.....	9 "
Breadth of canal on bottom.....	80 "
Breadth of canal at water surface.....	120 "

This canal commences on the south side of the St. Lawrence, 15 $\frac{1}{4}$ miles from the head of the Lachine Canal. It connects Lakes St. Louis and St. Francis, and passes the three rapids known respectively as the Cascades, the Cedars, and the Coteau.

The canal was closed by ice on the 1st of December, 1883, and was reopened for traffic on the 26th of April, 1884.

No accident or interruption to navigation occurred during the year.

By an Order in Council, dated the 26th of December, 1884, the Canada Atlantic Railway Company have been permitted to construct a temporary bridge across the canal a short distance east of Valleyfield in order to enable them to reach Clarke's Island, and so to obtain ferry communication with Coteau. The arrangement is one

bearing no relation to any possible future crossing of the St. Lawrence by a bridge, for which purpose a different site would have to be selected. Permission for the building of this bridge has been made conditional upon the company binding themselves to erect a permanent structure whenever they may be called upon to do so.

All necessary repairs to dykes, dams, wharves and bridges were duly made.

CORNWALL CANAL.

Length of canal.....	11½ statute miles.
Number of locks.....	7
Dimensions of locks.....	200 feet by 55 feet.
Total rise or lockage.....	48 feet.
Depth of water on sills.....	9 “
Breadth of canal at bottom (except at two culverts).....	100 “
Breadth of canal at water surface.....	150 “

From the head of the Beauharnois to the foot of the Cornwall Canal, there is a navigable stretch through Lake St. Francis of $32\frac{3}{4}$ miles:

The Cornwall Canal extends past the Long Sault Rapids.

This canal was closed on 8th December, 1883, and re-opened on the 29th of April, 1884.

Two accidents occurred during the year. On the 6th of August, 1883, the barge “Argo” broke the lower gates of lock No. 19, causing a delay to navigation of 78 hours. On the 10th of May, 1884, the propellor “Ocean” broke the gates at the same place, causing a delay of 72 hours.

All necessary repairs have been executed. (App. 6, p. 103.)

NEW WORKS.

As was stated last year, certain works of enlargement at the lower entrance comprising the formation of an entrance channel and the construction of two locks (taking the place of three on the old line), together with the excavation of a basin between the locks, have been completed and brought into use, leaving four locks and the prism of the canal to be hereafter dealt with. The dimensions of the new locks are those of the general enlargement scheme, namely: length, 270 feet; breadth, 45 feet; depth of water, 14 feet. The basin between these two locks is 825 feet long.

Further works, comprising the enlargement and deepening of the channel at the upper end, the construction of a lock and a large supply weir, have been placed under contract.

The proposed channel will be sunk to such depth as to admit of the passage of vessels of 14 feet draught.

WILLIAMSBURGH CANALS.

The Farran's Point, Rapide Plat and Galops Canals are collectively known as the Williamsburgh Canals.

These canals were closed on the 16th December, 1883, and re-opened on the 1st May, 1884.

Navigation was carried on throughout the season without interruption. (App. 6, p. 104.)

FARRAN'S POINT CANAL.

Length of canal.....	$\frac{3}{4}$ mile.
Number of locks.....	1
Dimensions of locks.....	200 feet by 45 feet.
Total rise, or lockage.....	4 feet.
Depth of water on sills at ordinary water level..	9 "
Breadth of canal at bottom.....	50 "
Breadth of canal on water surface.....	90 "

From the head of the Cornwall Canal to the foot of Farran's Point Canal the distance on the River St. Lawrence is 5 miles. This latter canal enables vessels ascending the river to avoid the Farran's Point Rapid. Descending vessels run the rapids with ease and safety.

The ordinary repairs were executed.

RAPIDE PLAT CANAL.

Length of canal.....	4 miles.
Number of locks.....	2
Dimensions of locks.....	200 feet by 45 feet.
Total rise, or lockage.....	11½ feet.
Depth of water on sills.....	9 "
Breadth of canal at bottom... ..	50 "
Breadth of canal at surface of water.....	90 "

From the head of Farran's Point Canal to the foot of Rapide Plat Canal there is a navigable stretch of 10½ miles. This canal was formed to enable vessels ascending the river to pass the rapid at that place. Descending vessels run the rapid safely.

The canal has been maintained in good repair.

NEW WORKS.

Steps have been taken towards the enlargement of this canal in conformity with the proportions of the general scheme. These works consist of the enlargement of the channel way above and for some distance below the present guard lock at the

head of the canal, the construction of a new lock, and a supply weir in connection with the old lock. The bottom of the channel, for a distance of about 1,000 feet below, and out into deep water, above the lock, about 700 feet, will be excavated to an extent sufficient to afford a navigable depth of 14 feet.

GALOPS CANAL.

Length of canal.....	7 $\frac{5}{8}$ miles.
Number of locks.....	3
Dimensions of locks.....	200 feet by 45 feet.
Total rise, or lockage.....	15 $\frac{3}{4}$ feet.
Depth of water on sills.....	9 "
Breadth of canal at bottom.....	50 "
Breadth of canal at surface of water.....	90 "

From the head of Rapide Plat Canal to Iroquois, at the foot of the Galops Canal, the St. Lawrence is navigable for 4 $\frac{1}{2}$ miles. This canal enables vessels to overcome the rapids at Pointe aux Iroquois, Pointe Cardinal and the Galops.

The repairs have been of an ordinary character.

The water level of the St. Lawrence was high during the season of navigation.

From a statement furnished by the Superintendent of these canals and attached to his report (p. 105) it appears that the minimum depth of water reached during the past fiscal year was on the Rapide Plat Canal in January, 1884, when, at the head or guard lock of the canal, there was a depth of 5 feet 6 inches. The lowest point at which the water stood on this canal during the season of navigation was in November, 1883, when the height of water at the guard lock was 9 feet 3 inches.

NEW WORKS.

The enlargement and general improvement of the upper entrance of this canal has been commenced, the object being to afford better access for vessels. The work under contract is the excavation and deepening of a channel way at the upper end leading to deep water, so as to give a depth available for vessels of 14 feet draught.

GALOPS RAPIDS IMPROVEMENT.

The Galops Rapids, the most shallow of the three passed by the Galops Canal, are being improved, for purposes of navigation, by certain works of submarine blasting and dredging.

These works, commenced in 1880, consist of the excavation of a straight channel through the rapids, 3,300 feet long, 200 feet wide, and of such depth as to afford safe passage at low water to vessels of 14 feet draught.

The principal shoals to be excavated were those known as the "Island Shoal" and the "Lower Bar." The work of excavating the Island Shoal is now finished. Owing

to an accident, which temporarily disabled the drilling vessel, and to the necessity for repairs to the dredge, interruptions occurred in the season's work on the Lower Bar, which has otherwise been prosecuted steadily. (Appendix 6, p 130.)

WELLAND CANAL.

MAIN LINE, FROM PORT DALHOUSIE, LAKE ONTARIO, TO PORT COLBORNE, LAKE ERIE.

By the works of enlargement, passage is now afforded, at all stages of the Lake Erie level, to vessels drawing 12 feet of water, excepting at the point where the canal is carried by an aqueduct over the Chippewa River. Here the necessity of continuing to use the old work, pending the building of the enlarged aqueduct, renders care imperative, and the draught of vessels using their own motive power should not, at this point, exceed 11½ feet; the draught of vessels in tow, however, may be 12 feet. At periods of low water in Lake Erie, and especially during a continuance of strong easterly winds, the draught of all vessels, to enable them to pass freely through the present aqueduct, should not exceed 11½ feet.

	OLD LINE.	ENLARGED OR NEW LINE.
Length of canal.....	27½ miles.	26¾ miles.
Pairs of guard gates (formerly 3).....		2
Number of locks { lift	26	} lift 25
	1 guard.....		guard 1
Dimensions..... {	1 lock 270 x 45	} 270 feet x 45 feet.
	1 " 200 x 45	
	1 (tidal) 230 x 45	
	24 150 x 26½	
Total rise or lockage.....	326¾ feet.	326¾ feet.
Depth of water on sills.....	10¼ "	12 "

WELLAND RIVER BRANCHES.

Length of Canal—Port Robinson Cut to River Welland.....	2,622 feet.
" From the Canal at Welland to the river <i>via</i> lock at aqueduct.....	300 "
" Chippewa Cut to River Niagara	1,020 "
Number of locks—One at aqueduct and one at Port Robinson.....	2
Dimensions of locks.....	150 by 26½ feet.

Total lockage from the Canal at Welland down to River Welland.....	10 feet.
Depth of water on sills.....	9 " 10 inches.

GRAND RIVER FEEDER.

Length of canal.....	21 miles.
Number of locks.....	2
Dimensions of locks.....	{ 1 of 150 by 26½ feet. 1 of 200 by 45 "
Total rise, or lockage.....	7 to 8 feet.
Depth of water on sills.....	9 feet.

PORT MAITLAND BRANCH.

Length of canal.....	1¾ miles.
Number of locks.....	1
Dimensions of lock.....	185 by 45 feet.
Total rise, or lockage.....	7½ feet.
Depth of water on sills.....	11 " "

The Welland Canal has one entrance from Lake Ontario, at Port Dalhousie, serving for both the old and new canals, and two from Lake Erie, of which one is for the main line at Port Colborne, and one for the feeder route at Port Maitland; it has also an entrance from the River Niagara, at the town of Chippewa. The enlarged route lies between Port Dalhousie and Port Colborne.

From Port Dalhousie to Allanburgh, 11¾ miles, there are now two distinct lines of canal in operation, the old line and the enlarged, or new line.

From Allanburgh to Port Colborne, a distance of 15 miles, there is only one channel, the old canal having been enlarged.

The canals were closed on the 15th December, 1883, and re-opened on the 15th of May, 1884.

NEW CANAL.

The accidents of any importance of the year have been three—all on the new canal. The head gates of lock No. 5 were carried away by the propeller, "W. L. Frost." The propeller "Cuba" ran into the gates of lock No. 7, and the schooner "Prussia" displaced and injured the gates of lock No. 23.

The carrying trade are availing themselves of the enlargement of the canal, and a larger class of propellers has been placed on the route; others are being built.

The minimum depth of water at the entrance to the canal from Lake Erie, Port Colborne, during the past season of navigation was in September and November,

1883, the depth of water on the sill of the old lock being 12 feet, the depth on the sill of the new lock being 14 feet.

At Port Dalhousie, Lake Ontario, the minimum depth during the season was in November, 1883, being 13 feet 2 inches on the sill of the old lock, the depth on the sill of the new lock being 15 feet 4 inches. (See p. 122.)

Full details of the various repairs, renewals, &c., executed during the year, will be found in the report of the Superintendent. (App. 6, p. 106.)

OLD CANAL.

The necessary repairs and renewals of the year have been made, and the works, have been maintained in good condition. (App. 6, p. 115.)

A heavy spring freshet on the Grand River occurred, but no damage was done.

NEW WORKS.

The work of widening the section between Humberstone and Port Colborne, known as the "Rock Cutting," is now nearly completed.

Work at the aqueduct intended to carry the waters of the enlarged canal over the Chippewa or Welland River, has been steadily continued during the past year. The river now passes through the arches of the southern half of the work, and the cofferdams necessary in order to the construction of the northern half are well advanced.

The several contractors for the work of enlarging the canal have now all been finally settled with, except those for sections 1 and 35, and those for the work in progress, viz., sections 27 and 34, and the enlargement of old lock No. 2.

BURLINGTON BAY CANAL.

Length of canal.....	½ mile.
Average breadth between piers.....	138 feet.
Least " "	108 "

This canal is cut through the sand bar which separated Burlington Bay from Lake Ontario, and is navigable, without locks, for vessels drawing 10 feet of water. It gives access to the Port of Hamilton, and to the town of Dundas, *via* the Desjardins Canal.

The canal was closed on the 17th of December, 1883, and re-opened on the 15th of April, 1884. (See App. 6, p. 133.)

MONTREAL, OTTAWA AND KINGSTON.

This route extends from the harbour of Montreal to the Port of Kingston, passing through the Lachine Canal, the navigable sections of the lower River Ottawa and the Ottawa Canals, to the city of Ottawa, thence by the River Rideau and the Rideau Canal to Kingston, on Lake Ontario—a total distance of 245½ miles.

After leaving the Lachine Canal, the works constructed to overcome the difficulties of navigation are:—

The St. Anne's Lock ;
Carillon Canal ;
Grenville Canal ;
Rideau Canal.

The total lockage (not including that of the Lachine Canal), is 509 feet—(345 rise, 164 fall)—and the number of locks is 55.

The following table exhibits the intermediate distances from Montreal Harbour:—

Sections of Navigation.	Intermediate Distance.	Total distance from Montreal.
	miles.	miles.
The Lachine Canal.....	8½	.....
From Lachine to St. Anne's Lock.....	15	23½
St. Anne's Lock and Piers.....	1 8	23½
From St. Anne's Lock to Carillon Canal.....	27	50½
The Carillon Canal.....	3 4	51½
From Carillon Canal to Chute à Blondeau.....	4 4	56½
Chute à Blondeau Canal.....	1 8	56½
From Chute à Blondeau Canal to Grenville Canal.....	1 8	57½
The Grenville Canal.....	3 4	63½
From the Grenville Canal to entrance Rideau Navigation.....	56	119½
Rideau Navigation, ending at Kingston.....	126½	245½

ST. ANNE'S LOCK.

	Old lock.	New lock.
Length of canal.....	1½ mile.	1½ mile.
Number of locks.....	1	1
Dimensions of lock.....	190 by 45 feet.	200 by 45 feet.
Total rise, or lockage.....	3 feet.	3 feet.
Depth of water on sills.....	6 "	9 "

This work, with guide piers above and below, surmounts the St. Anne's Rapids between Ile Perrot and the head of the Island of Montreal, at the outlet of that portion of the River Ottawa which forms the Lake of Two Mountains, 23½ miles from Montreal Harbour.

This lock was closed to navigation on the 26th of November, 1883, and re-opened on the 26th of April, 1884.

Traffic throughout the season was uninterrupted.

Both the old and the new locks are available.

New piers, with booms, for the better guidance of vessels approaching the lock, have been placed at the upper entrance.

The work of straightening and deepening the channel above the new lock is in progress. It will probably be completed in the summer of 1885. The length of the improved channel will be 4,700 feet, the breadth at bottom 100 feet, and the depth, at lowest water, 10 feet. (App. 6, pp. 100-101.)

THE CARILLON CANAL.

Length of canal.....	$\frac{3}{4}$ mile.
Number of locks.....	2.
Dimensions of locks.....	200 by 45 feet.
Total rise, or lockage.....	16 feet.
Depth of water on sills.....	9 "
Breadth of canal at bottom.....	100 "
Breadth of canal at water surface.....	110 "

This canal overcomes the Carillon Rapids.

From St. Anne's Lock to the foot of the Carillon Canal there is a navigable stretch of 27 miles, through the Lake of Two Mountains and the River Ottawa.

The canal was closed on the 27th of November 1883, and re-opened on the 28th April, 1884.

No interruption to traffic has taken place.

The works comprise booms above the canal for the protection and guidance of descending vessels.

The breach which occurred in the summer of 1883, in the dam constructed across the River Ottawa, at Carillon, has been substantially repaired. The excavation made by the waters of the river undermining the structure, which originally caused the mischief, was increased by the rush of water through the breach, and extended to a depth of 30 feet below the natural bed of the river, by a width of 70 feet and a length up and down stream of 170 feet. The whole of this is now filled in with stone and crib-work to the level of the natural bed. The superstructure has also been filled with stone and securely fastened down.

For the greater safety of rafts, the entrance to the slide in the dam has been extended to a considerable distance up the river, by the construction of guide piers and booms.

By the construction of the Carillon dam the water at that point has been raised 9 feet. Above this point, for a distance of nearly 7 miles, as far as the foot of Grenville Canal, the level of the river has been raised, and, consequently, the depth of water on the lower sill of the entrance lock of that canal has been so increased that

the necessity of using the Chute à Blondeau Canal, situated between these points, is obviated. During times of very high water, however, the current at the Chute is so strong that an improvement in the channel would be advantageous. (App. 6, pp. 100, 102.)

CHUTE A BLONDEAU CANAL.

Length of canal.....	$\frac{1}{8}$ of a mile.
Number of locks.....	1
Dimensions of locks.....	130 $\frac{5}{8}$ ft. x 32 $\frac{5}{8}$ ft. at upper end and 36 $\frac{1}{2}$ feet at lower end.
Depth of water on sills.....	6 "
Breadth of canal at water surface.....	30 "
Breadth of canal at bottom.....	30 "

Between the Carillon and Chute à Blondeau Canals there is a navigable stretch of 4 miles. The canal is cut through solid rock, and has only one lock.

Since the construction of the Carillon dam, this canal has seldom been used.

GRENVILLE CANAL.

Length of canal.....	5 $\frac{3}{4}$ miles.
Number of locks.....	5
Dimensions of locks.....	200 feet x 45 feet.
Total rise, or lockage.....	43 $\frac{3}{4}$ "
Depth of water on sills.....	9 "
Breadth of canal at bottom.....	40 to 50 feet.
Breadth of canal at surface of water.....	50 to 80 "

From the head of the Chute à Blondeau Canal to the foot of the Grenville Canal, there is a navigable stretch of 1 $\frac{3}{8}$ miles.

This canal, by which the Long Sault Rapids are avoided, is about 56 miles below the city of Ottawa.

The canal was closed on the 27th of November, 1883, and re-opened on the 28th of April, 1884.

All necessary repairs have been carried out.

NEW WORKS.

The works for the enlargement of the canal, commenced in 1871, and completed in time for the opening of navigation in the spring of 1884, with the exception of some work at the Greece's Point entrance and some dredging at Grenville entrance comprise the construction of five locks 200 feet long and 45 feet wide, with 9 feet of water on the sills; the main channel having a depth of 10 feet and a mean width at

bottom of 40 feet, varying at the surface from 50 to 80 feet, with crossing basins constructed at approximate intervals of half a mile.

The old locks are now entirely obliterated. (App. 6, pp. 100, 102.)

UPPER OTTAWA RIVER.

CULBUTE LOCKS AND DAMS.

Number of locks.....	2
Dimension of locks.....	200 by 45 feet.
Total rise, or lockage.....	18 to 20 "
Depth of water on sills	6 "
Aggregate length of dams.....	625 "

From the Grenville Canal to the city of Ottawa, a distance of about 56 miles the river is navigable. Beyond the city, for a distance of 107 miles, to L'Islet or Culbute, continuous navigation is rendered impracticable by the undermentioned rapids—The Chaudière, the Du chône, the Chats, the Chenaux, the Portage du Fort and the Grand Calumet.

The Culbute works, situated at L'Islet, surmount the Culbute and L'Islet Rapids on the north channel of the Ottawa.

These works comprise two locks and three continuous dams, all built of wood. The dams reduce the rapids to smooth water, enabling the river to be navigated from the head of the locks to Des Joachims, a distance of 37 miles.

NEW WORKS.

To render the river navigable below the lock, as far as Bryson, it has been necessary to remove part of three shoals and to build two submerged dams.

All the work has been completed, opening up a navigable route of 80 miles, with a minimum depth of 7 feet at extreme low water, between Des Joachims and Bryson, making a total above and below Culbute of 117 miles. The removal of a small shoal above the locks at Culbute is in hand. (App. 6, pp. 101, 102.)

RIDEAU NAVIGATION.

The Rideau system connects the River Ottawa, at the city of Ottawa, with the eastern end of Lake Ontario, at Kingston.

Length of navigable waters.....	126 $\frac{1}{4}$ miles.
Number of locks going from Ottawa to Kingston. {	33 ascending.
	14 descending.

Total lockage.....	446 $\frac{1}{4}$	} 282 $\frac{1}{4}$ rise, and 164 fall.	} at high water.
Dimensions of locks.....					134 by 33 feet.
Depth of water on sills, 5 feet; navigable depth through the several reaches.....			4 $\frac{1}{2}$ feet.
Breadth of canal reaches at bottom.....		} 60 " in earth. 54 feet in rock.	
Breadth at surface of water.....				80 " in earth.

For table of distances of stations between Ottawa and Kingston, see Appendix 11, p. 156.

The summit level of this system is at Upper Lake Rideau, but several of the descending reaches are also supplied by waters which have been made tributary to them. The following description gives the sources of supply:—

From the summit, the route towards Ottawa follows the River Rideau, and that towards Kingston follows the River Cataraqui. The whole duty of keeping up the water to its proper level is effected by the reserves, given in detail below.

They may be divided into three systems, viz.:—

1. The summit level, supplied by the Lake Wolf system. 2. The eastern descending level to Ottawa, supplied by the River Tay system, discharging into Lake Rideau. 3. The south-west descending level to Kingston, supplied by the Mud Lake system, formerly known as the Devil Lake system, discharging into Lake Openacon.

Lake Openacon receives the waters of Buck Lake and Rock Lake.

All these waters on the descending level, supplemented by those of Lake Loughboro', flow into Cranberry Lake, which, discharging through Round Tail outlet, forms the River Cataraqui. This river, rendered navigable by dams at various points, affords a line of navigation to Kingston.

The navigation stopped at Kingston Mills on the 28th November, 1883, and recommenced on the 5th May, 1884.

At Ottawa, navigation stopped the 27th of November, 1883, and recommenced on the 1st May, 1884.

No delay to navigation occurred during the year.

The level of the water in the several reaches was, for the first time in twelve years, maintained up to the close of navigation, in 1883, at the full height required.

The damages caused by a severe storm in May, 1883, to the canal embankment at Kingston Mills, have been repaired.

All other necessary repairs were executed, and the other works throughout the canal, with the exception of the "Barrows" lock, are in good order. (App. 6, p. 123.)

Surveys were made during the past summer to test the feasibility of connecting the Rideau Canal waters with those descending to Gananoque, so as to afford navigation to that town; also of providing a water supply for the Rideau Canal system, by connecting a chain of lakes on the Mud Lake system, at the same time giving a navigable channel through these lakes to connect with the Rideau at Bedford Mills, Mud Lake.

TAY CANAL.

This canal, when completed, will be a branch of the Rideau Canal, affording communication between Beveridge's Bay, on Lake Rideau, and the town of Perth, a distance of about 6 miles. (App. 6, p. 125.)

The works, embracing the construction of a dam and two locks, 134 feet by 32 feet, with a depth, at the lowest stage of water, of 5 feet 6 inches, also the deepening of the channel of the River Tay, where required, are in progress.

RICHELIEU AND LAKE CHAMPLAIN.

This system, commencing at Sorel, at the confluence of the Rivers St. Lawrence and Richelieu, 46 miles below Montreal, extends along the River Richelieu through the St. Ours Lock to the Basin of Chambly, thence by the Chambly Canal to St. Johns and the River Richelieu, to Lake Champlain. The distance from Sorel to the boundary line is 81 miles.

At Whitehall, the southern end of Lake Champlain, the Champlain Canal is entered, and connection is obtained with the River Hudson, by which the city of New York is directly reached. From the boundary line to New York the distance is 330 miles.

The following table shows the distance between Sorel and New York:—

Sections of Navigation.	Intermediate distance in miles,	Total distances.
Sorel to St. Ours Lock.....	14	14
St. Ours Lock to Chambly Canal.....	32	46
Chambly Canal	12	58
Chambly Canal to Boundary Line.....	23	81
Boundary Line to Champlain Canal.....	111	192
Champlain Canal to Junction with Erie Canal.....	66	258
Erie Canal from Junction to Albany.....	7	265
Albany to New York.....	146	411

ST. OURS LOCK AND DAM.

Length of canal.....	$\frac{1}{8}$ mile.
Number of locks	1
Dimensions of lock.....	200 feet by 45 feet.
Total rise or lockage.....	5 "
Depth of water on sills.....	7 " at low water.
Length of dam in eastern channel.....	300 "
" " western channel.....	690 "

At St. Ours, fourteen miles from Sorel, the River Richelieu is divided by a small island into two channels. The St. Ours Lock is in the eastern channel.

There is a navigable depth of 7 feet between St. Ours Lock and Chambly Basin, a distance of thirty-two miles.

The lock was closed on the 29th November, 1883, and opened on the 7th April 1884.

For the adjustment of lock gates, it was found necessary to interrupt the navigation on three days, the total interruptions amounting to ten hours.

No repairs of moment were called for. (App: 6, p. 94.)

CHAMBLY CANAL.

Length of canal.....	12 miles.
Number of locks.....	9

Dimensions of locks : —

Guard Lock, No. 1, at St. Johns.....	122 feet by $22\frac{1}{2}$ feet.
Lift " " 2.....	124 " 23 "
" " " 3, 4, 5, 6.....	118 " $22\frac{1}{2}$ to 24 feet.
" " " 7, 8, 9 combined.....	125 " $22\frac{1}{2}$ to 23 "
Total rise or lockage.....	74 "
Depth of water on sills.....	7 "
Breadth of canal at bottom.....	36 "
" " surface of water.....	60 "

Succeeding the 32 miles of navigable water between St. Ours Lock and Chambly Basin—a natural reservoir formed by the expansion of the River Richelieu—is the Chambly Canal, which overcomes the rapids between Chambly and St. Johns, a distance of 12 miles.

This canal was closed to navigation on the 30th November, 1883, and was reopened on the 5th of May, 1884.

No accident or interruption to navigation occurred during the year.

The repairs and works of improvement of the year comprised the extension of the wharf at Chambly, the raising of the pier at St. Johns, and the rebuilding of certain of the lock walls. Both the canal itself and its entrance at St. Johns have been deepened by dredging; guide lights have also been placed in positions where needed. (App. 6, p. 93.)

ST. PETER'S CANAL, CAPE BRETON.

Length of canal.....	about 2,400 feet.
Breadth at water line.....	55 feet.
Lock.....	one tidal lock, 4 pairs of gates.
Dimensions	200 feet by 48 feet.
Depth of water on sills.....	18 feet at lowest water.
Depth through canal.....	19 feet.
Extreme rise and fall of tide in St. Peter's Bay	4 feet.

This canal connects St. Peter's Bay, on the southern side of Cape Breton, Nova Scotia, with the Bras d'Or Lakes. It crosses an isthmus half a mile in width, and gives access from the Atlantic.

Navigation was closed on the 2nd of January, 1884, and re-opened on the 16th of April, 1884.

The canal was maintained in good working order. A retaining wall on the eastern side of the canal is in course of construction, and certain shoals leading to the Bras d'Or were dredged. The traffic returns show the passage of 798 vessels bound north and 592 vessels bound south. (App. 6, p. 129.)

TRENT RIVER NAVIGATION.

The term "Trent River Navigation" is applied to a series of water stretches, which do not, however, form a connected system of navigation, and which, in their present condition, are efficient only for local use.

This series is composed of a chain of lakes and rivers extending from Trenton, at the mouth of the Trent on the Bay of Quinté, Lake Ontario, to Lake Huron.

Many years ago the utilizing of these waters for the purpose of through water communication between Lakes Huron and Ontario, was projected.

The course in contemplation was as follows:—

Through the River Trent, Rice Lake, the River Otonabee and Lakes Clear, Buckhorn, Chemong, Pigeon, Sturgeon, and Cameron to Lake Balsam, the summit water, about 166 miles from Trenton; from Lake Balsam by a canal and the River Talbot to Lake Simcoe; thence by the River Severn to Georgian Bay, Lake Huron, the total distance being about 235 miles.

The execution of this scheme, commenced in 1837, was subsequently deferred. By certain works, however, below specified, sections of these waters were made practicable for navigation and for the passage of timber. A branch of the main course, extending from Sturgeon Lake south, affords communication with the town of Lindsay, and, through Lake Scugog to Port Perry, a distance of 190 miles from Trenton. Of this distance, 155 miles are navigable for vessels of light draught.

The following table gives the distance of navigable and unnavigable reaches :

	Navigable.	Unnavigable.
	Miles.	Miles.
From Trenton, Bay of Quinté, to Nine Mile Rapids...		9
“ Nine Mile Rapids to Percy Landing.....	19½	
“ Percy Landing to Heeley’s Falls Dam.....		14¼
“ Heely’s Falls Dam to Peterboro’.....	51¾	
“ Peterboro’ to Lakefield.....		9½
“ Lakefield to Burleigh.....	12	
“ Burleigh Rapids.....		1
“ Burleigh Rapids to Buckhorn Rapids.....	7	
“ Buckhorn Rapids.....		1
“ Buckhorn Dam to Lindsay.....	36¼	
	-----	-----
	126½	34¾
“ Lindsay to Port Perry at the head of Lake Scugog	28¾	
	-----	-----
	155¼	34¾ miles.
Total distance, Bay of Quinté to Port Perry.....		190 miles.
Passing to Fenelon Falls the distance from Buckhorn Dam to Fenelon is.....		31½ “

The following is a list of the works :—

Chisholm’s Rapids.

The works here consist of a canal and lock, a dam and slide Distance from Trenton in miles. 15½

Percy Landing.

A retaining boom for saw logs 28½

Campbellford.

Guide booms..... 34¾

Middle Falls.

The work consists of 4 dams and 2 slides 37¾

<i>Crow Bay.</i>	
A retaining boom.....	38
<i>Heeley's Fall.</i>	
A dam and slide.....	42 $\frac{3}{4}$
<i>Crook's Rapids, Hastings.</i>	
The works consist of 1 lock, 1 dam and slide for timber.....	34 $\frac{5}{8}$
<i>Whitlas' Rapids.</i>	
The works, situated below Peterboro, consist of a lock, dam and canal.....	92 $\frac{1}{2}$
<i>Little Lake.</i>	
The works consist of 3 piers and 1 boom.....	94
<i>Burleigh.</i>	
Timber slides.....	101
<i>Buckhorn Rapids.</i>	
There is a dam at this point, which is important as keeping up the level of the water of the lakes west of it, as far as Bobcaygeon, including Lakes Pigeon, Ball, Buckhorn and Chemong.....	125
<i>Bobcaygeon.</i>	
There are two dams here with canal, lock and slide. These dams retain the waters of the reach as far as Fenelon Falls and Lindsay Lock.....	140 $\frac{3}{4}$
<i>Fenelon Falls.</i>	
A large slide and booms.....	155 $\frac{3}{4}$
<i>Lindsay.</i>	
The old lock, having become useless, was rebuilt by the Government of the Province of Ontario in 1879. Its dimensions are 134 x 33 feet, with 5 feet of water on the sills.	161 $\frac{1}{4}$
The navigation is, by this work, extended to Port Perry, Lake Seugog.....	190

The dimensions of the Dominion locks are 133 feet 6 inches x 33 feet, with 5 feet depth of water on the sills.

In 1855 portions of the above named works were transferred to a committee composed of persons connected with the lumber trade. The committee was authorized

rized to collect tolls on timber passing through. The works so transferred, at this date, were the slides and booms at Chisholm's Rapids, the retaining boom at Myersburg, the guide boom at Campbellford, the dams and slide booms at Middle Falls, the retaining boom at Crow Bay and the slide at Healey's Falls.

These works have been re-assumed by the Government, the committee of management having failed to carry out the conditions of the transfer.

The Lindsay lock was constructed by, and is under the control of, the Province of Ontario.

Navigation ceased on the 28th November, 1883, and re-opened about the 26th of March, 1884.

At Bobcaygeon the upper dam, which is in a condition of great decay, received such repair as was necessary for its preservation. This dam retains the waters of Sturgeon Lake at navigation height, and the maintenance of a work of sound character at this point is essential. (App. 6, p. 126).

NEW WORKS.

The new works for the improvement of the Trent Valley navigation, for the construction of which appropriations have been voted by Parliament, are at the following places:—Canals at Burleigh Rapids, Buckhorn Rapids, and Fenelon Falls: also dams at Lakefield and Young's Point. Their completion will give communication between Lakefield, $9\frac{1}{2}$ miles from Peterboro', and Balsam Lake, the headwaters of the system, opening up a total of about 150 miles of direct and lateral navigation.

At Lakefield, $9\frac{1}{2}$ miles from Peterborough, the existing dam, a private one, which maintains navigation on Lake Katchewanoe up to Young's Point, has been purchased from the owners, and the dam having been seriously damaged and rendered dangerous during the prevalence of the spring freshets in 1883, a new work is in course of construction.

At Young's Point, 5 miles from Lakefield, the dam between Lake Katchewanoe and Clear Lake, assumed by the Government, being in too dilapidated a state to admit of restoration, a new dam is being constructed.

At Burleigh Rapids, 10 miles from Young's Point, a canal is being constructed about $2\frac{1}{4}$ miles in length, passing the Burleigh and Lovesick Rapids, and giving communication between Stony Lake and Deer Bay. The work, comprising the construction of three lift-locks and certain dams, is in progress.

At Buckhorn Rapids, 7 miles from Burleigh Rapids, a canal about one-fourth of a mile long is being constructed, having one lift-lock. The masonry work is completed and is of a substantial character.

At Fenelon Falls, 32 miles from Buckhorn Rapids, a canal about one-third of a mile in length, connecting Sturgeon Lake with Cameron Lake, is being constructed. This canal will have two lift-locks. Good progress has been made, and it is expected that the whole will be completed by the end of the season of 1885.

In all the above named works the locks will be of the following dimensions :—

Length.....	134 feet.
Breadth.....	33 “
Depth on sill.....	5 “

(App. 6, p. 132.)

MURRAY CANAL.

This canal will extend through the Isthmus of Murray, giving connection westward between the headwaters of the Bay of Quinté and Lake Ontario.

The works on this canal, commenced under a contract given out in August, 1882, comprise a cut through the isthmus $4\frac{1}{2}$ miles long, and improvements to the entrance channels at either end; good progress has been made.

The canal will have a depth of 11 feet below the lowest known water level of the lake, and a width at the bottom of 80 feet. There are no locks.

Its western terminus in the harbour of Presqu'île, from which point to the entrance of the Welland Canal, the distance is about 120 miles. (App. 6, p. 130.)

I have the honour to be,

Your Excellency's most obedient servant,

J. H. POPE,

Acting Minister of Railways and Canals.

31st December, 1884.

APPENDICES.

APPENDIX No. I

STATEMENT showing the amount expended by the Department of Railways and Canals, Dominion of Canada, during the Fiscal Year ending 30th June, 1884.

Name of Work.	Construction.		Repairs.		Staff and Maintenance.	
	\$	cts.	\$	cts.	\$	cts.
CANALS.						
Lachine.....	189,034	41	19,683	24	48,624	51
Beauharnois.....	3,277	98	16,232	61	19,107	38
Cornwall.....	23,018	13	9,007	73	18,475	48
Williamsburg.....	2,473	44	7,349	37	7,757	04
St. Lawrence.....	89,846	03				
Welland.....	432,952	88	90,926	97	113,276	87
do cleaning ditches.....			5,039	64		
do steam pump.....			4,307	25		
do watchmen.....					8,889	52
do damages to vessels.....			35,541	83		
Burlington Bay.....	13,131	67	122	41	100	00
Ste Anne's.....	142,006	25	2,725	49	2,775	32
Carillon.....	231,569	83				
Grenville.....	167,697	33	7,918	42	17,393	91
Culbute.....	8,151	16			733	50
Rideau.....	4,597	50	19,245	02	26,938	95
Trent.....	120,643	91	5,264	35	2,208	64
do survey.....	6,198	57				
Murray.....	118,187	43				
St. Ours.....	5,279	87	1,494	99	2,315	37
Chambly.....	41,640	77	12,003	34	18,448	85
St. Peter's.....	2,471	40	367	85	2,601	47
Surveys.....	7,486	62			6,443	02
Arbitrations.....						
River Tay.....	50,878	12				
Dredge vessels.....			1,862	39		
Total on Canals.....	1,660,543	30	239,092	90	296,089	83
RAILWAYS.						
Pacific.....	3,963,054	00			327	02
do subsidy.....	7,254,208	27				
Surveys.....	11,313	08				
Statistics.....	943	50				
Intercolonial.....	1,514,979	10			2,344,579	09
do Windsor Branch.....					22,140	86
Prince Edward Island.....	130,663	38			236,428	13
Eastern Extension.....	1,284,311	97			10,033	77
Subsidies, general.....	208,000	00				
Bridge at Emerson.....	50,000	00				
Total on Railways.....	14,417,473	30			2,613,508	87
Total on Railways and Canals.....	16,078,016	60	239,092	90	2,909,598	70
Pacific Railway Loan Account.....	10,953,462	00				
St. John Bridge and railway extension.....	143,600	00				
Total.....	11,097,062	00				
Total Amount Expended.....					\$30,323,770	20

APPENDIX

STATEMENT showing the amount expended on the construction and the
(Repairs not

By whom Expenditure Incurred.	Year ending 30th June.	Lachine Canal.	Beauharnois Canal.
		\$ cts.	\$ cts.
Imperial Government.....	} Up to June 30, 1867 {	40,000 00	.....
Provincial Government.....		2,547,532 85	1,611,424 11
Dominion Gover	1868	1,852 70	7,008 00
do	1869	2,000 00	55 00
do	1870	.....	587 50
do	1871	12,231 40	187 00
do	1872	36,708 15	27 50
do	1873	42,982 49	5,280 90
do	1874	158,618 35	26 00
do	1875	197,420 52	36 00
do	1876	327,769 39	.....
do	1877	1,439,375 73	.....
do	1878	1,484,619 63	.....
do	1879	958,053 30	.....
do	1880	369,566 74	.....
do	1881	292,165 51	.....
do	1882	252,821 33	.....
do	1883	396,496 96	.....
do	1884	189,034 41	.....
Total.....	.....	8,749,249 46	1,624,632 01

No. 2.

enlargement of Canals of the Dominion of Canada, up to 30th June, 1884.
(included.)

Cornwall Canal.	St. Lawrence Canals. — Not Apportioned	Williamsburg Canals.	St. Lawrence. — Chain Vessel and Improvement of Navigation.	Surveys, St. Lawrence and Canals.	Welland Canal.
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
					222,220 00
1,933,152 69	116,821 31	1,320,655 54			7,416,019 83
2,786 00					12,097 84
10,692 04					43,486 36
17,780 05					24,173 72
7 50					47,869 10
10,000 21		1,077 00			59,702 76
1,011 75				35,326 44	130,158 47
				26,541 30	746,420 61
1,780 00				22,611 36	1,046,714 91
			28,500 00	21,715 47	1,570,178 19
49,211 37			28,064 67	19,312 64	2,199,962 61
145,015 45			1,623 76	3,946 70	2,138,392 99
143,092 05		4,580 00		4,685 77	1,552,697 41
109,454 95			623 52	8,591 04	1,252,924 75
53,948 14			6,927 98		1,242,943 37
44,587 61			28,933 45		603,403 17
21,728 93			44,874 31		550,240 36
23,018 13		2,473 44	89,816 03		432,952 88
2,567,266 87	116,821 31	1,328,785 98	229,393 70	142,730 72	21,292,558 33

APPENDIX

STATEMENT showing the amount expended on the construction and the
(Repairs not

By whom Expenditure Inc d.	Year ending 30th June.	Ste. Anne's Lock.	Carillon and Grenville Canals.	Culbute Lock.	Rideau Canal.
		\$ cts.	\$ cts.	\$ cts.	\$ cts.
Imperial Government.....	Up to June 30, 1867	.....	(*)	.....	3,911,701 47
Provincial Government.....		134,456 51	63,053 64	.....	153,062 60
Dominion Government.....	1868	.....	19,817 22	.....	7,593 67
do	1869	.....	.....	.....	.....
do	1870	.....	4,167 96	.....	.....
do	1871	.....	23,119 37	.....	11,732 88
do	1872	1,939 46	165,257 28	.....	4,967 50
do	1873	540 11	136,250 48	.....	18,070 97
do	1874	12,753 27	245,268 38	38,388 99	5,793 16
do	1875	32,627 71	339,864 76	63,659 29	9,310 85
do	1876	24,935 85	326,203 16	76,842 44	2,163 96
do	1877	30,003 08	245,708 04	56,081 87	214 11
do	1878	14,618 85	22,676 20	5,933 53	.....
do	1879	22,113 02	243,141 24	20,694 19	7,703 88
do	1880	3,054 68	281,514 27	16,688 20	355 05
do	1881	69,042 76	336,707 53	4,721 62	.....
do	1882	193,158 36	433,084 39	29,567 15	.....
do	1883	172,959 95	416,826 10	14,249 60	.....
do	1884	142,006 25	399,267 16	8,151 16	.....
Totals.....	.....	851,209 86	3,701,947 18	334,978 04	4,132,670 10

* Exp diture not given.

No. 2.—*Concluded.*enlargement of the Canals of the Dominion of Canada, &c.—*Concluded*
(*included.*)

Chambly Canal.	St. Peter's Canal.	Survey Baie Verte Canal.	Murray Canal.	Trent Canal.	Tay Canal.	Total.
\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.	\$ cts.
						4,173,921 47
643,711 76	88,949 39					16,028,840 23
	21,519 72					72,675 15
	70,719 80					126,953 20
	46,193 57					92,902 80
2,872 85						98,020 10
1,906 40						281,586 26
759 00		4,877 83				375,258 44
		4,018 90				1,237,818 96
2,415 00	20 97	443 00				1,716,904 37
	11,125 00	110 75				2,389,544 21
80 00	63,330 18	22 30				4,131,396 60
	26,511 51					3,843,338 62
	107,337 75					3,064,098 61
	80,120 54					2,122,893 74
	69,434 76	520 00				2,076,411 65
	484 00					1,586,038 46
			84,071 68	40,767 16	4,831 80	1,697,046 85
	2,471 40		118,187 43	120,643 91	50,878 12	1,578,930 32
651,745 01	588,218 59	9,992 78	202,259 11	161,411 07	55,709 92	46,694,580 04

APPENDIX No. 3.

CANADIAN PACIFIC RAILWAY.

OFFICE OF THE ENGINEER-IN-CHIEF.

OTTAWA, 1st October, 1884.

SIR,—I have the honor to report to you upon the progress made, up to this date, with the construction of the Canadian Pacific Railway.

Since the date of my last Annual Report (22nd September, 1883), I have made a tour of inspection of the works in progress on the entire line. I found a very large force of men and horses employed, and most satisfactory progress being made. The number of men engaged upon the work last summer may be stated to have been, in round numbers, not less than 25,000.

During the last Session of Parliament an Act was passed (47 Vic., cap. 1), granting to the Canadian Pacific Railway Company a loan of \$22,500,000, of which \$7,500,000 was to be paid to them to extinguish their then floating debt, and the balance as the work of construction proceeded, in the same proportion as is provided for the payment of the balance of the cash subsidy, the Government being first satisfied that the work is proceeding with such speed as to insure the completion of the contract for the eastern and central sections in the month of May, 1886.

All my monthly certificates of value of work done, since the passage of this Act, have been prepared in conformity therewith.

The amount available for prosecuting the work to completion, after discharging the floating debt, was:—

Loan.....	\$15,000,000
Subsidy.....	12,710,788
	<u>\$27,710,788</u>

At the time I made my estimate, during last winter, of the amount which would probably be required to complete the contract, and of the earliest date at which railway communication could be effected between Montreal and Port Moody, the information at my disposal was neither so full nor so complete as I could have desired. I have, therefore, all the greater pleasure in being able to state that the knowledge acquired during my official tour has convinced me that the funds at the company's command are fully adequate to the completion of the contract, and also, that connection from ocean to ocean will be effected by the autumn of next year, if the prosecution of the work proceeds with the same vigor as hitherto.

In order to render my description of the position and progress of the work more intelligible, I introduce here a table of distances between the principal points of the line:—

TABLE OF DISTANCES.

TRUNK LINE.

Montreal to Port Moody.

	Miles.	Miles.
Montreal to Callander.....	345	
Callander to Port Arthur.....	657	
Port Arthur to Red River (opposite Winnipeg).....	428	
Red River to Savona's Ferry	1,252	
Savona's Ferry to Port Moody.....	213	
		<u>2,895</u>

Branch Lines Acquired and Built.

St. Lin (St. Thérèse Junction to St. Lin).....	15	
St. Jérôme (St. Lin Junction to St. Jérôme).....	11	
St. Eustache.....	8	
Aylmer (Hull to Aylmer).....	7½	
Brockville.....	45½	
Perth.....	12	
Algoma.....	94¾	
Pembina (Emerson to Winnipeg).....	64½	
Colville Landing.....	2	
Selkirk.....	22	
Stonewall (Air Line Junction to Stonewall).....	18½	
Pembina Mountain.....	102½	
Gretna.....	14	
Emerson and West Lynn.....	15	
		<u>432¼</u>

Total acquired and built..... 3,327¼

In addition to the above, there are 60 miles of the extension of the Pembina Mountain Branch located, in readiness for construction.

Summary.

	Miles.
Trunk Line.....	2,895
Branches acquired and built.....	432¼
	<u>3,327¼</u>
Total.....	3,327¼
Branch located in readiness for construction.....	60
	<u>3,387¼</u>

POSITION AND PROGRESS OF THE WORK.

TRUNK LINE.

Montreal to Callander, 345 miles.

This was a section of constructed railway purchased by the Canadian Pacific Railway Company, and has been in successful operation for some time.

Callander to Port Arthur, 657 miles.

A very large force has been engaged upon this section, and the progress during the past twelve months has been very remarkable. It is upon this section—between a point somewhat east from Pic to Gravel Bay, about 100 miles—that such very heavy work occurs, consisting largely of rock excavation and tunnelling. There are five tunnels within this comparatively short distance.

I have much pleasure in stating that this heavy piece of work is practically finished, the road bed being ready, or thereabout, to receive the rails. The balance of this section is comparatively light, and is rapidly progressing, and I can foresee no difficulty in making rail connection between Callander and Port Arthur by May or June next. The position of the works on this section may be illustrated by the following table:—

						Miles.	
From Callander, 345th mile to 530th mile, track laid, ballasting well advanced						185	
"	"	530th	"	564th	"	grading far advanced	34
"	"	564th	"	654th	"	no work done	90
"	"	654th	"	681st	"	grading about half done	27
"	"	681st	"	800th	"	grading about two-thirds done	119
"	"	800th	"	808th	"	track laid	8
"	"	808th	"	820th	"	grading completed	12
"	"	820th	"	822nd	"	track laid	2
"	"	822nd	"	851st	"	grading nearly completed	29
"	"	851st	"	859th	"	track laid	8
"	"	859th	"	883rd	"	grading nearly completed	24
"	"	883rd	"	887th	"	track laid	4
"	"	887th	"	917th	"	grading completed	30
"	"	917th	"	932nd	"	track laid	15
"	"	932nd	"	935th	"	grading completed	3
"	"	935th	"	1,002nd	"	(Port Arthur) track laid and ballasting far advanced	67

Between Callander and Sudbury, 98 miles, the station houses, side tracks, and water service have been provided, and the road has been under traffic for some months. At Port Arthur, a grain elevator of 300,000 bushels capacity has been erected and provided with a wharf, on which tracks are laid. A very fine station house has also been built there.

Port Arthur to Red River (opposite Winnipeg), 428 Miles.

This section was constructed by the Government and transferred to the Canadian Pacific Railway Company in May, 1882, and has been operated by them since that date. When the Company accepted delivery of this section, a certain amount of work remained to be done before it was completed, and this they undertook to do for a sum specified. They have had during the past two seasons, and they still have, several steam shovels and a number of engines and cars employed in ballasting, making up embankments and filling in valleys crossed by temporary bridges. Only nine or ten of these bridges remain to be filled up, and this will probably be done, or nearly so, before the winter sets in. During the past summer there were heavy freshets causing slight delays to the traffic and undermining a temporary trestle bridge spanning a ravine, at which trains were employed by the Company in filling in earth to make a solid embankment. Until these embankments are made,

These temporary structures require careful and constant attention. The necessary renewals of bridges and sleepers have been made, and buildings suitable for the traffic, erected. At Fort William, the foundation of an immense elevator (1,000,000 bushels) has been laid, and the track extended down the river, beyond the Hudson Bay Post.

Red River to Savona's Ferry, 1,252 Miles.

During last month (September) I made a tour of inspection throughout this section. Both the Kicking Horse and the Selkirk Passes impressed me as being most wonderful openings in the two great mountain ranges. The Selkirk Pass especially struck me as affording an example of the operation of geological forces on a gigantic scale. In surveying this immense wilderness, broken up, as it is, with mountain masses, I fully appreciated the difficulties encountered by Major Rogers, who must have spent many a hard day in his search for a passage for the railway; and I felt that success could never have been achieved but for his skill, pluck, and determination to find a way through the Selkirks, if a way were to be found. Through the "Rockies" the work is not, on the whole, of such a character as the name would indicate, and I was much surprised to find long stretches of grading composed of gravel and loose rock, the solid rock work being generally limited to the cañons and to the shores of the lakes along which the line passes. There are a considerable number of tunnels between the summit of the Kicking Horse Pass and Savona's Ferry, the aggregate length of which may be summed up at 7,600 feet. Those to the east of the Beaver River, at the east foot of the Selkirks, are completed or nearly so, and work will be continued during the winter on the rest, so as to have them finished by next spring. The bridging, except at the crossing of the Saskatchewan River and the west crossing of the Columbia River, is light. Over both these streams structures of some magnitude are required. That over the former is completed, consisting of a very substantial iron superstructure resting on abutments and piers of massive masonry.

The following statement will afford a pretty correct idea of the position of the works on this section:—

		Miles.
Red River (1,430 miles)	to 2,428 miles, track is laid	998
2,428 "	to 2,468 " grading will soon be finished.....	40
2,468 "	to 2,507 " clearing and grading just commenced	39
2,507 "	to 2,607 " no work done.....	100
2,607 "	to 2,627 " clearing and grading just commenced....	20
2,627 "	to 2,682 " (Savona's Ferry) grading progressing rapidly	55

From Red River to the summit of Kicking Horse Pass, 962 miles, the stations, water services and sidings are complete, and engine sheds and other necessary buildings are erected at intervals suitable for traffic districts. Houses for section men have also been built.

This part of the section is in operation and in good running condition.

Early in the summer there was an exceedingly severe rain storm in the Bow River District, which, from the description given me, I should suppose to have been of the nature of a waterspout. This caused considerable damage to the works, and delayed the traffic for some days; but the damage was promptly repaired and traffic resumed.

Temporary Line.

Between a point about 4 miles west from the Summit of the Kicking Horse Pass, and another point 9 miles further, a tunnel 1,800 feet long, and some very heavy rock excavation occur, which were intended to be the first work attacked on the opening of the working season last spring. To have proceeded with this, however, would have greatly retarded the progress of the work through to the Pacific coast, as the completion of this portion of road would have probably occupied a full season, during which the work beyond it could not have been carried on to advantage. A temporary line of 9 miles was, therefore, suggested, passing round the foot of the mountain, in order to avoid this obstacle for the time being, and to permit the rapid progress of the line to the westward during the present season. This suggestion was adopted, and a substantial temporary line has been built, giving access to the work beyond. On this temporary line, for the space of about 3 miles, there is a very heavy grade. The temporary line will be replaced by a permanent line, upon which the maximum grade will be 116 feet to the mile; and it is over this grade that all material and supplies for the construction of the road westward to Savona's Ferry are now transported, which can be done by means of proper engines, with suitable brake appliances.

Savona's Ferry to Port Moody, 213 miles.

The grading, bridging, track laying and ballasting upon this section are being executed by Messrs. D. O. Mills and Andrew Onderdonk, under contracts with the Government. The work is far advanced towards completion, the track being laid from the Black Canon to Port Moody, a distance of 186 miles, and in the course of a few weeks the track laying will be finished over the entire section. There will however, still remain to be done some ballasting, some rock-facing to embankments exposed to the wash from the Fraser River, and a considerable amount of general trimming up, before the section can be accepted from the contractors as finished. This, however, it is confidently believed, will all be completed by the 30th June next, the date specified by the contract for the completion of the works, when this section will, no doubt, be transferred to the Canadian Pacific Railway Company, under the terms of their contract. The Government have yet to erect some water tanks and buildings before the section will be in a condition to be transferred to the company; but preparations are being made with a view to the erection of these buildings, at a period not later than the date when the work under the grading contracts will be completed.

The condition of the railway may be summarized thus:—

<i>Trunk Line.</i>		Miles.
Track laid.....	.....	2,246
Grading far advanced on.....	.....	459
No work yet done on.....	.....	190
		2,895

Near Lytton, the Fraser River is spanned by a very substantial combined steel and iron cantilever bridge, of two spans of 100 feet each, and one span of 300 feet, resting on piers and abutments of masonry, built on a solid rock foundation, the track being at an elevation of about 125 feet above the level of the river. This structure, which presents a very handsome appearance, was manufactured and erected under the immediate supervision of Mr. Joseph Tomlinson, Bridge Engineer to this Department, and is probably the most important of its kind on the railway.

The two front rows of wooden piles in the wharf at Port Moody should be replaced by piles of iron or some other material equally proof against the ravages of the sea-worm, which is so destructive to timber on the British Columbia coast. This wharf can be approached by vessels of great draft, and is sufficiently spacious for the conduct of a very considerable ocean traffic.

The sections which the Government undertook to construct, under their contract with the Canadian Pacific Railway Company, are now so nearly completed as to necessitate a large reduction in the staff of Government engineers and others; and within a few months the entire staff engaged on these sections will have to be disbanded.

Alignments and Gradients.

The general direction of the road is very good upon the acquired portion of the line between Montreal and Callander, a distance of 345 miles, the maximum gradient is 72 feet per mile. Between Callander and Laggan, some 6 miles to the east of the Kicking Horse Pass, a distance of 2,039 miles, the heaviest grade is 53 feet per mile. Between Laggan and a point 30 miles west of the summit of the Selkirks, a distance of 131 miles, the maximum grade is 116 feet per mile, and this occurs on three inclines only, all coming within a distance of 120 miles, so that they can be worked with great facility. Between 20 miles east of the summit of the Selkirks and Savona's Ferry, a distance of 167 miles, the maximum grade is 66 feet per mile. From Savona's Ferry to Port Moody, 213 miles, the maximum grade is 53 feet per mile.

Branch Lines.

In my report of last year, I stated that the following branches were completed:—

	Miles.
St. Lin	15
St. Jérôme	11
St. Eustache.....	8
Aylmer.....	7 $\frac{1}{2}$
Brockville	45 $\frac{1}{2}$
Perth.....	12
Pembina	64 $\frac{1}{2}$
Colville Landing.....	2
Selkirk	22
Stonewall	18 $\frac{1}{2}$
Pembina Mountain.....	102 $\frac{1}{2}$
Gretna.....	14
	<hr/>
	322 $\frac{1}{2}$

At this time last year the following branches were under construction:—

Algoma Branch, 94 $\frac{3}{4}$ miles.

This branch leaves the trunk line at Sudbury Junction (98 miles west of Callander), and runs down to Algoma Mills, on Georgian Bay. The work of construction has been prosecuted during the summer just past. The track is laid and partially ballasted, but is not yet open for traffic.

Emerson and West Lynn Branch, 15 miles.

This branch is a link of the Pembina Mountain Branch, which it leaves about 14 miles north of Gretna, and runs to Emerson. The track is laid; but I understand

that, owing to some difficulty in connection with the crossing of the bridge over the Red River, built by the town of Emerson aided by a Dominion Government subsidy of \$50,000, some delay has occurred in opening the branch for traffic.

I may here remark that the work is well executed, and the structures of their several kinds are well and substantially built. The materials composing them are sound and good. The rails are of steel, generally 56 and 60 lbs. to the yard, except through the Rocky Mountains, where a 70-lbs. steel rail is used.

The rolling stock of the Canadian Pacific Railway consists of:—

- 245 engines.
- 78 first-class cars.
- 33 second class cars.
- 48 baggage and mail cars.
- 25 dining, sleeping and palace cars.
- 10 emigrant sleeping cars.
- 4,386 platform freight cars.
- 1,867 box and cattle cars.
- 126 conductors' vans, pay cars, &c.
- 8 derricks and coal cars.
- 19 snow ploughs.

In conclusion, I may state that in view of the advanced condition of the works and the progress made with them during the last three years, I am convinced that it is quite possible that the track may be laid over the entire road by this time next year. Mr. Van Horne, the Company's Vice-President, has expressed to me his intention of accomplishing this, and from his great energy and determination of character, I have every confidence that he will do so.

I have the honor to be, Sir,
Your obedient servant,

COLLINGWOOD SCHREIBER,
Engineer in Chief.

APPENDIX No. 4.

CANADIAN GOVERNMENT RAILWAYS.

OFFICE OF THE CHIEF ENGINEER AND GENERAL MANAGER.

OTTAWA, 1st November, 1884.

	Miles.
Intercolonial Railway - - - - -	847
Eastern Extension Railway - - - - -	80
Prince Edward Island Railway - - - - -	199
Windsor Branch Railway - - - - -	32
	<u>1158</u>

SIR,—I have the honor to submit to you the reports and accounts in connection with the operation of the railways under my charge, for the year ended the 30th June, 1884. These railways now comprise, in the aggregate, 1158 miles, an increase over the figures of the preceding year of 87 miles. Of this mileage, 1071 miles have been operated by the Government for the entire twelve months, the Eastern Extension Railway, 80 miles in length, for five months and twenty-three days, and the Dalhousie Branch, 7 miles in length and forming part of the Intercolonial Railway system, for seven days only.

I trust that the operation of these railways during the year under consideration may, under all the circumstances, be considered satisfactory on the whole.

The following summary statement will show the results of the year's business on the Government railways:

Name of Railway.	Mileage.	—	Amount.	Profit.	Loss.
			\$ cts.	\$ cts.	\$ cts.
Intercolonial.....	847	Earnings	2,353,647 26		
		Expenses	2,344,579 09	9,068 17	
Eastern Extension..	80	Earnings	30,767 66		
		Expenses	32,854 53		2,086 87
Prince Edward Island.....	199	Earnings	144,504 12		
		Expenses	236,428 13		91,924 01
Windsor Branch.....	32	Earnings	23,018 93		
		Expenses	22,140 86	878 07	
Total				9,946 24	94,010 88 9,946 24
Loss					84,064 64
Less disbursements in connection with accident in 1880 ..					16,073 45
Net Loss					67,991 19

INTERCOLONIAL RAILWAY.

As the Dalhousie Branch (7 miles) was opened for traffic on the 25th June only, or within seven days of the close of the fiscal year, the mileage of the preceding year, 1071 miles, must be taken as the basis in comparing the results of the two years traffic.

Although the net earnings for the year (\$9,068.17) are less than those of the preceding year by \$1479.66, it has been only by the most careful watchfulness on the part of the officers of the railway, that a result even so favorable has been secured. The working expenses having been debited with the sum of \$63,098.25, expended during the year in rebuilding the Moncton offices, destroyed by fire in February, 1883, every effort had to be made to give effect to the policy of economy laid down by the Honorable Minister.

The gross earnings are also slightly below those of 1882-3, but they are nevertheless, in my opinion, fairly satisfactory when the depressed state of the carrying trade is considered. It must also be observed that the volume of traffic, both passenger and freight, exceeds that of any year heretofore. The decrease in the receipts therefore merely testifies to the Honorable Minister's desire to assist the industry of the country, and may be taken as a measure of the benefit conferred, by the low rates granted, upon her trade and manufactures.

The earnings of the past five years were:—

1879-80	-	-	-	-	-	-	\$1,506,298 48
1880-81	-	-	-	-	-	-	1,760,393 92
1881-82	-	-	-	-	-	-	2,079,262 66
1882-83	-	-	-	-	-	-	2,370,921 10
1883-84	-	-	-	-	-	-	2,353,647 26

The tons of freight carried were:—

1879-80	-	-	-	-	-	-	561,924 00
1880-81	-	-	-	-	-	-	725 577 00
1881-82	-	-	-	-	-	-	838,956 00
1882-83	-	-	-	-	-	-	970,961 00
1883-84	-	-	-	-	-	-	1,001,163 00

The number of passengers carried was:—

1879 80	-	-	-	-	-	-	581,483
1880-81	-	-	-	-	-	-	631,245
1881-82	-	-	-	-	-	-	779,994
1882-83	-	-	-	-	-	-	878,600
1883 84	-	-	-	-	-	-	920,870

This steady increase of the volume of traffic of course necessitates a corresponding increase, from year to year, in the rolling stock, in order to give prompt despatch to the business.

The following is a statement of rolling stock purchased on capital account up to the 30th June, 1879, with additions made in each subsequent year.

Rolling Stock.

	Engines.	Passenger Train Stock.			Conductors' Vans.	Box Cars.	Platform Cars.	Coal Cars, Capacity in tons.	Snow Ploughs.	Wing Ploughs.	Flangers.
		1st Class.	2nd Class.	Baggage, Mail, &c.							
	No.	No.	No.	No.	No.	No.	Tons.	No.	No.	No.	
Total, 30th June, 1879.....	100	46	34	33	34	1,162	1,028	4,500	27	9	4
Additions in 1879-80.....			2		2		18				
do 1880-81.....	12	2	2		3	68	72		1		14
do 1881-82.....	3	3	3	2	6	249	43	6,500			
do 1882-83.....	20	1	10		6	20	210	8,200			
do 1883-84.....	28	16	24	12		30	70		2	1	2
Totals.....	163	68	75	47	51	1,529	1,441	19,200	30	10	20

Since the 30th June, 1879, rolling stock has been built as follows, to maintain the stock, and charged to working expenses :

	Engines.	Passenger Stock.			Conductors' Vans.	Box Cars.	Platform Cars.	Coal Cars, Capacity in tons.	Snow Ploughs.	Wing Ploughs.	Flangers.
		1st Class.	2nd Class.	Baggage, Mail, &c.							
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	
1879-80.....	7		2			4	21	180			
1880-81.....	6				4	31	31	540			
1881-82.....	4					9	56	440			
1882-83.....	4		2			20	50	165			
1883-84.....	4		1	1		12	66				
Totals.....	25		5	1	4	76	224	1,325			

The road and rolling stock are in a high state of efficiency. The permanent way is being improved year by year by the introduction of a 67-lb. per yard steel rail in place of the 56-lb. rail hitherto in use, as the lighter rail wears out, while the distance between the sleepers has been reduced from 2 ft., 6 in. to 2 ft. from centre to centre, making a much more solid road.

Many improvements, extensions and additions have been made all along the line, the cost of which has entered into the accounts for operation, but which are certainly not works of ordinary maintenance.

The ocean-borne traffic through the port of Halifax was conducted very successfully during last winter, the facilities for handling freight at the ocean terminus being now such as to permit of the rapid despatch of business.

The increased accommodation provided at St. John has given great satisfaction, as it affords a much more systematic and rapid despatch of business than in the past.

Full information as to the operation of the Intercolonial Railway may be obtained from the reports of the Chief Superintendent, the Chief Engineer, and the Mechanical Superintendent, together with the accounts, all of which are appended hereto.

CAPITAL ACCOUNT.

Halifax Extension.

The expenditure during the year under this heading covered the following works among others: Removing boulders and dredging at the deep water wharf, building the dockyard wall and cribwork, the erection of an oil shed, and the construction of the approach to the North street bridge.

Increased Accommodation at St. John.

Great progress has been made with these improvements. A bonded warehouse, freight and flour sheds, have been erected, and the yard remodelled. At the close of the fiscal year some progress had been made with the construction of a loading platform, and a brick train shed 500 feet in length by 80 feet in width, roofed with iron and having two large baggage rooms adjoining, was nearly completed. A head house, brick with stone facing, was also in course of erection, at the head of the train shed and connected with it. This building contains the waiting rooms, ticket office, dining hall, Station Master's and other offices, the second floor being arranged as a residence for the Station Master. The building will present a very neat appearance when completed. The approach to the station yard has also being improved by the reduction of the heavy grade formerly existing.

Repairs and Improvements, Rivière du Loup Branch.

The small amount under this heading, \$335.13, was paid in settlement of land damages and legal expenses.

Completion of the Intercolonial Railway.

The expenditure in this connection is in settlement of old claims arising from the original construction of the railway under the Commissioners.

Rolling Stock.

As I stated in my report of last year, the traffic of the railway very heavily taxed the rolling stock, so much so that it has been found necessary to make very considerable additions to it in order to keep pace with the business, and to ensure the satisfactory despatch of the same. The following stock has, therefore, been added during the year, at a cost of \$586,386.84 :—

Engines.	28
First-class cars.	16
Second class cars.	24
Baggage, postal, &c.	12
Box cars.	30
Platform cars.	70
Snow ploughs.	3
Wing ploughs.	1
Flangers.	2

The stock of coal cars at the close of the year was still inadequate to the business, and an additional number of Conductor's vans was also required.

St. Charles Branch.

The work upon this branch was diligently prosecuted throughout the year, and was sufficiently advanced at the end of the year to ensure its being opened for traffic early in July. A considerable amount of work, however, remained to be done in filling up the pond at Point Lévis, and laying the track over the same, as well as in erecting station buildings and freight shed, and a coal wharf. A large sum has been paid for land and damages, and many claims are still unsettled, the amounts tendered having been refused and the claims referred to the Official Arbitrators.

Dartmouth Branch.

At the close of the year the work was not in a very forward state on this branch, much delay having arisen from difficulties in coming to terms with owners of property along the line, whose demands were considered exorbitant. The construction of the bridge over the "Narrows" was in progress, the timber work having been undertaken by Mr. M. J. Hogan, of Quebec, the masonry by Mr. Waddell, of Dartmouth, and the iron superstructure by the Star Manufactory, of the same town.

Dalhousie Branch.

The work on this branch was sufficiently advanced on the 23rd June to admit of its being opened for traffic, but the cutting and embankments still required trimming, the ballasting and the wharf were still to be completed, and a freight house to be erected.

Rivière du Loup Town Branch.

The grading on this branch was in a forward state, and the track was laid for a short distance, but no ballasting had been done, and the bridge over the Point Creek yet remained to be built.

Indiantown Branch.

The surveys upon this branch had been commenced before the close of the fiscal year, but the location was not completed.

Eastern Extension Railway.

This railway connects with the Intercolonial at New Glasgow on the Pictou Branch, and extends eastward to Port Mulgrave on the Strait of Canso, passing through the town of Antigonish. It is 80 miles in length, and forms an important link in connection with the Intercolonial system, as it taps the Cape Breton business, formerly borne by water. The road was built by the Halifax and Cape Breton Railway Company, and the section between New Glasgow and Antigonish, 40 miles, was opened in September, 1879, that between Antigonish and the Strait of Canso, also 40 miles, being opened in December, 1880. From these dates the road was operated by the company until its purchase by the Nova Scotia Government in the spring of 1883. On the 9th January, 1884, the Federal Government purchased from the Provincial Government, the railway, together with their rights in the Pictou Branch of the Intercolonial Railway. The road was operated by the Provincial Government during the time when it belonged to the Province, and by the Federal Government from the 9th January to the 30th June. As previously stated, the working expenses during that period were \$32,854.53, and the earnings \$30,767.66, the loss being therefore \$2,086.87. It may be expected that the results will be more favorable in future years, as the line can be much more economically managed as part of the Intercolonial system. A considerable saving should result from the reorganization of the staff, and the traffic will probably develop year by year under

the new conditions. The rolling stock consists of 9 engines, 6 first-class cars, 4 second class cars, 6 baggage and smoking cars, 2 conductors vans 30 box cars, 70 platform cars, 150 hopper coal cars, 1 snow plough.

Windsor Branch Railway.

This railway is maintained by the Government, and operated by the Windsor and Annapolis Railway Company, upon the same conditions as in former years, the company retaining two-thirds of the gross receipts, and paying the remaining third to the Government in consideration of maintenance, the cost of which it is found sufficient to cover. The road is reported by the General Superintendent and Chief Engineer to be in good working order, and a personal inspection, which I made within the last few months, enables me to verify their statement.

Prince Edward Island Railway.

No improvement appears in the traffic of this railway during the last fiscal year, the gross earnings having been, in fact, slightly below those of the year 1882-83, and until the country is much more thickly settled than at present, no material improvement can, I fear, be looked for. During the greater part of the year the business is very small, the regular trains running very light. It is only during the autumn months, while the movement of the crops continues, that any considerable amount of traffic offers, and for about six weeks at this season, the rolling stock, almost idle for the rest of the year, is taxed to its utmost capacity. The earnings were \$144,504.12, against \$146,170.42 in 1882-3, showing a decrease of \$1,666.30. The working expenses, though still heavy, were less than during the previous year, having been:—

Gross working expenses	\$236,428.13
Less indemnity in connection with accident in 1880	16,073.45
	<u>—————</u> \$220,354.68

While in the previous year they were:—

Gross working expenses	\$252,808.41
Less indemnity in connection with accident in 1880	9,941.45
	<u>—————</u> \$242,866.96

Decrease —————\$22,512.28

The actual results of the year's operations were therefore:—

Earnings	\$144,504.12
Expenses	220,354.68
	<u>—————</u>
Loss on the year's operations	<u><u>—————</u>\$75,850.56</u>

This result is far from being so satisfactory as could be wished, but the field of operation is so very limited that there is no room for a more vigorous canvass for business. I therefore, as I explained before, have no hope of any material increase in the earnings, but I trust that a better exhibit may be made in future, as regards expenditure, and that the two sides of the account may be more equal.

The permanent way and road-bed were never before in such fine condition, and the same may be said of the rolling stock, with the exception of the original freight cars, which are falling to pieces from age, and are being rapidly got rid of.

It is proposed to rebuild forty-eight box cars and ten platform cars during the current fiscal year, and thirty-two box cars and twenty platform cars in 1885-6.

This will bring the rolling stock to an adequate figure, and the cost of working the Mechanical Department should then be very light.

The rolling stock consists of—

Engines	20
1st class cars	16
2nd do	14
Postal and smoking cars	3
Box and cattle cars	175
Platform cars	125
Conductors' vans	3
Paymasters' cars	1
Snow ploughs	7
Flangers	6

Of the above stock, the following were re-built during the year: twenty box cars, ten flat cars, one snow plough.

CAPITAL ACCOUNT.

Rolling Stock.

The following rolling stock has been built during the year: two first-class and two second-class passenger cars, and one postal car. The passenger cars were required for excursion purposes during the summer season, and the postal car in connection with the winter mail service across the Straits.

Cape Traverse Branch.

This branch connects with the Prince Edward Island Railway at County Lincoln Station, and runs in a southerly direction to Cape Traverse, on the Northumberland Strait, where the ice boats land in winter, a distance of 13 miles. From that point to Cape Tormentine, on the mainland, the distance is 9 miles. A line is now under course of construction by the New Brunswick and Prince Edward Island Railway Company to connect Cape Tormentine with the Intercolonial Railway at Sackville, and when this line and the Cape Traverse Branch are finished, and a steamer put on the route between the two capes, travel between the mainland and Prince Edward Island will be materially accelerated.

The grading and bridging are in a forward state. Some of the track is laid, and the work will probably be completed before the winter sets in. The expenditure during the year upon this branch was \$120,745.94.

I have the honour to be, Sir,
Your obedient servant,

COLLINGWOOD SCHREIBER,
Chief Engineer, General Manager.

INTERCOLONIAL RAILWAY.

OFFICE OF THE CHIEF SUPERINTENDENT,
MONCTON, N.B., 5th November, 1884.

COLLINGWOOD SCHREIBER, Esq.,
Chief Engineer and General Manager Government Railways,
Ottawa.

SIR,—I have the honour to submit the following Report upon the working of the Intercolonial Railway for the fiscal year which ended 30th June, 1884.

I enclose the reports of the Chief Engineer and the Mechanical Superintendent, and also the following statements prepared by the Chief Accountant and Treasurer:—

- | | |
|---|-------------------|
| No. 1. Capital account. | |
| " 2. Revenue account. | |
| " 3. Locomotive power | (Abstract No. 1). |
| " 4. Car expenses, | (" " 2). |
| " 5. Maintenance of way and works | (" " 3). |
| " 6. Station expenses | (" " 4). |
| " 7. General charges | (" " 5). |
| " 8. General stores account. | |
| " 9. General balance. | |
| " 10. Comparative statement of damages. | |

The length of railway in operation during the year was the same as last year—840 miles.

On the 23rd June, seven days before the close of the year, the branch line, 7 miles in length, to the town of Dalhousie, N.B., was opened for traffic.

The length of railway on the 30th June, 1884, was, therefore, 847 miles.

CAPITAL ACCOUNT.

The total cost of road and equipment on 30th June, 1883, was, according to last years report . . .	\$ 41,176,654 19
Deduct refunds on account of previous years expenditures.	109,401 58
	<u> </u> \$ 41,067,252.61

The additions during the year were as follows:—

For Halifax extension	47,671 45
" Increased accommodation at St. John,	139,432 00
" Repairs and improvements, Rivière Du Loup Line	835 13
" The completion of the Intercolonial Railway	388,740 34
" Rolling stock	586,386 84
" The St. Charles Branch	259,054 96
" " Dartmouth Branch	14,470 77
" " Dalhousie Branch	67,157 76
" " Rivière Du Loup Town Branch	10,748 35
" " Indiantown Branch	384 00
" " Miscellaneous works	97 50
	<u> </u> \$ 1,514,979 10

Making the total cost to the 30th June, 1884	<u> </u> \$ 42,582,231 71
--	--

The deduction made in this year's accounts from the cost of the railway, on the 30th June, 1883, was made by direction of the Auditor General.

The amount deducted consists mainly of cheques issued to pay for land taken for the St. Charles Branch and other works. The persons in whose favor these cheques were drawn having refused the amounts offered them, their claims were referred to the Dominion Arbitrators and the cheques were cancelled.

The expenditure at Halifax was for the completion of the improvements undertaken at that place.

At St. John, arrangements were made for improving and increasing the accommodation for passenger traffic. The erection of a new station house was commenced and the train shed belonging to it was completed and put into use.

The amount for completion of the Intercolonial consists of payments on account of claims in connection with the construction of the line between Rivière Du Loup and Truro, under the Commissioners, and of the legal and other expenses of settling the same.

Work on the St. Charles Branch was continued, but it was not completed during the year.

The Dartmouth Branch was commenced a short time before the close of the year.

The Dalhousie Branch was so far completed that trains could be run over it with safety, and it was therefore opened for traffic in the month of June.

The work of grading the Rivière du Loup Town Branch was commenced and some progress was made.

REVENUE ACCOUNT.

This account again shows an excess of earnings over expenditure, the net earnings being about the same as last year.

The gross earnings of the year were	\$2,353,647.26
The working expenses were	2,344,579.09

Net earnings \$ 9,068 17

The following shows the net earnings for each of the following years:—

	Net Earnings.
1880-81—Gross earnings	\$1,760,393 92
Expenses	1,759,851 27
	\$ 542.65
1881-82—Gross earnings	\$2,079,262 66
Expenses	2,069,657 48
	9,605.18
1882-83—Gross earnings	2,370,921 10
Expenses	2,360,373 27
	10,547.83
1883-84—Gross earnings	2,353,647 26
Expenses	2,344,579 09
	9,068.17

Total Net earnings for four years \$29,763.83

The gross earnings show a slight decrease when compared with last year, as follows:—

	Gross Earnings.
1882-83	\$2,370,921.10
1883-84	2,353,647.26
Decrease	\$ 17,273.84

The earnings per mile of railway compares with last year as follows:—

	Earnings per mile of railways.	Decrease.
1882-83	\$2,822 52	
1883-84	2,801 96	
		\$20 56

The following is a comparative statement of a few of the chief articles of freight, showing the quantity carried in this and in the previous year:—

	1882-83.	1883-1884.	Increase.	Decrease.
Barrels flour.	983,916	815,641		168,275
Bushels grain.	1,195,601	654,635		540,966
Lumber, in feet.	104,633,417	131,120,948	26,487,531	
Head of live stock.. . . .	68,338	62,090		6,248
Other goods, in tons	704,608	729,923	25,315	

The following shows the quantity of each of the above articles carried each year, for five years:—

	1879-80.	1880-81.	1881-82.	1882-83.	1883-84.
Barrels flour.	525,248	672,310	692,095	983,916	815,641
Bushels grain.	324,021	565,678	560,253	1,195,601	654,635
Lumber, in feet.	55,462,654	72,841,388	78,356,418	104,633,417	131,120,948
Head of live stock..	70,990	61,574	73,479	68,338	62,090
Other goods in tons.	422,256	544,354	647,561	704,608	729,923

The gross tonnage carried—

In 1883-84 was	1,001,163 tons.
In 1882-83 was	970,961 "

An increase of 30,202 "

It will be seen by the above that while there has been a decrease in flour, grain and live stock carried, there has been a large increase in lumber, and the gross tonnage carried has also increased.

The number of passengers carried was—

In 1883-84	920,870
In 1882-83	878,600
Increase	42,270

EXPENDITURE.

The working expenses have decreased slightly as compared with last year.

1882-83	\$2,360,373.27
1883-84	2,344,579.09
Increase	15,794.18

The Engine, train and car mileage compares with last year, as follows:—

The engine mileage was—

	Miles.
In 1883-84	4,407,655
In 1882-83	4,406,189
Increase	1,466

The train mileage was—

In 1883-84	3,653,961
In 1882-83	3,615,192
Increase	38,769

The car mileage was—

In 1883-84	41,741,080
In 1882-83	41,526,553
Increase	214,527

The working expenses per mile of railway, and per mile run by engines and trains, compare as follows with last year, showing in each case a decrease: —

Per mile of railway—

1882-83	- - - - -	\$2,809 97
1883-84	- - - - -	2,791 16
Decrease	- - - - -	\$18 81

Per mile run by engines—

		Cents.
1882-83	- - - - -	53·57
1883-84	- - - - -	53·19
Decrease	- - - - -	·38

Per mile run by trains—

1882-83	- - - - -	65·29
1883-84	- - - - -	64·17
Decrease	- - - - -	1·12

The necessary repairs were made to the permanent way and structures and all the works in connection with the railway were maintained in a thorough state of efficiency.

The re-laying of the main line with heavier steel rails, at the cost of working expenses, was continued, and 32 miles of new rails were laid.

There were also, 278,677 new sleepers put into the main track and 70 miles of the track were ballasted.

A number of sidings were put in at various places.

The necessary repairs were made to fences, and 132 miles of new fences were erected. Six miles of new snow fences were built and 4,000 lineal feet of snow sheds were rebuilt.

The buildings on all parts of the line received necessary repairs.

Seven new station houses and freight houses were built, besides other buildings, and extensive repairs and additions were made to many station houses and freight houses.

The new building at Moncton, for the general offices of the railway, to replace that destroyed by fire in February, 1883, is nearly completed.

The whole cost of this building is being charged to the working expenses.

Semaphore signals were erected at eight stations.

Four new tanks, of an improved kind and of greater capacity than those heretofore in use, were erected, and other improvements were made in the water supply.

The cost of all these improvements and additions, and of others which I have not specified, forms part of the working expenses.

In the month of April an unusually heavy freshet in New Brunswick and Nova Scotia caused great damage. At several points between Painsec and Amherst the track was broken by the washing away of culverts, which left great openings in the embankments, which had to be bridged over before trains could pass. Temporary repairs were at once made, so that the traffic was only delayed for a few hours. The permanent repairs were commenced as soon as possible, and have now been completed in a thoroughly substantial manner.

The rolling stock received necessary repairs and is in good order.

Four new locomotives were purchased to make good the depreciation of the stock from use, and their cost was charged to working expenses.

Eighty cars of various kinds having been worn out, were replaced by new ones, and the cost charged to working expenses.

STORES.

The value of stores purchased was	\$1,109,991 78
The value of stores used was	1,104,093 06
The value of old material sold was	36,740 81

The value of the stores on hand at the end of the year was :—

Ordinary stores, including fuel	\$486,049 48
Iron and steel rails	251,924 82
Second-hand material serviceable	35,600 80
Old material for sale	63,945 81

Total stores on hand \$837,520 91

The increase is caused chiefly by the rails, fuel and old materials on hand. It gives me pleasure to state that in general the several officers and employees have performed their duties in a satisfactory and efficient manner.

I have the honour to be, Sir,
Your obedient servant,

D. POTTINGER.
Chief Superintendent.

INTERCOLONIAL RAILWAY.

CHIEF ENGINEER'S OFFICE,
MONCTON, N.B., 25th October, 1884.

SIR,—I have the honour to submit my report of the working of the Engineering Department for the year ending 30th June, 1884.

TRACK.

The mileage of the main line and branches in actual operation has been increased from 840 to 847 miles as follows :—

	Miles.
Previously reported	840
Dalhousie branch	7
Total	847

The Dalhousie Branch extends from Dalhousie Junction to the Town of Dalhousie.

All of the old iron rails have now been removed from both the main line and branches and replaced with steel rails.

During the year 32½ miles of old steel rails in the main line, weighing 56 pounds to the lineal yard, were taken up and replaced with new steel rails, weighing 67 pounds to the lineal yard.

SLEEPERS.

During the year 278,677 sleepers have been renewed on the main line.

BALLASTING.

About 70 miles of the main line have been newly ballasted.

SEMAPHORE SIGNALS.

New distant semaphore signals have been put up at Halifax, Richmond, Moncton, Coal Branch, Kent Junction, Derby, Cedar Hall, and St. Fabien.

SNOW SHEDS AND FENCING.

4,000 feet of snow shedding has been renewed on northern division Nos. 2 and 3, and 5,160 feet thoroughly overhauled and repaired.

Six miles of snow fencing have also been erected on these divisions.

In addition to the ordinary repairs of fences, 132½ miles of new wire fence have been erected.

The ordinary barbed wire (4 wires and a top rail) has been chiefly used.

A great many new farms have been taken up on the line between Moncton and Newcastle, and between Metapedia and St. Flavie, where no fencing was erected when the line was built, and protecting these farms has added largely to the cost of fencing.

About 10 miles of the Everett flexible picket wire fencing was used during the year, and so far it has proved satisfactory.

TURNTABLES.

A cast iron turntable, 46 feet in diameter, was provided at Point du Chêne, to replace a wooden one.

This was the last wooden table left on the road.

Wrought iron end girders were provided for the turntables at Campbellton and Truro.

WHARVES, &C.

The deep water wharf at Richmond received a thorough overhauling; 120 piles, from 50 to 60 feet long, were driven to support the bents of coal trestle, where the supporting cribs had settled out of place.

The wharves at Stewiacke, Pictou Landing, Point du Chêne, St. John and Campbellton, all received considerable repairs.

BUILDINGS.

On the Eastern Division a new freight house, 60 by 25 feet, and 50 by 38 feet, was erected at Windsor Junction, and a small station at Onslow, near Truro.

New platforms were built at Bedford, Oakfield, Enfield, Elmsdale, Milford, Stewiacke, Stellarton, Onslow and Maccan.

The old station house at Debert was taken down, and the materials utilized for the repairs and renewals of buildings on the Eastern Division.

Truro and Londonderry stations were re-shingled.

A general offices building has been provided at Moncton, to replace the building destroyed by fire in February, 1883. It is of pressed brick, with freestone trimmings. Size—178½ by 58½ feet, two stories, with Mansard roof and stone basement.

The greatest care has been taken to make the building fire-proof. All partition walls throughout are built of brick. The floors are built solid, with 3 by 5 inch scantling laid on edge, plastered underneath, and covered with 2 inches of cement concrete above. Over the concrete a 1¼-inch hard pine floor is laid in the ground and first flats. Ample vault capacity has been provided for all Departments. \$63,098.24 were expended on this building to the 30th June, 1884.

A new station has been erected at Painsec Junction, to replace the old one destroyed by fire.

Hampton station was raised up and rebuilt

A new station was provided at Brookville, near St. John.

The train shed of the new passenger station at St. John was completed and opened for business on the 2nd of June, 1884.

Temporary offices and waiting rooms have been provided in the train shed, pending the completion of the head house.

The freight houses and station platforms at Amherst, Sackville, Memramcook Point du Chêne, Shediac, Moncton, Petitcodiac, Apohaqui and Norton, all received considerable repairs.

A new platform was erected at Hampton.

On Northern Division No. 1, a new combined passenger station and freight house and platform was erected at Kent Junction.

A new flag station and platform were erected at Beresford, between Bathurst and Petite Roche.

The passenger platforms at Bathurst were extended 90 feet.

New loading platforms were erected at Weidford, Rogerville, Bathurst and Nash's Creek.

On Northern Division No. 2, a dwelling was erected for the section foreman at Metapedia.

An addition was made to Little Métis station, to make dwelling apartments for the Agent, and the old dwelling apartments were fitted up for a ladies' waiting room.

The old coal shed was moved from the south end of the yard to the north end of the station, and converted into a freight shed.

New station buildings and platforms were built at St. Anaclet, opposite Father Point, and St. André.

On Northern Division No. 3, heavy repairs were made at St. Fabien, Bic, Trois Pistoles and St. Arsene Stations.

The exterior walls of the former and the latter were filled with sawdust.

In connection with the St. Charles Branch, house accommodation was provided for eleven locomotives.

BRIDGES, &c.

Six short spans of iron, from 17 to 23 feet, were put in place of wooden stringers requiring renewal.

A wooden trestle overhead bridge at Bathurst was replaced by an iron structure, with central span of 80 feet and two side spans of 20 feet each.

In April occurred, between St. John and Halifax, the heaviest freshet known since the road was built. Between Painsec and Amherst two large arch culverts were undermined and destroyed, and between the same points four other washouts took place. Bridges have been erected in place of the arch culverts above referred to, and the washouts repaired.

The iron superstructure of the Memramcook bridge, which was badly broken and twisted by a jam of mill logs from a broken dam on the river above, has been made good, and the abutments and superstructure have been raised 4 feet.

Gangs of painters and riveters have been engaged on all divisions of the road, scraping, painting, and doing general repairs to the iron bridges.

A new sidewalk 1,000 feet long was laid on the Restigouche Bridge, and one 200 feet long on Moffatt's Bridge.

WATER SERVICES.

The charge of this service was transferred from the Engineering to the Mechanical Department on the 1st of January last.

Before the transfer, tanks were erected as follows:—

Canaan	50,000	gallons	capacity
Rogersville	25,000	"	"
Belledune	20,000	"	"
Charlo	20,000	"	"

A second tub of 12,000 gallons capacity was also provided at St. Thomas.

A gravitation supply, with a 6-inch main pipe and stand pipe on main line, was provided west of St. Simon.

BRANCH LINES.

The following branches have been constructed, or partially constructed, during the past year.

	Miles.
St. Charles Branch	15
Rivière du Loup Town Branch	4
Dalhousie Branch	7
Dartmouth "	4

The filling and ballasting on the St. Charles Branch, referred to in last year's report, was practically completed at the close of the year, and the track was in fair running order.

RIVIÈRE DU LOUP BRANCH.

A contract for the grading of this branch was entered into with Messrs. Theriault & Deschene, of Rivière du Loup, on the 17th of September, 1883. The grading was not completed at the close of the year.

DALHOUSIE BRANCH.

A contract for the grading of this branch was entered into with Messrs. Warren Taylor & Co., of Salisbury, N.B., on the 25th of July, 1883. The grading was not completed until June of this year. The ballasting was done by the Department by day's labor.

The branch was opened for traffic on the 23rd of June.

A combined passenger and freight station was built at Dalhousie town, also an engine house, coal shed, and a freight shed on the wharf extension.

The Government purchased from the municipality of Restigouche a wharf property in the town of Dalhousie, and an addition of 250 by 50 feet was made to it, so that good accommodation is now afforded to vessels and steamers drawing 16 feet of water.

DARTMOUTH BRANCH.

The most expensive work in connection with this branch is the bridging of the Narrows at Richmond. The channel is 600 feet wide, and from 60 to 75 feet deep. Contracts were let for this work in April, as follows:—The wood trestling and piling to M. J. Hogan, Quebec. The masonry of swing span to Duncan Waddell, Dartmouth, and the superstructure of the swing span to the Starr Manufacturing Company, Dartmouth, and work under these contracts is in progress.

A location was made for the Indiantown Branch, extending from Derby up the South-west Miramichi River, to Indiantown, a distance of 14 miles.

The track throughout the whole line is in good order.

I am, Sir,

Your obedient servant,

P. S. ARCHIBALD,

Chief Engineer.

D. POTTINGER, Esq.,
Chief Superintendent,
Moncton, N.B.

 INTERCOLONIAL RAILWAY.

MECHANICAL SUPERINTENDENT'S OFFICE,
 MONCTON, N.B., 7th November, 1884.

DEAR SIR,—I beg to submit, for your information, the following statements showing the operations of the Mechanical Department for the year ending 30th June, 1884 :—

A.—Statement showing the number of locomotives and the various classes of cars.

B.—Statement showing the locomotive and car mileage, and the average number of passenger and freight cars hauled per mile, run by engines.

C.—Abstract of locomotive returns.

D.—Statement showing the cost of locomotive power for each month during the year.

E.—General statement of the expenses of the Mechanical Department.

During the year four new locomotives were purchased and charged to working expenses. One second-class passenger, one baggage and express, twelve box and sixty-six platform, to replace an equal number condemned were this year, rebuilt at the cost of working expenses.

Twenty-eight locomotives, sixteen first-class, twenty-four second class passenger cars, two postal and smoking, ten baggage and express, thirty box and seventy platform cars were received on the road on account of capital.

The rolling stock is in good condition.

I am, Sir,

Your obedient servant,

A. H. WHITNEY,

Mechanical Superintendent.

D. POTTINGER, Esq.

Chief Superintendent, Intercolonial Railway.

A.—INTERCOLONIAL RAILWAY.

STATEMENT showing the number of Locomotives and the various classes of Cars on the 1st July, 1883, and on the 30th June, 1884.

	The Various Classes of Cars.														
	Locomotives.	First Class Passenger.	Second Class Passenger.	Postal and Smoking Baggages and Express.	Vans.	Box.	Cattle.	Platform—10, 15 and 20 Tons.	Hoppers—5 Tons.	Gondola—20 Tons.	Total.	Snow Ploughs.	Wing Ploughs.	Flangers.	Total.
On hand, 1st July, 1883, serviceable.....	138	52	50	15	19	1,421	10	1,368	595	783	4,423	28	9	18	55
do do condemned.....	.....	.....	1	.....	1	6	2	3	.....	.....	14	.....	.....	.....	.....
Total.....	138	52	51	15	20	1,427	12	1,371	595	783	4,437	28	9	18	55
Built in Moncton shops, on account Capital.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Purchased on account Capital.....	23	10	22	2	8	.....	.....	20	.....	.....	.....	.....	.....	.....	.....
do do working expenses.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
do do Capital.....	5	6	2	.....	2	30	.....	50	.....	.....	.....	.....	.....	.....	.....
Condemned—replaced by new.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, 30th June, 1884.....	163	68	75	17	30	1,457	13	1,441	595	783	4,589	30	10	20	60
Condemned on hand, 1st July, 1883.....	.....	.....	1	.....	1	6	2	3	.....	.....	14	.....	.....	.....	.....
do during year.....	.....	.....	.....	.....	2	7	1	65	.....	1	77	.....	.....	.....	.....
Total condemned.....	.....	.....	1	.....	3	13	3	68	.....	1	91	.....	.....	.....	.....
LESS—Rebuilt during year.....	.....	.....	.....	.....	1	12	.....	86	.....	.....	80	.....	.....	.....	.....
Condemned, 30th June, 1884.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
ADD—Serviceable and repairing.....	163	68	75	17	29	1,456	69	1,439	595	782	4,578	.....	.....	.....	.....
Total stock, 30th June, 1884.....	163	68	75	17	30	1,457	72	1,441	595	783	4,589	.....	.....	.....	.....

B.—INTERCOLONIAL RAILWAY.

STATEMENT of Locomotive and Car Mileage for Year ending 30th June, 1884.

Months.	Locomotive Mileage.		Car Mileage.				Average.		Snow Ploughs.
	Passenger.	Freight.	Passenger.	Express, Postal and Baggage.	Freight.	Total.	Passenger	Freight.	
1883—July.....	82,534	168,984	397,563	149,711	2,254,475	2,801,749	6.62	13.40	.....
August.....	86,411	197,896	394,477	158,181	2,262,587	3,215,245	6.47	13.50	.....
September.....	78,678	195,196	357,030	146,745	2,694,595	3,198,370	6.41	13.80	.....
October.....	80,815	228,263	376,525	149,169	3,248,298	3,773,992	6.50	14.23	.....
November.....	75,356	221,456	320,267	145,547	3,069,777	3,535,591	6.18	13.86	132
December.....	72,382	223,720	316,284	138,688	2,903,226	3,358,198	6.29	12.98	3,857
1884—January.....	71,671	250,488	301,842	140,439	3,101,044	3,543,325	6.17	12.34	12,407
February.....	66,959	219,776	281,718	132,528	2,827,068	3,241,314	6.10	12.86	10,028
March.....	71,555	255,253	300,217	144,437	3,295,204	3,739,858	6.21	12.91	10,412
April.....	71,313	244,316	340,874	149,708	3,347,451	3,838,033	6.87	13.70	1,102
May.....	71,781	245,862	321,464	146,469	3,363,919	3,831,852	6.52	13.68	.....
June.....	78,790	224,485	326,139	159,942	3,177,472	3,663,553	6.17	14.15	.....
Total.....	907,245	2,675,695	4,034,400	1,761,564	35,945,116	41,741,080	6.39	13.43	.....

C.—INTERCOLONIAL RAILWAY.

ABSTRACT of Locomotive Returns for Year ending 30th June, 1884.

Months.	Hours in Steam.	Locomotive Mileage.	Consumption.				Average Consumption per 100 Miles.				
			Tons of Coal.	Pints of Oil.	Libs. of Tallow.	Libs. of Waste.	Miles to hour in Steam.	Libs. of Coal.	Pints of Oil.	Libs. of Tallow.	Libs. of Waste.
1883—July	28,471	307,361	6,947	20,409	9,834	5,683	10.79	50.62	6.64	3.20	1.84
August	31,740	343,131	7,876	21,898	11,110	5,869	10.81	51.41	6.38	3.23	1.71
September	31,537	335,058	8,229	22,263	11,163	5,605	10.62	55.01	6.64	3.33	1.67
October	36,156	377,824	9,506	22,730	11,885	6,174	10.44	56.35	6.01	3.14	1.63
November	34,205	361,778	9,195	21,054	11,296	4,617	10.57	56.93	5.81	3.12	1.27
December	35,214	368,207	10,242	21,547	11,601	5,602	10.45	62.30	5.85	3.15	1.52
1884—January	41,658	409,373	12,046	23,832	12,023	5,851	9.82	65.91	5.82	2.93	1.42
February	37,520	363,533	10,796	24,837	10,042	5,788	9.98	66.52	6.69	2.76	1.59
March	41,024	407,652	11,729	26,342	13,179	6,270	9.93	64.44	6.46	3.23	1.54
April	36,837	386,260	9,619	23,598	12,011	6,293	10.48	55.78	6.10	3.10	1.62
May	36,081	385,585	9,277	23,967	12,137	6,770	10.68	53.89	6.21	3.14	1.76
June	33,324	361,893	8,590	26,048	10,455	6,282	10.85	53.16	7.19	2.88	1.73
Total	423,767	4,407,655	114,052	278,025	136,736	70,804	10.40	57.96	6.30	3.12	1.68

D.—INTERCOLONIAL RAILWAY.

STATEMENT of the cost of Locomotive Power for each month, from 1st July, 1883, to 30th June, 1884.

Months.	Miles run by Engines.	Drivers' and Firemen's Wages.		Fuel.	Oil, Tallow and Waste.		Repairs to Engines, Tenders and Tools.		Water.	Miscellaneous, including Engines, houses and Stables.		Total.	Average per 100 Miles.																
		\$	cts.		\$	cts.	\$	cts.		\$	cts.		\$	cts.	\$	cts.	Wages.	Fuel.	Oil, Tallow and Waste.	Repairs.	Water.	Miscellaneous.	Total.						
1883—July.....	307,361	12,897	97	18,948	41	3,668	56	22,686	83	1,660	48	3,948	43	63,910	68	4	23	6	16	1	19	7	37	0	54	1	28	20	79
August.....	343,131	13,376	90	20,678	28	3,854	35	21,911	98	4,715	88	3,195	55	67,732	94	3	92	6	02	1	12	6	38	1	37	0	93	19	74
September.....	335,058	13,596	46	21,793	63	3,908	72	21,679	77	3,933	86	3,771	92	68,689	36	4	06	6	51	1	16	6	47	1	17	1	13	20	50
October.....	377,824	15,043	59	26,186	44	4,374	32	22,813	58	3,347	78	4,301	43	76,652	14	3	98	6	93	1	18	6	94	1	04	1	14	20	28
November.....	361,778	14,307	70	25,639	43	4,022	39	20,170	25	3,347	47	5,599	16	73,086	40	3	95	7	09	1	09	5	68	0	93	1	56	20	20
December.....	369,207	14,009	83	29,215	99	4,216	67	10,284	31	7,368	75	4,555	93	69,651	48	3	81	7	93	1	14	2	80	2	00	1	24	18	92
1884—January.....	409,373	16,329	14	34,337	08	4,563	87	8,449	83	3,544	12	4,448	89	71,872	93	3	98	8	38	1	11	2	07	0	87	1	09	17	50
February.....	363,533	14,429	35	19,028	56	4,149	20	7,430	03	2,953	24	4,367	27	52,347	65	3	97	5	23	1	15	2	04	0	81	1	20	14	40
March.....	407,652	15,948	37	20,799	99	4,639	97	7,443	36	2,409	36	3,606	07	54,837	36	3	91	5	10	1	13	1	82	0	59	0	90	13	45
April.....	386,260	14,962	73	17,079	36	4,295	01	8,547	82	1,876	03	3,840	52	50,601	47	3	87	4	42	1	11	2	22	0	49	0	99	13	10
May.....	385,985	15,827	35	16,875	04	4,375	09	13,328	88	1,612	66	3,651	29	55,683	31	4	10	4	37	1	13	3	45	0	44	0	92	14	41
June.....	361,893	14,615	32	14,961	54	4,164	81	14,173	05	1,347	66	3,134	39	52,396	77	4	13	4	13	1	15	3	92	0	37	0	87	14	48
Total.....	4,407,655	175,444	71	265,551	75	50,232	96	178,909	93	38,702	29	48,320	85	757,162	49	3	98	6	03	1	14	4	06	0	88	1	09	17	18

Engine miles.....	4,407,655
Train do.....	3,653,961
Light.....	53,886
Shunting.....	699,308

E.—INTERCOLONIAL RAILWAY.

GENERAL STATEMENT of the Expenses of the Mechanical Department, for the Year ending 30th June, 1884.

The miles run by trains were.....		3,653,961
do engines were.....		4,407,655
do cars were.....		41,741,080
do snow ploughs were.....		37,938
The cost of locomotive power.....		\$ cts. \$ cts. 757,162 49
The cost of repairs:		
Repairs to passenger cars.....	62,522 38	
do postal, express and baggage cars.....	18,203 49	
do freight cars and vans.....	181,146 78	
Oil and waste for packing.....		261,872 68
Miscellaneous.....		33,087 82
		1,817 37
The cost of locomotive power per 100 miles run by trains was.....		
do engines.....		20 72
do cars.....		17 18
		1 81
The cost of repairs to cars per 100 miles by train.....		
do engines.....		7 16
do cars.....		5 94
		0 62
The cost of oil and waste for packing per 100 miles by train.....		
do engines.....		0 90
do cars.....		0 75
		0 07
The cost of repairs to passenger cars per 100 miles run by them.....		
do postal, express and baggage do.....		1 54
do freight cars and vans do.....		1 03
		0 50

**No. 1.—INTERCOLONIAL RAILWAY.
CAPITAL ACCOUNT, Year ending 30th June, 1884.**

CR.

DR.

	\$	cts.	\$	cts.	1883. June 30.	\$	cts.	1884. June 30.	
1883.									
June 30.....			41,176	654 19					By Dominion of Canada..
1884.									
June 30.....			109,401	58					
						41,067,252	61		
To Cost of Road and Equipment.....									
LESS—Refunds on account of previous expenditure.....			47,671	45					
Outlay on Halifax Extension.....			139,432	00					
do Increased accommodation St. John									
do St. Charles Branch and Ferry.....						187,103	45		
do Dartmouth do						230,021	46		
do Dalhousie do						14,470	77		
do Rivière du Loup Town Branch.....						67,157	76		
do Indianatown Branch.....						10,748	35		
do St. Charles Branch Shunting						584	00		
do Station Yard.....						29,033	50		
Improvements, Rivière du Loup Branch.....						835	13		
Rolling stock.....						441,016	60		
New do						146,370	24		
Legal expenses, Halifax Street Railway <i>vs.</i> the Queen.....								706	59
Pay Fabien Rochette for land taken.....						1,702	66		
do Jas. Falconer do						677	85		
do Wm. F. Ferguson do						2,800	00		
do Alex. McDonell & Co.....						47,005	98		
Miscellaneous works not otherwise provided for.....								97	50
Expenditure on completion of Intercolonial Railway between Rivière du Loup and Truro—works, permanent way, buildings, right of way, &c						5,388	75		
Awards by I. C. R. Commissioners.....						308,433	02		
I. C. R. Commissioners.....						22,025	49		
			335,847	26					
			15,149,979	10					1884. June 30..
			42,582,231	71					Dominion of Canada..
									1,514,979 10
									42,582,231 71

(Signed),

THOMAS WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 2.—INTERCOLONIAL RAILWAY.

REVENUE ACCOUNT, Year ending 30th June, 1884.

DR.

CR.

Previous Year.	Expenditure.	Year ending 30th June, 1884.	Previous Year.	Earnings.	Year ending 30th June, 1884.
\$ cts.		\$ cts.	\$ cts.		\$ cts.
707,062 65	Locomotive power	757,162 49	741,992 72	Passenger traffic.....	760,045 05
508,187 86	Car expenses	531,215 91	1,487,601 98	Freight do.....	1,451,540 12
582,638 91	Maintenance way and works do	560,801 18	141,326 40	Mails and sundries.....	142,062 09
313,496 98	Station expenses do	325,873 10			
167,933 84	General charges do	171,776 70			
2,339,320 24	Car mileage.....	2,346,829 38			
21,053 63		Or. 2,250 29			
2,360,373 27	Balance.....	2,344,579 09			
10,547 83		9,068 17			
2,370,921 10		2,353,647 26	2,370,921 10		2,353,647 26

THOS. J. WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 3.—INTERCOLONIAL RAILWAY.

LOCOMOTIVE POWER—(Abstract No. 1.)

Previous Year.		Year ending 30th June, 1884.
\$ cts.		\$ cts.
7,475 16	Mechanical Superintendent's salary, Clerk's, Office and Travelling expenses.....	7,820 65
175,786 58	Wages, Drivers, Firemen and Cleaners.....	175,444 71
298,896 76	Fuel.....	265,551 75
41,460 13	Oil, Tallow, Waste and small Stores.....	50,232 96
165,233 63	Repairs to Engines, Tenders and Engine Tools.....	178,909 93
27,365 46	Water, including Pump and Tank repairs.....	38,702 29
47,844 93	Miscellaneous.....	40,500 20
\$767,062 65		\$757,162 49

THOS. J. WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 4.—INTERCOLONIAL RAILWAY.

CAR EXPENSES—(Abstract No. 2.)

Previous Year,		Year ending 30th June, 1884.
\$ cts.		\$ cts.
55,289 05	Repairs to Passenger cars.....	62,522 38
16,209 23	do Postal, Express and Baggage cars.....	18,203 49
178,706 45	do Freight cars and Vans.....	181,146 73
167,755 27	Wages of Conductors, Train Baggage Masters and Brakemen.....	177,628 79
26,724 95	Oil and Waste for packing.....	33,097 86
48,786 21	Small Stores and Fuel.....	42,441 72
14,716 70	Miscellaneous.....	16,174 94
\$508,187 86		\$531,215 91

THOS. J. WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 5.—INTERCOLONIAL RAILWAY.

MAINTENANCE OF WAY AND WORKS—(Abstract No. 3).

Previous Year.	—	Year ending 30th June, 1884.
\$ cts.		\$ cts.
5,206 55	Chief and Assistant Engineer's salaries, Clerks, Office and Travelling expenses.....	3,804 73
297,305 24	Wages in repairing Roadway, Fences and Semaphores, including new Sidings laid in	280,153 41
47,800 95	Rails and Fastenings, including new Sidings laid in	18,770 54
64,519 20	Sleepers	46,968 78
39,151 35	Timber, Lumber, etc., for repairs to Bridges, Cattle-guards, Crossings, Snow-sheds, Fences, etc.....	38,792 39
11,749 53	Repairs to Wharves	6,686 48
67,503 78	Repairs to Buildings and Platforms, including extension of and additions to same.....	105,929 71
12,588 69	Repairs to Snow Ploughs, Flangers and Tools	15,738 56
33,974 20	Clearing Ice and Snow	41,660 32
2,839 42	Miscellaneous	2,296 26
582,638 91		560,801 18

THOS. WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 6.—INTERCOLONIAL RAILWAY.

STATION EXPENSES—(Abstract No. 4).

Previous Year.	—	Year ending 30th June, 1884.
\$ cts.		\$ cts.
243,760 22	Salaries and wages of Station Masters, Agents, Clerks, Telegraph Operators, Station Baggage Masters, Yard Masters, Switchmen, Watchmen and Laborers	254,396 66
69,736 76	Fuel, Oil, Light, Stationery, Tickets and other incidental expenses	71,476 44
.....	Miscellaneous .....	.....
313,496 98		325,873 10

THOS. WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 7.--INTERCOLONIAL RAILWAY.

GENERAL CHARGES—(Abstract No. 5).

Previous Year.	—	Year ending 30th June, 1884.
\$ cts.		\$ cts.
68,120 15	Chief Superintendent, District Superintendents, Train Despatchers, General Freight Agent, General Passenger Agent, Clerks, Office and Travelling expenses.....	63,016 07
20,380 15	Accounting Department, salaries of the Treasurer, Traffic Auditor, Paymaster, Cashier, Clerks, Office and Travelling expenses ..	19,448 87
13,360 85	Damages to men, animals and goods	17,083 30
20,620 49	Ferry service.....	22,566 09
1,215 00	Telegraph expenses (not including pay to operators)	2,261 93
32,053 59	Miscellaneous, printing, advertising, etc.....	31,107 32
12,183 61	Agency expenses	15,893 12
167,933 84		171,376 70
	Special Vote—Mrs. E. C. Ennis, Indemnity for injuries to her late husband, E. C. Ennis.....	400 00
		171,776 70

THOS. WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 8.—INTERCOLONIAL RAILWAY.

GENERAL STORES ACCOUNT, Year ending 30th June, 1884.

DR.

CR.

	\$	cts.	1883.	\$	cts.	\$	cts.
1883.							
June 30....	To Balance.....	.....	June 30..	567,739	27	1,014,093	06
						36,740	81
1884.							1,050,893
June 30....	Purchases during year.....	1,109,991	78			486,049	48
	Labour.....	40,279	30			251,924	82
	Charges from other Departments.....	157,683	96			35,600	80
	Staff pay rolls.....	12,660	48			63,945	81
				1,320,615	51		
				1,888,364	78		
						837,520	91
						1,888,364	78

THOMAS WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 9.—INTERCOLONIAL RAILWAY—Concluded.
GENERAL ACCOUNT, 30th June, 1884—Concluded.

DR.

CR.

	\$	cts.	\$	cts.	\$	cts.
Brought forward.....	1,037,375	88				
Pullman Palace Car Co.....		151	25			
Steamer "Admiral" and owners.....		695	58			
Steamer "Confest".....		397	00			
Canadian Locomotive and Engine Co.....		3,829	18			
Moncton Sugar Refining Co.....		9,521	93			
Halifax Cotton Co, siding.....		11,863	48			
Moncton Cotton Co, siding.....		765	53			
Goldbrook Rolling Mills.....		1,967	41			
Western Union Telegraph Co.....		9	40			
Departmental Accounts—						
Militia.....	2,706	64				
Agriculture.....	9,591	35				
Dorchester Penitentiary.....	58	78				
Marine and Fisheries.....	2	28				
Post Office.....	45,400	24				
Individual accounts.....			57,759	29		
			30,908	01		
			1,155,243	94		
Brought forward.....					1,155,243	94

THOMAS WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

No. 10.—INTERCOLONIAL RAILWAY.

COMPARATIVE STATEMENT of Averages, Year ending 30th June, 1884.

	1884.	1883.
Mileage of railway	840	840
Engine mileage	4,407,655	4,406,189
Train do	3,653,961	3,615,192
Cars do	41,741,080	41,526,553
	\$ cts.	\$ cts.
Receipts per engine mile.....	53 40	53 81
do mile of railway.....	2,801 95	2,822 52
	Per cent.	Per cent.
Percentage of passenger earnings to gross earnings	32·29	31·30
do freight do	61·67	62·74
do other do	6·04	5·96
Expenses per engine mile—		
Drivers', Firemen's and Cleaners' wages.....	3·93	3·99
Fuel.....	6·02	6·78
Oil, tallow, waste and small stores	1·14	1·01
Repairs to engines.....	4·06	3·75
Water and tank repairs.....	0·88	0·62
Miscellaneous	0·92	1·09
Total.....	17·00	17·24
Mechanical Superintendent's salary, office and travelling expenses.....	0·18	0·17
	17·18	17·41
Locomotive power per engine mile	17·18	17·41
Car expenses do	12·05	11·53
Maintenance of way and works do	12·72	13·22
Station expenses do	7·39	7·12
General charges do	3·90	3·81
	53·24	53·09
Car mileage	Cr. 0·05	0·48
Total per engine mile.....	53·19	53·57
Locomotive power per train mile.....	20·72	21·22
Car expenses do	14·54	14·06
Maintenance of way and works do	15·35	16·12
Station expenses do	8·92	8·67
General charges do	4·70	4·64
	64·23	64·71
Car mileage	Cr. 0·06	0·58
Total per train mile	64·17	65·29
Working expenses per mile of railway.....	\$2,791 16	\$2,809 97

THOS. WILLIAMS,
Chief Accountant and Treasurer.

MONCTON, N.B., 30th June, 1884.

INTERCOLONIAL
RETURN of Accidents and Casualties which have occurred in Canada
30th June,

(This Return is made up in compliance with the Provisions

Date.	Time of Day or Night.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1883.						
July 13...	1.50 p.m.	24	Freight.....	G. McLeod	M. Wall	7
do 21...	12.30 p.m.	.....	.....	.....	.....	.....
do 21...	1.30 a.m.	9	Express	J. Ahern	John Ross.....	25
do 24...	7.05 a.m.	.....	Special	E. Camire.....	A. Lacroix.....	76
Aug. 2...	7.45 a.m.	11	Freight	J. Stronach.....	A. Davey	74
do 2...	6.40 a.m.	.....	Special	A. E. Brown.,	Geo. Milne.....	90
do 5...	12.15 p.m.	10	Express	J. Ahern.....	John Ross.....	25
do 10...	7.03 p.m.	.....	Special	J. E. Evans	H. M. Stewart.....	40
do 9...	10.25 a.m.	.....	Shunting	J. G. McNaughton	A. B. White.....	27
do 11...	10.30 p.m.	.....	do .....	.....	S. Ross	99
do 14...	7.00 p.m.	5	Freight	W. J. Campbell.....	J. Gillfillan.....	46
do 20...	.....	.....	.....	.....	.....	.....
do 31...	3.00 p.m.	.....	Ballast	E. Collins.....	J. Devereau	101
Sept. 1...	6.05 p.m.	6	Freight	Geo. A. Chesley.....	G. C. Palmer.....	59
do 3...	8.00 a.m.	.....	Shunting	L. Steele	J. McLellan	93
do 14...	7.15 a.m.	.....	Special.....	G. Margeson.....	J. Sproull.....	88
do 15...	6.10 p.m.	2	Express	D. Rutherford	J. W. Sawyer.....	71
do 15...	9.40 a.m.	.....	Special	Wm. Morgan	J. Devenne.....	127

RAILWAY.

on the Line of the Intercolonial Railway, during the Year ending 1884.

of the Railway Act of 1868, 31 Vic., cap. 68, sec. 43.)

Place of Accident.	Name of Person Injured.	Whether Passenger or Employé.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
Richmond.....	Kenneth Gunn.	Employé..	When coupling engine and cars got his hand caught.	Hand slightly injured.	
do	George Bird	do ...	Fell	Put shoulder out of joint.	
Moncton.....	Oecilia Martin.	Neither...	Was struck by train on Main street crossing.	Slightly injured.	
Notre Dame de Portage.	Olivier Bourke.	Employé..	Train struck hand car on which he was riding.	do ...	
Riverside	Unknown	Neither...	Walking on track; was struck by train.	Fatal.....	Accidental.
Near Spring Hill	Herbert Sharpe	Employé..	Buried under car of coal which was thrown from the track in a collision.	do	
Near Polly Bog..	Wm. Whittle...	Neither....	Lying on track; was struck by train.	do	do
Mortimer Crossing.	Thos. Beck.....	do ...	While crossing track was struck by train.	do	do
Moncton.....	Albert Welling	Employé..	While coupling cars.....	Arm injured...	
do	James Lockhart	do ...	do	Hand injured ..	
Pointe du Chêne	Walter Harney (boy).	Neither....	Attempted to run under cars and was caught under wheel.	Foot crushed..	
Little Metis.....	Anthyme Petre	Employé..	Fell from top of snow shed.	Fatal.....	do
St. John.....	Robinson (boy)	Neither....	Jumped from car while in motion, and foot caught under wheel.	Foot crushed...	
Plumweseep.....	Thos. Long	Neither ...	While crossing track in wagon was struck by train.	Seriously inj'd.	
Richmond	William Spain..	Employé..	Coupling cars	Head injured ..	
Folly Lake	Fredk. Brown..	do ...	Fell from top of car.....	Sprained ankle	
Near Shubenacadie.	Mrs. Smith.....	Neither ...	While walking on track was struck by train.	Fatal.....	Accidental.
Moncton	J. C. Northrup.	Employé..	While attempting to cross over train fell between cars.	do	do

INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in

Date.	Time of Night or Day.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1883.						
Sept. 16...						
do 18...	3.30 p.m.		Special	W. Crockett.....	N. McLean	54
do 19...	6.10 p.m.	33	Express	Geo. Walker.....	D. McNeil	132
do 21...	2.30 p.m.	19	Freight	G. Margeson.....	J. Navin.....	107
do 25...	8.50 a.m.					
do 26...	10.20 p.m.	10	Express	W. Kelly.....	R. Carr	56
do 28...	7.30 p.m.	42	Freight.....	J. T. McGinn	S. Ross	115
Oct. 1...	2.30 p.m.	24	do	J. McLeod	M. Wall.....	102
do 3...	1 50 p.m.		Shunting.....		A. B. White.....	27
do 4...	10.00 a.m.		Freight	M. Cummings	A. McCabe.....	143
do 5...	9.45 a.m.		Militia Special...	Jas. McDonald	P. Ashe.....	91
do 6...	11.45 a.m.	2	Express	G. H. Trueman.....	{ John Stewart..... { T. Prince	55 67
do 8...	6.40 a.m.		Shunting		James Cole.....	27
do 11...	11.20 p.m.		Special.....	C. A. Atkinson.....	Jas. McAuley.....	106
do 13...	11.00 a.m.	18	Freight.....	W. J. Dickson.....	Geo. Feetham.....	4
do 18...	6.00 p.m.		Special.....	Wm. Thompson	N. McLean	19
do 19...	1.30 p.m.		Shunting	J. G. McNaughton	P. Forgarty.....	34
do 22...	11.55 p.m.	37	Freight.....	J. McLeod	W. Bastin.....	138
do 23...	10.00 a.m.					
do 24...	11.55 p.m.		Special.....	N. D. Archibald.....	R. Wilson	122
do 27...	5.15 a.m.	39	Accommodation.	L. Couture.....	— Lacroix	76
Nov. 2...	8.45 a.m.	15	Freight	B. White.....	D. Cameron	137

RAILWAY.

Canada, on the Line of the Intercolonial Railway, &c.—Continued.

Place of Accident.	Name of Persons Injured.	Whether Passenger or Employé.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
Near Red Pine...	Peter Kelly.....	Employé.	Fell from hand car and run over.	Rib broken	
Near Rogersville	E. Molaley.....	Neither ...	Fell from car while loading freight.	Wrist broken..	
River Onelle.....	Thos. Chrétien.	do ...	Jumped from train while in motion.	Slightly inj'd.	
Londonderry ...	Thos. Beals.....	Employé.	Slipped when stepping from engine.	Knee broken...	
Weldford.....	J. B. Humphrey	do ...	While handling freight...	Sprain'd sev'ly	
Near Petitcodiac	Newsboy.....	Neither...	Fell from train while in motion.	Slightly inj'd.	
Miller's Siding..	Wm. Irving ...	Employé.	Coupling cars	Arm crushed..	
Halifax.....	John Richards..	do ...	Struck by train while walking on track.	Seriously inj'd	
Moncton	Chas. Wilbier .	do ...	Coupling engine to car...	Hand crushed.	
Jacquet River ...	Wm. Smallwood	do ...	When closing cab window got his hand caught.	Hand cut.....	
Cold Brook.....	J. A. Wilson...	do ...	Injured in face by powder from rifle discharged by militia man on him.	Eye injured....	
} Pollet River...	— Brown	Passenger	Jumped from train while in motion.	Slightly inj'd.	
Moncton	Melvin Lockhart.	Employé.	Coupling cars	Hip crushed ...	
Chatham Junction.	Lewis Burris...	do ...	Coupling cars.....	Arm crushed.	
Aulac.....	Lewis Chisholm	do ...	Unloading freight.....	Fingers do ...	
Rogersville	John Arsenault	do ...	Fell between cars.	Arm injured..	
Moncton..	John Finney....	do ...	Coupling cars.	Leg do ...	
Near Little Metis	Jas. Smith.....	do ...	Hand caught by bell cord	Hand do ...	
Near Bathurst ...	D. McDonald...	Neither...	Fell from overhead bridge	Bruised.....	
Stellarton.....	Nelson Cope-land.	Employé..	While working under engine.	Arm scalded.	
Point Lévis.....	Fis. Guimond.	Passenger	Jumped from train while in motion and fell through bridge.	Drowned.....	Accidental.
Amherst.....	M. Steeves.....	Employé..	Coupling cars.....	Hand injured..	

INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in

Date.	Time of Day or Night.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No of Engine.
1883.						
Nov. 5...	12.00 p.m.	17	Freight.....	Geo. McCully.....	Geo. Feetham.....	4
do 8..	11.15 a.m.	.....	Special.....	H. Aubin.....	H. Gorham.....	29
do 10...	12.40 p.m.	18	Freight.....	Geo. McCully.....	Geo. Feetham.....	4
do 11...	10.30 a.m.	.....	Shunting.....	.....	D. Mains.....	97
do 16...	2.55 a.m.	.....	do.....	.....	James Stratton.....	94
do 17...	11.45 p.m.	.....	do.....	.....	A. B. White.....	99
do 22...	5.00 a.m.	.....	do.....	.....	E. Tobin.....	93
do 24...	12.25 p.m.	24	Freight.....	C. J. Rhodes.....	H. Smith.....	39
do 28...	.....	44	do.....	M. Cummings.....	J. J. Smith.....	143
do 29..	3.35 p.m.	.....	Special.....	J. Craigie.....	B. Cooke.....	122
do 29...	11.15 a.m.	.....	do.....	Wm. Morgan.....	J. Donald.....	92
Dec. 21...	11.15 a.m.	36	Accommodation.	W. L. McDougall.....	D. Pineo.....	113
do 24...	9.40 a.m.	27	Freight.....	A. W. Melick.....	J. R. Moore.....	46
1884.						
Jan. 16...	5.45 a.m.	.....	Special.....	D. Grant.....	Jas. Sproull.....	124
do 20...	4.40 a.m.	.....	do.....	E. Camire.....	H. Levey.....	21
do 21...	2.10 a.m.	.....	do.....	J. E. Evans.....	N. Sinclair.....	74
do 22...	10.00 p.m.	.....	do.....	E. L. Watts.....	R. Martin.....	143
Feb. 3...	3.00 a.m.	12	Express.....	John Stronach.....	Jno. Ross.....	152
do 7...	8.00 p.m.	.....	Special.....	W. Marchessault.....	A. Shickle.....	131
do 8...	3.00 p.m.	.....	do.....	P. McGee.....	H. Gorham.....	29
do 10...	8.50 p.m.	41	Freight.....	do.....	T. G. Scott.....	141
do 14...	12.30 p.m.	48	do.....	A. Moreau.....	W. Brock.....	77

RAILWAY.

Canada on the Line of the Intercolonial Railway, &c.—Continued.

Place of Accident.	Name of Person Injured.	Whether Passenger or Employé.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
Spring Hill.....	Robt. Gilmore..	Employé..	Unloading freight.....	Hand injured.	
St. Fabien.....	Frank Gosselin	do ...	Coupling cars.....	Collar bone broken.	
Amherst.....	W. M. Dormand	do ...	do	Hand injured.	
Rivière du Loup	Alfd. Brillant.	do ...	While coupling cars, foot caught in guard rail.	Fatal.....	Accidental.
Moncton.....	Wm. Forgarty.	do ...	Coupling cars.....	Hand injured.	
do	Frank Gayton.	do ...	do	do ...	
Richmond	Douglas Drysdale.	do ...	Fell between cars while shunting.	Fatal.....	do
Elmsdale	D. Crowley.....	do ...	Barrel of tallow fell on him.	Stomach injured.	
Weldford	J. F. Card.....	do ...	Door of van closed on his hand.	Fingers injured.	
River Philip Bridge.	O. K. Fillmore.	Neither....	Struck by train while walking on track.	Fatal.....	do
Spring Hill.....	John Sullivan.	Employé..	Coupling cars.....	Side and back injured.	
Jones' Crossing, near Newcastle	John Oxford...	Neither....	Struck by train while driving across track.	Fatal.....	do
Pollet River	J. W. Croswaite	do	do ...	do	do
Stellarton	John Aikins...	Employé..	Coupling cars.....	Arm injured..	
Chaudière	Geo. Roberge...	do ...	Struck by train while walking on track.	Fatal.....	do
Near Berry Mills	D. Sweeny	do ...	Fell from top of car.....	Face and head injured.	
Dalhousie	W. A. Warman	do ...	Coupling cars	Hand injured.	
Moncton	Fred. Miller....	do ...	Head-light of engine exploded.	Face burned..	
St. Charles	A. Dumont....	do ...	Coupling cars	Fatal.....	No inquest.
Rimouski.....	F. Dubé	do ...	Fell from top of cars.....	do	do
Metapédia	Duncan Gallon	do ...	Tank pipe fell on him....	Shoulder inj'd	
St. Francis	T. Blouin.....	Passenger.	Attempting to board train while in motion fell between cars.	Leg fractured.	

INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in

Date.	Time of Night or Day.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1883.						
Feb. 22...	1.10 p.m.	.....	Special	A. Bouchard.....	A. Shickle.....	134
March 3...	5.00 p.m.	.....	do	W. Marchessault.....	L. Michaud.....	117
do 12...	5.00 p.m.	.....	do	J. E. Evans.....	E. Rushton	103
do 18...	7.00 a.m.	15	Freight	F. A. Davison .....	.....	.....
do 19...	5.50 a.m.	.....	Special	J. W. Henderson.....	N. McLean.....	74
do 20...	4.20 a.m.	.....	do	A. Grant.	Jas. Sproull	124
do 27...	11.00 a.m.	.....	do	M. Cummings.....	S. Wilson.....	44
do 24...	3.30 p.m.	.....	do	J. McDonald	H. Lightbody.....	135
Mar. 25...	8.20 p.m.	35	Accommodation	A. Armstrong	W. Sinclair.....	141
do 31...	12.00 p.m.	35	do	Z. Lockhart	W. D. Martin	25
April 1...	7.00 a.m.	.....	Special	Jas. Kean	John Ryan.....	19
do 1...	7.00 a.m.	.....	do	do	do	19
do 26...	10.00 p.m.	.....	Shunting .....	.....	H. Whitney	14
May 1...	11.00 a.m.	23	Freight	J. Berry	J. Gilfillan	108
do 2...	2.30 p.m.	.....	Shunting .....	.....	.....	.....
do 26...	10.00 a.m.	.....	do .....	.....	P. Fogarty	34
do 27...	2.30 p.m.	.....	Special	W. J. Ross	J. Robert.....	118
do 27...	9.30 p.m.	.....	do	W. J. Campbell.....	J. J. Irvine	50
do 30...	1.00 a.m.	.....	.....	.....	.....	.....
do 31...	9.05 p.m.	6	Freight	Geo. A. Chesley	S. Watson.....	43
June 8...	8.30 p.m.	.....	Shunting.....	.....	B. Goodwin	94
do 12...	12.23 a.m.	39	Freight	M. Cummings	P. Ashe	146
do 10...	4.00 p.m.	.....	Special.....	W. McCafferty.....	John Edwards.....	125

RAILWAY.

Canada, on the line of the Intercolonial Railway, &c.—Continued.

Place of Accident.	Name of Person Injured.	Whether Passenger or Employé.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
St. Jean Port Joli	Wm. Gauvereau and 2 daughters, and boy named Tremblay.	Neither....	Struck by train while driving across track.	Slightly inj'd.	
St. Charles.....	A. Fournier....	Employé..	Coupling cars	Hand do	
Canaan	Alex. Irvine....	do ...	do	Crushed	
Moncton	James McDormond.	do ...	Lamp globe broke while he was cleaning it.	Cut his arm ...	
Dalhousie	A. L. Keiver....	do ...	Coupling cars	Fing'rs crush'd	
Albion Siding ...	H. Whidden....	do ...	do	Chest do	
Birch Ridge.....	T. Robins.....	do ...	Fell off train while in motion.	Ankle sprain'd	
De Bert.....	Wm. Pushie....	do ...	Coupling cars	Finger crush'd	
Jacquet River...	Thos. Barclay.	Neither....	Struck by train while walking on track.	Ankle broken, and otherwise injured.	
Berry's Mills.....	Z. Lockhart....	Employé..	While getting on train...	Wrenched his back.	
Near St. Flavie .	John Harney...	do ...	Collision between two special trains.	Fatal	Accidental.
do ...	John Ryan.....	do ...	do do	Scalded	
Moncton.....	H. Wright	do ...	Coupling cars	Hand crushed.	
Oxford	H. A. Black....	do ...	Closing door of box car..	Hand jammed.	
Moncton.....	W. McDermott.	do ...	Fell from box car	Shoulder and arm injured.	
do	Albert Welling	do ...	Coupling cars	Hip and back crushed.	
Campbell Siding	Thos. Lyons....	do ...	Fell from top of car.....	Side injured ...	
Moncton	J. Stewart	do ...	When stepping f'm engine	Sprained ankle	
do	W. W. Williams.	do ...	Fell over baggage truck.	Rib broken ...	
do	—McAnnelly...	do ...	Fell from engine tender .	Head injured..	
Campbellton....	J. Chatterton..	do ...	Coupling cars	Wrist injured.	
Coal Branch.....	D. Sweeney	do ...	do	Arm injured...	
Rocky Lake.....	Geo. McLeod...	do ...	do	Foot injured...	

INTERCOLONIAL

RETURN of Accidents and Casualties which have occurred in

Date.	Time of Night or Day.	Number of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.
1884.						
June 16...	5.15 p.m.	26	Accommodation	J. Coffee	D. A. Cameron.....	137
do 17...	9.00 p.m.	.....	Special.	C. B. Humphrey	J. Stratton.....	104
do 20...	10.20 a.m.	10	Night express	Wm. Kelly.....	R. Carr	63

RAILWAY.

Canada on the Line of the Intercolonial Railway, &c.—*Continued.*

Place of Accident.	Name of Person Injured.	Whether Passenger or Employé.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
Moncton.....	Jno. Linkletter	Employé .	Fell from gondola car	Wrist and face injured.	
do	Fred'k Robin..	do ...	Fell from between cars...	Leg injured....	
St. John.....	Jas. Williams..	Passenger	Fell from passenger car while train was in motion	Shoulder and side injured.	

 EASTERN EXTENSION RAILWAY.

OFFICE OF THE CHIEF SUPERINTENDENT,
MONCTON, N.B., 7th November, 1884.

SIR,—I have the honor to submit the following report upon the working of the Eastern Extension Railway, from the 9th January, 1884, to the 30th June, 1884.

This railway extends from New Glasgow to Port Mulgrave, on the Strait of Canso, a distance of 80 miles. It was formerly called the Halifax and Cape Breton Railway, and more recently was known, for a short time, as the Nova Scotia Railway. It came under the control of the Dominion Government on the 9th January, 1884.

I enclose the report of the Chief Engineer of the Intercolonial Railway on the permanent way and works, and also the report of the Mechanical Superintendent of the Intercolonial Railway on the rolling stock, and the following statement prepared by Accountant and Auditor:—

- No. 1. Capital account.
 “ 2. Revenue account.
 “ 3. General balance.

The amount paid on account of the purchase of the road and equipment was \$1,284,311.97.

There was no expenditure on capital account during the period covered by this report, except that above stated.

The operating expenses were	\$32,854 53
The gross earnings were	30,767 66
	<hr/>
Showing a loss of	\$2,086 87

The road and rolling stock are in fair running order.

I have the honor to be, Sir,

Your obedient servant,

D. POTTINGER,

Chief Superintendent.

COLLINGWOOD SCHREIBER, Esq.,

Chief Engineer and General Manager of Government Railways,
Ottawa.

 INTERCOLONIAL RAILWAY.

CHIEF ENGINEER'S OFFICE,
MONCTON, N.B., 25th October, 1884.

SIR,—I have the honor to submit the following report on the maintenance of the Eastern Extension Railway, for the year ending 30th of June, 1884.

This road extends from New Glasgow to the Strait of Canso, a distance of 80 miles.

It is comparatively a new road, having been completed and opened throughout for traffic in December, 1880.

The track is laid with steel rails $4\frac{1}{2}$ inches high, and weighing 57 lbs. to the lineal yard, is well ballasted, and is in good running order. With the exception of

some slight repairs to the pile bridges at Pine Tree Gut, and at South River, Antigonish, no extra works have been done outside of the ordinary maintenance of permanent way, fences and buildings.

I am, Sir,

Your obedient servant,

P. S. ARCHIBALD,
Chief Engineer.

D. POTTINGER, Esq.,
Chief Superintendent, Moncton, N.B.

INTERCOLONIAL RAILWAY.

MECHANICAL SUPERINTENDENT'S OFFICE,
MONCTON, N. B., 14th November, 1884.

Dear Sir,—I beg to submit the following report on the Eastern Extension Railway, to June 30th, 1884.

In the month of January last, this road was taken over by the Intercolonial Railway, with the following rolling stock, viz., nine engines, six first-class, four second-class, and four postal, baggage and express cars, two conductors' vans, twenty-five box, five cattle, seventy platform, one hundred and fifty hopper cars, and one snow plough.

During the following month I had an examination made of the rolling stock, and found that, to put in as good condition as the stock on the Intercolonial Railway, would require an expenditure of \$19,307.30, on the following.

Engines	\$8,710 00
First class cars	3,314 00
Second-class cars	1,557 00
Conductors' vans	101 00
Baggage, postal and express	2,009 00
Box, cattle, hopper and flat cars	3,606 30
Snow plough	10 00
Total	<u>\$19,307 30</u>

Nothing has been done during the year towards improving the condition of the rolling stock, but it has been kept in as good condition as it was at the time it was taken over.

The water service is not in a very efficient condition; the tenders are now filled by the Haggas water elevator.

To erect and equip a sufficient number of water stations would require an expenditure of \$10,000.

I am, Sir,

Your obedient servant,

H. A. WHITNEY,
Mechanical Superintendent.

D. POTTINGER, Esq.,
Chief Superintendent Intercolonial Railway.

No. 1.—EASTERN EXTENSION RAILWAY.
CAPITAL ACCOUNT, 30th June, 1884.

CR.

DR.

1884. June 30.... To cost of road and equipment.....	\$	cts.	1884. June 30 ..	\$	cts.
	1,284,311	97		1,284,311	97
	1,284,311	97		1,284,311	97
			By Dominion of Canada.....	1,284,311	97
				1,284,311	97

G. GRANT BULLEY,
Accountant and Auditor.

NEW GLASGOW, N.S., 30th June, 1884.

No. 2.—EASTERN EXTENSION.

REVENUE ACCOUNT, 9th January to 30th June, 1884.

DR.

CR.

Expenditure.	Amount.	Earnings.	Amount.
Motive power	\$ 7,965 98	Passenger traffic.....	15,738 72
Maintenance of way	9,765 56	Freight traffic.....	9,850 25
do cars	1,337 95	Mails and sundries.....	5,178 69
Traffic expenses	6,567 32	Balance:—	
General expenses.....	2,754 78	Loss on operating.....	2,086 87
Ferry expenses.....	4,462 94		
	32,854 53		32,854 53

NEW GLASGOW, N.S., 30th June, 1884.

G. GRANT BULLEY,
Accountant and Auditor.

Cr.

No. 3.—EASTERN EXTENSION RAILWAY.
GENERAL BALANCE, 30th June, 1884.

Dr.

	\$	cts.	\$	cts.	\$	cts.
Working expenses—						
Motive power.....	7,965	98			15,738	72
Maintenance of way.....	6,765	56			9,850	25
Maintenance of cars.....	1,337	95			5,178	69
Traffic expenses.....	6,567	32				
General expenses.....	2,754	78				
Ferry expenses.....	4,462	91				
Capital account.....			32,854	53		
Cash.....			1,284,311	97		
Windsor and Annapolis Railway.....			1,655	91		
Boston and Maine Railway.....			2	01		
Nova Scotia Steamboat Co.....			36	42		
Rimouski Steamship.....			1	25		
Stores.....			145	46		
Rents.....			6,888	12		
Western Union Telegraph Co.....			55	00		
Bank of Montreal.....			24	40		
Departmental accounts—			2,615	57		
Militia.....						
Post Office.....						
Cooke & Co.....			1,488	90		
D. Harrington & Co.....			1	80		
Morrison & Co.....			31	50		
E. Clay.....			106	00		
Robert Dewar.....			53	55		
N. Pusline.....			31	63		
			0	10		
			1,330,314	12		
Revenue account—						
Passenger traffic.....					1,292,258	87
Freight traffic.....					1,549	95
Mails and sundries.....					2,410	96
Dominion of Canada.....					299	86
Stations.....					639	83
Intercolonial Railway.....					1,608	41
Eastern Railway.....					0	82
New Brunswick Railway.....					3	20
Maine Central Railway.....					1	95
Burlington and C. R. Railway.....					17	97
Canadian Pacific Railway.....					384	59
Midland Railway.....					58	89
Grand Trunk Railway.....					42	06
Intercolonial S. S. Co.....					224	07
Bras D'Or S. S. Co.....					45	00
Nova Scotia Government interest.....						
P. Paint & Sons.....						
			1,330,314	12		

EASTERN EXTENSION RAILWAY.

Return of Accidents and Casualties which have occurred in Canada, on the Line of the Eastern Extension Railway, during the Half-Year, ending 30th June, 1884.

(This Return is made up in compliance with the Provisions of the Railway Act of 1868.—31 Victoria, chap. 68, Sect. 43.)

Date.	Time of Day or Night.	No. of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.	Place of Accident.	Name of Person Injured.	Whether Passenger or Employé.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
1884.												
March 10..	7.10 p.m....	...	Special.....	Finlay Ross.	John Dunbar..	...	Near Port Mulgrave.....	W. Strachan	Neither....	Struck by train while walking on track....	Fatal	Accidental.
do 10..	do .....	...	do	do ..	do ..	...	Near Port Mulgrave.....	B. Strachan.	do ..	Struck by train while walking on track....	Leg broken.	

WINDSOR BRANCH RAILWAY.

OFFICE OF THE CHIEF SUPERINTENDENT,
MONCTON, N. B., 7th November, 1884.

SIR,—I have the honor to submit the following statements, which showing the results of the working of the Windsor Branch Railway, for the year ended 30th June, 1884:—

- No. 1.—Revenue Account.
- No. 2.—Maintenance of way and works.
- No. 3.—General balance.
- No. 4.—Statement of earnings.

I also send you the report of the Chief Engineer on the condition of the permanent way and works.

This line, 32 miles in length, was operated during the year by the Windsor and Annapolis Railway Company, on the same terms as last year, the company being allowed to retain two-thirds of the gross earnings, the balance, one-third, being paid over to the Government, the latter maintaining the line.

The gross earnings for the year amounted to . . .	\$23,018 93
The expenditure for maintenance of way and works	
was	22,140 86
	\$878 07
	\$878 07

The permanent way and all the works belonging to this railway have been maintained in good working order.

I have the honor to be, Sir,
Your obedient servant,

D. POTTINGER,
Chief Superintendent.

COLLINGWOOD SCHREIBER, Esq.,
Chief Engineer and General Manager of Government Railways,
Ottawa.

INTERCOLONIAL RAILWAY.

CHIEF ENGINEER'S OFFICE,
MONCTON, N. B., 25th October, 1884.

SIR,—I have the honour to submit the following report on the maintenance of the Windsor Branch, for the year ending 30th June, 1884.
The length of this branch is 32 miles.

TRACK.

Five thousand eight hundred and sixty lineal feet of old iron rails were taken up and replaced with steel rails, weighing 57 lbs. to the lineal yard.

A new freight siding was put in at Windsor Junction, and the through siding at Ellershouse extended.

SLEEPERS.

During the year 13,096 sleepers were renewed.

FENCING.

Eight miles of old pole fence was renewed with barbed wire fence, the same as in use on the main line.

Twenty-one new farm gates were provided for the wire fences.

Extensive repairs were made to the old fencing over the whole line.

BUILDINGS AND PLATFORMS.

The engine house at Windsor was overhauled and repaired.

Necessary repairs were made to stations at Mount Uniacke, Ellershous and Newport.

The platforms at 3-Mile Plains was re-covered.

BRIDGES, CULVERTS, &C.

The masonry of Sackville Bridge received necessary repairs, a stone culvert was rebuilt near Ellershous.

New cattle guards were put in at Newport Station.

The wharf at Windsor was repaired and 100 tons of ballast put in breast-work.

The turn table at Windsor was repaired.

The track is in good running order.

I am, Sir,

Your obedient servant,

P. S. ARCHIBALD,
Chief Engineer.

J. POTTINGER, Esq.,
Chief Superintendent Intercolonial Railway,
Moncton, N.B.

No. 1.—WINDSOR BRANCH RAILWAY.
REVENUE ACCOUNT, Year ending 30th June, 1884.

Previous Year.	Expenditure.	Year ending 30th June, 1884.	Previous Year.	Receipts and Earnings.	Amount Year ending 30th June, 1884.
\$ cts.		\$ cts.	\$ cts.		\$ cts.
23,103 93	Maintenance, Way and Works	22,140 86	8,019 81	Passenger Traffic.....	8,126 22
	(Abstract No. 1.)		15,134 41	Freight Traffic.....	13,332 84
			959 67	Mails.....	959 87
	Balance.....	878 07			
62 1,009 96		23,018 93	24,113 89		23,018 93
24,113 89					

R. B. BOGGS,
Acct. W. B. Ry.

MONCTON, N.B., 30th June, 1884.

No. 2.—WINDSOR BRANCH RAILWAY.
(ABSTRACT No. 1)—MAINTENANCE, Way and Works.

Previous Year.	Particulars.	Amount.
		\$ cts.
		5,217 62
5,879 63	Repairs of track.....	3,210 05
3,095 63	Rails and Fastenings.....	6,844 22
4,217 31	Sleepers.....	13 80
23 52	Switch locks.....	276 16
2,393 91	Bridges.....	108 93
18 52	Signals.....	301 66
122 57	Culverts and Cattle Guards.....	389 78
2,361 70	Bridgings and Platforms.....	3,803 48
1,332 96	Fences.....	29 14
94 83	Handbars and trollies.....	435 74
414 12	Removing snow and ice.....	253 12
365 74	Tools and repairs.....	
9 40	Wharf at Windsor.....	1,257 16
1,268 44	Accountants' Office expenses.....	
1,505 65	Miscellaneous.....	
		22,140 86
23,103 93		

R. B. BOGGS,
Accountant, Windsor Branch Railway.

MONCTON, N.B., 30th June, 1884.

No. 3.—WINDSOR BRANCH RAILWAY.
MONTHLY STATEMENT of Receipts—One-third Earnings.

Month.	Passengers.	Freight.	Mails.	Totals.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1883.				
July.....	1,066 58	1,017 61	79 73	2,163 92
August.....	1,190 02	1,125 41	79 74	2,395 17
September.....	918 52	1,208 49	79 73	2,206 74
October.....	642 45	1,619 97	80 76	2,343 18
November.....	556 88	1,546 42	80 76	2,184 06
December.....	594 89	1,225 17	80 75	1,900 81
1884.				
January.....	405 01	837 01	79 74	1,321 76
February.....	395 54	789 43	79 73	1,264 70
March.....	413 79	1,049 39	79 73	1,542 91
April.....	528 06	1,185 56	79 73	1,793 35
May.....	631 59	1,352 31	79 74	2,063 64
June.....	782 89	976 07	79 73	1,838 69
	8,126 22	13,932 84	959 87	23,018 93

R. B. BOGGS,
Accountant, Windsor Branch Railway.

MONCTON, N.B., 30th June, 1884.

No. 4.—WINDSOR BRANCH RAILWAY.

Dr.

GENERAL BALANCE.

Cr.

		1884.		1884.			
		\$	cts.	June 30	June 30	Dominion Account	
1884.	Windsor and Annapolis Railway	2,377	56	.....	.....	.....
	Intercolonial Railway		456	67	.....	.....
			<u>2,834</u>	<u>23</u>			
						<u>2,834 23</u>	

PRINCE EDWARD ISLAND RAILWAY.

SUPERINTENDENT'S OFFICE,

CHARLOTTETOWN, 1st October, 1884.

SIR,—I have the honor to submit the following report of the operation of the Prince Edward Island Railway for the year ending 30th June, 1884, and to transmit herewith the accounts for the same period, comprising :—

No. 1. Capital accounts.	
" 2. Revenue accounts.	
" 3. Locomotive power.	(Abstract No. 1.)
" 4. Car expenses.	(" " 2.)
" 5. Maintenance of way and works	(" " 3.)
" 6. Station expenses.	(" " 4.)
" 7. General charges.	(" " 5.)
" 8. Monthly statement of earnings.	
" 9. Statement of general stores account.	
" 10. General balance.	
" 11. Comparative statement of averages.	

I also enclose the report, accompanied by statements, of the Mechanical Superintendent and Storekeeper.

CAPITAL ACCOUNT.

The total expenditure on capital account to 30th June, 1883, was.		\$3,523,692 62
Add to which, the expenditure on rolling	\$ 9,917 44.	
Cape Traverse Branch	120,745 94	
		<u>130,663 38</u>
Making the total expenditure to 30th June, 1884		<u>\$3,654,356 00</u>

The rolling stock provided on capital account up to the 30th June, 1883, was :—

20 engines.
14 first-class passenger cars.
12 second-class " "
2 postal and smoking " "
175 box and stock " "
125 platform " "
3 conductors' vans.
7 snow ploughs.
6 flangers.
1 pay car.

And during the year ended 30th June last, this stock has been increased by :—

2 first-class passenger cars.
2 second-class and baggage cars.
1 postal and smoking " "

The two first-class and three second-class passenger cars referred to in my last report, were completed this year and have been in service.

REVENUE ACCOUNT.

You will notice a slight decrease in the receipts, as compared with last year. I account for this, in part, from the fact that the "Northern Light," owing to the heavy ice and continual easterly winds, was, for a long time, unable to make the

usual average number of trips In consequence, freight, passengers and mails, which would have been carried by railway between Charlottetown and Georgetown during the winter and early spring, were afterwards sent by other routes.

A loss was also caused on account of navigation between Summerside and Point du Chêne not opening until all the small harbors were clear of ice, thus enabling traffic, which the road would have had, to go by other conveyances.

The gross earnings for the year amounted to	\$144,504 12
Previous year	146,170 42
Decrease	<u>\$ 1,666 30</u>

The earnings per mile of railway compare with the previous year, as follows:—

1882-83	\$736 37
1883-84	727 98
A decrease per mile of	<u>\$ 8 39</u>

The length of road operated in each year was the same, viz.: 198½ miles.

STATEMENT.

	Passengers carried.	Earnings.
1882-83	117,162	\$63,319 55
1883-84	118,988	62,926 26
Increase	<u>1,826</u>	Decrease <u>\$ 393 29</u>

	Tons of Freight carried.	Earnings.
1882-83	51,920	\$71,038 55
1883-84	51,841	70,701 74
Decrease	<u>79</u>	<u>\$ 336 81</u>

The engine mileage compared with last year, was:—

1882-83	313,760
1883-84	291,760
Decrease	<u>22,000</u>

The train mileage compared with last year was:—

1882-83	248,819
1883-84	238,130
Decrease	<u>10,689</u>

The car mileage compared with last year, was:—

1882-83	1,237,103
1883-84	1,208,423
Decrease	<u>28,680</u>

It will be observed that while almost as many tons of freight were moved as in the previous year, and a great many more passengers carried, the engine, train and car mileage show large decreases.

EXPENDITURE.

The operating expenses as compared with the previous year, are as follows:—

	Ordinary.	Renewals, Rolling Stock, Rails and Fastenings.	Total.
1882-3	\$252,747 19	\$ 61 22	\$252,808 41
1883-4	216,856 67	19,571 46	236,428 13
Increase		\$19,510 24	
Decrease	\$35,890 52		\$16,380 28

Included in the above expended on new work are the following items:—

Station Master's dwelling, Alberton	\$ 775 20
Extension at Wellington	350 79
“ at Charlottetown freight house	702 36

Also for payments during the year in connection with an accident which occurred in August, 1880

Total	\$17,901 80
-----------------	-------------

TRACK.

During the year, 61,856 sleepers have been put in track, and new sidings have been laid at:—

	Feet.
Starch Factory, Hunter River	203
Summerside wharf	981
	1,184
And sidings at the following places were extended:—	
Clyde	300
Morell	100
	400
Total	1,584

There are now on the line 150 sidings of an aggregate length of over 14½ miles; 3,800 cubic yards of ballast were distributed where most needed on the Eastern, and 3,450 cubic yards of stone ballast on the Western Division. The latter is expensive to procure and pack under sleepers, but it is the only description of good ballast available on the Western Division.

Seven and one-half miles of track were re-laid with steel rails between Elliott's and Freetown, on the Western Division.

Many other repairs and renewals were made to the permanent way.

BRIDGES, CATTLE GUARDS, &C.

The bridges received the necessary repairs, and new tops were put on those at Blueshank and Mill River.

Three new cattle guards were built, forty-six were renewed, and the remainder repaired.

A large new culvert was put in at Alberton. Two new culverts were put in at other points, sixteen received new stringers, and seven were thoroughly repaired and pointed with cement.

BUILDINGS AND PLATFORMS.

The freight house at Wellington was extended 25 feet, main building lowered and repaired, and in addition to a long new platform in front, one was placed around station and freight house.

The freight house on Summerside Wharf, and those at Hunter River and Georgetown, received repairs.

Charlottetown freight house was widened 11 feet, making an increase in width of one-third; 12,000 cedar shingles were used to repair the old roof of this building. County Line, Bradalbane and Morrell stations were repaired.

The coal shed at Summerside received extensive repairs.

Many flag stations were repaired and color-washed.

A new flag station and platform was built at Puisville.

New platforms were also placed at Clyde, Brackley Point, Union, Dundee, Lot 40, and Baldwin's; 280 cubic yards of ballast were used in grading around Baldwin's.

The loading ground at St. Peter's Station was extended by building a breast-work, and filling in 500 cubic yards of ear h. At Hunter River a retaining wall 280 feet long was built for a loading ground, which has been properly graded.

The pits in Charlottetown round house had sides pointed and bottoms rebuilt with cement.

The roof of store house, Charlottetown, and offices in connection therewith, was repaired and re-shingled.

A new hand-car house was erected at Selkirk.

All other buildings and works on line received the necessary light repairs.

WHARVES, &c.

Extensive repairs were made to the wharves at Summerside, Charlottetown and Georgetown, and about 315 tons of stone ballast, together with a large quantity of brush, were used to repair washouts at these wharves.

Souris wharf received slight repairs. The roadway on Charlottetown wharf was planked a distance of 300 feet by 14 feet wide.

The breast-work east of Charlottetown station was washed out, requiring in its repair 250 tons of good stone ballast and a large quantity of brush.

FENCING.

Thirty-six thousand and sixty-six feet of snow fence, and about 30 miles of common board and pole fence were rebuilt. The greater part of above had been burned or blown down.

Six hundred feet of new snow fence were put up. A post and rail fence 275 feet long was erected in Summerside yard.

In addition to above, the necessary repairs have been made on the fencing generally.

WATER SUPPLY.

The "Haggas" water system is still in use and is giving good satisfaction.

ROLLING STOCK.

One new engine was purchased during the year from the Canadian Locomotive and Engine Company, of Kingston, and charged to working expenses. It replaces one which was condemned and struck off the list. The Mechanical Superintendent reports it in every respect a first-class engine.

Twenty 10-ton box cars, ten 10-ton platform cars and one snow-plough, have been rebuilt in the workshops of the railway at Charlottetown. I have reason to believe that the work will compare favorably with any done in Canada.

The rolling stock has received the necessary repairs, and has been maintained in an efficient condition. In the ensuing year, however, forty-eight box cars and ten platform cars will require to be rebuilt.

STORES.

The purchase of stores during the year amounted to \$87,589.46, which includes \$16,098.72 for new steel rails and fastenings.

The value of stores on hand 30th June, 1884, was:—

General stores	\$50,904 33
Coal	3,797 54
Rails and fastenings	31,374 38
	<hr/>
	\$86,076 25
	<hr/>

The stores have, for the most part, been purchased by tender and contracts, which follows out the practice of past years.

I submit herewith a comparative statement for 1882-83 and 1883-84, of the quantities of the various classes of freight carried and of the earnings from this source.

It gives me pleasure to state that the several officers and employés have performed their duties in a satisfactory and efficient manner.

I have the honor to be, Sir,
Your obedient servant,

JAMES COLEMAN,
Superintendent.

COLLINGWOOD SCHREIBER, Esq.,
Chief Engineer and General Manager Government Railways,
Ottawa.

PRINCE EDWARD ISLAND RAILWAY.

MECHANICAL SUPERINTENDENT'S OFFICE,
CHARLOTTETOWN, 30th September, 1884.

SIR,—I beg to submit the following statements showing the operations of the Mechanical Department of this railway for the fiscal year ending 30th June, 1884.

- A.—Monthly statement of cost of locomotive power.
- B.—Statement of the performance and consumption of locomotives.
- C.—Monthly statement of car mileage.
- D.—Statement showing the number of locomotives, cars and snow ploughs.
- E.—Comparative statement of the expense of the Mechanical Department for the years 1882-83 and 1883-84.

To maintain the stock there was purchased, during the year, and charged to working expenses, one new locomotive, at a cost of \$8,750. This locomotive was purchased to replace an old one condemned and struck off the list. It was manufactured by the Canadian Locomotive and Engine Company, of Kingston, Ont., and is in every respect a first class engine.

The two first and three second-class passenger cars, referred to in my last report (now in use for about a year), have given entire satisfaction.

During the year we have rebuilt twenty 10-ton box cars and ten 10-ton flat cars, to replace a similar number of old 8-ton cars. These cars have been rebuilt at a cost of \$8,039.18, which sum is embraced in the working expenses.

The cars rebuilt to maintain the stock are much stronger and of greater capacity than the original stock, and, in consequence, I am satisfied, will be much more serviceable and less costly to maintain.

By reference to statement D, it will be seen that the stock of locomotives, cars and snow ploughs, provided on Capital Account, consists of:—

- 20 locomotives.
- 16 first-class passenger cars.
- 24 second-class passenger and baggage cars.
- 3 postal and smoking cars.
- 175 box cars.
- 125 platform cars.
- 3 conductors' vans.
- 1 pay car.
- 7 snow-ploughs.
- 6 flangers.

I am pleased to be able to report that the efficiency of the rolling stock has been well maintained and is in good condition.

I have the honor to be, Sir,
Your obedient servant,

J. UNSWORTH,
Mechanical Superintendent and Storekeeper.

JAMES COLEMAN, Esq.,
Superintendent Prince Edward Island Railway,
Charlottetown.

PRINCE EDWARD ISLAND RAILWAY.

MECHANICAL DEPARTMENT.

A.—STATEMENT of the Cost of Locomotive Power for the Year ended 30th June, 1884.

Months.	Miles run by Engines, less Ballasting.	Cost of						Average Cost per Mile run.																					
		Enginemen's Wages.	Fuel.	Oil, Tallow and Waste Stores.	Repairs.	Water, including Tank and Pump Repairs.	Miscellaneous, including Expenses of Office and Engine-houses.	Total.	Enginemen.	Fuel.	Oil, Tallow, &c.	Repairs.	Water.	Miscellaneous.	Total.														
		\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.	\$	cts.														
1883—July	30,136	1,309	40	1,539	72	244	87	2,636	16	5	297	30	6,032	68	4	34	5	11	0	81	8	74	0	02	0	99	20	01	
August	28,839	1,264	11	1,688	16	277	95	2,039	37	14	64	131	18	5,315	41	4	38	5	51	0	97	7	07	0	05	0	45	18	43
September	28,665	1,172	28	1,487	18	226	88	2,643	47	66	25	308	44	5,904	50	4	09	5	19	0	79	9	22	0	23	1	07	20	59
October	30,771	1,203	97	1,683	64	231	09	2,609	12	9	16	233	34	5,970	32	3	91	5	47	0	75	8	48	0	03	0	76	19	40
November	29,222	1,170	68	1,817	80	231	54	2,015	66	31	09	306	35	6,573	12	4	00	0	79	10	32	10	32	0	11	1	05	22	49
December	21,292	1,045	08	1,323	56	195	75	2,779	48	31	73	359	26	5,764	87	4	91	6	21	0	92	13	05	0	15	1	83	27	07
1884—January	17,639	1,145	12	1,114	86	148	71	2,669	16	32	83	402	18	5,512	86	6	49	6	32	0	84	15	13	0	18	2	29	31	25
February	16,345	1,152	22	1,001	56	133	52	2,321	07	29	29	395	29	5,614	65	5	92	6	13	0	81	14	20	0	18	2	42	29	66
March	21,064	1,157	68	1,457	68	183	84	2,418	33	76	37	392	11	5,614	65	5	14	5	16	0	80	13	73	0	36	1	55	26	65
April	17,210	885	11	888	24	136	59	2,362	44	3	83	258	91	4,535	12	4	36	4	98	0	78	8	62	0	09	1	06	19	89
May	22,501	981	70	1,121	36	174	54	1,939	81	20	06	239	81	4,476	66	4	36	4	98	0	78	8	62	0	09	1	06	19	89
June	28,076	1,107	38	1,378	93	192	73	1,912	77	19	59	243	00	4,854	40	3	94	4	91	0	69	6	81	0	07	0	86	17	28
Totals	291,760	13,404	71	16,402	69	2,378	01	29,346	22	340	07	3,531	17	65,402	87	4	59	5	62	0	82	10	06	0	11	1	21	22	41

J. UNSWORTH,
Mechanical Superintendent and Storekeeper.

PRINCE EDWARD

MECHANICAL

B.—STATEMENT of the Performance and Consumption

Months.	Hours in Steam.	Train Mileage.				Miles run by Engines.			
		Passenger.	Freight and Mixed.	Ballasting.	Piloting.	With Train.	Light.	Shunting.	Total.
1883—July	3,787	11,438	13,144	2,842	.....	27,424	108	5,706	33,238
August	4,275	12,156	13,865	3,788	.....	29,809	157	3,745	33,711
September.....	3,567	10,978	12,632	1,527	.....	25,137	90	5,075	30,302
October	3,628	10,274	14,084	482	.....	24,840	28	6,406	31,274
November	3,503	10,452	13,490	170	.....	24,112	20	5,280	29,412
December	2,773	4,250	12,958	.....	82	17,290	30	3,972	21,292
1884—January.....	2,960	664	13,548	.....	117	14,329	30	3,280	17,639
February	2,666	156	12,832	.....	838	13,826	26	2,961	16,813
March	3,224	67	13,279	.....	4,400	17,746	52	3,266	21,064
April.....	2,573	228	13,096	321	13	13,658	190	3,683	17,531
May.....	3,038	1,629	15,378	341	.....	17,338	36	5,458	22,842
June	3,276	9,382	13,168	546	.....	23,096	25	5,501	28,622
Totals.....	39,270	71,674	161,474	10,017	5,450	248,615	792	54,333	303,740

ISLAND RAILWAY.

DEPARTMENT.

of Locomotives, for the Year ended 30th June, 1884.

Total Mileage.		*Average of Cars per mile run with Train.	Average Mileage.		Consumption.				Consumption for 100 Miles run by Engines.			
Cars.	Snow Ploughs.		Miles to one hour in Steam	Of Cars to one of Engine.	Bushels of Coal	Pints of Oil.	Pounds of Tal-low.	Pounds of Waste.	Bushels of Coal	Pints of Oil.	Pounds of Tal-low.	Pounds of Waste.
144,001	.....	5.25	8.78	4.33	12,341	1,339	907	482	37.12	4.02	2.72	1.45
160,550	.....	5.38	7.89	4.76	12,320	1,611	1,144	530	36.54	4.77	3.39	1.57
135,648	.....	5.39	8.49	4.47	13,125	1,144	927	427	43.31	3.77	3.05	1.40
122,834	.....	4.94	8.62	3.93	13,198	1,432	900	448	42.20	4.57	2.87	1.43
125,626	391	5.21	8.39	4.27	13,212	1,022	935	452	44.93	3.47	3.17	1.53
78,544	3,119	4.56	7.67	3.69	9,537	1,128	650	354	44.79	5.31	3.05	1.66
64,176	5,171	4.51	5.96	3.64	7,929	954	480	289	44.95	5.40	2.72	1.64
62,665	4,397	4.82	6.30	3.72	7,416	852	499	248	44.10	5.06	2.96	1.47
66,616	9,535	4.99	6.53	3.16	10,462	1,000	745	291	49.66	4.74	3.53	1.38
72,660	192	5.32	6.81	4.14	6,954	756	553	288	39.66	4.31	3.15	1.64
122,681	185	7.07	7.52	5.37	10,531	1,012	737	405	46.10	4.32	3.22	1.77
118,953	.....	5.15	8.74	4.12	11,319	1,027	810	392	39.54	3.58	2.83	1.36
1,274,954	22,990	5.25	7.73	4.19	128,344	13,277	9,287	4,606	42.25	4.37	3.05	1.51

*Deduct piloting from train mileage in making these averages.

J. UNSWORTH,
Mechanical Superintendent and Storekeeper.

PRINCE EDWARD ISLAND RAILWAY.

MECHANICAL DEPARTMENT.

C.—MONTHLY STATEMENT of Car Mileage for the Year ended 30th June, 1884.

Months.	1st Class.	2nd Class.	Postal, Baggage and Express.	Box, Stock and Hay.	Platform.	Total.
1883—July	28,521	29,005	8,373	44,095	34,007	144,001
August	40,595	48,072	10,305	31,489	30,089	160,550
September.....	26,129	28,198	8,080	44,215	29,026	135,648
October	28,507	29,012	9,022	39,053	17,240	122,834
November	23,633	27,377	8,269	55,445	10,902	125,626
December	17,159	17,240	6,944	31,719	5,482	78,544
1884—January.....	14,682	13,116	6,126	19,905	10,347	64,176
February	12,788	10,757	4,929	17,029	17,162	62,665
March.....	13,488	11,292	5,255	18,979	17,603	66,616
April	13,880	11,299	8,536	25,008	13,937	72,660
May	15,463	14,537	10,679	62,964	19,038	122,681
June	23,723	22,602	9,212	44,577	18,839	118,953
Totals.....	258,568	262,507	95,730	434,478	223,671	1,274,954
Less Ballasting .....	.....	8,435	226	2,748	55,122	66,531
Balance	258,568	254,072	95,504	431,730	168,549	1,208,423

J. UNSWORTH,

Mechanical Superintendent and Storekeeper.

PRINCE EDWARD ISLAND RAILWAY.

MECHANICAL DEPARTMENT.

D.—STATEMENT showing the Number of Locomotives and the various classes of Cars and Snow Ploughs on hand, 30th June, 1883 and 1884.

Particulars.	Locomotives.	Classification of Cars.								Snow Ploughs.	Flangers.	Total.
		1st Class.	2nd Class and Baggage.	Postal and Smoking.	Box and Stock.	Platform.	Vans.	Pay Car.	Total.			
On hand 30th June, 1883, serviceable.....	19	14	12	2	162	112	3	1	306	7	6	13
do do condemned	1	.....	.....	.....	13	13	.....	.....	26	.....	.....	.....
Total Stock, 30th June, 1883	20	14	12	2	175	125	3	1	332	7	6	13
Purchased and charged to Working Expenses	*1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Built at Charlottetown Railway Works and charged to Capital .....	..	2	2	1	.....	.....	.....	.....	5	.....	.....	.....
Total Stock, 30th June, 1884	20	16	14	3	175	125	3	1	337	7	6	13
Condemned on hand 1st July, 1883	1	.....	.....	.....	13	13	.....	.....	26	.....	.....	.....
do during the year.....	.....	.....	.....	.....	48	3	.....	.....	51	1	.....	1
Less purchased	1	.....	.....	.....	61	16	.....	.....	77	1	.....	1
do rebuilt	1	.....	.....	.....	20	10	.....	.....	30	1	.....	1
.....	.....	.....	.....	.....	41	6	.....	.....	47	.....	.....	.....
Add serviceable and repairing.....	20	16	14	3	134	119	3	1	290	7	6	13
Total on record.....	20	16	14	3	175	125	3	1	337	7	6	13

* The Locomotive purchased and charged to working expenses replaces the one which was condemned.

J. UNSWORTH,

Mechanical Superintendent and Storekeeper.

PRINCE EDWARD ISLAND RAILWAY.

MECHANICAL DEPARTMENT.

E.—COMPARATIVE STATEMENT of the Expenses of the Mechanical Department, for the Year ended 30th June, 1884.

	1883.	1884.
The miles run by trains were	248,819	238,130
do engines were.....	313,760	291,760
do cars were	1,237,103	1,208,423
do snow-ploughs were.....	27,711	22,990
	\$ cts.	\$ cts.
The cost of locomotive power was	86,509 95	65,402 87
do repairs to cars was	17,432 82	22,438 49
do labor, oil and waste, for packing, was	794 13	669 17
do repairs to passenger cars was	12,047 33	7,237 29
do do postal, express and baggage cars was	755 53	2,163 11
do do freight cars and vans was	4,629 96	13,036 09
The cost of locomotive power per 100 miles run by trains was	34 76	27 46
do do do engines was	27 57	22 41
do do do cars was	6 99	5 41
The cost of repairs to cars per 100 miles run by trains was	7 00	9 42
do do do engines was.....	5 55	7 69
do do do cars was.....	1 40	1 85
The cost of labor, oil and waste for packing per 100 miles run by trains was...	0 31	0 28
do do do engines was	0 25	0 22
do do do cars was.....	0 06	0 05
Repairs to passenger cars per 100 miles run by trains were	4 84	3 04
do postal, express and baggage cars were	0 30	0 90
do freight cars and vans were	1 86	5 47

J. UNSWORTH,
Mechanical Superintendent and Storekeeper.

No. 1.—PRINCE EDWARD ISLAND RAILWAY.

DR.

CAPITAL ACCOUNT.

CR.

		\$	cts.			\$	cts.
1882.	To cost of Road and Equipment to date.....	3,523,692	62	1882.	By Dominion of Canada	3,523,692	62
June 30...				June 30...			
1884.	To Expenditure, year ended 30th June, 1884:—			1884.	By Dominion of Canada	130,663	38
June 30...	On Rolling Stock.....\$ 9,917 44			June 30...			
	On Cape Traverse Branch	120,745	94				
		130,663	38				
		3,654,356	00				
						3,654,356	00

CHARLOTTETOWN, P.E.I., 30th June, 1884.

W. T. HUGGAN,
Accountant and Auditor.

No. 2. —PRINCE EDWARD ISLAND RAILWAY.
REVENUE ACCOUNT for Year ended 30th June, 1884.

Previous Year.	Expenditure.	Year ended 30th June, 1884.	Previous Year.	Receipts.	Year ended 30th June, 1884.
\$	cts.	\$	cts.	\$	cts.
86,509 95	Locomotive Power per Abstract No. 1...	65,402 87	63,319 55	Passenger Traffic.....	62,926 26
31,584 97	Car Expenses do	36,718 15	71,038 55	Freight do	70,701 74
87,862 92	Maintenance Way and Works do	81,954 16	11,812 32	Mails and Sundries.....	10,876 12
23,899 79	Station Expenses do	24,452 59		Total Receipts	144,504 12
22,950 78	General Charges do	27,900 36	146,170 42	Balance	91,924 01
	.....Totals.....	236,428 13	106,637 99	.....Totals.....	236,428 13
252,808 41		252,808 41	252,808 41		

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884

No. 3.—PRINCE EDWARD ISLAND RAILWAY.

LOCOMOTIVE POWER. (Abstract No. 1.)

Previous Year.	Details.	Year ended 30th June, 1884.
\$ cts.		\$ cts.
1,364 09	Mechanical Superintendent's salary, Clerks, office and travelling expenses	1,281 31
14,789 57	Wages of Drivers, Firemen and Cleaners.....	13,404 71
17,650 59	Fuel.....	16,402 69
1,713 22	Oil, Tallow, Waste and Small Stores.....	2,378 01
47,248 17	Repairs to Engines, Tenders and Engine Tools.....	29,346 23
1,332 57	Water, including Pumps and Tank repairs.....	340 07
2,411 74	Miscellaneous.....	2,249 86
86,509 95	Totals.....	65,402 87

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

No. 4.—PRINCE EDWARD ISLAND RAILWAY.

CAR EXPENSES. (Abstract No. 2.)

Previous Year.	Details.	Year ended 30th June, 1884.
\$ cts.		\$ cts.
12,047 33	Repairs to Passenger Cars.....	7,239 29
755 53	do Postal and Baggage Cars.....	2,163 11
4,629 96	do Freight cars and Vans.....	13,036 09
11,227 56	Wages of Conductors, Train and Baggage Masters, and Brakesmen.....	11,057 06
794 13	Oil and Waste for packing.....	669 17
1,984 87	Small Stores and Fuel.....	2,049 35
145 59	Miscellaneous.....	504 08
31,584 97	Totals.....	36,718 15

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

No. 5.—PRINCE EDWARD ISLAND RAILWAY.
MAINTENANCE OF WAY AND WORKS.—(Abstract No. 3.)

Previous Year.	Details.	Year ended 30th June, 1884.
\$ cts.		\$ cts.
316 64	Engineer's salary, Clerks, Office and Travelling Expenses.....	369 96
39,661 14	Wages in repairing Roadway, Fences and Semaphores.....	40,154 87
5,480 55	Rails, Chairs and Spikes.....	14,720 13
21,644 30	Sleepers.....	13,457 85
7,786 17	Timber and lumber for repairs to Bridges, Cattle-guards, Fences, &c.....	2,172 40
1 470 41	Repairs to Wharves.....	1,415 80
7,126 86	do Builings.....	4,846 52
2,953 01	do Snow ploughs, Flangers and Tools.....	3,158 64
1,423 84	Clearing Ice and Snow.....	1,657 99
87,862 92	..... Totals	81,954 16

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

No. 6.—PRINCE EDWARD ISLAND RAILWAY.
STATION EXPENSES.—(Abstract No. 4.)

Previous Year.	Details.	Year ended 30th June, 1884.
\$ cts.		\$ cts.
18,117 37	Salaries and wages of Station Masters, Agents, Clerks, Telegraph Operators, Station Baggage-men, Yardmasters, Switchmen, Watchmen and Laborers.....	18,022 45
5,782 42	Fuel, Oil, Light, Stationery, Tickets and other Incidental Expenses.....	6,430 14
.....	Miscellaneous.....	.....
23,899 79	..... Totals	24,452 59

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

No. 7.—PRINCE EDWARD ISLAND RAILWAY.

GENERAL CHARGES—(Abstract No. 5).

Previous Year.	Details.	Year ended 30th June, 1884.
\$ cts.		\$ cts.
5,642 10	Superintendent's and Train Despatcher's salaries, Clerks, Office and travelling expenses	5,303 87
5,529 14	Accountant and Auditor's, Paymaster's and Cashier's salaries, Clerks, Office and travelling expenses	5,267 94
395 58	Advertising	480 70
10,394 94	Damages to men, animals and goods	16,262 52
815 57	Telegraph expenses (not including pay to operators)	342 46
373 45	Miscellaneous	242 87
22,950 78	.....Totals	27,900 36

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884

No. 8.—PRINCE EDWARD ISLAND RAILWAY.

MONTHLY STATEMENT OF RECEIPTS.

Months.	Passenger Traffic.	Freight Traffic.	Mails and Sundries.	Totals.
	\$ cts.	\$ cts.	\$ cts.	\$ cts.
1883.				
July	7,859 26	5,347 68	713 00	13,919 94
August.....	7,329 28	6,395 84	708 00	14,433 12
September	6,652 42	6,687 55	709 00	14,048 97
October	7,515 78	8,304 44	707 00	16,527 22
November	5,964 22	9,666 32	716 50	16,347 04
December	4,202 01	4,264 04	1,583 00	10,049 05
1884.				
January	2,942 17	2,642 88	1,351 00	6,936 05
February	2,291 29	2,768 85	718 00	5,778 14
March.....	3,061 68	3,122 20	720 50	6,904 38
April.....	4,553 20	3,729 41	803 12	9,085 73
May.....	5,047 43	10,213 14	1,445 00	16,705 57
June.....	5,507 52	7,559 39	702 00	13,768 91
Totals	62,926 26	70,701 74	10,876 12	144,504 12

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

No. 9—PRINCE EDWARD ISLAND RAILWAY.

STATEMENT of General Stores Account, Year ended 30th June, 1884.

1883.		DR.	\$	cts.	\$	cts.
June	30...	To Balance brought forward				72,104 89
1884.						
June	30...	To Purchases during the year, including rails	87,589	46		
		Charges from other Departments	11,297	45		
		Pay rolls	3,404	56		
						102,291 47
1884.		CR.				
June	30...	By Issues during the year				88,320 11
		Balance. { Ordinary Stores	\$50,904	33		
		{ Fuel	3,797	54		
		{ Rails and Fastenings on hand..	31,374	38		
						86,076 25

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

No. 10.—PRINCE EDWARD ISLAND RAILWAY.

DR.

GENERAL BALANCE.

CR.

	\$	cts.		\$	cts.
General Stores.....	86,076	25	Dominion Account	89,536	51
Cash	1,566	64	Accident Insurance.....	3,892	81
Stations	1,187	77			
Militia Department.....	105	24			
Post Office Department.....	4,362	00			
Intercolonial Railway.....	29	99			
Suspense Account	101	43			
Total.....	93,429	32	Total	93,429	32

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

No. 11.—PRINCE EDWARD ISLAND RAILWAY.

COMPARATIVE STATEMENT of Averages for Year ended 30th June, 1884.

Details.	1884.	1883.
Mileage of railway open.....	198½	196½
Engine mileage.....	291,760	313,760
Train do.....	238,130	248,819
Car do.....	1,208,423	1,237,103
Receipts per engine mile..... Cents.	49·52	46·59
do mile of railway..... \$	727·98	736·37
Percentage of passenger earnings to gross receipts.....	43·55	43·32
do freight do.....	48·92	48·60
do other do.....	7·53	8·08
Expenses per engine mile :—		
Drivers', Firemen's and Cleaners' wages.....	4·59	4·71
Fuel.....	5·62	5·63
Oil, Tallow, Waste and Small Stores.....	·82	·54
Repairs to engines.....	10·06	15·06
Water and tank repairs.....	·12	·42
Miscellaneous.....	·77	·77
Mechanical Superintendent's salary, Office and Travelling expenses.....	21·98	27·13
	·44	·44
Total..... Cents	22·42	27·57
Locomotive power per engine mile.....	22·42	27·57
Car expenses do.....	12·58	10·07
Maintenance way and works do.....	28·08	28·00
Station expenses do.....	8·38	7·62
General charges do.....	9·57	7·31
Total per engine mile..... Cents.	81·03	80·57
Locomotive power per train mile.....	27·46	34·78
Car expenses do.....	15·42	12·69
Maintenance way and works do.....	34·41	35·31
Station expenses do.....	10·27	9·60
General charges.....	11·72	9·22
Total per train mile..... Cents.	99·28	101·60
Working expenses per mile of railway \$	1,191 07	1,273 60

W. T. HUGGAN,
Accountant and Auditor.

CHARLOTTETOWN, P.E.I., 30th June, 1884.

PRINCE EDWARD ISLAND RAILWAY.

DESCRIPTIVE STATEMENT of Freight Earnings, for the Year ended 30th June, 1884.

Description of Freight.	Quantities.		Tons.		Amount.	
	1883.	1884.	1883.	1884.	1883.	1884.
					\$ cts.	\$ cts.
Oats..... Bush.	350,684	507,291	5,961	8,624	7,078 36	12,103 24
Wheat and other Grain..... "	10,699	6,134	321	180	545 61	317 17
Potatoes and Roots..... "	170,587	52,164	5,115	1,565	6,657 66	1,736 20
Flour..... Bbls.	34,540	25,789	3,456	2,579	5,656 85	3,917 70
Mackerel..... "	7,192	14,490	1,079	2,174	1,059 69	2,289 14
Herring..... "	3,844	2,449	576	367	942 02	577 68
Cod and other Fish..... "			122	200	329 94	421 97
Canned Fish and Meats..... Cases.	23,934	26,068	838	912	1,499 65	1,623 01
Oysters..... Bbls.	2,441	3,658	244	366	301 49	543 76
Fish Barrels..... No.	5,813	5,139	334	235	314 80	249 40
Timber, Hewn and Unhewn... C. ft.	162,039	110,706	4,277	2,848	3,201 13	2,077 98
Lumber, Sawn..... Sup. ft.	2,655,248	3,305,281	3,495	4,283	2,981 86	3,889 23
Shingles..... M.	9,041	8,886	1,355	1,333	1,335 27	1,383 64
Cordwood and Tanbark..... Cords.	3,159	2,808	5,969	5,329	3,338 06	2,945 50
Shingle timber, &c. Cars.	54	64	638	669	442 88	606 25
Coal..... "	147	134	1,355	1,351	764 58	742 10
Lime..... Bbls.	2,027	3,703	216	377	276 95	426 30
Limestone..... Cars.	113	84	1,074	935	343 54	283 86
Brick and building stone..... "	34	70	315	712	178 90	351 15
Mussel mud..... "	156	196	1,564	1,975	521 96	647 13
Salt..... "			1,038	898	1,261 60	864 82
Live Stock..... No.	4,245	4,957	1,012	1,179	2,055 60	2,440 94
Pressed Hay..... "			24	67	32 09	74 67
Fresh Beef..... "			136	24	328 76	71 33
Pork in Carcass..... "			390	273	1,127 46	769 38
Pork in Barrels..... Bbls.	2,062	795	309	162	397 33	165 38
Butter and Cheese..... "			20	43	76 49	136 31
Eggs..... Pkgs.	24,140	28,175	861	1,005	2,095 88	2,517 80
Farina starch..... "				1,362		1,417 62
Merchandise..... "			9,926	9,814	24,448 73	23,805 69
Wharfage, Storage, &c. "					1,443 61	1,315 39
			51,920	51,841	71,038 55	70,701 74

STATEMENT OF PASSENGER TRAFFIC.

	1883.	1884.
Total number carried.....	117,162	118,988
do receipts.....	\$62,319 55	\$62,926 26
Receipts per passenger in cents.....	54.54	52.88

PRINCE EDWARD ISLAND RAILWAY.

RETURN of Accidents and Casualties which have occurred on the Prince Edward Island Railway, during the Year ended 30th June, 1884.

Date.	Time of Night or Day.	No. of Train.	Description of Train.	Name of Conductor.	Name of Driver.	No. of Engine.	Place of Accident.	Names of Persons Injured.	Whether Passenger or Employé.	Particulars of Accident.	Extent of Injury.	Verdict of Coroner's Jury.
1883.												
July 16.	11.20 am	1	Express....	D. H. Macgowan.	N. D. Armour.	14	O'Leary	{ John McDougall	Neither....	While attempting to cross track in a wagon, was run into by train.	Slightly hurt	
Oct. 21.	11.00 am	...	Shunter ...	.....	J. Currie	1	Summerside	{ Mgt. McDougall — Gould.	do ... do ...	Boy attempted to jump into box car being placed in siding; was caught between car and fence.	Fatal. Severe scalp wounds.	Accidental.
1884.												
Feb. 18.	8.00 a.m.	1	Express....	D. H. Macgowan.	D. Pound.....	5	Royalty Junction	D. McKenna	Employé..	While coupling cars	Finger crushed; amputated	
May 5.	5.30 p.m.	...	.....	.....	.....	...	Summerside.....	.....	Neither ...	A number of children	Leg broken..	

APPENDIX No. 5.

GOVERNMENT RAILWAYS IN OPERATION.

OFFICE OF THE CHIEF ENGINEER,
OTTAWA, 14th November, 1884.

SIR,—On the 2nd May last I was instructed by Department letter, No. 21073, to cause surveys to be made for the purpose of securing the shortest and best route for a line of railway between Montreal, St. John and Halifax, the following routes being selected for this purpose:—

A.—Montreal to Lennoxville.

B.—Moose River (on International Railway, north of Moose Head Lake) to Harvey, on the St. John and Maine Railway.

C.—Moose River (south or across Moose Head Lake) towards Matawamkeag, on the European and North American Railway.

D.—Chaudière Junction, on the Intercolonial Railway, to Hartland and Woodstock.

E.—Rivière Ouelle, on the Intercolonial Railway, to Edmonton, on the New Brunswick Railway.

F.—Rivière Du Loup, on the Intercolonial Railway, to Edmonton, on the New Brunswick Railway.

I immediately took steps for the organization of these surveys, placing the following gentlemen in charge:—

Division A.—Mr. R. Adams Davy.

“ B.—(Western Section) Mr. Ambrose Duffy.

“ B.—(Eastern “) Mr. Vernon Smith.

“ C.—Mr. Park Spofford.

“ D.—(Western Section) Mr. A. L. Light.

“ D.—(Eastern “) Mr. G. P. L. Fellows.

“ E.— } Mr. M. J. Crawford.

“ F.— }

These gentlemen took the field immediately after having procured the requisite supplies and camp equipage, and have been engaged in field operations during the whole season. They are only now beginning to return to Ottawa, to prepare their plans, profiles and estimates. Messrs. Davy, Duffy and Smith have arrived at the Capital and are now busy in the office, and they report that they have found lines very eligible for railway construction. I may add that the reports which have reached me from those engineers still in the field are very favorable, but until the plans, profiles and estimates are complete on all the routes, I shall not be in a position to report fully or to make a comparison of the several routes surveyed and the sections of country traversed. So soon as I am in possession of this information I will report to you more fully.

I have the honor to be, Sir,
Your obedient servant,

COLLINGWOOD SCHREIBER,
Chief Engineer and General Manager.

A. P. BRADLEY, Esq.,
Secretary, Department Railways and Canals.

APPENDIX No. 6.

No. 1.

DEPARTMENT OF RAILWAYS AND CANALS,
SUPERINTENDING ENGINEER'S OFFICE,
MONTREAL, 30th October, 1884.

SIR,—I have the honor to submit my report on the various works under my charge, for the fiscal year 1883-84, ended on 30th June last, as called for by your letter, No. 64453.

These works are the Lachine Canal and the Beauharnois Canal, on the River St. Lawrence, and the Chambly Canal and St. Ours Lock and Dam, on the Richelieu River.

They have been maintained in an efficient state, without accident or interruption to the traffic.

Statements are annexed showing the amount collected for fines, damages, &c., together with monthly returns of the highest and lowest water registered at the upper and lower entrances of each canal, and on each mitre sill of St. Ours Lock.

LACHINE CANAL.

The traffic on this canal was maintained without interruption from any cause whatsoever during the fiscal year.

It was closed by ice on 1st December, 1883. The water was drawn off on the evening of the 18th April, and let in again on the evening of 3rd May, and the canal was fully opened for navigation on the morning of 5th May. The lower reach, however, was not filled to full height until the 12th of May, to enable the contractors for the St. Gabriel Basin to complete the front walls of their work. But there was no detention to the trade, as the level afforded a draught of 9 feet.

The principal repairs made during the year were as follows :—

LOCKS.

Old Lock No. 1.

Received new valves, new foot bridges, and three new working crabs for lower gates. The upper gates received two new crabs, new valve working screws and new mullions.

Old Lock No. 2.

The whole of the masonry was thoroughly pointed with cement. Two new crabs were placed at lower gates, and new face binders and valve screws on the upper gates.

Old Lock No. 3.

New valves were placed in both pairs of gates; and four new crabs and new valve working screws on the lower gates.

Old Lock No. 4.

The lower gates were taken out and replaced by new gates, with new crabs for same, and new valves and working screws were furnished to the upper gates.

Old Lock No. 5,

Or the Guard Lock, received new valves in one lower gate, and new crabs, valve screws and chambers for upper gates.

NEW LOCKS.

No repairs were required at these locks.

The tubes or crank masts for operating the valve screws, as furnished with the new gates, were not sufficiently strong to stand the strain to which they were subjected in working the three valves of each gate when connected together.

They have been replaced by tubes of milled steel, formed by boring a round bar to the proper depth, and leaving the head, to which the working crank is fitted, solid.

These tubes were made in the Government workshops, and answer the purpose intended in every respect.

BRIDGES.

Swing bridges Nos. 1, 2 and 3 at Mill street, Wellington and Seigneurs streets received new flooring, had all the bolts tightened, and were painted throughout. Swing bridges Nos. 4, 5 and 6, situated at Napoleon Road, Cote St. Paul and Lachine were newly planked. These are old bridges, and must soon be replaced by new ones. The two first named especially are not considered safe for extra heavy loads. All the stationary or fixed bridges, 15 in number, were re-planked, and five of them situated at Lachine, were strengthened by placing extra side stringers on blocks on top of flooring and bolting them through to the bottom stringers with 7 bolts.

A new stationary bridge, 50 feet long by 12 feet wide, was built over the enlarged entrance of the head race to the factories at Cote St. Paul. It connects the long pier above the lock with the bank for towing purposes.

WEIRS.

Weir No. 1 received new brass nuts for the working screws.

Weir No. 2 was furnished with 2 new gates, 4 new screws with chambers and brass nuts, and the whole of the masonry was thoroughly pointed.

Weir No. 3 had new steps provided for the 3 swinging gates.

Weir No. 4. The 8 gates of this weir were removed. The four swing gates received new steps, bottom castings and top iron fastenings. The 4 hoisting gates received new slides and some other trifling repairs. A leak from the head race of the factories on the south side of this weir necessitated the removal of a large portion of the flooring of the tail race to staunch it. The space from which the puddle was washed out by the leak was filled by concrete and the flooring relaid.

Supply Weirs Nos. 5 and 6, at Lachine, were found to be in a critical condition when the water was drawn off the canal. Two of the gates in No. 5 were so badly broken that they could not be repaired. They were replaced by new ones. Three of the other gates had their shafts so much bent that the gates had to be removed and new shafts furnished.

Two of the piers of masonry between the gates of Weir No. 6 were displaced, as supposed by sunken timber. This masonry was put back in position and secured there by bolting angle irons at bottom and top to the sills and lintels. To admit of this work being done, however, new stop logs of oak had to be provided, as the head of water to be shut off was 15 feet.

BASINS, WHARVES, &C.

The dock wall on the south-east side of Basin No. 2, in front of the mills and factories, and the wall on the north-west side of Basin No. 4, opposite the stores of the Montreal Warehousing Company, were pointed.

Six of the small bridges over the flumes leading to the mills at Basin 2 were renewed. Four new head gates and working screws were furnished for the flume at Pillow & Hersey's, two each for the flume at Ira Gould & Son's and Rodgers & King's, late Bartley's. Many of the head gates at other mills on this basin must be renewed next spring.

The great extent of the wharves on this canal and its branches, and the heavy traffic on them, calls for a large expenditure in repairs. They have been maintained in an efficient state.

FLOUR SHEDS.

The fine sheds at Basin No. 2 are old, and require frequent repairs. The roofs of Nos. 1 and 2 of these sheds are covered with sheet iron, but the boards to which this sheet iron is nailed are so doted from age that they can scarcely hold the nails, and an ordinary wind loosens the iron.

It will soon be necessary to renew the whole of this covering, both the wooden sheeting and the iron.

The sills and lower ends of the posts of the St. Gabriel sheds are decayed and must be renewed. New sills must be provided and the lower ends of the posts spliced. As this work has been authorized at the date of this report, and an appropriation granted, it will be carried on during the winter and completed before spring.

OTHER BUILDINGS, FENCES, &C.

The gravel roofing of the storehouse, carpenter shops, iron-fitting shops and stonemason's dwelling, which are all in one building, was renewed; and the blacksmith's shop and two dwelling houses of employés were repaired and are in fair condition.

The watch-houses at the different locks and bridges received necessary repairs, and are comfortable for those men when not on duty outside.

The fence between the old canal and road, at Lachine, was thoroughly repaired; and a new fence was built for the protection of the public along the tail-race of the large weir at head of Basin No. 2, in Montreal.

PIERS AND BOOMS AT LACHINE.

The superstructure of six of the mooring piers in the old timber basin was rebuilt above the water line. Eight of the booms, which had become water-soaked, were turned over and sheeted on the bottom with cedar timber, so that, when replaced, they float almost as well as when newly built.

A new pier of 12 by 10 feet was built at the upper end of the basin for the support of the head boom during high winds.

All the guide-piers in the new entrance on Section 11 have been connected by temporary single stick booms. The space thus enclosed furnishes accommodation and protection for a large quantity of timber, the boomage dues on which considerably increase the revenue. But as this section is now open for navigation, and the present arrangement is only temporary, properly constructed booms should be provided as soon as possible.

The single-stick booms now in use are not considered safe during storms, and if broken, damage to vessels and loss of timber might occur, for which Government would be responsible.

BANKS, ROADS, &c.

The towing paths on both sides of the canal, with their back drains and off-take ditches, have been kept in excellent condition. Side walls on summit level repaired in many places where damaged by rafts and vessels. Two hundred new mooring posts have been used to replace those that were old or decayed. All weeds and thistles growing on the banks and Government grounds adjoining, were cut at the proper time. The roads at the different flour sheds and basins, approaches to bridges, wharves, &c., have been repaired and kept in good order.

The River St. Pierre and drains leading to it from the canal were all thoroughly cleaned, and the low lands through which they pass are dry and producing good crops.

Since the enlargement of the canal, leaks have occurred several times, through the north-west bank, about the centre of Section 8. These were always discovered in time to prevent serious damage, chiefly by old Mr. Evers, who lives on that side of the canal, near the point where the leaks take place. He does this voluntarily, and has never asked or received any compensation for it. As he is old and feeble, and the nearest place at which he could give notice of a leak is one mile and a-half from where he lives, it was thought to be well, as a precaution, to connect his house with the canal telephone line which passes his door. This connection has already proved useful on two occasions. As a further precaution, a supply of puddle clay is kept at different points on the bank in this vicinity. This clay was brought down in scows from the cross-dams of Section 11, when they were being removed, as there is no water-tight material to be had in the neighborhood of the leaks.

SPARE LOCK GATES.

There are ten pairs of spare gates on this canal. They are all in good order and stored in the basin on Section 11, which is the only place where gates can be kept in the water in safety on this canal. These gates are numbered for the locks they are intended for and can be readily got at when required.

CONSTRUCTION.

The work done on this canal during the year, not under contract and chargeable to construction, was as follows:—

Dredging in the 19 feet channel in Basin No. 2, as far as the Wellington Basin.

The placing of a concrete wall or footing under the front face of the dock wall on the south-east side of Basin No. 2.

Clearing out the bottom of new Lock No. 5. Placing lamp-posts and building a lock shanty at the same lock.

The material dredged from the above channel was deposited for filling on the new St. Gabriel Basin grounds, except a portion used to grade low places, behind the wharves, at Wellington Basin, and on the point of land above Lock No. 3, now much used as a landing place for cordwood, lumber, &c. Ships drawing 18 feet of water can now pass from the harbor to the Wellington Basin.

There has been no leakage under the dock wall since the concrete was placed beneath it.

A point of land situated below the St. Gabriel locks, between the tail race from the weir and the tail race from the mills, which has not been utilized since the enlargement of the canal, was faced with timber on the side next the mills tail race, where it has a frontage of 100 feet. This was filled with dredged material, and three mooring posts were placed on it. It is now used extensively by the manufacturers at this lock for shipping and receiving heavy machinery and other goods.

A large portion of the wharves on this canal, more particularly those on the new basins, as well as the St. Gabriel flour sheds, are still unprovided with light of any kind. As the work of loading and discharging vessels is carried on by night as

well as by day, the want of light leads to great inconvenience and danger. Some system of lighting, either gas or electric, should be provided before next season.

WORKS UNDER CONTRACT.

Bridge over New Lock at Lachine.

This bridge, for which Mr. John McDougall was contractor, was completed and brought into use in November, 1883.

St. Gabriel Basins Nos. 3 and 4.

The contractors, Messrs. Rodgers & Farrell, commenced work at these basins in July, 1883, and continued to work at excavation and embankment until the 15th of December, when they were stopped by the frost. The foundation for the side wall on the canal front was also prepared, as far as could be done, by a steam dredge.

A large quantity of material was also delivered. During the winter the delivery and preparation of materials and plant was continued.

Fourteen derricks, and masts and wires for six electric lights, were erected on the canal bank in rear of the line of wall to be built when the water was drawn off the canal.

This was done on the 18th of April, and could not have been done sooner, as the water in the river was too high. On the 19th the water was down to the level of the backwater of the river in this reach, being a depth of about 3 feet 9 inches only of water on the canal bottom. The contractors then formed light dams outside the line of dock wall foundation, fixed their pumps and commenced unwatering the space thus enclosed. On the 20th April excavation was begun on the foundation, and on the 22nd, in the afternoon, the first stone of the wall was laid.

The work was carried on night and day and on Monday, 5th of May, the lowest point of the wall was high enough to permit the filling of this reach sufficiently to afford 9 feet draft and open the navigation. The water was not raised to the full height until the 12th of May, to enable the contractors to get their wall above the level of 13 feet of water.

In this wall, and short sections into each basin, there are 3,700 cubic yards of masonry, of which 3,100 yards were built between 22nd April and 5th May.

Excavation in Basin No. 3 was resumed on 6th May, and on 9th of June the side wall was commenced at the north end. Since then the work has progressed fairly but slowly, the rate of progress not being sufficient to ensure the completion of the basins during this season.

MACADAMIZED ROAD

From Lachine to late St. Paul Road.

Tenders were invited for the construction of this road in March last. The work was awarded to Messrs. Edward Ouelette & Co., of Lachine, who signed the contract on the 5th of June, and commenced work immediately after. Several culverts have been built, and a large portion of the grading has been done.

Since the close of the fiscal year, a contract for fencing has been given to the same parties, and they are now working at it.

This road is $1\frac{1}{4}$ miles long, and is situated on the south-east side of the canal, on a strip of land conceded for the purpose immediately outside of the canal land, except for a short distance at its junction with the Lower Lachine Road, where, by the permission of the Government, it is located on the canal land.

NEW WORKS OF ENLARGEMENT.

As stated in report for last year, all these works were completed, except on Section No. 11. The contractors of Section No. 9 had not then been settled with, but a final settlement has since been made with them, by arbitration.

SECTION No. 11.

The operations on this section during the year, consisted of the general completion of all work connected with the enlargement with the exception of sub-marine excavation.

They comprised the building of side walls, the grading, ditching and filling between and behind them, the placing of snubbing posts, building of mooring or guide piers, &c.

Sub-marine excavation was commenced this year on 30th April, and has been carried on without interruption during the months of May and June. The amount of excavation remaining yet to be done is small, but it consists entirely of trimming the sides of the channel and cleaning up the bottom in rock cutting, which is found to be very tedious work. It is expected, however, that it will be completed during the season.

Mr. Killaly, the resident Assistant Engineer in charge of this work, reports that the final estimate for this section is in an advanced state, and that upon the completion of the work outside there will not be much delay in furnishing it.

 BEAUHARNOIS CANAL.

This canal was closed by ice on the 1st of December, 1883, and was re-opened for navigation on the 26th April, 1884. No accident occurred and consequently there was no interruption to navigation during the fiscal year.

LOCKS AND LOCK GATES.

One pair of gates was built for and placed in the upper end of Lock No. 11, and the building of a pair of upper gates for Lock No. 9 has been commenced.

General repairs were made to the gates of Locks 6, 7, 8, 10, 11 and 14; and the working chains of the lower gates of Locks 7 and 8, and of all the gates of Lock 14, were renewed. Three pairs of old gates were hauled out and taken apart. The walls of tail-race below weir of Lock 14 were rebuilt, and an iron railing on them similar to that above the weir. Nine bumping posts were removed at different locks, and many others repaired.

BRIDGES.

The work in connection with removal of swing bridge at Lock 14 was completed. The bridges at Locks 8, 9, 10, 11 and 13, received considerable repairs. At No. 8 the cap and braces and part of flooring were removed. The end beams and ballast boxes of bridges at Locks 9 and 10 were removed, and a new ballast box and locomotive furnished to St. Timothy bridge.

Timber is being prepared to rebuild the bridge at Lock 13. Numerous small bridges over ditches and discharges were rebuilt, and others repaired.

BANKS, DAMS, DYKES, &c.

The dykes and dams at Hungry Bay, Ile aux Chats and Grande Ile, received extensive repairs, having been much damaged by high water and storms in the spring, the Hungry Bay dyke especially, which had to be raised for a large portion of its length.

The canal banks were raised in many places, and the slope walls repaired. One hundred and sixty new snubbing posts were placed on the banks, and a large number of others taken up and re-set. All culvert wells, side ditches and discharges were cleaned during last summer, and, in the spring, the snow and ice was removed from

them. The weeds were mowed, as usual, on both sides of the canal, at the proper seasons.

WHARVES, &C.

The superstructure of wharf on south side of canal, near the upper entrance, was rebuilt from low-water line, and well filled with stone. All other wharves and piers were kept in good repair.

BUILDINGS, FENCES, &C.

A new dwelling house was built for the Superintendent. It includes, also, a suitable canal office. The Lockmaster's house at Lock No. 10 was rebuilt and enlarged.

New fences were made around the lockmen's premises at Valleyfield, and also round the house of the Lockmaster at Lock No. 7. All the other dwelling houses, with the outbuildings and fences, were kept in good repair.

A wing of 80 by 20 feet was added to the workshop. It is to be used as a saw-mill and lathe room.

CHAMBLY CANAL.

Was closed by frost on 30th November, 1883, and re-opened on 5th of May, 1884. The navigation was maintained without accident or interruption of any kind.

Work done during the fiscal year is divided under two heads, viz: Ordinary repairs, and improvements chargeable to income.

The ordinary repairs were principally as follows:—

LOCKS.

New mitre sills were placed at upper ends of Locks 2, 3, 5 and 6, and the flooring of Locks 3, 4, 5 and 6 was renewed. The gates of Lock No. 1 were furnished with new foot bridges, and those of Locks 8 and 9 with new sluice gates, two at Lock 8, and three at Lock 9.

BRIDGES AND BY-WASHES.

Swing Bridge No. 1 was replaced by a new one. The flooring of bridges Nos. 7 and 8 was renewed. A small road bridge, near bridge No. 2, and five towing-path bridges on St. Thèrese Island were rebuilt.

By-wash No. 2 was re-planked.

BANKS, DITCHES, &C.

The side walls were repaired between Locks 3 and 5 for about one mile in length on each side, and the banks were raised and widened between the same points. A slide below Fryer's By-wash was repaired. The banks in the vicinity of Locks 3, 4, 5, 6 and 7 were covered with a coat of gravel. A new ditch was made on the east side of canal, between Locks 6 and 7, and the old ditches and culverts were cleaned throughout.

THE GARDE CORPS

Or fence between the canal and public road, from St. John's to St. Thèrese, about 7 miles in length, was repaired and in some places rebuilt.

BUILDINGS.

Five lighthouses were built. One of them is on the end of the pier at the lower entrance of the canal, and the others are range lights, two at the Chamby Canton

and two at the village of Chambly Basin. A new dwelling-house was built for the Keeper of Bridge No. 2, with out buildings, fences, &c., complete. New kitchens were also built for the lock masters' houses at Locks 3 and 5. The houses at Locks 4 and 5 and at Bridge 7 were re-shingled and painted. Twenty-five pairs of window blinds were put on different houses of lock masters and bridge keepers. A canal office was fitted up at St. John's, in the storehouse, on the wharf, lately bought from Mr. Pierce.

The canal office at Chambly was provided with double windows. A new carpenter's shop was erected at Chambly, and the yard adjoining it fenced.

WHARVES:

The wharf above Lock 7, at Chambly, was extended for a length of 100 feet by 45 feet in width. A moving pier for rafts was built in Chambly Basin. It is 18 by 12 feet, and 9 feet in height.

WORKS OF IMPROVEMENT.

(Chargeable to Income.)

STEAM DREDGE.

In July, August and September, 1883, this dredge was employed in cleaning and deepening the bottom of the canal to a depth of eight feet at several points between St. Thèrese Island and Lock No. 2 at Chambly. The material was used for raising and widening the banks where required, and where not wanted for that purpose, it was placed in spoil banks for future use.

The upper entrance at St. John's was deepened to 8 feet during the month of October. The dredge was then removed to Chambly, and worked there between Locks 2 and 6, until the close of navigation, when it was placed in winter quarters.

In the spring, the dredge and scows, floating derrick, &c., were put in thorough repair. At the opening of navigation, deepening where necessary was resumed above Lock No. 2, and at the end of the fiscal year (June 30th) had advanced upwards as far as Bridge No. 3. a distance of 2 miles.

PIER AT ST. JOHNS.

The long pier between the upper entrance and the river was raised from two to 3 feet in height, for a length of 900 feet at its upper end. This portion was well filled with stone, and is now of the same height as the remainder of the pier, down to Jone's Bridge, which had been already raised.

LOCKS.

During the winter and spring the upper wing wall, recess walls, and part of chamber walls of Locks 2, 3, 4 and 6, were taken down and rebuilt, in the same manner as was adopted for the lower end of these locks two years ago. The lower courses, from foundation to water level, being constructed of timber, backed with concrete, and the upper portion, above water line, being built of ashlar masonry.

ST. OURS LOCK AND DAM.

Navigation was closed at this lock by ice on 29th November, 1883, and reopened on 7th April, 1884. Traffic was slightly interrupted on three days in five, to adjust lock gates, viz., for one and a-half hours on the 26th, three and a half on the 27th, and five on the 28th—in all ten hours.

Repairs were of the ordinary kind. Framed steps were placed on the side hill, leading to public road, and at each end of the lock, leading to the piers and booms.

The landing stages and booms were removed to a place of safety in the fall, and in the spring were repaired and replaced.

The mooring posts were also removed from the piers above the lock, for the winter.

At the lock the lower gates were adjusted, having been lifted by the high water in spring. The dry retaining wall on north side of lock was repaired; three mooring posts were renewed, and other minor repairs effected. The old lock gates taken out last year were removed to the island, where they will be repaired and held in reserve as spare gates.

The ice was cut away from the lock gates, piers and dam before the water rose in the spring.

The large scow in connection with the dam, received necessary repairs; but the dam itself required none.

The usual repairs required in spring and fall were made to the Superintendent's dwelling house, outbuildings, fences, &c.

No fines were imposed, nor were any damages collected during the year.

I have the honor to be, Sir,

Your most obedient servant,

E. H. PARENT,
Superintending Engineer.

LACHINE CANAL.

STATEMENT of Fines and Damages collected during the Fiscal Year ended 30th June, 1883.

Date.	Name of Vessel.	Name of Owner.	Fines.	Damages.	Total.
1883.			\$ cts.	\$ cts.	\$ cts.
Sept. 3...	Bark Oger.....	O. Krohg.....		20 00	
do 10...	Barge Almina.....	O. Portelance.....	10 00		
do 19...	Steamer Maxwell.....	Kelly & Co.....	20 00		
1884.					
June 6...	8 Spars.....	John Lee & Co.....	4 00		
do 11...	Barge Europa.....	Montreal Transportation Co.	4 00		
do 25...	do Don.....	Cantin & Sons.....	4 00	8 00	
		Total.....	42 00	28 00	70 00

M. CONWAY,
Superintendent.

LACHINE CANAL OFFICE,
MONTREAL, July, 1884.

LACHINE CANAL.

STATEMENT of Amounts collected for Bank Dues and Wintering Vessels, during the Fiscal Year ended 30th June, 1884.

Date.	Items.	Number.	Rate.	Amount.
1883-84....			\$ cts.	\$ cts.
	Firewood			1,342 42
	Wintering vessels			171 54
	Total			1,513 96

JOHN O'NEILL,
Collector.

CANAL OFFICE,
MONTREAL, July, 1884.

LACHINE CANAL.

STATEMENT of Basin, Firewood and Bank Dues collected during the Fiscal Year ended 30th June, 1884.

Date.	Items.	Amount.
1883-84....		\$ cts.
	Basin dues	1,276 61
	Firewood	69 81
	Bank	74 00
	Total	1,420 42

J. B. DESCHAMPS,
Pro Collector.

CANAL OFFICE,
LACHINE, July, 1884.

BEAUHARNOIS CANAL.

STATEMENT of Fines and Damages collected during the Fiscal Year ended 30th June, 1884.

Date.	Name of Vessel.	Name of Owner.	Fines.	Damages.	Total.
1883.			\$ cts.	\$ cts.	\$ cts.
July 20...	Barge Colborne.....	Montreal Transportation Co.		15 00	
1884.					
May 28...	Tug J. R. Booth.....	Booth & Co.....	10 00		
June 9...	Propellor Shickluna.....			12 00	
		Total	10 00	27 00	37 00

J. F. BÉRIQUE,
Superintendent.

BEAUHARNOIS CANAL OFFICE,
MELOCHEVILLE, July, 1884.

LACHINE CANAL.

STATEMENT showing the Depth of River Water on the Mitre Sills of Lock No. 1 at lower entrance, and Lock No. 5 at upper entrance, during the Fiscal Year ended 30th June, 1884. (From Lockmaster's Returns.)

Months.	Lock No. 1, Lower Sill.		Lock No. 5, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1883.	ft. in.	ft. in.	ft. in.	ft. in.
July	22 6	20 6	14 2	13 0
August.....	20 7	18 7	13 0	11 9
September.....	18 7	17 11	11 10	11 4
October	18 4	17 8	11 6	11 0
November	19 3	18 1	12 3	11 4
December.....	35 10	18 10	12 11	11 6
1884.				
January	38 0	30 7	12 8	10 11
February	33 3	30 7	12 0	10 8
March	34 7	29 3	14 0	10 2
April	37 5	22 5	14 5	13 3
May	24 5	21 3	15 4	14 4
June	22 7	19 9	14 3	12 7

BEAUHARNOIS CANAL.

STATEMENT showing the Depth of River Water on the Mitre Sills of Lock No. 6 at lower entrance, and Lock No. 14 at upper entrance, during the Fiscal Year ended 30th June, 1884. (From Lockmaster's Returns.)

Months.	Lock No. 6, Lower Sill.		Lock No. 14, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1883.	ft. in.	ft. in.	ft. in.	ft. in.
July.....	13 2	12 0	13 1	12 9
August.....	12 0	11 6	13 1	12 2
September.....	11 5	10 6	13 0	12 3
October.....	11 0	10 2	12 6	11 10
November.....	11 2	10 7	13 1	11 11
December.....	11 9	10 9	12 11	12 0
1884.				
January.....	17 0	11 5	13 0	11 4
February.....	18 3	15 0	12 6	11 6
March.....	19 0	15 8	13 9	11 10
April.....	16 2	14 6	13 7	13 0
May.....	15 6	14 1	13 11	13 0
June.....	14 2	12 7	13 0	12 8

CHAMBLY CANAL.

STATEMENT showing the Depth of River Water on the Mitre Sills of Lock No. 9 at lower entrance, and Lock No. 1 at upper entrance, during the Fiscal Year ended 30th June, 1884. (From Lockmaster's Returns.)

Months.	Lock No. 9, Lower Sill.		Lock No. 1, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1883.	ft. in.	ft. in.	ft. in.	ft. in.
July.....	13 2	11 2	9 7	8 9
August.....	11 1	9 6	8 9	7 6
September.....	9 7	8 11	7 9	7 0
October.....	8 10	8 2	7 8	6 7
November.....	9 10	8 2	7 11	6 7
December.....	9 5	8 1	7 8	6 2
1884.				
January.....	9 0	8 3	7 4	7 0
February.....	13 0	8 10	9 0	7 2
March.....	20 10	12 5	10 9	8 11
April.....	20 0	17 4	12 3	10 10
May.....	17 8	15 8	12 5	10 9
June.....	15 5	12 0	10 10	8 9

ST. OURS LOCK.

STATEMENT showing the Depth of River Water on the Mitre Sills of St. Ours Lock, during the Fiscal Year ended 30th June, 1884. (From Lockmaster's Returns.)

Months.	Lower Sill.		Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1883.	ft. in.	ft. in.	ft. in.	ft. in.
July.....	13 6	11 4	11 4 $\frac{1}{2}$	10 0
August.....	11 2	8 11	10 1 $\frac{1}{2}$	8 10
September.....	9 2	8 0	9 0	8 6
October.....	9 6	8 1	9 0	7 10
November.....	10 0	8 7	9 3	8 0
December.....	12 5	9 7	9 7	7 11
1884.				
January.....	12 9 $\frac{1}{2}$	11 9	8 7	7 10
February.....	14 9	12 6	10 9	8 6
March.....	21 6	13 6	17 4	10 2
April.....	23 0	16 10	18 6	14 1
May.....	17 0	15 5	14 6	12 10
June.....	15 2	10 9	12 9	10 8

No. 2.

OTTAWA RIVER CANALS.

REPORT FOR THE FISCAL YEAR ENDING 30TH JUNE, 1884.

OTTAWA, 27th August, 1884.

SIR,—I have the honor herewith to transmit my Annual Report upon the various works under my charge, in connection with the "Construction" of the Ottawa River Canals and their present condition, under the head of "Maintenance."

I have the honor to be, Sir,
Your obedient servant,

D. STARK,
Superintending Engineer, O. R. C.

A. P. BRADLEY, Esq.,
Secretary Department Railways and Canals.

CONSTRUCTION.

STE. ANNE'S CANAL.

The work here, under contract to Messrs. Baskerville, O'Connor & Cassidy, are entirely completed, and the final estimate for the firm of all the work done is in progress.

The deepening of the upper entrance, in the hands of Messrs. E. E. Gilbert & Son, is being proceeded with; and the contractors, having made some alterations and improvements in their dredging machinery during last winter, are making considerably better progress this year than formerly.

It is confidently expected that all this dredging will be finished in the course of the summer of 1885, when everything relating to a 10-foot navigation upon this portion of the Ottawa River will have been provided, unless it be the further straightening of the channel below the canal, which, although not absolutely called for at present, owing to the existence of a transverse cut to the south shore, already formed, will still prove, in several respects, a convenience to the navigation which may, ere long, be granted it.

CARILLON CANAL.

All the works in connection with this canal, under the contract of Messrs. R. P. Cooke & Co., were completed last year, and are acting satisfactorily.

CARILLON DAM.

The repairs which became necessary to this structure, on the occurrence of the break described in last year's report, are now completed and the gap filled up. The rush of water through this gap, during the period it took to staunch it, had the effect of washing away the material upon which the dam was founded to a depth of 30 feet below the natural bed of the river, by a width of 70 feet, and a length, up and down stream, of 170 feet.

The whole of this excavation is now filled with stone and crib-work, in one compact mass, to the level of the river's natural bed, and with the superstructure, also entirely filled with stone, and securely fastened down,—a work of such strength, weight and solidity has been formed as renders the recurrence of an accident like that of last year out of the question.

I would remark that, in consequence of the great increase of strength given to this portion of the dam, a consideration of the expenditure upon these repairs should be based upon the fact that much of it is for what actual repair did not call for, and is therefore fairly entitled to be viewed as coming under the head of construction.

The necessity for a further strengthening of the remaining portions of the dam has been already reported on.

SLIDE.

The structure across the head of the slide, in which the machinery lies for working the stop-logs and sluice-gates, is built too low for the season of high water, and has to be raised.

It is proposed to do this in the course of the coming winter.

GRENVILLE CANAL.

Green's Point Entrance.

Here the whole of the works are completed, except some in the entrance and a certain amount of "finishing up" between the locks.

The former consists in the removal of the south wall of the old combined locks, with a spit of earth and rock still standing behind it; the building of a new retaining wall of dry masonry near the shore and along the face of the old lock walls, which, when completed, will form the north side of the entrance; and some crib work round the point of the south side, being a continuation of the southerly wall, and affording berths and wharfage to steamers and barges while awaiting the passage through the lock of tows, &c.

These various portions of work finished, which they are expected to be this fall the whole design at this point will have been carried out, everything in connection with the trench between the locks, the upper lock itself and the approaches above it being completed.

GRENVILLE ENTRANCE.

Everything here has been done except a small amount of dredging and cleaning out at the head of the entrance, which the contractor did not find it convenient to execute at the time the rest of the work was completed, and which is now in hand. It will be all finished before the close of navigation.

CULBUTE WORKS.

Nothing has been required to be done in connection with these works, save the settling of land damages, accruing from the raising of the river by the dams at the Grand Calumet Falls and Rocher Fendu Rapids.

These are now being examined and enquired into by the valuator appointed for the purpose, in company with the engineer resident there during the construction of the works.

Considerable progress has already been made by these gentlemen.

The removal of a small shoal above the locks at Culbute, which now stands directly in the way of their upper entrance approach, is the only thing remaining to be done to entirely complete the original design, and this work is in hand.

This closes the report in so far as construction is concerned.

I have the honor to be, Sir,
Your obedient servant,

D. STARK,
Superintendent Engineer. O. R. C.

OTTAWA RIVER CANALS.

MAINTENANCE.

ST. ANNE'S CANAL.

Navigation closed here on the 26th November, 1883, and was reopened on the 26th April, 1884.

It has been conducted throughout the year without accident or interruption of any kind.

The ordinary repairs needed to the gates of the old lock have been made, and these were also repainted.

Ten iron snubbing posts for the new lock have been inserted.

All the necessary and ordinary repairs called for to piers, booms, &c., have been attended to.

New booms, for the better protection of vessels, and the retaining walls, have been provided; and three new piers, with booms between them, have been constructed on the north side of the upper entrance, for the guidance of vessels approaching the lock.

Some two thousand feet of fencing, along the boundaries of the Government property, has also been erected and painted.

 CARILLON AND GRENVILLE CANALS.

These canals were closed on the 27th November, 1883, and re-opened on the 28th April, 1884.

There have been no interruptions to traffic from any cause during the year, and no repairs of importance have been called for.

The lock gates and machinery connected with them were painted in the spring, and a dwelling for the lockmaster of the Upper Lock at Carillon, was erected and completed in the month of December, 1883.

CHUTE A BLONDEAU.

The lock here is in bad condition, so bad, that doing anything to it in the shape of repair is useless. As mentioned in my report of last year, something should be done here, to assist tows up the old Chute during high water, either by the erection of a new lock or the provision of a chain tug.

It is probable that the blasting away of some of the rock which forms the channel of the old rapids, and which could be easily got rid of in the deep water that surrounds them, would by equalizing the current the whole way from Greece's Point to the head of the Carillon Canal have a good effect. I should recommend a thorough survey of the river at this point being made, with a view to ascertaining what could be effected in this way.

GREECE'S POINT.

The old lower locks at this entrance called for a considerable amount of repair at the commencement of the season, but the new one being got ready by the opening of navigation this spring, they were dismantled and are now totally obliterated by the work of the enlargement. The canal here is worked through the new locks entirely, all the machinery of which is in good working order. Dwellings for the lockmasters at this point are much wanted.

The locks along the rest of the canal have not called for any repairs of consequence. They still stand in good order.

The old wooden suspension blocks at the Guard Lock have been removed and been replaced by wrought iron straps let into the masonry; in several respects a great improvement.

The gates of the Guard Lock and their machinery were also repainted.

GRENVILLE ENTRANCE.

Here the enlargement undertaken for the better accommodation of the traffic is completed.

With respect to the canal between these entrances, all the debris, boulders, &c., which are every winter thrown down by the action of frost and ice were cleared away before the opening of navigation, and the whole prism of the canal was cleared out as well as time would permit.

Of course the widening out of this extent of canal (some four miles) to give it proportion to the new lock, would be a boon of no small magnitude to the trade, as that alone is wanting to enable forwarders to increase the power and size of their steamers and barges to meet the superior calibre of navigation now elsewhere existing between the cities of Ottawa and Montreal.

CULBUTE CANAL.

No repairs of consequence have been called for here, and little or nothing in the shape of traffic has passed through the locks during the year.

D. STARKE,

Superintendent Engineer, Ottawa River Canals.

No. 3.

CORNWALL CANAL.

CORNWALL, 27th August, 1884.

SIR,—I have the honor to submit the following Annual Report on the works under my charge, for the fiscal year ended 30th June, 1884:—

The Cornwall Canal was maintained in an efficient state until the 6th August, 1883, when the lower gates of Lock No. 19, broken by the barge "Argo," caused a delay to navigation of seventy-eight hours. The canal was closed by the ice on the 8th of December, 1883, and opened for navigation on the 29th April, 1884. It continued in good working order until the 10th May, 1884, when the propeller "Ocean" broke the lower gates of Lock No. 19 (the same lock that had the gates broken by the barge "Argo"). Delay to navigation by the propeller "Ocean," seventy-two hours.

The works executed during the past season come under the head of ordinary repairs to gates, waste-weirs and bridges. Rebuilding two pairs of lock gates. General repairs to lock-houses and the usual cleaning of side ditches and drains.

I have the honor to be, Sir,

Your obedient servant,

D. A. McDONELL,
Superintendent.

A. P. BRADLEY, Esq.,
Department of Railways and Canals.

CORNWALL CANAL.

STATEMENT showing the Depth of River Water on the Mitre Sills of Lock No. 15 at lower entrance, and Lock No. 21 at upper entrance, during the Fiscal Year ended 30th June, 1884.

Months.	Lock No. 15, Lower Sill.		Lock No. 21, Upper Sill.	
	Highest.	Lowest.	Highest.	Lowest.
1883.	ft. in.	ft. in.	ft. in.	ft. in.
July	11 10½	11 3	11 11	11 6
August.....	11 7	11 0	12 1	11 0
September.....	11 7	10 7	12 0	10 10
October.....	11 1	10 6	11 1	10 2
November.....	11 8	10 4	11 2	10 4
December.....	13 8	10 7	10 9	10 1
1884.				
January.....	26 0	14 0	11 7	8 9
February.....	26 4	23 0	11 11	10 2
March.....	29 2	16 2	11 10	9 9
April.....	15 3	11 9	12 0	11 1
May.....	12 0	11 8	12 3	11 6
June.....	11 9	11 5	11 10	11 4

D. A. McDONELL,
Superintendent.

No. 4.

WILLIAMSBURGH CANALS.

MORRISBURG, 23rd August, 1884.

Sir,—I have the honor to submit my Report on the working and condition of the Williamsburgh Canals under my charge, for the fiscal year ending 30th June, 1884.

These canals (consisting of the Farran's Point, Rapide du Plat, Point Iroquois Junction, and Gallops Canals) were closed for the season of 1883, on the 16th December, and re-opened for traffic on 1st May, 1884. No interruption or delay in the navigation occurred during the season.

FARRAN'S POINT CANAL.

On this canal repairs were executed on the lock gates. Four new sheaves were placed in chamber holes. Three hundred and forty feet of the pier at the lower entrance was rebuilt. The pier at the head, and ice-breaker at the foot, will require repair during current year. The banks of this canal have been kept in good repair.

RAPIDE DU PLAT CANAL.

New blocks for pivot of swinging gates were placed on coping, and new knees were put into lower gates of Lock No. 23. One of these gates was taken out, and new valves put in at Lock No. 24. One new knee was put in upper gate; also, a new roller and bed-plate. New bumping posts were put in at the head of the same lock. The pier at the lower entrance of this canal was repaired, and timber has been got out for further repair of the pier at the head. The banks were repaired by stoning. This canal requires dredging in several places.

POINT IROQUOIS JUNCTION AND GALLOPS CANAL.

The lower gates of Lock No. 26 were repaired by placing new blocks for pivot of swinging gates, and new knees. One of these gates was taken out, and a new valves put in. General repairs were done on the upper gates at Locks Nos. 25 and 27. The swing bridge at Lock No. 25 was repaired by building a new ballast box, placing new timbers in several parts, raising pivot stone, adjusting pivot, and laying a new track. The swing bridge at Lock No. 26, also received repairs. Repairs were done to the several piers and locks along the line of this canal, and timber has been got out for completion of repairs to the pier at the head of the Gallops Canal. The work of cleaning out the ditch on the north side of Point Iroquois Canal, and the stoning of it to the 9 mile road, west of Iroquois, was completed. The banks of these canals have been kept in good repair, and the stone renewed whenever necessary. The booms in Point Iroquois Canal were overhauled this spring, and put in thorough repair. The buoys in the River St. Lawrence, between Johnstown and Dickenson's Landing, under my charge, were replaced this spring.

The water in the River St. Lawrence continuing high, furnished a good depth of water to the Canals.

I annex a statement showing the extreme depth of water on the mitre sills of the several locks at the entrance and outlet of these Canals, during the year.

All of which is respectfully submitted.

I have the honor to be, Sir,

Your most obedient servant,

A. G. MACDONELL,

Superintendent Williamsburgh Canals.

A. P. BRADLEY, Esq.,

Secretary Department Railways and Canals,

Ottawa.

WILLIAMSBURGH CANALS.

STATEMENT showing extreme Depth of Water on the Mitre Sills of the several Locks during the Year ended 30th June, 1884.

FARRAN'S POINT CANAL.

Months.	Lock No. 22, Lower Sill.		Months.	Lock No. 22, Lower Sill.	
	Highest.	Lowest.		Highest.	Lowest.
1883.	ft. in.	ft. in.	1884.	ft. in.	ft. in.
July	10 11	10 5	January	11 0	9 3
August	10 11	10 6	February	10 9	8 3
September	10 9	9 7	March	11 3	8 0
October	10 3	8 6	April	11 0	9 10
November	10 9	9 0	May	11 6	10 6
December	10 6	9 0	June	11 3	10 8

RAPIDE DU PLAT CANAL.

Months.	Lock No. 23, Lower Sill, Foot of Canal.		Lock No. 24, Upper Sill, Head of Canal.	
	Highest.	Lowest.	Highest.	Lowest.
1883.	ft. in.	ft. in.	ft. in.	ft. in.
July	11 6	10 9	11 9	10 9
August	11 8	10 3	11 9	10 0
September	11 10	10 2	11 9	10 0
October	10 7	9 3	10 6	9 9
November	10 4	9 3	10 6	9 3
December	10 8	8 6	10 0	9 0
1884.				
January	11 0	9 3	9 9	5 6
February	10 4	8 9	9 6	7 3
March	11 3	8 6	11 3	8 0
April	11 6	10 0	11 6	10 6
May	12 9	10 10	12 6	11 0
June	11 5	10 9	12 0	11 0

No. 5.

SUPERINTENDENT'S OFFICE,
St. CATHARINES, 29th September, 1884.

SIR,—I have the honor to submit my Report on the condition of working of the three canals—the Old, the New and the Feeder—under my charge, for the year ending 30th June, 1884.

The canals have been operated satisfactorily throughout the year, and without serious accident, except in three instances, viz., (1) when the large propeller "W. L. Frost," owing to the parting of her snub, carried out the head gates of Lock No. 5, New Canal. (2) On the 1st of October, 1883, when the propeller "Cuba," from the same cause, ran into the head gates of Lock No. 7; and (3) four days afterwards, when the schooner "Prussia," during a gale, failed to get her snub lines on the posts in time to prevent her running into and displacing and partly destroying the head gates of Lock No. 23, all in the New Canal.

The Ogdensburg and Lake Champlain Railway Company have built two additional propellers, of the full length our locks will allow, and have chartered several other very large propellers and schooners, all of which have been making regular trips throughout the season and contributing very largely to our income in toll revenue.

Much inconvenience has been experienced heretofore from vessels giving false reports as to their draft of water when loaded, but I have at last succeeded in establishing a simple and accurate appliance for measuring vessels as they enter the lock at Port Colborne, and I purpose putting a similar arrangement at the Port Dalhousie lock.

The canals were closed on 15th December, 1883, and opened 15th April, 1884.

NEW WELLAND CANAL—DETAILS OF WORK OF REPAIRS AND MAINTENANCE.

DIVISION No. 1.—FROM PORT DALHOUSIE HARBOR TO FOOT OF LOCK NO. 13.

Gate Yard and Shop, Port Dalhousie.

Erected two-storey framed workshop 110 by 26 feet, storehouse 40 by 29 feet, and engine room 26 by 35 feet (fire-proof) on stone foundation; lined the same outside with 4 inch brick and covered roof with Sparham's patent roofing; fitted up shops with requisite powerful machinery to quickly handle heavy gate timbers and castings, plane and fit up same and bridge timbers, &c., and all other descriptions of lock gate and other canal work; laid 680 feet car track through yard to convey heavy gate timbers on trucks; launched twelve spare lock gates and put them in other places on gate berths near Lock No. 2; made twenty-five ladders for locktenders to light and put out gas along canal; made four blocks for fastening railings on protection timbers, also twenty-eight caps for gate posts; built and fitted up two new power-fulcapstans for hauling lock gates out of water for repairs.

The two head gates of Lock No. 5 that were broken and carried out by propeller "W. L. Frost," were drawn out on the skids and extensive repairs done to them, after which they were launched and placed on the cradle berths, to be used as spare gates when required.

The head gate of Lock No. 7, that was damaged by propeller "Cuba," was drawn out on the skids, thoroughly repaired, launched and placed on the cradle berth for future use.

Made 450 boxes for shafting, also 500 wood wedges for general use; six posts made, painted, lettered and placed in position for adjusting vessels' compasses, as ordered by Commander Boulton.

Several long poles made for examining mitre sills and to remove anything getting between lock gate and sill; six long handles made and put in for lock rakes; 870 stakes made for staking trees; three large bridge ladders made; five split, 250 fence posts; made one door and hung same for house at Lock No. 13; made twenty new extensions for lock gate bridge and painted same; made two lock gate corbels.

Fitted up sawmill with machinery complete. Banks graded down to place ways on, so as to allow damaged lock gates to be hauled out for repairs.

Steam Pump.

Built platform into storehouse to haul in and out steam pump, boiler and other appurtenances.

Fitted suction pipe on pump, also put on exhaust pipe.

Lock No. 1, Bridge, No. 1 and Level.

Placed shear legs in lower shutting well hole to guide the cable into shore.

Six hundred feet fencing built to enclose Government property.

Repaired float draw bridge, hooks for snubbing, at intervals put in over-floating tow path. Banks below waste weir fenced with stone, to prevent washout when valves are hoisted.

Lock gates adjusted.

Tightened up truss rods of bridge and repaired same.

Lock No. 2, and Level.

Graded up a large slide in bank; opened up 1,950 feet ditches, both sides; also opened up side ditches during freshets.

Extra strong safety cables put on head gates, to prevent them from being carried out.

Foot gates taken out and track and segment taken up.

Steps raised and gates re-hung.

Grading and hauling earth to make good banks washed out at time of accident to lock gate Lock No. 5.

Ditches opened up during the winter, to prevent spring freshets doing damage.

Lock No. 3, and Level.

Five hundred and forty feet surface ditching made; 300 feet fencing built to enclose Government property. Two new gates made and hung for same. Five hundred feet main ditch opened up.

Banks that were damaged by washout, caused by propeller "W. L. Frost" carrying out head gates Lock No. 5, all repaired and faced up again with stone.

One thousand and seventy-two feet ditches, both sides opened up.

Lock gates, fitted with new steel cables and new shaft bearings, put in thorough working order. Water wheels taken out and dressed up to fit cases.

Ends of binders on lock gates bored and filled with oil. Checks all puttied up and painted to prevent decay.

Planted trees in place of those washed out; foot gates taken out; track and segment taken out; steps raised and gates re-hung.

Bridge [No. 2.

Cleaned out snow drift from bridge approach, tow path side. Approach graded up and side ditches dug.

Painted bridge and thoroughly repaired same, and tightened up truss rods, &c.

Lock No. 4, and Level.

Nine hundred feet main ditch opened up; banks of waste weir that were washed out by Lock No. 5 gates being carried out, repaired and faced up with stone.

Waste weir bridge widened 4 feet, so as to allow teams to pass over to Government pit. Banks on both sides repaired and stoned up, that were washed out. Cleared out ice from main ditch; opened up back ditch during freshet. Cut through heavy snow drifts, to allow water to pass. Took out snubbing posts and properly braced them with stronger braces and re-set same.

Foot gates taken out. Track and segment taken out. Steps raised and gates re-hung. Ends of binders on lock gates bored and filled with oil. Checks all puttied up and painted, to prevent decay.

Lock No. 5 and Level.

Two hundred and fifty feet fencing, built to enclose Government property, and two gates made and hung on same. Two new spare lock gates hung in place of two lock gates carried away by propeller "W. L. Frost. Five thousand seven hundred feet main ditch opened up. Put in one scow load of gravel at head of lock. Repaired washout in waste weir bank with stone spalls. Tow path bridge levelled up at each end. Lock gates thoroughly overhauled and put in good working order. Three new turbine wheels. Wheel cases and guards put on. Six new slide valves and one new steel cable put on. Lock cleaned out, and a large quantity of stones taken out from lower sill.

Trees planted in place of those winter-killed.

A large gang of men were employed during the winter to keep main ditch open on this long level; to keep slush, ice and snow from blocking up the culverts, and prevent water backing up into private property. Took out snubbing posts, put in heavier braces and re-set again. Ends of binders filled with oil. Checks puttied up and painted, to prevent decay. Planted trees on north bank, heel path side.

Bridge No. 3, Lake Street.

Bank approaching bridge made 5 feet wider. Tightened up truss rods, &c., &c.

Bridge No. 4 (Railway Bridge.)

Lined up the rollers. Repaired floats with new chain, &c.

Lock No. 6, and Level.

Made three hundred feet surface ditching, south side; raised 1,750 feet roadway two stone culverts, 18 by 20 feet, and put under same, to main ditch, and two sill drains to prevent water backing up. One new fence gate made and hung, and 134 feet fencing built to boundary Government property.

Made one thousand and ninety feet new roadway back of reservoir; opened up 1,955 feet main ditch; built 35 feet stone culvert—size 18 by 20 feet.

Two thousand one hundred and eighty feet surface ditching made and 79 feet 2 inches iron pipe laid through bank, to supply the farmers with water, the original supply having been cut off by the building of the new canal.

Banks of waste weir repaired where washed out, with 900 yards earth.

Trees planted in place of those washed out.

Kept public highway open from drifting snow as far as boundary of Government property.

Cleared ice, slush and snow out of back ditch, to allow water to pass and prevent it backing up on private property.

Took out a large piece of embankment on south side of waste weir, where there was a bad leak. Re-filled up again with clay and puddle, all complete.
Adjusted lock gates.

Bridge No. 5, Geneva Street.

Three hundred and ten feet of road approaching bridge raised and widened. Tightened up truss rods, &c.

Lock No. 7, and Level.

Eight thousand one hundred feet barbed wire and 54 feet board fencing built to enclose Government property. Wing walls of lock pointed.

Eight hundred and eighteen feet board fence. Five fence gates made and hung on south side.

Banks at head of lock raised, and 3,148 feet bank from water's edge graded up with stone spalls. Put in 60 feet stone drain at base of bank under roadway to carry off soakage water.

Six hundred and eighty-eight feet ditches opened up. Planted trees in place of those that died.

Took out snubbing posts and braces and put in larger and stronger ones, and re-set; also re-set safety cable post. Repaired tow path bridge. Hung one new spare lock gate, heel path side, in place of lock gate damaged by propeller "Cuba."

Bridge No. 6, Niagara Street.

Three hundred and ten feet road approaching bridge raised and widened. Re-fastened stop-blocks, and put on doublegear; also put on new railing timber for clearing towlines and painted same.

Lock No. 8, and Level.

Wing walls at head of lock raised, and banks graded up behind them. Ditches opened up at base of banks to allow soakage water to pass off. Pointed up wing walls at head of lock.

Took out old snubbing posts and braces, and put in larger and stronger ones.

Ends of binders filled with oil to preserve the wood. Trees planted in place of those that died.

Lock No. 9, and Level.

One thousand seven hundred and nineteen feet board fence built. Three new fence gates made and hung; also, two sets gate-bars on south side, and 234 feet capped fence built on north side.

Wing walls at head of lock raised, and banks graded up behind them.

Banks, both sides, graded up and levelled.

Took down slope wing wall, north side, at foot of lock, and drove 6 feet oak sheet piling along at foot of same, to prevent sliding into canal. Rebuilt masonry again. Took down a portion of wing wall, also on south side; drove 6 feet oak sheet piling along the foot of same, to prevent sliding into canal. Rebuilt masonry, raising it average of 18 inches higher. Planted trees in place of those that died. Put heavy braces around snubbing posts. Put new railing on lock gate. Lock gates put in good working order.

Bridge No. 7, Queenston Road.

Altered cams and put on double gearing.

Built 307 feet framed fence, and made and put in two large gates. Painted

same.

Made and put on new guard rail.
 Repaired floats.

Lock No. 10, and Level.

Wing-walls raised at head of Lock, and banks graded up behind them.
 Banks, both sides, raised and levelled up.
 Stopping serious leak in canal bank, caused by stone drain under the canal not being filled up or removed when canal embankment was first built. Bank opened up to bottom and filled up with clay and puddle, and made all tight and complete.
 Planted trees in place of those that died.
 Put heavy braces around snubbing posts.

Bridge No. 8, Homer Road.

Put waling on cluster piles at end of rest pier.

Lock No. 11, and Level.

Wing-walls at head of lock raised, and banks both sides raised and levelled up 175 feet. Reservoir bank filled up with stone spalls where washed out. Adjusted lock gates, &c.
 Put heavy braces around snubbing post.
 Repaired some frost slides in banks.

Lock No. 12, and Level.

Wing-walls raised at head of lock, and bank raised and graded up behind them.
 Four scow loads stones put under turnpike bridge to keep water from undermining pier and abutments. Put lock-gates, &c., in working order. Put on new intermediate gear.
 Put heavy braces around one snub post. Repaired track and segment under lock gates. Put oil in ends of lock-gate binder. Puttied up and painted same to prevent checking and rotting. Put in new style of valve in lock gates.

DIVISION NO. 2.—FROM FOOT OF LOCK NO. 23 TO BRIDGE NO. 13 (MARLATT'S.)

Lock No. 13, Bridge No. 9, and Level.

Narrow portion of the bank widened and raised. Repaired bad leak through bank at side waste weir wall. Put lock gates in good working order. Put heavy braces around snubbing posts, to prevent them from being pulled out by heavy strains. Repaired bridge across lock.

Removed with crane-scow 25 cubic yards heavy stone work from swing bridge, and brought same to dock at quarry. Digging out old rest piers of bridge and put in two new framed cribs for locking gear of bridge, with post fastenings, &c. Filled around same and laid in drain to carry off soakage water through to canal.

Lock No. 14, and Level.

Put on fasteners to hold lock gate open; also, four new steel cables, four loads gravel put on bank slopes; two new 1½-inch shafts put on lock gate and new hoisting gear put on waste weir for raising valves; six scow loads gravel put on banks of reservoir. Level drawn off and lock gates adjusted. Raised waste weir timbers.

Lock No. 15, and Level.

Level drawn off. Lock cleared out and gates adjusted; two pair sheaves put on capstan for cables to work in; nine new pinions and four set screws put on.

Five scow loads stone put on banks and slopes of reservoir, and four scow loads gravel put on banks of canal.

One new $1\frac{1}{4}$ -inch shaft and nine new steel cables put on.

Put new hoisting gear on waste weir for raising valves; one new water wheel and shaft put on. Lock gates adjusted. Raised water weir timbers.

Lock No. 16, and Level.

Level drawn off. Lock cleaned out and gates adjusted; two new rollers put on turn table; three new $1\frac{1}{4}$ -inch shafts and six new steel cables put on.

Four scow loads stone put on bank slopes. New hoisting gear on waste weir for raising valves.

Lock No. 17, and Level.

Level drawn off and lock gate adjusted. Four new water wheels and seven new $1\frac{1}{4}$ -inch shafts put on. Four scow loads stone put on bank slopes. Two new steel cables put on. Four steel plates put on cannons.

Lock No. 18, and Level.

Level drawn off. Lock gates adjusted. Four new $1\frac{1}{4}$ -inch shafts put on. Four scow loads stone put on bank slopes. Three large brass nuts put on waste weir for raising valves. Waling repaired.

Lock No. 19, and Level.

The new $1\frac{1}{4}$ -inch shafts put on lock gates for turbine wheels. Three steel plates put on cannons. Level drawn off. Gates adjusted. Put on fasteners to hold gates open. Two new steel cables put on. Three scow loads stone put on bank slopes.

Lock No. 20, and Level.

Two steel plates put on cannons. Four new steel cables put on. Four scow loads stone put on bank slopes. Six hundred feet deep stoned drain made to carry off soakage water, 1 by 2 inches. Three large brass nuts put on waste weir for hoisting valves. Four new $1\frac{1}{4}$ -inch shafts put on lock gates for water wheels; also, one new water wheel. Lock gates adjusted and new rollers put on three gates.

Lock No. 21, and Level.

Put on one new bracket for lever. One new foot-board made and put on. Two steel plates put on cannon. Level drawn off. Lock gates adjusted. Put on one new brass matrix and washer. Two pair sheaves put on capstan for cables to work in.

Level drawn off. Lock gates adjusted.

One thousand five hundred feet deep stoned drain, 1 by 2 feet, made to carry off soakage water.

Two new $1\frac{1}{4}$ -inch shafts put on water wheels.

Three scow loads clay put on bank for repairing break, in same.

Lock No. 22, and Level.

Level drawn off. Lock gates adjusted.

Put on fasteners to hold gates open; also one new steel cable. One steel plate put on cannon. Made 227 feet surface ditch, 1 by 5 feet, to carry off water from banks, and filled up same with broken stone. Built 321 feet stone drain, 2 by 7 feet; at Welland Railway station, filled up same with broken stone, to carry off soakage water and keep the banks from sliding.

Made 100 yards of drain back of lock, 6 feet deep, 2 feet at top and 6 feet at bottom, and filled up with broken stone, to carry off soakage water.

Seven new $1\frac{1}{4}$ inch shafts put on for water wheels.

Three scow loads gravel put on banks to repair wash out, and wash out repaired.

Built stairs from railway station up to canal bank, with hand rail each side.

Lock No. 23, and Level.

Level drawn off, and four pieces of gate track taken out. Lock gates adjusted. Four steel plates put on cannons, and two new steel cables. Two new lock gates hung in place of two gates carried out by schooner "Prussia."

Lock No. 24, Bridge and Level.

Level drawn off. Lock gates adjusted. Put on four fasteners to lock gates, to hold them open, and put in four large posts for extra strong steel safety cables, to prevent gates being carried away. Five large brass nuts put on waste weir for hoisting valves.

Three new steel cables put on.

Painted bridge and approaches, *two coats paint*. Repaired break in bank at head of lock, and sodded same.

Put on six $1\frac{1}{4}$ inch shafts, and forty-two new cast-iron boxes for water wheels. Put new gearing on waste weirs.

Bridge No. 11 (Railway Bridge.)

Repaired chain and straps. Put three rag bolts in plates. Lined up rollers. Lamp-post broke by collision, fished same out of canal. Put in new lamp post, fitted all up complete with new lamps, &c.

Lock No. 25, Bridge No. 12, and Level.

Level drawn off. Lock gates adjusted.

Steel plates put on cannons.

One scow load stone put on bank slopes.

Built 180 feet board fence to enclose Government property at the waste weir. 60 yards of clay put on roadway to widen same. Made bridge over waste weir 5 feet 6 inches wider, covered with 2-inch plank; took down and rebuilt 35 feet railing. Made and put on new protection timber to driving shafts of waste weir, and put on new gearing to waste weir.

Repaired bridge, and painted bridge and waste weir two coats.

Guard Lock and Level.

Adjusted lock gates.

Bridge No. 13 (Marlatt's.)

Painted bridge two coats. Cleared out snow and ice, Davidson and Higgins' culverts, to prevent freshets.

Repaired bridge plates; filled up 150 yards roadway to widen same.

Drove additional cluster piles at each end of rest-piers; put walings around and braces between piles, and bolted all together.

DIVISION No. 3.—FROM BRIDGE No. 13 (MARLATT'S) TO AQUEDUCT AT WELLAND.

Bridge No. 14 (Allanburgh.)

Drove additional cluster piles at each end of rest-pier; put walings around and braces between piles, and bolted all together; approach repaired. Put dam across

foot of waste weir; pumped out water; took down remaining portion east wing-walls, the rest having previously fallen down; properly rebuilt same.

Sheet-piled front; renewed dam, and left all completed. Put on copping and new valve gearing.

Repaired banks, both sides, from Bridge No. 13 to Welland.

Took down portion of cellar wall, Collector of Customs' office, Port Robinson; dug foundation lower, and rebuilt same.

Caulked and replanked bottom of ferry boat, Port Robinson.

Repaired new road at Port Robinson, by macadamizing with stone.

Culverts put in several places along canal; put in box culvert to drain pond between dry dock at Port Robinson, and canal; also culvert across tow path, south of Port Robinson, and south Quaker Bridge.

Repaired stationary bridges, south Quaker Bridge, west side of canal, and built new bridge over back ditch.

Repaired fences; made and hung two new fence gates; cleaned out old and made new ditches between Allanburgh and Welland, both sides of canal.

Made ditch both sides road approach, Port Robinson Bridge; cleaned out and opened up ditch below Port Robinson lock.

Repaired cellar floor of stone house at Allanburgh; built drain 80 feet long from cellar of bridgetender's house to canal, and laid 80 feet tile drain; dug out for cellar and cistern to same; converted tavern, purchased by valuator, into a suitable residence for bridgetender, dug well, put in pump, fenced in garden plot and laid in 80 feet drain tile from cellar.

Dug ditch for and put in 237 feet of 10-inch drain tile to drain pond at Port Robinson; put in box 6 feet long, covered with cement, and iron grate set in.

Put down nine snubbing posts on the banks of canal, from Allanburgh to Welland; also twelve at Port Robinson lock and vicinity; painted same.

Put floats across canal at Port Robinson, for winter travel, in lieu of ferry.

Cleaned float and driftwood out of the canal, throughout the division.

Built slope wing-wall south Port Robinson.

Thistles and weeds cut on both sides of the canal throughout the division.

Bridge No. 15 (Port Robinson).

Repaired the approaches, and bridge repaired; also fenders.

Drove additional cluster piles at each end of rest piers; put walings around and braces between piles, and bolted all together.

Bridge No. 16 (Quaker Bridge.)

Repaired bridge fenders and bridge. Drove additional cluster piles at each end of rest piers; put walings around and braces between piles and bolted all together.

DIVISION NO. 4.—FROM AQUEDUCT (WELLAND) TO PORT COLBORNE HARBOR.

Built W.C. and executed various repairs to overseers' and locktenders' houses; built new front fence 96 feet long and 350 feet side and back fences; made and hung three small and three large gates; painted all.

Set in one hundred new snubbing posts and straightened and re-set fifteen old posts; hauled clay to put around sundry posts, and painted same. Back ditches opened and cleaned out throughout the division.

Took down old and built larger and longer culvert under street near Grand Trunk Railway bridge, Port Colborne.

Built new floats; rock cut and repaired old, and rafted and took old rotten floats out of the contractor's way; rock cut to Junction Pond; repaired approaches each side Air Line ferry.

New fenders placed in position at Bridges No. 19 and No. 21, and Port Colborne lock.

Cleaned out new lock, Port Colborne, by diver and assistant; hung new iron ladders on lock walls; altered pattern for extension of iron guard rail, and put up extension of iron guard rail, Port Colborne lock.

Drilled holes for water gauges and attached same to sides of aqueduct.

Unloaded and loaded freight of the propeller "W. L. Frost," stuck in aqueduct (Welland).

Bridge No. 17 (Welland).

Put double iron gear under bridge; drove additional cluster piles at east end of rest pier; put waling around and braces between piles, and bolted altogether.

Bridge No. 19 (Junction.)

Repaired lamp damaged by collision.

Bridge No. 21 (Humberstone.)

Put double iron gear under bridge.

Bridge No. 23 (Port Colborne.)

Put double iron gear under bridge and re-fastened rack and track.

Four lock-gates brought from Port Colborne and put in pond Lock 20, old canal. Picked up two lock gates at Port Robinson and rebuilt same on bank foot of lock and took them to Welland and hung them in new Welland lock; picked up two lock gates in Chippewa Creek at Welland, brought them to Port Robinson and rebuilt same, and took them to Welland and placed them temporarily at foot of lock; picked up two large lock gates near Port Robinson, took them to Port Colborne and hung same in old lock in place of old head gates taken out, and removed them to Port Robinson and sunk them; picked up two spare gates for new lock, Port Colborne, and put them in front of supply weir adjoining, and sunk them under floats; picked up two new head gates and hung them in lock at Welland, fitted them up with new foot boards, screw attachments, iron railing, and fitted on opening bar to open gates, in lieu of balance beam.

Picked up two span gates near Port Robinson, brought them to yard Lock No. 21, old canal, and re-built them for old Lock, Port Colborne, and old gates removed to Port Robinson and sunk in pond.

Picked up two span gates sunk in front of supply weir, Port Colborne, and took them to junction and sunk same in pond adjoining Feeder lock.

Put new foot boards on old lock gates, re-set iron railing and valve screws, Port Colborne; put iron cables on crabs, also higher railing and screw gear to lock gates, Welland, and made foot board wider.

Repaired and re-planked old swing bridge, Welland.

Put up new semaphore at Welland, 1,700 feet north of aqueduct, tow path side; put up shed and wire cable to work same from aqueduct. Took some large stone and logs out of bottom of harbor, and built stone in wall, east side.

Drew out one 40 feet pile in way of new work, Bridge No. 19 (Junction).

Put new six shaft, bolts and braces in gearing, and new levelled gear on machinery of gate frame of lifting scow.

Banks repaired and thistles and weeds cut throughout the division.

Generally.

The lock gate gearing throughout has been overhauled, kept in good order, also that of the water weirs and bridges.

The heel posts of nearly all the lock gates have been adzed and reduced to a curve; that we found necessary, to prevent their binding against the hollow quoin. Several of the lock gates have had to be unshipped, and steel plates put under the steps to raise them; several more require to be similarly treated.

The banks throughout have been raised where low, gullies filled up, banks widened where necessary. All thistles have been cut in Government property.

Fines and Damages.

I have collected during the fiscal year from masters and owners of vessels, and others, the sum of \$3,498.20 in fines, for violation of canal regulations, and for damages to the works, which amount has been handed to H. H. Collier, Esq., Collector for the port, and I append a detailed statement herewith marked "A."

I also append a statement, marked "B," showing the greatest and lowest depth of water in the mitre sills at Port Dalhousie and Port Colborne locks, in each month during the year; also, a comparative statement of the average depth for the month of June, 1883 and 1884, which shows the water has been 8 inches higher at Port Dalhousie and 2 inches lower at Port Colborne than for the same month in the year 1883.

OLD WELLAND CANAL.

DETAILS OF REPAIRS AND MAINTENANCE OF WORKS ON THE OLD WELLAND CANAL.

Lock No. 1, Bridge and Level.

Rebuilt heel and toe approach of bridge, and replanked same, also planked bridge with oak plank.

Rebuilt fender work approaches to lock on tow path side, 260 feet long, and drove six piles to stiffen same.

Re-built aprons of floats at Muir's dock, and put on 20 feet 14 by 14 inch oak capping; drove three piles, and put on 40 feet 14 by 14 inch oak capping. Repaired floats various times. Put down three new snubbing posts. One scow load gravel put on tow path.

Lock No. 2, Bridge and Level.

Put four new steps in bottom of lock; hung four new lock gates in position, all complete, and new crabs for working gate; also new foot-boards to all lock gates, and iron railing dismantled on old lock gate, and brought old iron to gate yard, hauled one gate out on tow path, and brought some to gate yard to be overhauled and rebuilt. Raised swing bridge above Lock 2, put in new needle beam, side stringers, handrail and pivot; replaced track, and adjusted rollers; put in new heel-beam, replanked bridge throughout; put in additional diagonal strengthening rods. Painted all, two coats.

Swing Bridge Over Race.

Put in new foundation timber and side stringers full length of bridge; one new stringer from gallows frame to toe of same; new rails both sides; new beams, braces, and five new knees; replanked and painted, two coats.

Waste Weirs, Nos. 1 and 2.

Raised bridges across waste weirs, and took down and rebuilt side walls; lowered bridges to place, fastened same, and put on new plank. Raised swing walls of both waste weirs 2 feet higher. The retaining wall at north weir taken down and rebuilt, and made 2 feet higher. Dug out puddled back of wing walls of waste weirs. Two large scow loads stone and gravel placed at waste weirs.

Repaired portion of bridge with 3-inch pine plank, 12 by 50 feet, opposite Shickluna's shipyard. Dug out and built foundation for lock house; opened up ditches, and put down sundry tile drains; also put in tile drain at abutment for new bridge.

Put in four new snubbing posts near Lock 2. Two scow loads gravel put on tow path. Made and put in box drain, 10 by 10 inches by 16 feet; tow path at Shickluna.

Repaired banks both sides and paved same with stones; also faced banks of waste weirs with stone.

St. Paul Street Bridge.

Put in long bolts through toe approach and new timbers to keep it from sliding into canal; put on some new plank and tightened up rods; took out old rotten floor stringer and replaced with new; replanked bridge throughout with oak plank; put new cap on stringers on top of floor on upper side of bridge, and covered toe approach of same with additional 3-inch oak plank.

Put on new double iron gear under bridges; refastened pivots, &c.

Repaired bank of canal near bridge; put on two new signs, 2 by 4 feet, each end of bridge.

Lock No. 3 and Level.

Put in new balance beam, castings and new clips; broke and spread stones on banks; opened up ditches; put in two new snubbing posts.

Took down old leaky wing walls of waste weir and rebuilt same, and extended the wing walls.

Dug out and puddled back wing walls waste weir.

Repaired floats.

Canal Office.

After Customs and Inland Revenue officers vacated their rooms, the building, previously very inconvenient and insufficient, was rearranged inside, and ample room given to the canal officials. Quarters also were provided for a resident caretaker in the basement. Roof leaked and was partly removed. Substantial steps and fence erected in front of building. Took down old rotten flag pole, made and set in place, tabernacle and flag staff complete, painted three coats.

Laid 80 feet side wall 8 feet wide; took off old iron shutters and put on new blinds; made and put up new office sign; opened up drains and put in new drain pipes; took down old stone walls; removed embankments; cut down trees; dug cistern and post holes for new fence; graded and paved ditches; also took down iron fence from front of building.

Lock No. 4, Bridge and Level.

Put in three new joists in heel of old swing bridge. Replanked same. Repaired floating tow-path and railing. Made and put on two new foot boards, through-bolted and iron-banded. Built new temporary bridge across lock for use of public, 100 by 6 feet. Hand-rail both sides 3 feet high. Took down old rotten and decayed swing bridge, removed same out of way. Built new stone foundation. Erected scaffold and built a new composite swing highway bridge of the best description - across lock, in place of rotten one. Painted same three coats and finished all complete. Stone broken, and faced banks of canal with same. Opened up ditches and puddled in tile drain heel path side. Dug out and puddled banks of waste weir. Built new and repaired old fence, lockmaster's house.

Used three scow loads of stone in facing Hydraulic raceway slopes, &c.

Lock No. 5, Bridge and Level.

Raised bridge off pivot and put in cross beam and joist. Rebuilt heel and toe approaches. Replanked bridge heel with 2-inch and toe with 3 inch oak plank. Tightened up rods and balanced bridge.

Put in new foundation timbers and reset crab. Put in new snubbing post. Took out old and put in two new foot gates in lock. Brought old gates to gate yard. Also put covers on cellar holes.

Drilled new holes in coping for anchors and put new bolts in foot gates.

Dug out and puddled back of wing walls of waste weir; also dug out for foundation of new bridge across waste weir.

Put new apron in waste weir and filled up with stone.

Three scow loads stone from quarry for repairs to Lock No. 5, waste weir apron and three scow loads gravel for repairs to heel path.

Lock No. 6, and Level.

Built new bridge across waste weir 60 by 12 feet, planked same with 3-inch pine, and put on new slash braces. One new snubbing post put in heel path side. Put in new collar foot gates, heel path side; also new covers on well holes.

Painted wood and iron work of weir bridge, two coats.

One scow load clay for repairs to banks, and one scow load stone for repairs to waste weir apron.

Hydraulic Race.

Built double truss bridge 16 by 42 feet across race on town line, covered same with 3-inch oak plank, with rail both sides 3 feet 6 inches high. Repaired chutes at head of aqueduct. Built new bridge over race at Thorold Road 42 by 26 feet, three stringers 10 by 12 inches, eleven stringers, 8 by 12 inches. Covered the same with 3-inch oak plank. Framed supporting trusses at each end of bridge. Two iron rod trusses under centre of bridge, where street railway cars cross. Heavy railing each side, 112 feet long, the whole painted three coats and built 6-foot sidewalk. Painted bridge town line two coats, also iron work same.

Loosened four tier of plank on Thorold Road bridge and put in lifting rings, so as to take them up to remove anchor ice, &c.

Took out old timber work, foot of chutes near McDermott's foundry, forming bulkhead. Put in new bulkhead 40 feet long 10 feet high, nine new floor timbers, seven new posts 10 by 12 inches, 9 feet high, faced them with 8 by 12 inches, pine on bolted to posts and covered with 2-inch pine, and faced with sheet iron to protect it from floating ice; size of floor, 20 feet by 40 feet, covered with double thickness 2-inch pine plank brbken jointed. Built new fences on boundary line. Repaired wire fences. Banks repaired, thistles and weeds cut throughout. Dug out for foundation new bulkhead and chutes near McDermott's foundry. Built dry stone walls in places, and dug out for foundation new bridge across race at Thorold road.

Gate, Yard and Shop, St Catharines.

Rebuilt two hand and two foot gates for Lock No. 2; painted and launched same and took them to Lock No. 2.

Made and put in place four feet boards through bolted and iron banded.

Hauled out and stripped lock gate from Lock No. 2 to be rebuilt.

Made seventeen large snubbing posts iron capped. Repaired twenty-seven wheelbarrows and made eight new ones.

Rebuilt one lock gate for Lock No. 22. Framed toe post, heel post and five girts for head gate Lock 2. Framed six girts for Lock No. 1 gate.

Made two steps for foot walk Lock No. 2 house. Built one land pile driver with leader 32 feet long iron banded. Framed one pair span gates for Lock No. 2.

Finished framing and put together one tow path gate, Lock No. 1. Made new topmast for flag staff complete, and painted, for canal office.

Partly framed one pair post for small lock gates. Made one pair light shear legs for use when required.

Gate, Yard and Shop, Thorold.

Made large sign board for canal office, and eight small ones for bridges new canal; built one new and rebuilt one old derrick; built one new scow for men on repairs, summit level size, 26 by 14 by 2 feet 4 inches with cabin 10 by 9 by 6 feet 4 inches high.

Repaired scows and hull of pile driver. Made two new 10 inch hand pumps 12 feet long. Built two new stone boats.

Stripped old lock gate brought from Lock No. 6. Dressed and ironed off twenty-seven tamarac poles for locktenders. Made eighty new snubbing posts for new canal. Made all requisite gearing for vessel gauge to measure draught of vessels, and put the same in place at Port Colborne lock.

Lock No. 7, Bridge and Level.

Put five new needle-beams, ten new joists and plank in bridge.

Built new bridge across waste weir, 65 by 12 feet, and covered with 3-inch pine plank; capped and put railing on same, and painted three coats; also put on three new slash boards.

Repaired fender work in front of swing bridge; put in one snubbing post; dug out and puddled back of wing-walls of waste weir; faced banks of weir with one scow load stone.

Took down leaking wing-walls of waste weir and rebuilt same.

Lock No. 8, and Level.

Put new timber and re-set foot gates.

Built new bridge over waste weir, 4 by 60 feet; two stringers, 12 by 12 feet, covered with 2-inch pine plank; put on new slash boards; new iron work; repaired rollers.

Took down wing walls and rebuilt same, and raised them 1 foot 6 inches higher, with new stonework; dug out and puddled behind wing walls; put in new apron and filled same up with one scowload stone.

Lock No. 9, and Level.

Put in one snubbing-post.

Lock No. 10, and Level.

Put new siding on kitchen of locktender's house; made and hung three new doors.

Lock No. 11, and Level.

Built protection house, balloon frame, 5 by 12 feet high, sheeted with rough 1-inch boards, board and battened roof, and one batten door over valves that supply the hydraulic race from canal, to prevent tampering with supply valves; put siding on kitchen of locktender's house, and took up and relaid $1\frac{1}{4}$ -inch flooring in main dwelling.

Lock No. 12, and Level.

Put in new concrete between main timbers and bottom of lock; also new mitre sill at foot of lock, and put on five new brasses.

Lock No. 13, and Level.

One scow load stone used in repairing waste weir.

Lock No. 14, and Level.

Made and put on foot-boards; put in new concrete between mitre sill and other timbers, and double planked bottom of lock chamber throughout; put new face-pieces to mitre sill in foot of lock; one scow load of stone used in repairing waste weir.

Lock No. 15, Bridge and Level.

Put in new circle plank on heel and toe of bridge.

Put new slash boards, new iron work, and two new rollers on waste weir and bridge.

Lock No. 16, and Level.

Put in new concrete between main timbers, and double planked bottom of lock chamber, one scow load stone used in repairing waste weir.

Lock No. 17, and Level.

Replanked two bridges at Riordan's paper mills, 25 by 15 feet and 27 by 12 feet, with 3-inch pine plank and 6 by 8 inch cap on same. Put new blocks and connections to valves on waste weir.

Built one new cut stone pier and bridge across waste weir, fitted up with new slash boards, trip dog crab and railing; built new float bridge, 106 by 11 feet, and rebuilt abutment each end of floats; built new shed and tool house at quarry.

Lock No. 18, and Level.

Put new blocks and connections to valves of waste weir, also new bottom to valve frames.

Repaired locktender's house; built new fence and W. C.

Fitted up old storehouse from Lock No. 15 for lockhouse.

Built new centre pier (cut stone) and new bridge across waste weir, fitted up with new slash boards, trip dog crab and railing.

Took down leaking wing walls of weir and rebuilt same.

Lock No. 19, and Level.

In good condition.

Lock No. 20, and Level.

Took down railing of waste weir bridge; counter sunk posts of railing in timbers of bridge, and re-set railing up again. Made and put in place two new slash boards. Put in twelve new wrist pins. Put on new cravat to foot gates. Built new cut stone centre pier and new bridge over waste weir, fitted up with new slash boards; trip dog crab and railing.

Lock No. 21, and Level.

Put new blocks and connections to valves of waste weir. Built new top to abutments of float bridge. Put in twelve new wrist pins.

Lock No. 21, Keefer Bridge and Level

Put on new twin buckle for bridge, tightened up rods, and made new approach and replanked same. Cleared away old rotten wooden abutments east side of bridge, and built new substantial stone abutments of heavy masonry in lieu.

Lock No. 23, and Level.

Put in new concrete, and double planked bottom to lock; also twelve new wrist pins. Built new cut stone centre pier, and new bridge over waste weir, fitted up with slash boards, trip dog crab and railing.

Lock No. 24, Bridge and Level.

Replanked tow path bridge, raised swing bridge, and put new steel plate under; replanked approach, west side; one scow load of gravel, and one of stone, for repairs to waste weir; dug out old puddle between store cellar wall and raceway, 54 by 8 by 4 feet; put in 2 feet concrete next to cellar wall, 54 feet long, and filled up same with puddle, to prevent leaking into cellar.

Lock No. 25, and Level.

Put in new snubbing post, and one new head block in head gate; also twelve new wrist pins; built new bridge across waste weir; put on new railing and slash boards; two scow load stone for repairs to banks; took down leaking wing walls of waste weir, and rebuilt same, and raised walls 2 feet higher; raised and puddled banks behind walls of waste weir.

Guard Lock Thorold, and 3-mile Level.

Made and put in frame and rack in front of Higgin's flume; repaired and replanked swing bridge; put on improved fastening to valve screws, Higgin's flume, to prevent water being wasted into 12-mile Creek.

Allanburgh Bridge, Lift Lock and Guard Lock.

Raised one of the guard lock gates, and tightened up suspension bar; one scow load stone from Government quarry, for cellar, bridgetender's house, and other repairs; and 1 scow load stone to repair Beaver dam Creek weir.

FEEDER JUNCTION TO DUNNVILLE AND PORT MAITLAND—23 MILES.

From Dunnville to Stromness and Port Maitland is $6\frac{1}{2}$ miles, from Stromness to Marshville and junction with main line of canal, $16\frac{2}{3}$ miles.

Upon this division there are three locks, four waste weirs, ten stationary bridges, one toll bridge, twelve piers and aprons, twenty-six flood gates, eight culverts under canal, three locktenders' houses, three lock and bridge shanties, one tollkeeper's house, one overseer's house, two sluice ways, one fish ladder, one dam and embankment 2,328 feet long, two back ditches, and 1,200 feet booms.

The supply of water has been greater this season than last. There was a very limited quantity of timber and firewood hauled out to canal; consequently the traffic through the Feeder has fallen off somewhat.

Waste Weir No. 1, Dunnville.

Twelve old flood gates were taken out and rebuilt; valve rods straightened and screws repaired. Six worn out upright posts, 12 by 14 inches by 10 feet, removed and replaced by new. One new stone pier, 2 by 4 feet by 6 feet high, was built on breast wall to support the top structures, and the top sheeting on bridge was repaired.

Waste Weir No 2, Dunnville.

The whole top structure was renewed and rebuilt. There were also eighteen new flood gates of an improved plan built and placed in position, all the valve rods straightened, screws and winches repaired; the timber and iron work painted three coats.

Waste Weir No. 3, Dunnville.

All the stone piers were raised 15 inches higher, and all the top timbers and flood gates were entirely renewed. Rods, winches and screws were all overhauled and repaired. The timber and iron work thoroughly painted.

Port Maitland.

A new locktender's dwelling, 22 by 30 feet, was built and lot fenced in.

Feeder Junction.

A new swing bridge has been built to carry roadway across junction lock, and will be placed in position soon.

Swing Bridges.

Worn out and defective planks removed and replanked with new. All the swing bridges were raised on their pivots and properly balanced, rods tightened and otherwise put in a good state of repair. A float ferry was made and put in position near Boulton Ditch settlement.

Generally.

The unprecedented spring freshet of Grand River passed off without doing any damage. Extraordinary exertions were used night and day to prevent damage. All the drift wood and rubbish was passed over the dam, and sunken logs were removed from entrance to weirs. The feeder channel between Dunnville and Junction was thoroughly searched; all obstructions removed. The mitre sills of Dunnville and Port Maitland lock were cleaned out, and Feeder banks raised where sunken or undermined by muskrats, to prevent overflow. Canada thistles and obnoxious weeds cut throughout. The Government scows have been employed taking stone from quarry, to fill up the parts of canal banks washed and worn away, or that needed raising, to prevent overflow. All ditches have been kept cleaned throughout the division, and thistle and weeds on Government property cut as usual.

The usual examination and repairs to old lock gates, machinery, face planking, &c., have been attended to when water was drawn off.

WILLIAM ELLIS,
Superintendent.

STATEMENT of Fines and Damages collected from Vessels Contravening Canal Regulations, for the Fiscal Year ending 30th June, 1884.

Date.		Name of Vessels.	Fines.	Damages.	Total.
1883.			\$ cts.	\$ cts.	\$ cts.
May	22	Schooner "Albacon"		21 00	
do	30	do "Snowbird"		17 00	
do	30	do "Prussia"		10 00	
do	30	do "Augusta"		13 50	
do	30	do "H. P. Murray"		10 00	
1884.					
July	1	Tug "Gordon"		21 00	
Aug.	9	Brig "A. Smith"		26 00	
do	13	Schooner "F. Baker"		116 50	
do	13	do "Hoboken"		10 00	
do	27	do "Mary Battle"		18 50	
do	27	Steamer "Canada"	20 00		
Sept.	12	Tug "Bruce"		6 00	
Oct.	15	do "Mitchell"	5 00		
do	12	Propeller "W. L. Frost"		3,000 00	
do	19	Schooner "Penokee"		25 70	
do	22	Steamer "Saginaw Valley"	25 00		
do	22	Schooner "G. B. Sloan"	20 00		
Nov.	6	do "P. M. Rogers"		23 00	
do	6	Tug "R. S. King"	25 00		
do	7	Propeller "Myles"	40 00		
do	12	Brig "Gilmour"		20 00	
do	19	Raft timber		25 00	
Total			135 00	3,363 00	3,498 20

*Handed to H. H. Collier, Esq., Collector, St. Catharines.

STATEMENT showing the Depth of Water on Lower Sill of Lock No. 1, Welland Canal at Port Dalhousie, for Fiscal Year ending 30th June, 1884.

Months.	Lower Sill.		Months.	Lower Sill.	
	Highest.	Lowest.		Highest.	Lowest.
1883.	Ft. In.	Ft. In.	1884.	Ft. In.	Ft. In.
July	14 10	14 6	January	13 6	13 0
August	14 9	14 5	February	14 0	13 4
September	14 7	13 11	March	14 8	13 10
October	14 1	13 4	April	15 1	14 8
November	13 5	13 2	May	15 3	14 10
December	13 6	13 2	June	15 2	14 9

	Ft. In.
Average, 1883	14 3
do 1884	13 11

STATEMENT showing the Depth of Water in Upper Sill of Lock 27, Welland Canal, at Port Colborne, for Fiscal Year ending 30th June, 1884.

Months.	Upper Sill.		Months.	Upper Sill.	
	Highest.	Lowest.		Highest.	Lowest.
	Ft. In.	Ft. In.		Ft. In.	Ft. In.
July.....	14 5	13 2	January.....	15 6	11 7
August.....	14 3	12 10	February.....	14 4	11 5
September.....	13 5	12 0	March.....	13 7	11 8
October.....	14 10	12 2	April.....	14 1	12 5
November.....	14 4	12 0	May.....	16 0	12 11
December.....	13 11	11 1	June.....	13 8	13 4

	Ft. In.
Average, 1883.....	13 5
do 1884.....	13 3

WILLIAM ELLIS,
Superintendent.

No. 6.

RIDEAU CANAL.

RIDEAU CANAL OFFICE,
OTTAWA, 20th September, 1884.

SIR,—I have the honor to submit the Annual Report on the state of the works under my charge, for the fiscal year ending 30th June, 1884.

Navigation closed at Ottawa on 27th November, and at Kingston Mills 28th November, and opened at Ottawa and Kingston Mills on 1st and 5th May respectively.

The water in the ascending and descending reaches between Ottawa and Kingston for the first time in the last twelve years maintained full depth required on the sills of the different locks for the whole season of navigation. This year opened with high water on all the reaches, and it was with great difficulty the freshet was cleared without damage to the works.

No delays to navigation occurred.

The principal repairs to the works were as follows :—

Kingston Mills.

The damage to the embankment caused by the storm of May, 1883, was repaired by placing over 600 yards of stone on the embankment.

The wash weir and bridge over it was renewed.

One pair of lock gates and four new sluice frames.

Lower Brewers.

A dam had to be put in and the lower locks pumped out, to renew the foundations for the steps of one of the lock gates. One pair of lock gates renewed.

Upper Brewers.

Dam put in above lock, in order to draw off the water to rebuild the wing wall of upper lock.

Jones' Falls.

Two pair of lock gates renewed and one pair of sluice frames.

Davis' Locks.

One new swing beam and repairs to sluice frames.

Chaffey's.

A new swing bridge built over the locks at this point, to accommodate the settlers living on the west of the canal, has given great satisfaction.

Newboro'.

Repairs to mitre post of lock gates ; high bridge replanked.

Poonamalie.

One pair of new swing beams and repairs to bulkhead.

Smith's Falls.

Swing bridge over lock renewed and repairs to sluice frames.

Old Slys.

Repairs to lock walls and replanking bridges.

Burritt's.

Swing bridge renewed and repairs made to embankment, damaged by high water in the spring.

Bekett's Landing.

Re-planked long bridge over the river and repaired the piers of same.

Manotick.

New stop-logs furnished for bulkhead, repaired bulkhead and piers, and all leakage stopped.

Long Island.

Built new apron above the bulkhead, with new side piers to stop leakage.

Ottawa.

One pair of new lock gates and sundry repairs to sluices and machinery.

The works throughout the canal, with the exception of the Narrows lock, are in good working order; the leakages at several stations have been reduced, and the levels have, in consequence, been better maintained. The leakage under the main dam and the bulkhead at Hog's Back is increasing. Settlements occur, more or less, every year, and will, before long, require a considerable amount of clay filling placed on the up-stream side to stay it. The extent of the leakage coming under the works

Feeder Junction to Dunnville and Port Maitland, 23 miles.

may be judged from the fact that it furnished, during the summer months, the power to drive the New Edinburgh mills.

A contract was made for the erection of a toll collector and lockmaster's office at the head of the combined lock, Ottawa. Work was commenced last September, and it is now nearly completed. It is a substantial stone building, and a great improvement on the old wooden buildings which formerly did duty as offices.

Tay Canal.

Messrs. Manning & Macdonald, the contractors for the canal, have made fair progress during the past year.

The excavation in rock and clay, including the two lock pits, have been nearly completed; the greater part of the stone for the locks has been delivered on the ground, and one lock is expected to be completed this fall.

A commencement has also been made in excavating the bed of the river at Dawson's, as well as at other points; and a dredge is now working at the entrance to the canal.

Surveys were made last summer to test, first, the feasibility of connecting the waters of the Rideau navigation, with the waters descending towards Gananoque, with a connection to Charleston Lake, and to make a continuous navigation to the town of Gananoque; second, the feasibility of connecting a chain of lakes on the "Devil Lake system" by locks and cuttings, with a view to provide a supply of water to the Rideau navigation, together with a navigable channel through these several lakes to connect with the Rideau at Bedford Mills, on Mud Lake. My report of 10th February, 1884, gives in detail the information given by these two surveys.

I have the honor to be, Sir,

Your obedient servant,

FRED. A. WISE.

Superintending Engineer.

A. P. BRADLEY, Esq.,
Department Railways and Canals,
Ottawa.

No. 7.**TRENT CANAL.**

ENGINEER'S OFFICE,

PETERBOROUGH, 23rd October, 1884.

SIR,—I have the honor to enclose you the Annual Report on the works temporarily under my charge, for the fiscal year ending 30th June, 1884.

I have the honor to be, Sir,

Your obedient servant,

RICHARD B. ROGERS,

Acting Superintending Engineer.

A. P. BRADLEY, Esq.,
Secretary Department Railways and Canals,
Ottawa.

TRENT CANAL WORKS,
ENGINEER'S OFFICE,
PETERBOROUGH, 17th October, 1884.

SIR,—I have the honor to submit the Annual Report on the works temporarily under my charge, for the fiscal year ending June 30th, 1884.

From the 1st of July till the close of navigation the water on the several stretches was maintained at a height rather above the usual level. The water commenced to rise earlier in the fall than usual. It was anticipated, from the great depth of snow last winter, that a heavy freshet would follow in the spring, but the water passed off very gradually, and no damage, other than the usual amount, was done to the work under the charge of this Department, except a break in the canal bank at Bobcaygeon, which was temporarily repaired before a great deal of damage was done. The spring height of the water was slightly above the average.

During the autumn months the water falls very rapidly, and the want of such is severely felt by navigation and mill owners. There are immense store reservoirs and feeders to this route, the regulation of which, if assumed by the Government and placed under one control, there need be no scarcity of water during the whole season, even during the driest of seasons.

Navigation closed 28th November, and opened about 26th March.

The total number of lockages on the different canals was 1,240, the greatest number at any one station being 857. This shows a falling off from the figures last year, but this is accounted for from the fact that the contractor for the Fenelon Falls locks, last year, drew the stone for the locks through the Bobcaygeon lock.

The nature and dimensions of the works at the several stations along this route have been described in former reports. I shall proceed to describe the repairs executed at the different points on the works for the year.

Fenelon Falls.

This station is, at present, the northern extremity of the route under control of this Department; but on the completion of the locks and canal, now under construction, navigation will be extended to Balsam Lake. The dam and guide booms, and piers above the dam, are private property, and are in a decayed condition.

The line of boom below, which divides the steamboat channel from the log channel, has been allowed to drift out of position, and many of the anchors have become detached. The boom is at present being put in order, in view of the opening of the new locks and canal next season.

Scugog River.

This river runs through land that has been flooded by the dam at Bobcaygeon. The bottom is soft, and logs from the sides keep working into the channel. A dredge is greatly needed on this stretch. A beacon has been placed at the entrance into Sturgeon Lake. It should have a light placed on it at night, or be painted with luminous paint. The traffic on this stretch, between Lindsay and Bobcaygeon, has greatly increased this season, and two more steamboats have been placed on the route.

Lindsay.

At this station the works consist of a lock and dam. The original lock built in 1839, by the Government at that time, was rebuilt by the Ontario Government in 1870, and has since been controlled by them. The subject of the ownership of both lock and dam has been in dispute, and it is desirable that the question should be finally settled as soon as possible. This point is on the route of the Trent Valley Canal. A question as to what height the water above the dam is allowed to be retained has arisen, and communications have been sent to this Department on the subject.

Bobcaygeon.

The dam at this station is in a very decayed, leaky condition, and it is impossible to retain the water on this account. The mortices and tenons of the frame have completely rotted out, and the only thing that keeps the dam in position is the great amount of stone filling.

This dam retains the water of Sturgeon Lake at navigable height, and furnishes water power to the several mills at this point. It would be a serious loss to the whole of the district, and to the increasing traffic, if this dam were to give out. A new dam could be built, which would be much shorter and cost less money than the present one.

The dam was gravelled and repaired to make it as tight as possible. The swing bridge across the canal was raised to correspond with the grade of the street.

A break occurred in the north wall of the canal during the freshet, and it was feared that part of the village would be flooded; but it was stopped, and temporarily repaired by placing a breast work on the face of the bank. This breast work has been moved and made permanent.

Towards the latter part of June, two drives of logs passed over "Big Bob" channel, contrary to regulations, and wasted so much water that it was impossible to get the water up again to its ordinary height. Logs will be prevented from again coming down this channel, by a line of boom and piers placed at the entrance to the channel. The steamboat channel has a great many boulders on the bottom, which require to be removed. A beacon should be placed at the entrance. A breast work at the lower entrance to the lock, is being placed, to prevent boats influenced by the cross current from the dam, from grounding on the shore. The floor of the canal from the lock requires replanking, as its leaks very badly.

Buckhorn.

The dam at this station, which is under the control of this Department, is in a very good state of repair. There is a slight leak at the south end, which is being repaired.

Bracket boards have always been used on this dam, to retain the water of Pigeon and Mud lakes, for the benefit of navigation during the fall.

From the position of the county bridge, which rests on this dam, it is extremely difficult to place the brackets on at the proper time.

With slight alterations to the cap of the dam, light stop logs could be dropped into position at the proper time.

The new Government works at this station, consisting of a lock and canal, are about completed.

Burleigh.

The works at this station were for the descent of timber, but having received no repairs for years, are in a very dilapidated condition. On the completion of the new works here the booms and piers will have to be renewed.

Young's Point.

The Government having assumed control of the dam at this point, a new dam is being constructed.

The difficulty between the lumbermen and the steamboatmen, which has always existed between this point and Lakefield, on account of the lumbermen blocking the steamboat channel with logs, will be avoided in future, by the construction of a boom to separate the log channel from the steamboat channel. This boom is at present under construction.

Peterboro'

The river at this station, and the lake below, are becoming so filled with sawdust that it will soon stop navigation. It is impossible now for the steambot to approach Ashburnham wharf, and complaints have been made by the residents of that municipality.

The balance of the appropriation made last year for dredging saw dust, was applied this year, but, though useful for a time, has again filled up with the immense deposits of sawdust that come down daily.

Whitlaw's Rapids.

The dam was tightened and repaired and the lock-chamber cleaned out. The walls of the lock-chamber require pointing, and new gates are needed. Another sluice is required in the dam, to let the spring freshet off more quickly.

Otonabee River.

Work has been done on the obstructions in this river, and navigation is much improved, but more work is still required to be done.

The obstruction at Dangerfield is a bar of sand; those at Yankee Bonnet and Robinson's Island are boulders ranging in size from 6 inches to 2 feet in diameter. These obstructions could be removed much more expeditiously by means of a dredge than by the present means, which is a derrick.

The entrance of this river into Rice Lake is by three mouths. The most easterly mouth, which is the best, and is about $1\frac{1}{2}$ miles shorter, is completely closed by a bank of sawdust. The entire entrance is also almost closed, and can only be raised at high water.

Keene.

The approach to this station is by the Indian River, which is very tortuous between the wharf and its entrance to Rice Lake. It could be much straightened by a short-cut being made, which could be done at a small cost, the material being a floating bog. A dredge is greatly needed at this as well as at many other points on this stretch.

The traffic between this and other points on the lake has much increased.

Hastings.

The original dam at this station was built some forty-four years ago.

The sheeting on the lower part of the bents, which was covered to a great depth with broken flag stone taken from the lock, has given out, and in consequence the whole river runs through the dam instead of over it. The dam requires to be unwatered and sheet piled. This was partly done some years ago, but not completed. The wing dam, which is private property, also leaks very badly. A sluice should be built across the entrance to the head-race to regulate the water used by the mills. The laying-to wharf above the lock was rebuilt.

Heely's Falls.

The dam at this station was slightly injured by the spring freshet, and will require to be repaired this fall. This dam retains the water at navigable height to Hastings.

Chisholm's Rapids.

The gates for the lock were hung and the lock-chamber cleaned out. The dam was gravelled. The waste weir on the south side of the dam is being prepared for a timber sluice, so that the timber in future will be kept on the south side instead of

crossing to the north sluice, and, which was often the case, passing over the dam, which caused great injury to the dam.

It is the intention to have a steamboat on this stretch next season.

I have the honor to be, Sir,

Your obedient servant,

RICHARD B. ROGERS,
Superintending Engineer.

P. BRADLEY, Esq.,
Secretary, Department Railways and Canals,
Ottawa.

No. 8.

ST. PETER'S CANAL.

OTTAWA, 2nd October, 1884.

SIR,—Navigation through St. Peter's Canal was closed on the 2nd January, and reopened on the 20th April, 1884.

The following is a statement of the traffic through this canal during the fiscal year ended 30th June, 1884.

Month.	No. of Vessels bound North.	Tonnage.	Amount Collected for Tolls.	No. of Vessels bound South.	Tonnage.	Amount Collected for Tolls.
			\$ cts.			\$ cts.
1883.						
July	93	9,222	204 30	65	5,292	106 34
August	116	14,665	245 86	98	1,234	111 12
September	119	12,724	173 12	67	2,111	121 16
October	136	12,013	234 37	116	7,002	117 34
November	128	8,405	126 30	98	8,201	119 30
December	32	2,214	50 22	23	1,112	20 09
1884.						
January	1	24	0 68	1	102	3 43
April	3	97	2 87	2	82	2 23
May	70	2,606	97 27	52	1,303	84 42
June	100	7,818	191 39	70	3,909	172 42
Totals	798	69,788	1,329 38	592	30,348	857 85

I have to report that the canal was in good working order during the year.

The construction of a retaining wall on the eastern side of the canal, at its northern end was commenced, and, at the close of the year, was well under way. The foundation for this was dredged by a dredge of the Department of Public Works, which also operated on several shoals leading to the Bras d'Or.

The placing of fenders on the rocky sides of the canal, to prevent vessels from being injured, has been proceeded with; and a guard or fender has been constructed at the end of the lock to prevent paddle-wheel steamers from mounting the lock walls and injuring, not only themselves, but the work as well.

I have the honor to be, Sir,

Your obedient servant,

HENRY F. PERLEY,
Engineer in charge.

P. BRADLEY, Esq.,
Secretary, Department of Railways and Canals,
Ottawa.

PETERBOROUGH, 1st November, 1884.

SIR,—I have the honor herewith to submit an annual report on the works in my charge for the fiscal year ending 30th June, 1884, and generally to this date.

The works referred to are the Murray Canal and the Galops Rapid improvements on the Upper St. Lawrence River; and the surveys and works of construction as authorized in connection with the Trent Valley Canal.

MURRAY CANAL.

This work is situated in the County of Northumberland, about 75 miles west of Kingston; the canal, or rather artificial "strait," will connect the upper St. Lawrence River, and the Bay of Quinté waters with Lake Ontario by means of a direct channel—without locks—formed through the isthmus of Murray, and terminating opposite the village of Brighton, in the harbour of Presqu'île from whence egress to the lake will be had by enlarging and otherwise improving the channel through the middle ground shoal, dredged in 1871.

This harbour, owing to its capacity and position on the lake, will naturally become the head of extended river navigation, *via* the Bay of Quinté, and with its entrance permanently improved and better understood, cannot fail to be regarded eventually as the chief harbour of refuge on the north shore.

And in this connection, I desire to direct attention to the necessity which exists for immediate steps being taken with a view to the preservation of the standing timber which still remains on the Presqu'île peninsula.

The works which extend over a distance of $9\frac{1}{2}$ miles, consist in a through cut across the isthmus, $4\frac{1}{2}$ miles in length, and of detached stretches of submarine excavation of moderate depth at either end of the canal proper, and also at the entrance to Presqu'île Harbour.

The contract was entered into with Messrs. J. D. Silcox & Co., 24th August, 1882, work was commenced on the 1st of September following, and has since been prosecuted in a most satisfactory manner.

The correctness of the information obtained by survey in relation to the nature of the excavation has now been fully tested and is confirmed.

During the past season the work of excavation has been performed wholly by dredging, and no less than six well equipped dredges employed thereon, are stationed as follows, *viz.* :—

"Ontario" and "Central City" in Bay of Quinté, entrance and east end of through cutting.

"St. Charles," midway of through cutting in the Dead Creek marsh.

"Faugh-a-Ballagh" and "Wolverine" at the Presqu'île entrance and west end of through cutting;—and the "JohnPage" in Presqu'île harbour. With the exception of the entrance to the harbour, dredging and ordinary excavation has been carried on over the whole extent of the section. Short sections of the prism of canal, about 2,000 feet, at each end of the through cut have been completed. The foundations of all piers and abutments for the Trenton road bridge, and which are formed wholly in fine land, have been successfully completed.

The masonry was commenced 25th September last, and will be completed this season. The cribs for the base of the piers at the Presqu'île entrance have been sunk in position.

The high stage of water which prevailed in Lake Ontario during the season of 1883 still continues, and is to some extent favourable for dredging operations.

GALOPS RAPID, IMPROVEMENTS.

This work, situated about 7 miles east of the town of Prescott, and near the head of the Williamsburg Canals, consists in the formation, by sub-marine excavation, of a straight channel through the rapids, 200 feet in width, and adapted to the enlarged scale

of vessels drawing 14 feet. The distance over which the improvements will extend is about three quarters of a mile, in which several detached rocky shoals exist, and require to be reduced to such an extent as will enable vessels descending the rapid to carry with them a depth of at least 16 feet throughout, at low water.

Of these shoals the most extensive and difficult to remove are the "Lower Bar" at the foot of the rapid, and that next above known as the "Island Shoal," lying immediately above the "pitch."

Work in rapid turbulent water, and at a considerable distance from shore, is, it is needless to state, both difficult and dangerous. The reduction to the required grade, or bottom line, of the limestone rock, of which the shoals are composed, has been accomplished by drilling, blasting and dredging in from 10 to 20 feet of water, and in a current of at least 10 miles an hour.

The contractors have displayed great skill and energy in conducting their novel undertaking, and it may now be said that, after an experience of five seasons spent in the work, they have fully succeeded in systematizing their operations. The original contract was entered into with Messrs. William Davis & Sons, 5th August, 1879, and the work commenced 28th September, 1880.

Subsequently, 30th June, 1882, with the consent of the Government, the Messrs. Davis transferred their contract to the present contractors, Messrs. E. E. Gilbert & Sons, by whom the work has been conducted from its commencement in 1879.

The work in "Island Shoal" was begun in 1880, and practically finished at the end of the season of 1883. At "Lower Bar" drilling and blasting commenced 1st October, 1883, and was continued until 28th November following, when all operations were suspended for the season.

SEASON OF 1884.

The work of fitting out was commenced 4th April, and drilling and dredging operations in "Lower Bar" one month later.

The drilling was continued until 11th August, when, owing to a collision which occurred between the Torpedo (or drill boat) and a dump scow, in which the former was temporarily disabled and the latter sunk, the work was stopped until 21st August, since which date, however, drilling and blasting has been carried on very successfully.

Dredging operations were suspended from 21st May to 1st July, and the chain vessel (or dredge) taken to Montreal for repairs. She was, however, able to resume work on the latter date, and except some slight interruptions caused by accidents to her machinery, has since continued to work as usual.

It is the intention of the contractors to again take the chain vessel to Montreal for thorough repair, at the close of the season, which will probably be about the 20th November.

The remainder of the contractor's plant will, as heretofore, be wintered on the work.

TRENT VALLEY CANAL.

A continuous location survey, estimate, &c., for the direct line, as indicated in a previous report, was completed last spring, and its general results given by me to the Honourable the Minister.

This, the most direct and practicable line of those examined, necessarily diverged in many important instances from the route originally projected by Baird, in 1835; for which reason representations were subsequently made by persons locally interested in the undertaking, and acquainted with the character of the country traversed, to the effect that a closer adherence to, and the canalization of all rivers connecting the several lakes was desirable; that, although more circuitous, such a course would, nevertheless, be much cheaper than its adoption by the Government of the line surveyed by me, and would yet be sufficiently direct for all practical purposes, regarded as a natural navigable highway to the west.

Accordingly, in view of such representations, and of the importance attached to the selection of the best location for this extensive work, the Minister directed that additional information in relation to the original project should forthwith be obtained, to enable me to present an estimate therefor, as an alternative line, in the report on surveys, to be submitted to the Chief Engineer of Canals.

The necessary additional information has, in part, been obtained during the past summer, but a more minute examination of the Severn River, and other waters not included in the surveys for the direct line, remains to be accomplished, and as this work can be more satisfactorily performed on the ice, it will be proceeded with during the winter.

TRENT NAVIGATION.

The works on the proposed Trent Valley Canal now authorized and under construction, are confined to the "Back Lakes Division," which extends from Lakefield, at the head of the "Nine-mile Rapids" of the Otonabee River, to Balsam Lake, the summit level, a distance of 60 miles.

This division at present includes the regulating dams at Lakfield and Young's Point, and the Burleigh, the Buckhorn and the Fenelon Falls canals.

LAKEFIELD DAM

is formed of crib-work, and will replace the old "Strickland mill-dam." It is designed to regulate and control the levels on Katchewanoe Lake for the purposes of navigation. The contract was entered into with Mr. Charles Wynn, 19th March, 1884, to be completed 1st December, 1884. Some necessary repairs have been made, under the contract, to the mill-dam, in order to maintain it until the new structure is completed. The foundation has been commenced, and a quantity of materials delivered on the work.

YOUNG'S POINT DAM.

This dam is also of crib-work, similar to that at Lakefield. It is situated below and near the old mill-dam, and will control and maintain the navigable reach extending upwards through Clear and Stony Lakes to Burleigh Falls. The contract was entered into with Mr. Charles Wynn, 23rd January, 1884, to be completed 1st September, 1884. The work is executed in a very substantial manner, and will be completed this season.

BURLEIGH CANAL.

This work covers the interval from Stony to Deer Bay Lake, a distance of about $2\frac{1}{4}$ miles. It includes Big Burley Chute, Lovesick Lake and Lovesick Rapids, and consists in the construction of three lift-locks, of which two at Burleigh Chute are combined; also, the necessary regulating and flat dams, &c., and the abutments for the Colonization Road bridge. The contract was entered into with Mr. George Goodwin, 27th September, 1882, to be completed 1st July, 1885.

In April last a quarry was opened about one mile south of Burleigh Bridge, and a small force has been employed thereat in preparing stone for the locks; and some timber, intended for lock foundations and for the dams, has also been delivered on the estion.

The plant from Buckhorn is, it is stated, to be removed to this work, in readiness for next season's operations.

BUCKHORN CANAL,

about one-fourth of a mile in length, occupies the north bank of the upper rapids, which obstruct the channel between Deer Bay and Buckhorn Lakes. The work here consists of a lift-lock, with the necessary piers to form the lower entrance, and a short

reach of canal leading into Buckhorn Lake; also, of the improvement of the Little Buckhorn Rapids, by the removal of some detached rock and boulders.

This contract, also, was entered into with Mr. George Goodwin, 27th September, 1882, to be completed 1st September, 1884.

The work will be completed this season. It is of a very substantial character, and has been conducted in a very satisfactory manner since its commencement in March, 1883, notwithstanding the difficult nature of the excavation, granite work and boulders.

FENELON FALLS CANAL.

situated on the eastern bank of the outlet of Cameron's Lake, and nearly in the centre of the village of Fenelon Falls. It is about one-third of a mile in length, and designed to overcome the falls between Sturgeon and Cameron's Lake.

The work consists in the construction of two lift-locks, combined with entrance piers below, and a short reach of canal above them; also, of the requisite pivot and abutment piers to form a passage through the existing bridge on the Victoria Railway. The contract was entered into with Messrs. A. F. Manning & Co., 14th October, 1882, to be completed 1st July, 1885.

Work was commenced 16th October, 1882, and has since been continued without interruption, and in a very satisfactory manner, although much difficulty was experienced in connection with the unwatering of the works.

The upper lock, commenced in 1883, is now about half finished, and the lower lock, which was only begun this season, will be completed before its close.

The piers forming the lower entrance are also completed, the channel between them deepened, and the coffer dam in course of removal.

The excavation in prism of canal and stone to complete the upper lock and the abutment piers has been prepared at Bobcaygeon quarry, and is now being delivered on the site. All the work embraced in the contract will, it is anticipated, be fully completed by the end of the season of 1885.

The construction of a raceway for mill purposes has been authorized in connection with this canal, and an arrangement was made with the contractors to undertake this work also, as it to some extent affects the masonry of the upper lock.

I have the honor to be, Sir, your obedient servant,

JOHN S. RUBIDGE,

Engineer-in-Charge.

No. 10.

Burlington Bay Canal.

SUPERINTENDENT'S OFFICE,

ST. CATHARINES, 29th Sept., 1884.

SIR.—I have the honor to submit my report on the working and condition of the Burlington Bay Canal, for the year ending 30th June, 1884.

The canal was closed on the 17th December, 1883, and opened on the 15th April, 1884.

No interruptions to the passage of vessels has occurred during the year.

I have had soundings taken across the canal at 50 feet distances, for the greater portion east of the H. & V. W. Railway bridge, had them plotted and cross-sections made, showing the present conformation of the bottom, and by the aid of the divers and assistants, have been able to ascertain the depths on both sides, with reference to the above mentioned cross-sections. I left the plans giving the information with the Chief Engineer, on the occasion of my recent visit to Ottawa.

Some considerable improvements and renewals have been made at the ferry landings, and everything throughout is now in excellent order.

Your obedient servant,

WILLIAM ELLIS,

Superintendent.

P. BRADLEY, Esq.,

Department of Railways and Canals, Ottawa.

APPENDIX No. 7.

STATEMENT of Claims arbitrated or reported upon by the Official Arbitrators in connection with the Department of Railways and Canals during the Fiscal Year ended 30th June, 1884.

Claimants.	Nature of Claims.	When referred.	To whom referred.	Whether for Award or Report.	Amount claimed.	Amount awarded or recommended.	Date of Award or Report.	Remarks.
Wm. Wagner.....	C. P. R.—Land taken in Manitoba.....	1883.				\$ cts.		
W. W. T. Woodhill	I. C. R.—Damage to land by cotton factory siding.....	July 16..	Wm. Compton & Muma.....	Award..	Not stated	\$ cts.		
Robert Blair, Est Hugh Blair.....	I. C. R.—Dalhousie Branch—Land taken.....	do 16..	Mr. Compton.	do	do	.....		Case withdrawn.
Mrs. Vital Couture.....	I. C. R.—St Charles Branch—Land taken.....	do 27..	do	do	do	.....		Withdrawn—settled.
Alfred Labrecque.....	.....	Aug. 2..	Full Board	do	do	12 80	Nov. 16, '83.	
Mrs. Pierre Pelletier.....	.....	do 2..	do	do	do	135 35	do	
Charles Esnouf.....	.....	do 2..	do	do	do	60 00	do	
Sifroi Turgeon.....	.....	do 2..	do	do	do	17 00	do	
Charles Nadeau.....	.....	do 2..	do	do	do	175 00	do	
Damase Turgeon.....	.....	do 2..	do	do	do	125 00	do	
Bothique Turgeon.....	.....	do 2..	do	do	do	.....		Award included in the other claims below.
Damase Labrecque.....	.....	do 2..	do	do	do	185 00	Nov. 16, '83.	
Nazaire Chabot.....	.....	do 2..	do	do	do	60 00	do	
Honoré Turgeon.....	.....	do 2..	do	do	do	60 00	do	
Johnny Turgeon.....	.....	do 2..	do	do	do	11 00	do	
Damase Turgeon.....	.....	do 2..	do	do	do	84 00	do	
Mrs. Alexandre Monney.....	I. C. R.—St. Charles Branch—Land taken.....	do 2..	do	do	do	200 00	do	
François Labrecque.....	.....	do 2..	do	do	Not stated	7 00	do	
Benoni Roy.....	.....	do 2..	do	do	do	7 00	do	
Tonis Patry.....	.....	do 2..	do	do	do	20 00	do	
Mrs A. H. Murphy.....	.....	do 2..	do	do	do	22 00	do	
		do 2..	do	do	do	2,652 00	July 14, '84.	

St. Lawrence Stann Navigation Co.....	do	2...	do	do	do	6,219 20	May 21, '84..	Withdrawn.
François Bourassa.....	do	2...	do	do	do	3,761 00	Feb. 16, '84..	Withdrawn.
Eustache Dorion.....	do	2...	do	do	do	2,220 00	Dec. 20, '83..	Withdrawn.
Moïse Leclerc.....	do	2...	do	do	do	616 00	do	Withdrawn.
Antoine Labrecque.....	do	2...	do	do	do	18 00	Nov. 16, '83..	Withdrawn.
Jean Etc. Pelletier.....	do	2...	do	do	do	100 00	Aug. 29, '83..	Withdrawn.
Alexandre Dionne.....	July	7...	do	do	do	200 00	do	Withdrawn.
Louis Bémé.....	do	7...	do	do	do	250 00	do	Withdrawn.
Flavien Ploufres.....	do	7...	do	do	do	700 00	Aug. 29, '83..	Withdrawn.
Alphonse Chassé.....	do	7...	do	do	do	100 00	do	Withdrawn.
Wm. Fraser.....	do	7...	do	do	do	278 00	Sept. 13, '83	Withdrawn.
Joseph Sleca.....	do	7...	do	do	do	600 00	do	Withdrawn.
Mrs J. Woodworth.....	do	7...	do	do	do	350 00	do	Withdrawn.
Walter W. Jones.....	do	7...	do	do	do	350 00	do	Withdrawn.
J. Nicholson.....	do	7...	do	do	do	500 00	do	Withdrawn.
Michael Conroy.....	do	7...	do	do	do	1,500 00	do	Withdrawn.
St Paul's parish.....	do	7...	do	do	do	do	do	Withdrawn.
Wm. Cunard.....	do	7...	do	do	do	do	do	Withdrawn.
D. Falconer.....	do	7...	do	do	do	do	do	Withdrawn.
J. W. Turfus.....	do	29...	do	do	do	do	do	Withdrawn.
John T. Paysant.....	do	do	do	do	do	\$1,000 00	May 23, '84..	Withdrawn.
Dominic Farrell.....	do	do	do	do	do	3,300 00	do	Withdrawn.
Joseph Weir <i>et al.</i>	do	do	do	do	do	1,500 00	do	Withdrawn.
Wm. Cunard.....	do	do	do	do	do	Not stated	do	Withdrawn.
Robert Albro.....	do	do	do	do	do	1,500 00	May 23, '84..	Withdrawn.
Alex and A. Phillips.....	do	do	do	do	do	do	do	Withdrawn.
The Acadia Powder Co.....	do	do	do	do	do	do	do	Withdrawn.
Eugène Gosselin.....	do	do	do	do	do	do	do	Withdrawn.
Louis Chabot.....	do	do	do	do	do	1,286 00	Dec. 20, '83..	This case is appealed for the Court of Exchequer.
Charles Chabot.....	do	do	do	do	do	674 00	do	do
Marie Louise Raymond.....	do	do	do	do	do	810 00	do	do
Frs. Xavier Marquis.....	do	do	do	do	do	16,322 40	Feb. 16, '84..	do
Isidore Laroque.....	do	do	do	do	do	10,807 65	do	do
Beauharnois Canal—Damage to property by removing bridge.....	Sept. 15...	do	do	Report.	do	1,000 00	Mar. 10, '84..	do
I. C. R.—Damage for a horse killed.....	do 29...	do	do	Award.	do	100 00	do	do
do by flooding his land.....	do	do	do	do	do	448 00	do	do
do by a culvert.....	Nov. 6...	do	do	Report..	do	Not stated	do	do
do Damage for water front taken for the.....	do 17... 1884.	do	do	Award.	do	1,500 00	do	do
do Damage to property by water through a culvert.....	Jan.	do	do	do	do	do	do	do

STATEMENT of Claims arbitrated or reported upon by the Official Arbitrators in connection with the Department of Railways and Canals, during the Fiscal Year ended 30th June, 1884.

Claimants.	Nature of Claims.	When referred.	To whom referred.	Whether for Award or Report.	Amount claimed	Amount awarded or recommended.	Date of Award or Report.	Remarks.
					\$ cts.	\$ cts		
Stephen Tuttle.....	I. C. R.—Damage for a horse killed on the line.....	Jan. 9...	H. Muma.....	Report.	100 00	100 00	April 21, '84.	
Alexander Noble.....	do do	do 9...	do	do	120 00	100 00	do ..	
Alon. Carter.....	do Damage for a cow killed on the line.....	do 10...	do	do	75 00	25 00	do ..	
James McLeod	do Damage for two horses killed and one injured by.....	Feb. 6...	Wm. Compton	do	435 00	Nil.	April 15, '84.	Referred de nova.
C. J. A. Maurice.....	I. C. R.—St. Charles Branch—Land taken for Chambly Canal, "right of way," probably taken for enlargement.....	Mar. 28...	Jos Simard ...	do	15,000 00	1,250 00	May 8, '84.	
Amable St. Laurent....	do	April 19...	do	do	12 00	12 00	May 12, '84.	
George I. Troop.....	I. C. R.—Five sheep killed by.....	do 19...	Full Board....	Award.	2,000 00	300 00	May 23, '84.	
Hon. Alex. James.....	do Dartmouth Branch—Land taken for.....	do 19...	do	do	Not stated	125 00	do ..	
John W. Burton.....	do	do 19...	do	do	1,000 00	125 00	do ..	

CHAS. THIBAULT,
Secretary to Official Arbitrators.

OTTAWA, 31st July, 1884.

APPENDIX No. 3.

GENERAL STATEMENT SHOWING:

- 1st. Water Power and other Public Property leased on Canals and Railways, during the Fiscal Year ending 30th June, 1884.
- 2nd. Property purchased or damaged by the Department of Railways and Canals, for the Dominion Railways and Canals, and Property sold by the same Department, as not being required for said Railways and Canals, during the Fiscal Year ending 30th June, 1884.
- 3rd. Agreements respecting Subsidies granted by the Dominion Government to aid in the construction of Railways, entered into by certain Railway Companies with the Minister of Railways and Canals, during the Fiscal Year ending 30th June, 1884.

GENERAL STATE

1st. Water Power and other Public Property leased on Canals

Date of Signature.	Term of Lease.	Lessees.	Property Leased.	For what purpose used.
<i>Beauharnois Canal.</i>				
Aug. 18, 1883	Pleasure of Government.	Lake St. Francis Tow-Boat Co. (Limited)	Wharf lot at 230 ft. North of Guard Lock, Valleyfield.	Office, &c.
Sep. 28, 1883	do	Eusebe French	Lot No. 1, in front of official lot 850, above Guard Lock, S. of Canal, Valleyfield.	To deposit cord-wood.
Nov. 20, 1883	do	Adolphe D'Acoust....	Canal bank, 370 ft. above bridge, S. of Canal, except 31 ft. for a road, St. Timothée.	Wharf and store.
do 15, 1883	do	Alex'r McFee & Co ..	Canal bank, 200 ft. below bridge, S. of Canal, St. Timothée.	do ...
do 20, 1883	do	Aug. Lespérance	Canal bank, 350 ft. below bridge, S. of Canal, St. Timothée.	do ...
do 20, 1883	do	Leon Leduc	Lot No. 1, above Guard Lock, N. of Canal, Valleyfield.	Workshops, to repair vessels.
Feb. 22, 1884	do	Moise Lalonde	Lot No. 1, below Guard Lock, N. of Canal, Valleyfield.	Lumber yard
Jan. 22, 1884	do	John Henry Wilson ..	Lot No. 1, above Guard Lock, N. of Canal, Valleyfield.	Coal yard
July 22, 1884	do	Coll. McFee	Wharf lot at 2,000 ft. above Guard Lock, S. of Canal, Valleyfield.	Wharf
<i>Lachine Canal.</i>				
Jan. 9, 1884	Winter of 1884	Curling Committee, Winter Carnival, 1884.	Bond of A. A. Stevenson <i>et al.</i> , in case of damage by use of Sheds Nos. 1 and 2, near St. Gabriel Locks.	Curling rink
Dec. 29, 1883	do	Thos. Keogh <i>et al.</i>	Bond in case of damage by use of Shed No. 2, at Basin No. 2, near St. Gabriel Locks.	Skating rink
<i>Rideau Canal.</i>				
Dec. 14, 1883	Pleasure of Government.	Corporation of City of Ottawa.	Part of water-way, W. of Canal, at Show Grounds, on Bank street, Ottawa.	½-mile driving track.
July 5, 1884	do	B. E. Chaffey	Part of lot 17, in 8th Concession, South Crosby, W. of Canal.	Grist mill
Mch. 20, 1884	21 yrs., renewable for ever	Estate of late Jas. C. Foster.	Part of lot 21, in 7th Concession, Storrington, W. of Canal.	do
May 17, 1884	Pleasure of Government.	Dey Brothers	Lots 4, 5, 6 and 7, N.E. of Canal, near Maria street bridge, Ottawa.	Boat house, &c ..
June 12, 1884	do	J. G. Butterworth & Co.	Lots 1 and 2 do do	Storing coal
<i>Cornwall Canal.</i>				
Aug. 3, 1883	do	Flack Brothers.....	Lot on south side of Water street, between Amelian and Adolphus streets, Cornwall.	Coal shed

MENT SHOWING :

and Railways, during the Fiscal Year ended 30th June, 1884.

Amount of Water Power Leased.	Area of Property Leased.	Date from which Lease is reckoned	Annual Rental.	Terms of Payment.			Remarks.
				Amount of each Instalment.	When Payable each Year.	When first Instalment was Payable.	
			\$ cts.	\$ cts.			
.....	1,550 ft.....	July 1, 1883	20 00	20 00	July 1....	On delivery of lease.	Payable in advance.
.....	260 x 20 ft.	Sept. 1, 1883	20 00	20 00	Sept. 1....	do ...	do
.....	150 x 70 ft.	May 1, 1883	10 00	10 00	May 1....	do ...	do
.....	150 x 75 ft.	do 1, 1883	10 00	10 00	do 1....	do ...	do
.....	150 x 75 ft.	do 1, 1883	10 00	10 00	do 1....	do ...	do
.....	$\frac{3}{4}$ acre	Sept. 1, 1883	30 00	30 00	Sept. 1....	do ...	do
.....	100 x 70 ft.	do 1, 1883	10 00	10 00	do 1....	do ...	do
.....	150 x 100 ft.	July 1, 1883	40 00	40 00	July 1....	do ...	do
.....	150 x 30 ft.	Nov. 15, 1882	15 00	15 00	Nov. 15....	do ...	do
.....	.....	Winter, 1884	.....	.....	.....	.....	Bond in \$1,000.
.....	.....	.....	10 00	10 00	Paid	On delivery of lease.	do \$500.
.....	150 x 50 ft.	Nov. 1, 1883	1 00	1 00	Nov. 1....	do ...	In advance.
Surplus water to pass through flume.	3 r., 18 p..	July 1, 1883	5 00	5 00	July 1....	July 1, 1883	do
40 h. p.	2 a., 2 r., & 4 p.	May 15, 1882	105 00	52 50	Jan. 1 and July 1.	Jan. 1, 1883	This renews lease No. 2,343
.....	396 x 99 ft.	do 1, 1884	80 00	80 00	May 1....	May 1, 1884	In advance.
.....	132 x 99 ft.	June 1, 1884	80 00	80 00	June 1....	June 1, 1884	do
.....	0.40 acre..	July 1, 1883	25 00	25 00	July 1....	On delivery of lease.	do

GENERAL STATEMENT showing: 1st. Water Power and other

Date of Signature.	Term of Lease.	Lessees.	Property Leased.	For what purpose used.
<i>Cornwall Canal—Concluded.</i>				
Dec. 7, 1883	.....	Stormont Cotton Manufacturing Co.	A. F. Gault assigns to this company his lease No. 5,816.	Cotton factory...
do 15, 1883	.....	do	This company assigns to the "Canadian Permanent Loan and Savings Co.," by way of mortgage, their leases No. 5,816, held under A. F. Gault, and No. 5,867, held under P. E. Adams.	do ...
do 3, 1883	.....	Toronto Paper Manufacturing Co.	The company assign their lease No 6,885 to "Canada Life Insurance Co."	Paper mill.....
<i>Welland Canal.</i>				
May 10, 1883	21 yrs., renewable for ever	J. W. Holmer.....	Mill lot on Grand River, at Dunnville.	Door and sash factory.
Aug. 30, 1883	Pleasure of Government.	H. Jarvis.....	Part of lots 3 and 4, sub-division of lot 16, in 4th Concession, Grantham, St. Catharines.	Sail loft.....
June 27, 1883	do	Lybster Cotton Mills Co.	Part of lots 11 and 12 in 10th Concession, Grantham, at Merritton.	Connected with cotton mill.
July 1, 1882	.....	King & Dolan	Assign their lease, No. 6,664 of 11th July, 1882, to the Merritton Cotton Mills Co. (Limited), Merritton.	do ...
Nov 25, 1883	.....	Merritton Cotton Mills Co. (Limited).	Company mortgage their lease, No 6,664, to Canada Life Assurance Co.	.....
<i>Official Cars.</i>				
an. 11, 1884	10 years	Her Majesty	Lot at Stewarton Station of the "Canada Atlantic Railway Co.," near Ottawa.	Shed for official railway cars.
<i>Intercolonial Railway.</i>				
uly 1, 1883	1 year.....	Dominion News Co..	License to sell books, etc., on regular passenger trains of Intercolonial Railway—	.....
do 1, 1883	do	Joseph Fortin	Halifax to Campbelltown; St. John to Pointe du Chêne.	.....
do 28, 1884	do	do	Pte. Lévis to Campbellton.....	.....
June 28, 1884	Terminable on 6 months' notice.	Northern & Western Railway Co., of New Brunswick.	License to cross Intercolonial Railway on a level at or near Chatham Junction Station.	Crossing
<i>Chambly Canal.</i>				
Dec. 1, 1883	.....	J. A. Maurice <i>et ux.</i> ...	Will quit house and triangular lot, now Lock No. 7, Chambly Basin, 1st April, 1884, held under lease of 25th June, 1873.	Chambly Canal..

Public Property leased on Canals and Railways, etc.—Continued.

Amount of Water Power Leased	Area of Property Leased.	Date from which Lease is reckoned.	Annual Rental.	Terms of Payment.			Remarks.
				Amount of each Instalment.	When Payable each Year.	When first Instalment was Payable.	
			\$ cts.	\$ cts.			
							Minister's assent, Dec. 26, 1883.
							do Dec. 28, 1883.
							do July 8, 1884.
14 h. p...	0.25 acre.	April 1, 1883	120 00	60 00	Jan. 1 and July 1.	April 1, 1883	This supersedes lease 2,533, H. Micklebergen, \$30 in advance; then, 1st July, 1883, 60; then \$60 semi-annually.
	1.29 acres.	July 1, 1883	12 00	12 00	July 1.....	On delivery of lease.	
	0.74 acre...	Feb. 1, 1884	50 00	50 00	Feb. 1.....	do ...	Addition to lease No. 6,574, to Gordon & Mackay. Minister assents, 24th Feb., 1884.
							Minister assents, 14th Mch., 1884.
	5,100 ft. ...	Jan. 1, 1884	10 00	10 00	Jan. 1.....	Jan. 1, 1885	
		July 1, 1883	900 00	75 00	Monthly ...	July 1, 1883	In advance.
		do 1, 1883	300 00	25 00	do ...	do 1, 1883	do
		do 1, 1884	300 00	25 00	do ...	do 1, 1884	do
			20 00				

2nd. PROPERTY purchased or damaged, by the Department of Railways and Canals, and property sold by the same Department as not being required for the Railways and Canals, for the Fiscal Year ended 30th June, 1884.

Date of Signature.	Vendors, &c.	Purchasers.	Property Purchased or Sold, or Damaged.	For what Purpose used, &c.	Area of Land.	Amount Paid.	Remarks.
Nov. 7, 1883	Peter O'Brien.....	Her Majesty	Release for damages, flooding lots 9 and 10, 1st Con. East Hawkesbury	Carillon Dam	22 acres ...	\$ 1,600 00	
Dec. 12, 1883	Dolphus Filion.....	do	do N.W. part 6	do	2½ do ...	180 00	
do 6, 1883	John Hodgson.....	do	do W½ 11	do	do ...	450 00	
do 7, 1883	Arch. McDuff.....	do	do W½ 3, N.E. part 4	do	do ...	100 00	
do 8, 1883	Wm. Gray.....	do	do W½ 12	do	do ...	300 00	
do 3, 1883	Henry Hughes.....	do	do W½ 13	do	do ...	100 00	Alex. St. Denis, mortgagee, assents.
do 5, 1883	Robt. McPhaden.....	do	do E½ 3	do	do ...	325 00	
do 11, 1883	John M. Kirby.....	do	do 22	do	do ...	50 00	
do 20, 1883	E. S. Bradford.....	do	do E½ & E½ br. frt. 13	do	do ...	600 00	
do 17, 1883	A. & S. E. Hartlay...	do	do W½ 8	do	do ...	125 00	J. & J. Scott, mortgagees, assent.
Nov. 19, 1883	J. Fitzgerald.....	do	do 6 and 7, Chatham ...	do	do ...	300 00	
do 20, 1883	Anth. Robert.....	do	do 11	do	do ...	650 00	
do 22, 1883	P. Filion.....	do	do 8	do	do ...	185 00	
do 23, 1883	John Mullin.....	do	do 20	do	do ...	40 00	
do 27, 1883	Jane Nicholson.....	do	do 23	do	do ...	20 00	
do 30, 1883	Sarah Wilson, wife of John Nicholson....	do	do 18, or cad. lot 216	do	do ...	30 00	
do 30, 1883	Jas. Ghaiston.....	do	do E½ 21, or cad. lot 223	do	do ...	25 00	
Jan. 22, 1884	John Gibson et al....	do	do E½ 11, 1st Con. East Hawkesbury...	do	do ...	600 00	
do 15, 1884	Louis Gauthier et al.	do	do E½ 7	do	do ...	350 00	
Dec 31, 1883	W. R. Bradford et al.	do	do E½ 14	do	do ...	200 00	
Feb. 23, 1884	W. & S. Cole.....	do	do W½ 11 and E½ 12	do	do ...	550 00	
Mar. 19, 1884	Thos. Ross et al.....	do	do 26	do	do ...	300 00	
Dec. 21, 1883	J. & T. Gamble.....	do	do 4	do	do ...	100 00	
Jan. 30, 1884	F. C. Noyes.....	do	do 14, 1st Con. Chatham...	do	do ...	450 00	
Dec. 29, 1883	G. Bradford, jun., et al	do	do 17	do	do ...	1,000 00	
Jan. 23, 1884	J. B. Cushing.....	do	do 1 and 2	do	do ...	678 00	
do 9, 1884	Widow O. Dewar and P. Dewar.....	do	do 10, 12 and 13	do	do ...	1,100 00	

2nd. PROPERTY purchased, or damaged, or sold by the Department of Railways and Canals, &c.—Continued.

Date of Signature.	Vendors, &c.	Purchasers	Property Purchased, Sold or Damaged.	For what purpose used.	Area. — Acres.	Amount Paid.	Remarks.
Mch. 19, 1884	Moise Lahue.....	Her Majesty.	As owner of cad. lot No. 93, Ste. Anne.....	Ste. Anne Canal...	.....	\$ 60 00	
do	Nap. Lahue.....	do	do 93	do	.....	60 00	
do	J. M. Crevier.....	do	do 97	do	.....	60 00	
do	C. Normandeau.....	do	do 97	do	.....	69 00	
do	R. Larente.....	do	do 98	do	.....	80 00	
do	G. Leduc.....	do	do 98	do	.....	60 00	
do	A. Chauet.....	do	do 99	do	.....	60 00	
do	P. Legault.....	do	do 100	do	.....	60 00	
do	J. Barrett.....	do	do 106	do	.....	60 00	
do	Rev. Geo. Chevretils	do	do 107	do	.....	80 00	
do	B. St. Denis.....	do	do 107	do	.....	60 00	
do	J. B. St Denis.....	do	do 107	do	.....	60 00	
do	L. Thieoest.....	do	do 108	do	.....	150 00	
do	Alex. Do'e.....	do	do 126	do	.....	50 00	
do	L. Leroux.....	do	do 126	do	.....	150 00	
do	P. Brisbois.....	do	do 126	do	.....	150 00	
do	G. Duquette.....	do	do 122	do	.....	5 00	
do	J. Foubert.....	do	do 122	do	.....	6 50	
do	A. Dubreuil, sr. & jr.	do	do 123	do	.....	80 00	
do	Mrs. R. Vinette.....	do	do 124	do	.....	40 00	
do	A. Dubois.....	do	do 130	do	.....	27 00	
do	J. B. Dubois.....	do	do 130	do	.....	40 00	
do	C. de Verville.....	do	do 131	do	.....	26 66	
Mch. 22, 1884	T. Gravel.....	do	do 133	do	.....	60 00	
Mch. 19, 1884	J. B. Daoust.....	do	do 133	do	.....	4 00	
do	P. Pilon.....	do	do 135	do	.....	4 00	
do	B. Lalonde.....	do	do 136	do	.....	40 00	
do	J. Lauzon.....	do	do 137	do	.....	40 00	
Mch. 20, 1884	P. Sagala.....	do	do 137 ^a	do	.....	25 00	
Mch. 22, 1884	A. Pilon.....	do	do 139	do	.....	30 00	
Mch. 19, 1884	P. Raymond.....	do	do 167	do	.....	40 00	
do	A. St. Denis.....	do	do 168	do	.....	50 00	

2nd. PROPERTY purchased, or damaged, or sold by the Department of Railways and Canals, &c.—Continued.

Date of Signature.	Vendors, &c.	Purchasers.	Property Purchased, Sold or Damaged.	For what purpose used.	Area. — Acres.	Amount Paid.	Remarks.
May 17, 1884	E. Lavigne	Her Majesty.	<i>St. Anne Canal—Receipts for deprivation of access to Ottawa River—Concluded.</i>	St. Anne Canal...	.....	\$ cts.	
do	Isaac Brisebois	do	As owner of cad. lot No. 87, Ste. Anne	do	.....	33 00	
do	R. Seguin	do	do	do	.....	60 00	
do	P. Paquette	do	do	do	.....	40 00	
do	L. A. H. Hiroux	do	do	do	.....	40 00	
do	D. Gauthier	do	do	do	.....	26 00	
do	V. Guérard	do	do	do	.....	30 00	
do	F. X. Beaubien	do	do	do	.....	40 00	
May 21, 1884	H. Caron	do	do	do	.....	75 00	
May 19, 1884	W. Chevier	do	do	do	.....	17 00	
do	L. Guitard	do	do	do	.....	40 00	
do	J. B. Lavigne	do	do	do	.....	50 00	
do	Dr. L. J. V. de Lori- mier	do	do	do	.....	40 00	
June 26, 1884	Pre. Lamarche	do	do	do	.....	15 00	
May 17, 1884	A. Anais	do	do	do	.....	40 00	
do	Widow J. B. Pilon	do	do	do	.....	75 00	
do	O. Perrault	do	do	do	.....	15 00	
do	A. Monpéti	do	do	do	.....	40 00	
May 19, 1884	T. Carrier	do	do	do	.....	40 00	
May 17, 1884	J. Quenneville	do	do	do	.....	10 00	
June 17, 1884	N. St. Denis	do	do	do	.....	10 00	
May 21, 1884	P. Portelance	do	do	do	.....	10 00	
May 17, 1884	A. Brunet	do	do	do	.....	30 00	
May 19, 1884	J. Boyer	do	do	do	.....	15 00	
May 17, 1884	Mrs. O. Auger	do	do	do	.....	20 00	
Oct. 17, 1883	F. E. de Jonghe	do	<i>Welland Canal.</i>	Welland Canal.....	.....	125 00	Per T. Nilean, ex- ecutor.
Oct. 30, 1883	{ J. L. Facer, owner. S. L. Ross, mort- gagee	do	Deed of part of lot No. 9, sub-division of S. 4 of 16, in 4th Concession, Grantham	do	.....	600 00	
do	{ S. L. Ross, mort- gagee	do	Release, damages by closing Welland Ave., making new road, Facer St., on lot 13 in 5th Concession, Grantham	do	.....	600 00	
do	{ A. Widler et al	do	do	do	.....	600 00	

Nov. 5, 1883	W. Upper et al.....	Release, damages by flooding lot 20, Thoro'd, and road, &c	Welland Canal..	16.40 do	532 00	
do 14, 1883	Executors of Estate of late Jas. Burgar	Deed, part of lot N. on Demiestown St., Welland, being part of lot 27 in 5th Con., Crowland.....	do	0.36 do	100 00	Quit claim deed from Allan Ray et ux to Gort., 14th Nov., 1883.
do 26, 1883	Mary Farmer et al....	Deed, part of lot 9 sub-div. of 16 in 4th Con., Grantham (Road).....	do	0.40 do	25 00	
Apr. 10, 1884	Corporation County of Welland.....	Deed, part lots 27 and 28 in 4th Con., Humberstone.....	do	20.42 do	1,225 20	
do 17, 1884	M. & M. & E. Farmer	Release, damages by flooding, No. 9, Shenston's plot on S½ 16 in 4th Con., Grantham, closing Wood and Carleton Streets.....	do	.....	100 00	Also crops, trees, &c., damaged.
do 12, 1884	C. & P. Golden et al	Release, closing Wood and Carleton Streets, S½ 8, Sheuston's plot, on S½ 16 in 4th Con., Grantham.....	do	.....	60 00	
do 18, 1884	F. Nihay, executor of will of F. de Jonghe, & Mary, his widow.	do S½ 9 do	do	.....	130 00	
do 28, 1884	John Ryan.....	do 6 do	do	.....	175 00	
do 26, 1884	Robt. Walker.....	do 7, 10, 11 do	do	.....	150 00	
June 12, 1884	Mary & A. Boyer.....	Release of inchoate right of dower on lot 5, South Haney St., Petersburg.....	do	.....	275 00	
147						
Sept. 11, 1883	Estate of R. Sprung..	<i>Murray Canal.</i> Vesting order of Court of Chancery, part lot 15 Con. B., Murray.....	Murray Canal.....	6.838 acres	300 00	
do		do do do	do	.....	9 00	
do		Deed of part of lot 8, Con. C., and part of Marsh land, Murray.....	do	2.065 do	180 00	
do		Vesting Order of Court of Chancery, part S½ 12, Garrying Place, Murray.....	do	0.134 do	5 40	
do		do do do lot 11 Con. C., Murray... do do S, part W½ 17, Con. B, do ...	do	.....	60 00	
do		Deed, part N.W½ of lots 10, 11, 12, Garrying Place, Murray.....	do	.....	112 90	
do		do do S.W½ of lot 13, Con. B, Murray... do do N.W½ do Garrying Place Murray.....	do	2.258 do	3 39	
do		<i>Trent Valley Canal.</i> Vesting Order of Court of Chancery, lot 9 in 8th Con., Harvey.....	Trent Valley Canal	3.90 acres	100 00	
do				.....	3 00	
do				.....	2,500 00	
do				.....	50 00	
do				.....	1 00	
do				.....	3,500 00	Not W. H. Hall } (Buckhorn Lake)
do				.....	105 00	

2nd. PROPERTY purchased or damaged, or sold by the Department of Railways and Canals, &c.—Continued.

Date of Signature.	Vendors, &c.	Purchasers.	Property Purchased, Sold or Damaged.	For what Purpose used.	Area of Land.	Amount Paid.	Remarks.
Nov. 1, 1883	G. G. Chalmers.....	Her Majesty.	<i>Trent Valley Canal—Continued.</i> Release, damages to lots 36 and 37 in 12th Con., Smith, and lot 26 in 4th Con., Dourno...	Trent Valley Canal	.....	\$ cts. 5,500 00	By dam on Otonabee River. do
do 23, 1883	The Canada Co.....	do	do lot 9 in 7th Con., Harvey...	do	.....	50 00	do
Oct. 18, 1883	Govt. of Ontario.....	do	Order in Council vesting in Dominion Govt. part of lot No. 40 in 17th Con., Smith.....	do	10.00 acres	.....	Free.
Dec. 19, 1883	The Canada Co.....	do	Release, damages to lot No. 9 in 5 Con., Harvey.....	do	.....	50 00	By dam at Lovesick Rapids.
do 20, 1883	Wm. Doogan.....	do	do lots 32, 33 in 10th Con., Smith...	do	.....	75 00	By dam at Lakefield.
Jan. 3, 1884	Isaac Garbutt.....	do	do lot 27 in 8th Con., Smith, and 4 on Clements St., Lakefield...	do	.....	2,000 00	do
Dec. 28, 1883	Andrew Miller, jr.....	do	do lot 31 in 10th Con., Smith.....	do	.....	350 00	do
Jan. 11, 1884	H. J. Strickland.....	do	Release, damages to lot 25 in 4th Con. Dourno.	do	.....	100 00	By dam at Lakefield.
Oct. 5, 1883	J. Blanco.....	do	do 33 in 16th Con. Smith.	do	.....	50 00	do Lovesick.
Jan. 31, 1884	re R. C. Smith.....	do	Deposit into Court re lots on Colborne, May and Water streets, Fenelon Falls, &c., &c.	do	.....	14,000 00	{
Feb. 8, 1884	re Hague Estate	do	Deposit re lots 28 in 8th, 30 in 10th, and 29 and 30 in 9th Con. Smith.	do	.....	420 00	{
Aug. 30, 1883	T. G. Grieve.....	do	Release, damages to lots 21 and 22 in 6th Con. Dourno.	do	.....	2,000 00	{
do	do	do	do 23 in 5th do ...	do	.....	60 00	{
Feb. 15, 1884	do Minister of Railways and Canals.....	do	Declaration that damages above and below refer to the 43 inches above decrease height...	do	.....	67 00	By waters of Lake Katchewanooka. do
Dec. 23, 1883	H. C. Garbutt.....	do	Release, damages to lot 27 in 9th Con. Smith.	do	.....	433 00	do
Feb. 5, 1884	The Grange Trust (Ltd).....	do	do do	do	.....	300 00	By Lakefield dam.
Oct. 1, 1883	Jos. McArthur et al.	do	Deed of part of block N., near Cameralls lot, Village of Fenelon Falls.....	do	.....	1 00	do
					1.25 acres ...	900 00	

Sept. 5, 1883	K. Tully <i>et al.</i> , trustees, and H. J. Le-fevre <i>et al.</i>	do	Release, damages to lot 19 in 7th Con. Douro.	do	By waters of Lake Katchawanooka. By Lakefield dam.	80 00	.....
Feb. 1, 1884	A. Wilson	do	do	do	do	350 00	.....
Dec. 31, 1883	R. C. Strickland <i>et al.</i>	do	Deed of Lakefield dam, slide, flood gates, &c., in Village of Wakefield	do	do	5,000 00	.....
do	Jas. Campbell <i>et uz.</i>	do	Deed of part of lot 44 in 16th Con. Smith.....	do	At Burleigh Rapids.	100 00	5 acres.....
do	J. Campbell and J. B. McWilliams	do	Release for damages to lots 41, 42, 43, 44 in 16th Con. Smith..	do	do (Mining rights)	200 00	.....
Feb. 25, 1884	J. B. McWilliams.....	do	Deed of part of lot 44	do	do	1 00	5 acres.....
Apr. 9, 1884	Geo. Goodwin.....	do	Release, as lessee of lots 41, 42, 43, 44 do	do	do	1 00	.....
Mar. 25, 1884	Hague Estate (Infants in Chancery).....	do	Release by order of Court of Chancery, re damages to lots 28 in 8th, 29 and 30 in 9th, and 30th in 10th Con. Smith.....	do	By Lakefield dam.	2,000 00	.....
June 14, 1884	John Edwards.....	do	Release, damages to lot S. E. 26 in 8th Con. Smith.	do	do (Hamil- ton Provident and Loan Society, as- mortgagees, as- sent.)	100 00	.....
Jan. 12, 1884	Matthew Bell.....	do	do	do	do	600 00	.....
July 9, 1884	A. Mc. N. Nichols...	do	do	do	do	100 00	.....
Sept. 5, 1883	K. Tully <i>et al.</i> , trustees, and H. J. Le-fevre <i>et uz.</i>	do	do	do	By Lakefield dam.	100 00	.....
do	Thos. Gordon <i>et uz.</i> ...	do	do	do	do	240 00	.....
Feb. 12, 1884	do	do	do	do	By Lake Katch- awanooka.	80 00	.....
do	do	do	do	do	do	100 00	.....
do	do	do	do	do	By Lakefield dam.	100 00	.....
do	do	do	do	do	do	3,600 00	.....
Oct. 16, 1883	Her Majesty.....	R. Macdonald	Bill of sale to him of steamship "Rimouski",	Intercolonial Ry...	do	.....	.....
May 23, 1884	Nova Scotia Govt...	Dominion Govt.....	Transfer of "Eastern Extension" or Nova Scotia Railway, Pictou Branch, rolling stock, &c.....	do	do	.....	.....
do	do	do	Transfer of steamer "Norwegian"	do	do	.....	1,437,629 00

Intercolonial Railway.

2nd. PROPERTY purchased, or damaged, or sold by the Department of Railways and Canals, &c.—Continued.

Date of Signature.	Vendors, &c.	Purchasers.	Property purchased, sold or damaged.	For what Purpose used, &c.	Area. — Acres.	Amount Paid.	Remarks.
<i>Canadian Pacific Railway.</i>							
Oct. 17, 1883	Hon. W. J. Almon...	Her Majesty.	Deed of lots Nos. 6 to 10, in block 59, Emerson	Canadian Pacific Railway.....	.....	\$ cts.	
Sept. 4, 1883	W. J. Whitley.....	do	do lot 42, Ste. Agathe.....	do	2-76 acres.....	296 60	
Jan. 7, 1884	G. B. Spencer.....	do	do blocks 73 and 82, Emerson.....	do .....	.....	60 90	
Aug. 7, 1884	Albert Todd.....	do	do lot No. 64, St. Clements.....	do .....	.....	1,197 00	
Sept. 30, 1884	D. Livingstone.....	do	do S E 1/4 sec. II, Tp. 13, R. 2 E.....	Stonewall Branch. {	1-71 acres	642 20	And release for damages, &c. do
Feb. 8, 1883	John Quaglinth Romano & Thos. Earle	do	Bond to indemnify Govt. in case of claims on cheque No. 5146, of Nov. 1st, 1882, on Bank of British Columbia for \$65 (which was to pay A. A. Boggs, rodman, for services of Oct., 1882), payable to his order, and which was destroyed by fire at Lytton, B.C.....	Canadian Pacific Railway.....	.....	335 25	
June 30, 1883	Charles Bell <i>et al.</i>	do	Bond of indemnity in case of claim on a lost cheque No. 5917, on Bank of British Columbia.....	do .....	.....	91 00	
Sept. 13, 1883	C. & J. Murphy.....	do	Release, for injury to mining property at Union Bar, near Hope, B.C.....	do .....	.....	3,424 00	
Dec. 15, 1883	Peter Fink.....	do	Deed of lot No. 2, groupe 1, Yale, Lytton District, B.C., for station.....	do	119 acres	3,000 00	
<i>Ottawa River.</i>							
Oct. 10, 1884	Eduoard Lefebvre....	do	Release, damages to lots 38, 39, 40 in 2nd Con., Chichester.....	Dam at Culbute Rapids & Lytle Rapids.....	{ Principal.. Interest 3/4 years....	7,135 00	\$10,666.82 in all (claims completed in 1876.
<i>Rideau Canal.</i>							
Nov. 15, 1883	R. H. Somerville <i>et al.</i>	do	Deed of part lot 2 in 5th Con., S. Crosby, near Whitefish dam.....	Clay pit.....	1 acre	100 00	

Sept. 16, 1884	John Edwards	do	...	Release, damages to lot 41 in 5th Con., Pitts-	Rideau Canal.....	70 00
do	do	do	...	burgh, by canal waters between Kingston	do	84 00
Sept. 15, 1884	P. Blake.....	do	...	and Lower Brewer's Mills.....	do	200 00
do 27, 1884	J. Tobin.....	do	...	lot 5 in 4th Con.	do	120 00
do 19, 1884	W. Hegland & T. Bur-	do	...	E $\frac{1}{2}$ 8 lot 9 part 10 in 5th	do	150 00
do	ton.....	do	...	5, 6 in 5th	do	82 50
do 26, 1884	A. Guild.....	do	...	W $\frac{1}{2}$ 6 in 4th	do	120 00
do 18, 1884	W. McFarlane.....	do	...	15 in 6th	do	1,000 00
Nov. 24, 1883	W. J. McLean <i>et ux</i> ...	do	...	12 in 5th	do	300 00
Mar. 11, 1884	W. Beveridge <i>et ux</i> ...	do	...	{ W $\frac{1}{2}$ lot 17 in 7th Con. North Elmsley	} Tay Canal.....	350 00
May 14, 1884	A. McVeitty (widow)	do	...	{ E $\frac{1}{2}$ do 6th	} do	
		do	...	{ E $\frac{1}{2}$ lot 18 in 7th	} do	
		do	...	{ E $\frac{1}{2}$ lot 17 in 7th	} do	

3rd.—AGREEMENTS respecting Subsidies granted by the Dominion Government to
with the Minister of Railways and Canals, during

Date of Signature.	Name of Railway Company.	Line of Railway to be Constructed.	Acts of Canada granting Subsidy.
July 28, 1882	The Great American and European Short Line Railway Co.	From Oxford Station of Intercolonial Railway to New Glasgow, N.S., and branches.	45 Vic., c. 14...
do 20, 1883	International Railway Co	Sherbrooke to boundary of United States and connections.	46 Vic., c. 25...
Sept. 4, 1883	Quebec and Lake St. John Railway Co. }	St. Raymond to Lake St. John.....	{ 45 Vic., c. 14... 46 Vic., c. 25...
Dec. 31, 1883	Napanee, Tamworth and Quebec Railway Co.	Napanee to Tamworth	46 Vic., c. 25 ..
Ap'l 12, 1884	Northern and Pacific Junction Railway Co }	Gravenhurst to Callendar.....	{ 45 Vic., c. 14... 46 Vic., c. 25...
Aug. 2, 1884	Quebec Central Railway Co.	Beauce Junction to International boundary line.	47 Vic., c. 8...

aid in the construction of Railways, entered into by certain Railway Companies the Fiscal Year ending 30th June, 1884.

Amount of Subsidy.		No. of miles to be subsidized.	Maximum Grade:— Feet to the mile.	Radius of Curvature, not less than—	Width of Clearing, each side.	Width of Cuttings.	Embankments.	Rails.		Line to be completed	Remarks.
Per mile.	Not exceeding in the whole—							If steel.	If iron.		
\$	\$		Ft.	Ft.	Ft.	Ft.	Ft.	Lbs	Lbs		
3,200	224,000	.....	80	955	50	20	16	56	.....	Jan. 1, 1884. Whole line.	Gov'tment to furnish iron rails for branches to Pugwash and Pictou siding to Oxford Village. Co. transferred \$100,000 of their subsidies to Ross & Co., Sept. 26, 1884.
3,200	156,800	49	80	955	50	20	16	56	.....	29 miles east of Lennoxville, Aug. 1, 1833; 16 miles east of Lake Megantic, Nov. 1, 1883; 4 miles to Sherbrooke, May 25, 1887.	
3,200	384,000	120	106	717	} 33	20	15	56	.....	To Lake Edward Island, Dec 31, 1885; thence to Lake St. John, May 25, 1887.	
3,200	80,000	25	118	600							
3,200	89,600	28	92	955	50	20	14	56	.....	Dec. 31, 1884.	
6,000	660,000	} The Canada Atlantic Railway, between Ottawa and Côteau Station, fixed as a standard.									} May 1, 1886.
6,000	660,000										
3,200	211,200											.....	85	8.9	50	20	14	50	56	3½ years from date hereof.

APPENDIX No. 9.

CANADIAN PACIFIC RAILWAY.

STATEMENT of Contracts entered into between 1st July, 1883, and 30th June, 1884.

Railways and Canals.	Deed, Letter or otherwise under which contract was made.	Name of Contractor.	Date of Contract.	General Description.
Canadian Pacific Railway.....	Letter: 31,830	Canadian Pacific Railway Co	July 3, 1883	Offer to complete road from Fort William to Selkirk, (accepted by O.C. No. 31,913 of 9th July, 1883).
Prince Edward Island Railway.....	Deed No. 7,229	Moss, Bay Hoematite Iron and Steel Co. (Limited)....	Aug. 1, 1883	Supply 500 tons steel rails with fish plates, bolts, and nuts, for Prince Edward Island Railway.
do do	do 7,235	Gray & Wheaton.....	Dec. 29, 1883	Construct Cape Traverse Branch of Prince Edward Island Railway, ready to lay rails.
do do	do 7,241	Canadian Locomotive and Engine Co. (Limited).	Jan. 25, 1884	Construct 2 narrow gauge locomotive engines for Prince Edward Island Railway.
do do	do 7,503	T. D. & B. & W. H. & C. Archibald and Wm. Purves	May 9, 1884	Supply 5,500 tons coal for Prince Edward Island Railway: 2,500 tons at Charlottetown. 2,000 do Summerside. 500 do Georgetown. 500 do Souris.
Intercolonial Railway	O. C. 31,938	Geo. Fleming & Sons.....	July 7, 1883	To purchase from them four additional locomotive engines for Intercolonial Railway.
do	Deed No. 7,132	J. Harris & Co.....	Aug. 6, 1883	Construct 12 1st class passenger cars for Intercolonial Railway, delivered at St. John, N.B.
do	do 7,270	City of Halifax.....	Sept. 1, 1883	Supply water for locomotives, at Richmond, Intercolonial Railway.
do	do 7,303	Quebec Central Railway Co.	Feb. 12, 1884	Government, to convey passengers and freight of Company between Point Levis and St. Henri Station, Intercolonial Railway.
do	do 7,307	Halifax Co. (Limited)....	Jan. 10, 1884	Supply 25,000 gross tons of round coal for Intercolonial Railway, from 1st July, 1883, for 12 months (f. o. b.) cars at Albion mines or on tenders at coal drop near the track.
do	do 7,312	Arcade Lemieux.....	Feb. 11, 1884	Transshipping freight at Chaudière Junction, Intercolonial Railway.

STATEMENT of Contracts entered into between 1st July, 1883, and 30th June, 1884.—Continued

Railways and Canals.	Deed, Letter or otherwise under which contract was made.	Name of Contractor.	Date of Contract.	General Description.
Lachine Canal	Deed No. 7,506.....	E. Ouelette & Co	June 4, 1884	Construct a road from Lachine to Côte St. Paul Road, about 9,500 feet long, along Lachine Canal.
St. Peter's Canal.....	do 7,181.....	McDonald & Moffatt... ..	Oct. 13, 1883	Retaining wall and earth filling, St. Peter's Canal.
Ottawa River... ..	O. C 101,243	Fouppre & Co.....	Oct. 20, 1883	Deepen channel above Culbute Lock, Ottawa River.
Trent Valley Canal.....	Deed No. 7,286.....	Charles Wynn.....	Jan. 23, 1884	Construct Young's Point Dam, Otonabee River, Trent Valley Canal.
do	do 7,348.....	Charles Wynn	March 19, 1884	Construct Lakefield Dam, Otonabee River, Back Lake Division, Trent Valley Canal.
Rapide Plat Canal.....	do 7,337.....	Mr. Broder.....	April 2, 1884	Construct a lock and supply weir, enlarge and deepen upper entrance of Rapide Plat Canal.
Galops Canal.....	do 7,342.....	Nicholson & Allan.....	March 18, 1884	Deepen, &c., upper entrance, Galops Canal.
Cornwall Canal	do 7,355.....	Jocks & DeLorimier.....	April 7, 1884	Construct a lock and supply weir, deepen and enlarge upper entrance, Cornwall Canal—Section 10.
do	do 7,510.....	Breckon & McKenna.....	July 22, 1884	Construct a sewer, at Cornwall, Cornwall Canal.
International Railway.....	Deed No. 7,118.....	GENERAL. International Railway Co....	July 20, 1883	Agreement re-subsidy to construct railway from Sherbrooke, Province of Quebec, to United States boundary line, and extension through Maine to connect with New Brunswick at Vanceborough or south thereof (49 miles).
Quebec Lake St. John Railway, Co.	do 7,119.....	Quebec Lake St. John Railway Co.....	Sept. 4, 1883	Agreement re-subsidy to construct railway from St. Raymond to Lake St. John.
1st, Dean Westbrook, and Balfour, Contractors, 2nd, Corp. Town of West Lynne, 3rd, Corp. Town of West Lynne; 4th, Thos. Carney, surety.	do 7,154.....	1st, Dean. Westbrook and Balfour, Contractors, 2nd, Corp. Town of Emerson, 3rd, Corp. Town of West Lynne, 4th, Thos. Carney, surety	Feb. 20, 1883	Construct a wrought iron combined railway and traffic bridge across Red River, between Morris Street site, Emerson, (selected by the Canadian Pacific Railway Co.) and West Lynne, and an ice break.
Esquimault and Nanaimo Railway on Vancouver Island, B. C.....	do 7,222.....	Robert Dunsmuir et al.	Aug. 20, 1883	Construct Esquimault and Nanaimo Railway on Vancouver Island, British Columbia.

<p>St. John Bridge and Railway Extension Co. Napanee, Tamworth and Quebec Railway Co. Northern and Pacific Junction Railway Co.</p>	<p>do 7,258.... do 7,273..... do 7,453..... do 7,505..... do 7,524.....</p>	<p>St. John Bridge and Railway Extension Co. Napanee, Tamworth and Quebec Railway Co. Northern and Pacific Junction Railway Co. Caraquet Railway Co. Quebec Central Railway Co.</p>	<p>Dec. 10, 1883 Dec. 31, 1883 April 12, 1884 Aug. 2, 1884</p>	<p>Agreement and mortgage of bridge, railway &c, to secure advance to Co. under Act 46 Vic, c. 26. Agreement re-subsidy 28 miles, Napanee to Tamworth. Subsidy for constructing a railway from Gravenhurst to Callander. Subsidy for a railway from Intercolonial Railway, at Bathurst to Caraquet, and from Caraquet to Shippegan Harbor. Subsidy for a railway from Beauce Junction of their railway to boundary of Maine, United States</p>
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APPENDIX No. 10.

LIST of Contracts entered into in connection with the Canadian Pacific Railway.

No. of Contract.	Names of Contractors.	No. of Contract.	Names of Contractors.
1	Sifton, Glass & Co.	49	Richard Dickson.
2	Richard Fuller.	50	Miller, Brothers & Mitchell.
3	F. J. Barnard.	51	Dominion Bolt Co.
4	Oliver, Davidson & Co.	52	North-West Transportation Co.
5	Joseph Whitehead.	53	Barrow Hæmatite Steel Co.
5a	Joseph Whitehead.	54	Guest & Co.
6	Guest & Co.	55	West Cumberland Iron and Steel Co.
7	Ebbw Vale Steel, Iron and Coal Co.	56	The Kellogg Bridge Co.
8	Murray Steel and Iron Co.	57	The Truro Patent Frog Co.
9	West Cumberland Iron and Steel Co.	58	W. Hazelhurst.
10	West Cumberland Iron and Steel Co.	59	Whitehead, Ruttan & Ryan.
11	Naylor, Benson & Co.	60	D. O. Mills.
12	Hon. A. B. Foster.	61	D. O. Mills.
12	Sifton & Ward.	62	D. O. Mills.
12	Purcell & Ryan.	63	D. O. Mills.
14	Sifton & Ward.	64	Ryan, Whitehead & Ruttan.
14	Jos. Whitehead (completing contract No. 14).	65	James Crossen.
15	Joseph Whitehead.	66	Bowie & McNaughton.
16	Canada Central Railway Co.	67	Moncton Car Co.
17	Anderson, Anderson & Co.	68	Ontario Car Co.
18	Red River Transportation Co.	69	North-West Transportation Co.
19	Moses Chevette.	70	North-West Transportation Co.
20	Merchants Lake and River Steamship Co.	71	Toronto Bridge Co.
21	Patrick Kenny.	72	Ontario Car Co.
22	Holcomb & Stewart.	73	Toronto Bridge Co.
23	Sifton & Ward.	74	Wm. Gooderham, Jun.
24	Oliver, Davidson & Co.	75	Pillow, Hersey & Co.
25	Purcell & Ryan.	76	Cooper, Fairman & Co.
26	James Isbester.	77	Stubbs, & Co.
27	Merchants Lake and River Steamship Co.	78	Skead & Haycock.
28	Red River Transportation Co.	79	The Truro Patent Frog Co.
29	Cooper, Fairman & Co.	80	James Crossen.
30	Robb & Co.	81	Dunlop & Rannie.
31	Patent Bolt and Nut Co.	82	Ontario Car Co.
32	Cooper, Fairman & Co.	83	James Crossen.
32a	LeMay & Blair.	84	Ontario Car Co.
33	Kavanagh, Murphy & Upper.	85	Nobles & Follis
34	North-West Transportation Co.	86	Fairbanks, Morse & Co.
35	Cooper, Fairman & Co.	87	James Crossen.
36	William Robinson.	88	Walter Oliver.
37	Heny, Charlebois & Flood.	89	J. Patterson.
38	Edmond Ingalls.	90	Ferris, Paul & Milwar.
39	John Irving.	91	Canadian Pacific Railway Co.
40	Gouin, Murphy & Upper.	92	Andrew Onderdonk.
41	Purcell & Co.	93	Andrew Onderdonk.
42	Manning, Macdonald, McLaren & Co.	94	Horton & Son.
43	Joseph Upper & Co.	95	Bayliss, Jones & Bayliss.
44	West Cumberland Iron and Steel Co.	96	Guest & Co.
45	Barrow Hæmatite Steel Co.	97	John McDonald.
46	Ebbw Vale Steel, Iron and Coal Co.	98	Colin Nicol Black.
47	Patent Bolt and Nut Co.	99	Canadian Pacific Railway Co.
48	John Ryan.		

APPENDIX No. 11

TABLE of distances of stations between the Cities of Ottawa and Kingston:—

No. of Station.	Name of Station.	Distances from Ottawa.	Locks.		Dams.			Length of official Canal each Stat in miles.	
			No.	Lift at Low Water.	No.	Length.	Height.		
		Miles.		Rise Ft. In.		Feet.	Feet.		
1	Ottawa.....	0	8	82 0	3	230 1,320 1,616	18 33 28	4.00	
2	Hartwell's.....	4 $\frac{1}{4}$	2	22 0	.....	100	14	
3	Hogsback.....	5 $\frac{1}{2}$	2	13 6	1	320	60		
4	Black Rapids.....	9 $\frac{1}{2}$	1	10 0	1	300	12	0.13	
5	Long Island.....	14 $\frac{3}{4}$	3	27 0	3	850	68	0.13	
6	Burritt's.....	40 $\frac{3}{4}$	1	10 6	1	240	14	1.50	
7	Nicholson.....	43 $\frac{3}{4}$	2	15 2	1	500	9	0.50	
8	Clowes.....	44 $\frac{3}{4}$	1	10 6	1	481	16	0.05	
9	Merrickville.....	46 $\frac{3}{4}$	3	25 0	1	150	6	0.33	
10	Maitland.....	55	1	4 9	1	270	8	0.13	
11	Edmunds.....	59 $\frac{1}{2}$	1	10 10	1	343	8	0.06	
12	Old Slys.....	60 $\frac{1}{2}$	2	15 6	1	250	20	0.25	
13	Smith's Falls.....	61 $\frac{1}{2}$	4	33 9	2	600	24	0.13	
14	First Rapids or Poonamalie.....	64	1	7 9	1	260	5	1.25	
15	Narrows.....	83 $\frac{1}{2}$	1	4 0	1	600	9	0.06	
Total rise at low water.....			292 3						
			Fall.						
16	Isthmus.....	87 $\frac{1}{2}$	1	4 0	.....	.....	.....	1.25
17	Chaffey's.....	92	1	12 6	.....	.....	.....	0.13
18	Davis.....	94 $\frac{1}{2}$	1	9 0	1	300	15	0.06	
19	Jones' Falls.....	97 $\frac{1}{2}$	4	60 0	1	300	60	0.25	
20	Brewer's Upper Mills.....	108 $\frac{1}{2}$	2	19 0	1	200	20	1.75	
21	do Lower Mills.....	110	1	14 2	1	200	12	4.25	
22	Kingston Mills.....	120 $\frac{1}{2}$	4	46 8	1	6,042	14	0.25	
22	Kingston.....	126 $\frac{1}{2}$	.....	.....	.....	.....	.....	.....
Total fall at low water.....			165 4						
Total.....			47	.....	24	15,472	.....	16.46

APPENDIX No. 12.

TABLE showing the dates of the closing of the Canals in the Autumn of 1881 and of the opening in the Spring of 1882.

Canals.	Closing.	Opening.
Lachine Canal.....	1st December, 1883.....	5th May, 1884.
Beauharnois Canal.....	1st do 1883.....	26th April, 1884.
Cornwall Canal.....	8th do 1883.....	29th do
Williamburg Canals.....	16th do 1883.....	1st May, 1884.
Welland Canal—		
New Canal.....	} 15th do 1883.....	15th April, 1884.
Old Canal.....		
Burlington Bay Canal.....	17th do 1883.....	15th do 1884.
St. Anne's Lock and Dam.....	26th November, 1883.....	26th do 1884.
Carillon Canal.....	} 27th do 1883.....	28th do 1884
Grenville Canal.....		
Culbute Lock and Dam.....		
Chute à Blondeau.....		
Rideau { Kingston Mills.....	28th do 1883.....	5th May, 1884.
{ Ottawa.....	27th do 1883.....	1st do
St. Ours Lock.....	29th do 1883.....	7th April, 1884.
Chambly Canal.....	30th do 1883.....	5th May, 1884.
Erie Canal (New York).....	1st December, 1883.....	1st do
St. Peter's Canal (Cape Breton).....	2nd January, 1884.....	20th April, 1884.
Trent Canal Works.....	25th November, 1883.....	26th March, 1884.

APPENDIX No. 13.

ST. LAWRENCE NAVIGATION.—TABLE OF DISTANCES.—A.

FROM STRAITS OF BELLE-ILE TO PORT ARTHUR, AT HEAD OF LAKE SUPERIOR, BY WATER.

From	To	Sections of Navigation.	Statute Miles.	
			Intermediate	Total to Straits of Belle-Isle.
Straits of Belle-Isle.....	Cape Whittle.....	Gulf of St. Lawrence.....	240	240
Cape Whittle.....	West Point, Anticosti.....	do do.....	201	441
West Light, Anticosti.....	Father Point.....	River St. Lawrence.....	202	643
Father Point.....	Rimouski.....	do.....	6	649
Rimouski.....	Bic.....	do.....	12	661
Bic.....	Isle Verte.....	do.....	30	700
Isle Verte (opp. Saguenay)	Quebec.....	do.....	126	826
Quebec.....	Three Rivers.....	do to Tide-water	74	900
Three Rivers.....	Montreal.....	do.....	86	986
Montreal.....	Lachine.....	Lachine Canal.....	8 $\frac{1}{2}$	994 $\frac{1}{2}$
Lachine.....	Beauharnois.....	Lake St. Louis.....	15 $\frac{1}{2}$	1,009 $\frac{1}{2}$
Beauharnois.....	St. Cécile.....	Beauharnois Canal.....	11 $\frac{1}{2}$	1,021
St. Cécile.....	Cornwall.....	Lake St. Francis.....	32 $\frac{1}{2}$	1,053 $\frac{1}{2}$
Cornwall.....	Dickinson's Landing.....	Cornwall Canal.....	11 $\frac{1}{2}$	1,065 $\frac{1}{2}$
Dickinson's Landing.....	Farran's Point.....	River St. Lawrence.....	5	1,070 $\frac{1}{2}$
Farran's Point.....	Upper end of Croyle's Island	Farran's Point Canal....	3 $\frac{1}{2}$	1,071
Upper end Croyle's Island	Williamsburg or Morrisburg.	River St. Lawrence.....	10 $\frac{1}{2}$	1,081 $\frac{1}{2}$
Williamsburg.....	Rapide Plat.....	Rapide Plat Canal.....	4	1,085 $\frac{1}{2}$
Rapide Plat.....	Point Iroquois Village.....	River St. Lawrence.....	4 $\frac{1}{2}$	1,090
Point Iroquois Village.....	Upper end Presqu'Île.....	Point Iroquois Canal.....	3	1,093
Presqu'Île.....	Point Cardinal, Edwards- burg.....	Junction Canal.....	2 $\frac{5}{8}$	1,095 $\frac{5}{8}$
Point Cardinal.....	Head of Galops Rapids.....	Galops Canal.....	2	1,097 $\frac{5}{8}$
Galops Rapids.....	Prescott.....	River St. Lawrence.....	7 $\frac{3}{8}$	1,105
Prescott.....	Kingston.....	do.....	59	1,164
Kingston.....	Port Dalhousie.....	Lake Ontario.....	170	1,334
Port Dalhousie.....	Port Colborne.....	Welland Canal.....	26 $\frac{1}{2}$	1,360 $\frac{1}{2}$
Port Colborne.....	Amherstburg.....	Lake Erie.....	232	1,592 $\frac{1}{2}$
Amherstburg.....	Windsor.....	River Detroit.....	18	1,610 $\frac{1}{2}$
Windsor.....	Foot of St. Mary's Island...	Lake St. Clair.....	25	1,635 $\frac{1}{2}$
Foot of St. Mary's Island...	Sarnia.....	River St. Clair.....	33	1,668 $\frac{1}{2}$
Sarnia.....	Foot of St. Joseph's Island...	Lake Huron.....	270	1,938 $\frac{1}{2}$
Foot of St. Joseph's Island...	Foot of Sault Ste. Marie.....	River St. Mary.....	47	1,985 $\frac{1}{2}$
Foot of Sault Ste. Marie.....	Head of Sault Ste. Marie.....	Sault Ste. Marie Canal...	1	1,996 $\frac{1}{2}$
Head of Sault Ste. Marie.....	Pointe aux Pins.....	River St. Mary.....	7	1,993 $\frac{3}{4}$
Pointe aux Pins.....	Port Arthur.....	Lake Superior.....	266	2,259 $\frac{3}{4}$
Port Arthur to Lake Shebandowan.....			45	
Lake Shebandowan to North West Angle.....			312	
North West Angle to Winnipeg.....			95	
Pointe aux Pins to Duluth.....			390	

Of the 2,259 $\frac{3}{4}$ miles from the Straits of Belle-Isle to the Head of Lake Superior, 71 miles are artificial navigation, and 2,188 $\frac{1}{2}$ open navigation.

Straits of Belle-Isle to Liverpool, 1,942 geographical or 2,234 statute miles.

The total fall from Lake Superior to Tide-water is about 600 feet.

The Steamboat voyage from Collingwood to Port Arthur is 532 miles.

APPENDIX No. 14.

CANADIAN PACIFIC RAILWAY,
OFFICE OF THE ENGINEER-IN-CHIEF,
OTTAWA, 31st December, 1884.

SIR,—For the information of the Honourable the Acting Minister of Railways and Canals, I have the honor to report the progress being made with, and the condition of the works of construction upon the Canadian Pacific Railway, between Callander and Port Moody at this date.

EASTERN SECTION.

Callander to Port Arthur.

Upon the Eastern Division of the Eastern Section extending from Callander to 27 miles east of Missinabi or Dog Lake, a distance of 309 miles. There are about 4000 men employed on the works of grading, bridging, tracklaying, &c., and although the weather is not very favourable for the prosecution of such work, good progress is being made.

Upon the Western Division of the Eastern Section, between Missinabi or Dog Lake and Port Arthur, a distance of 348 miles, the work of grading is partially completed, the bridging is being rapidly erected, the rails and sleepers are nearly all delivered on the ground, and the work of tracklaying is in progress. There are in round numbers about 1,500 labourers, carpenters and tracklayers on this section.

The following tables give a general idea of the progress being made with the works upon this section.

GRADING.

		Done.	To be done.
		Miles.	Miles.
(Callander)	0 mile to the 248th mile.....	248	.....
	248 " " 309th " .....	.....	61
	309 " " 657th " (Port Arthur).....	358	.....
	Totals.....	596	61

TRACKLAYING.

	Done.	To be done.
	Miles.	Miles.
(Callander) 0 mile to the 243rd mile.....	243	191
243 " " 434th "	37	19
434 " " 471st "	18	27
471 " " 490th "	16	10
490 " " 508th "	22	7
508 " " 535th "	67	
535 " " 551st "		
551 " " 561st "		
561 " " 583rd "		
583 " " 590th "		
590 " " 657th " (Port Arthur)....		
Totals.....	403	254

BALLASTING AND SURFACING.

	Done.	To be done.
	Miles.	Miles.
(Callander) 0 mile to the 209th mile	209	381
209th " " " 590th "	67	
590th " " " 657th " (Port Arthur).....		
Totals.....	276	381

Considerable progress is being made with the erection of stations and engine houses, &c., as also the water tanks, and it is confidently expected that by May next there will be continuous railway connection over the Eastern and Lake Superior sections to Port Arthur and Red River.

The work of filling in the temporary trestle between Eagle River and Rat Portage has been discontinued for this season in consequence of the severity of the weather; there only remain, however, some two or three trestles to fill, which will be done early in the spring.

The Company are roofing in the 1,000,000 bushel capacity Grain Elevator at Fort William, and there are a large number of carpenters employed upon this building.

The continuous mileage from Callander to Port Arthur is 657 miles, and to the Red River, opposite Winnipeg, 1,085 miles.

CENTRAL SECTION.

Red River to Savona's Ferry.

Upon this section there are about 5,000 men employed on the grading, bridging, tunnelling, &c.; of these about 2,000 are between the Beaver River and the second

crossing of the Columbia River, and 3,000 between that point and Savona's Ferry. Clearing is now in progress over the portion not yet cleared, whilst grading and tunnelling is being carried on between the Beaver and a few miles west of the summit of the Selkirk Mountains as also between the Salmon River, the Schuswap Lake and Savona's Ferry.

The following tables show the progress being made with the works on this section.

GRADING.

		Done.	To be done.
		Miles.	Miles.
(Red River)	1,085th mile to 2,051st mile	966	.....
	2,051 " 2,060 "		9
	2,060 " 2,130 "	70	.....
	2,130 " 2,295 "		165
	2,295 " 2,306 "	11	.....
	2,306 " 2,327 "		21
	2,327 " 2,337 " (Savona's Ferry).....	10	.....
Totals		1,057	195

TRACKLAYING.

		Done.	To be done.
		Miles.	Miles.
(Red River)	1,085th mile to the 2,051st mile.....	966	.....
	2,051 " 2,060 "		9
	2,060 " 2,123 "	63	.....
	2,123 " 2,337 " (Savona's Ferry).....		214
Totals		1,029	223

BALLASTING AND SURFACING TRACK.

		Done.	To be done.
		Miles.	Miles.
(Red River)	1,085th mile to the 2,051st mile.....	966	.....
	2,051 " 2,337 " (Savona's Ferry).....		286
Totals.....		966	286

The stations, engine houses and water tanks are provided from the 1,083rd to the 2,047th mile.

I should here state that nine miles of the road have been graded, ironed and surfaced in addition to those which appear above, being the nine miles of temporary line.

WESTERN SECTION.

Savona's Ferry to Port Moody.

The work on this section is drawing to a close. The total distance is 213 miles, upon which the grading is nearly completed, and the track laid over 210 miles. One hundred and forty-eight miles are surfaced and ballasted, and the erection of station houses and water tanks is in progress. It is believed that this section, being the only work remaining to be done by the Government, will be completed by July next. The distance from Callander to Savona's Ferry is 2,337 miles, and to Port Moody, 2,550 miles.

Generally.

It will be observed that there remains to be done before the road throughout will be in a condition for traffic, 256 miles of grading, 480 miles of track laying, and 670 miles of surfacing and ballasting, of which three miles of the latter and of the track-laying are on the Government contract, but as there are now about 11,000 men employed upon the works, which number, the company express an intention of maintaining during the winter season, and to largely increase next spring, this work should be readily completed by September next.

The erection of the building can best be done after the track is laid, as the materials can be transported to the various sites much more expeditiously and economically than in any other way.

It may be interesting to the Honourable Minister of Railways to know how the contract is being carried out, as to the quality and character of the works. Upon a large section of the completed line the works are of a much more permanent character than could have been enforced under the terms of the contract. Iron and steel truss bridges, resting upon abutments and piers of massive masonry, have been introduced at the crossings of the principal rivers, and a large number of substantial masonry culverts afford passage over the smaller streams. Wherever it was considered to be of advantage, the slopes of the cuttings in the prairie have been flattened out, probably to about one in twelve, to prevent the accumulation of snow, and the work on the whole line is up to the contract standard; the station houses throughout being, in my opinion, amply sufficient to accommodate the traffic. The water service will be very efficient when finished. The rolling stock is good, the engines being powerful machines, and the car stock, both passenger and freight, will compare very favourably with that upon any other road in Canada.

I have the honour to be, Sir,

Your obedient servant,

COLLINGWOOD SCHREIBER,

Chief Engineer.

A. P. BRADLEY, Esq.,
Secretary, Railways and Canals.

